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The Relationship between Credit Reference Bureau Services and Financial Performance of the Commercial Banks in Kenya
A Survey of Commercial Banks in Meru County

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Abstract: This study sought to establish the relationship between credit reference bureau services and financial performance of the commercial banks in Kenya. Banks' financial performance is compared against customer information sharing, credit scoring, market research, and information capital. The study adopted a descriptive research design which was suitable to answer the questions concerning relationship between credit reference bureau services and financial performance of commercial banks in Meru County. The study was a census and focusing on all the eighteen banks operating in Meru County. Self - administered questionnaires were employed to collect data. The data was processed and analyzed using statistical package for social sciences (SPSS). Descriptive statistics and linear regression analyses were used to examine the relationship between credit reference bureau services and financial performance of commercial banks in Meru County. The results are presented in summary reports, charts and tables. The study established that there is a significant relationship between customer information sharing and performance of commercial banks in Meru County.Credit scoring is imperative in the success of commercial banks and significant in sustaining a competitive advantage and assessing of borrowers credit worthiness. It was hence concluded credit information sharing and credit scoring were significantly associated with financial performance of commercial banks in Meru County.

Introduction

1.1 Background to the Study

A credit reference bureau (CRB) is a firm that collects information from various sources and provides credit information on individual consumers for variety uses. The financial services providers, including commercial banks use the CRB generated information to target the prospective customers and manage the existing relationship with clients. Concerning the loan, lenders consult the CRB to check on customer's credit information. The CRB provides information on individual borrowing and bill paying habits, the information helps the commercial banks, saving and credit cooperative societies (SACCOS) and other microfinance institutions in order to assess the borrowers' ability to pay back a loan. Having the CRB system in place can affect the interest rate and other terms of a credit. The credit report from the CRB entails information on a persons' credit history, the identification, the credit accounts and loans, bankruptcies, late payments and recent enquiries.it can be obtained by prospective lenders with permissible reasons, to determine his or her credit worthiness. (Bornventure Nyangor, 2018)

The CRB offers various services to the commercial banks and other lending institutions; as stipulated under Credit Reference Bureau Regulation, 2013. The information sharing is one of the services, with the aim of addressing information asymmetry between borrowers and lenders thus it contains of the borrowers' history on credit. It helps to know the borrower's characteristics, in order to permit more predictions on their loan payment possibilities. The issue of indebtness is eliminated as customers are realized by the lenders when they want to get credit simultaneously from different lenders, thus act as discipline devise to the borrowers. (Chikaipah, 2017)

Credit scoring is also a services rendered by the CRB, it involves applying of the mathematical formulas to provide the score of a customer regarding the ability to access and repay the loans. The scoring approach reflects how prompt and committed an individual concludes his debt obligation. The information is used by banks to award and cost the credit with those who are more prompt paying less for the credit and vice versa for those who aren't. (Bornventure Nyangor, 2018)

The third service offered by the CRB to the commercial banks is market research; it involves collecting information about the target market and customers. It reveals the size of the market potential, how to stand out from competition, customer likes and dislikes and customers' financial potential. When a bank want to launch a new branch, introduction of a new product such as mobile banking and discovering if there is market for their product and services, when a bank want to know their competitors, market research is necessary. (George Kuhn, 2017)

The CRB compiles and maintain database concerning the customers, when banks want to update their data base they obtain the information from the CRB. The database ids necessary as enables the bank to generate reports regarding the customers, tis helps the banks in improving their financial performance's, through loan process improvement, quality work and workforce productivity. (Al-Musali & Ismail, 2016)

Worldwide, many financial institutions face a number of risks on non-performing loans (NPLs) and Kenya included commercial banks have also been experiencing poor financial performances. To overcome this, the lending institution is supposed to monitor the behavior of the borrowers, by lack of credit information on the loan applicants then it affects their ability to recover both the principle and the interest. (George Kuhn, 2017).

The idea of establishing the credit reference bureau (CRB) was conceived to enable the financial institutions to determine the credit viability of their loan beneficiaries to reduce loan default rates. In the current volatility of the economy, the number of clients who provide tangible collateral to secure their loans has significantly decreased leading to a build-up in the number of non-performing loans forcing banks and other financial institutions to resort to income oriented and alternative cash flow streams. The stiff competition among commercial banks and other financial institutions coupled with the moral hazard of serial defaulters led to the urgent development of credible credit information sharing systems (Odiwuor, 2016).

History records indicate that the first countries to establish public credit information registries were France in the year 1946 and Germany in 1934. In the mid-1960s, other strong economies in Europe such as; Italy, Spain, Belgium, and Sweden adopted credit information sharing systems. Western African countries that were predominantly colonized by France in 1962, came up with the West African Monetary Union in 1962. South American countries such as Brazil and Argentina made the move to enhance banking supervision which was triggered by the financial crisis in 1990 (Mugwe & Oliweny, 2016). Credit markets represent asymmetric information challenges. Lenders have neither prior knowledge of the client's past behavior nor the characteristics or intentions of clients applying for credit (Kerage & Jagongo, 2014)

African countries faced the problem of non-performing loans, as well loans were taking long to process before the introduction of CRBs. A case study in Zambia and the introduction of CRBs in Rwanda, confirms the problem African countries were facing to manage their loan portfolios. In Zambia according to banking and finance magazine of 2004, their banking system had historically been characterized by long history of credit delinquency, partly perpetuated by weak legal framework and unfavorable economic environment. There emerged the believe that lending to small and medium enterprises and individuals was risky, which led difficulties to Zambian investors in accessing finance due to general poor credit history and lack of infrastructure to trace bad debtors and pave way for good debtors. Thus, information was needed that would enable banks monitor their credit portfolios. Comprehensive information regarding the credit borrower's history could only be obtained from CRBs which were nonexistence in Zambia. (Bruce Mwiya, 2012).

The World Bank and International Monetary Fund (IMF), did an assignment concerning the financial system through Financial Sector Assessment Programme (FSAP) and identified, inter alia, a poor credit culture in Zambia. Over the past years, there was a culture of nonpayment of loans and other bank facilities, leading to an extremely lengthy and difficult process to the banks to recover their money. The government developed Financial Sector Development Plan (FSDP) in 2004, which came up with recommendation of establishing a private sector-led Credit Reference Bureau (CRB) by December 2004. CRB provided the positive and negative information of the borrowers which helped to curb the bad behaviour of customer's failure to honour their debts. Earlier the performance of Zambian banks was affected by the non-performing loans but after the introduction of CRB the scenario changed and their performance improved in relation to loans portfolio. (Bruce Mwiya, 2012).

The CRB Africa started its operation in Rwanda the year 2009, before then banks had difficulties in assessing the credit worthiness of their customers, as well as loan delinquencies. Francois Kanimba, the Governor of the National bank of Rwanda, said that after the introduction of CRB, they took the responsibility of providing accurate information on borrowers' debts profiles and repayment history, an activity which was previously carried out by the lending institutions. The CRB played vital role in assisting the banks in their credit

appraisal processes and manage credit risk effectively by providing timely and accurate information regarding customer's debt profile. With the establishment of CRB services in financial systems, it will encourage banks and commitment to loan repayment, hence the overall development in the economy as well Banks improvement in performance. (Ivan R. Mugisha, 2013)

Financial performance is the state of yielding a financial gain, and it's a capacity to make profit accounting or economically. This is measured using bank profitability, which is the primary goal of any venture and without it the business cannot run for long period. Profit is measured using income and expenses, income is money generated from the activities of the business, for instance in banks interest on loans and service fee forms the bank income. Expenses are the interests on deposits and all running expenses being paid by the banks (Mwangi, 2015).

The total earning by the banks at the end of financial year and also the liquidity position of the bank at any point of time, describes the financial position of the bank. In addition to this systems and procedures on how the banks are maintaining their internal records. Where the banks documentation and other aspects are kept properly there will be lesser cases of internal frauds and this donates that banks have systems and procedure in their control. Other ways to measure the bank financial performance is through opening of new branches in new regions and this is enabled by considerations of the market research done by the CRB. Mobile banking denotes the success of a bank where by the customers use smartphones to conduct business such as monitoring account balances, transfer of funds between accounts and other banks, bill payment and mobile loans which is enabled by the use of credit scoring done by the CRB, it's due to this factor that managers are looking for ways to change their business and consequently increase their profits thus adopting of policies such as the use of CRBs roles of information sharing, credit scoring, and market research which have ultimate goal of increasing banks profitability by reducing loses through loan default (Hassan, 2014).

Proper assessment of credit worthiness of borrowers, introducing new products such as different account like junior accounts, good interest rates in fixed deposits, increase in loan portfolio and increase of customers in number also attribute to financial bank performance. Competitiveness relates to how effectively an organization meets the wants and needs of its customers in the marketplace relative to other organizations that offer similar products or services. The emergence of Credit Reference Bureau services in Kenya has significantly revolutionized lending and contributed to the improved overall financial performance of many commercial banks as well as other financial institutions (Mwangi, 2013).

Financial performance of commercial banks is affected by globalization which influences the changing of customers and investors demands. In such a competitive and dynamic environment, commercial banks requires improved services, innovative products and processes as well as improved quality and productivity to keep afloat (Marieke & Marieke, 2009). Overall, performance of commercial banks is also significantly influenced by employee performance and consequent customer satisfaction. Usually, performance is evaluated in terms of the output of a worker in a particular period of time (Jiang, et al., 2012). Often, the performance of a given employee is assessed with input with regard to workers who are doing similar work. Since much of the success of any firm heavily depends on the performance of its workforce, employee performance is a very vital consideration factor for all commercial banks. Workforce performance, a related concept has been defined as a number of services and goods that can be produced by an employee in a certain amount of time. It is considered as the measure of a firm or an organization, a process, an entire industry or even a nation (Jackson & Victor, 2011).

In Kenya, the establishment, licensing, governance, management and the operations of CRB is done through central bank of Kenya under the Banking Act, 2008. The credit reference bureaus are registered by the Central Bank of Kenya (2013) to collate and collect credit information on individuals and companies from different sources and provide that information in form of a credit report upon the request of a credit provider (Githua, Musiega, Juma, & Alala, 2013) they also do credit scoring, market researh and compile and maintain database and generate reports for the banks. Most commercial banks face the risk of nonperforming loans and the larger the loans are, the more the risk of exposure. To overcome this challenge, the Credit Reference Bureau (CRB) was hatched in order for banks and other financial institutions to monitor their borrowers' behavior. By banks determining how credit worthy a borrower is, there has been a huge reduction on loan default risk. (Kazik Jerzy, 2017).

CRB has: aided banks globally in elimination of corrupt borrowers, it has assisted in proper sharing of information, credit scoring in regard to borrowers among banks, and in the provision of commercial professional credit reference particularly as pertains foreign investors. CRB compliments the key role carried out by both

banks and other financial institutions in provision of efficient financial services by aiding lenders make credit decisions that are quicker and more accurate (Githua, Musiega, Juma, & Alala, 2013).

Credit providers can only request a report on a borrower who has actually applied for a loan from credit reference bureau agencies. Currently, there are three licensed CRBs in Kenya including Creditinfo CRB, Metropol CRB and Transunion Africa CRB. Credit reference bureau services have helped commercial banks to stem out malpractices in their industry since potential borrowers whose credit assessment using the information from the credit reference bureau agencies reveal that they have been involved in other malpractices, are subjected to strict terms and conditions. This is why the credit reference bureau regulations were instituted by the Central Bank of Kenya (Mwangi, 2012).

The credit reference bureau services are expected to reduce the levels of non-performing loans in the commercial banking sector of Kenya while increasing the loan books of commercial banks in the country. Banks also improve their financial performance through the expansion by opening new branches and introducing various products such as mobile phone loans to attract more customers in order to increase their profits. In any business market research is necessary in order to meet the customer needs and satisfaction, the more the customer deposits the bank liquidity improves, CRB carry's market research for the banks in relation to this. (Kazik Jerzy, 2017).

Despite having CRB in place, commercial banks are still facing difficulties with non-performing loans. Report indicates that there was an increase in the defaulting loans by almost a percentage of 35 in the year 2012 and 2013. This occurred in spite of stringent measures taken by most banks to ensure compliance with CRB policy. The report also indicated that the main cause of loan delinquencies and defaults was due to high interest rates such that after the client takes a loan it becomes difficult to service it due to high charges on the rates. Other observations indicates that the defaulting loans have come down yet in Kenya commercial banks of high repute have gone low in the recent past as a result of bad debts (CBK, 2015).

In 2017 analysts at Renaissance Capital said that, the NPLs remain big threat to the Kenyan banking sector, besides the interest law that has fixed the lending rates at four percentage points above the Central Bank Rate and the introduction of CRB. The report indicated that the banks could post lower profits to high level of NPLs. Equity Bank experienced an increase of NPLs to Kshs 15 billion in 2016 from Kshs 6 billion in 2015. (Kennedy Kangethe, 2017).

Also the report from The East African Magazine reveals that in Rwanda the volume of NPLs of the four banks listed in Rwanda Stock Exchange (RSE) Equity Bank, KCB, I&M and Bank of Kigali reportedly hit $43 million in year 2017. The KCB Group's gross NPLs increased from Kshs31.81 billion in 2016 to Kshs37.49 billion in 2017 while that of Barclays bank increased from Kshs 11.47 billion in 2016 to Kshs 12.61 billion in 2017. (James Anyazwa, 2018).

1.2 Statement of the Problem

Credit reference bureau (CRB) plays a vital role in the worldon financial intermediation process. Through information sharing among commercial banks and other lending institutions, CRB has greatly helped to reduce the aspect of moral hazard and adverse selection phenomenon which is common due to information asymmetry during the credit assessment process (Bornventure Nyangor, 2018). In Kenya the banking CRB regulation, 2008 which started the operation in 2009 they collect, manage and disseminate information regarding customers to the lenders within aprovided regulatory framework. The shared information helps lenders to make faster and more accurate credit decisions. More so the information help to avoid the over indebtness among borrowers, maintain sound credit records and adapt prudent borrowing practices, therefore has an impact on the economy (Muchiri Gachie, 2017).

In 80's and 9o's banking sector was saddled with numerous non-performing loans portfolio, this led to collapse of some commercial banks. One of the catalyst was the issue of serial defaulters who borrowed from banks with no intention of paying back the loans. The defaulters were taking the advantage of information asymmetry environment that prevailed as a result of lacking information sharing mechanism. Therefore development sustainable information sharing platform is recognized as a key factor of financial sector reforms in most of developing and emerging economies (Muchiri Gachie, 2017).

Despite the introduction of the CRB in financial sector, banks are still experiencing high default in loans from their customers. According to the survey conducted by Central Bank of Kenya (CBK) the ratio of gross non-performing loans to gross loans increased from 10.44 percent in September 2017 to 11.81 percent in March 2018. The Eastafrican magazine established that Equity Bank experienced an increase of NPLs to Kshs

15 billion in 2016 from Kshs 6 billion in 2015 and The KCB Group's gross NPLs increased from Kshs31.81 billion in 2016 to Kshs37.49 billion in 2017 while that of Barclays bank increased from Kshs 11.47 billion in 2016 to Kshs 12.61 billion in 2017. (James Anyazwa, 2018). Since the rollout of the CRB in Kenyan banking sector there is conclusive research conducted to establish the impact of CRB of commercial bank on loan portfolio and eliminate the issue of NPLs which has an effect on financial performance of commercial banks. Therefore this study seeks to establish whether there is there is a relationship between the Credit Reference Bureau services and financial performance of commercial banks of Kenya within Meru County.

1.3 Specific Objective

To establish the relationship between credit reference bureau services and the financial performance of commercial banks in Meru County.

1.4 Significance of the Study

The study may be a great contribution to the existing body of knowledge especially for researchers who may use the study to further their research in this area by reviewing the literature and establishing the existing gaps. Also commercial banks and other lending institutions would learn from it. This study may also be of great importance to stakeholders in the financial sector. Researchers and scholars may use this study as a point of reference when carrying out other studies.

Literature Review

2.1 Introduction

This chapter details study literature related to the relationship between credit reference bureau services and the performance of commercial banks. It also outlines the theoretical frameworks and conceptual framework of the study.

2.2 Theoretical Review

Theoretical review refers to the philosophical basis on which the research is undertaken; it forms the link between theoretical aspects and the practical components of the investigations carried out. Therefore theoretical frame work has an implication on every decision made in the research which helps to make logical sense of the relationship between factors and variables which are deemed important to the problem of the study. It also provides the definition between the relationships of all variables in order to make them understood. For the purpose of this study, the study will review consumer behaviour theory, moral hazard theory and information sharing theory.

2.2.1 Information Sharing Theory

A symmetry information theory was introduced by George Akerlof in 1970 in his paper entitled "Lemon" Quality Uncertainty and the market Mechanism. His argument was that information symmetry gives the seller an incentive to sell goods of less than average market quality.as a result of information asymmetry, lenders neither knows the past history, the characteristics nor the intention of the credit applicant (Jagongo & Kerage, 2015)

The factual information on the borrowers' credit score needs to be available to lenders to minimize loan defaults and write-offs. Information sharing reduces banks screening intensity and it softens competition between banks because they no longer fear to get a negative selection of applicants since their competitor has already picked all cherries (Boyd & Hakenes, 2013).

The existence of asymmetric information between borrower and lenders create uncertainty on credit lending for the players. The availability of credit information is important to both parties i.e. lenders and borrowers which helps to make informed decisions on how much and to whom a credit should be given to. Where the banks share the information on credit worthiness of their clients, they are able to identify the genuine customers in order to reduce default rates. The credit history is used by the lenders to determine the credit worthiness of the borrowers (Chakazamba, Matanda & Dube, 2013). When the borrower gets a loan he makes the promise to pay within the stipulated time, information exchange is essential as it helps the lenders to create an information capital by compiling and maintaining database used to generate reports from customer information database, which assists in credit analysis, execution, administration and review. The background

information on history and reputation of the borrower is important on credit evaluation (Simplice Asongu & Jacinta Nwachukwu, 2018)

Due to CRB symmetric information, banks are able to use the credit score which is a predictor showing the scoring information including calculations. The credit score is developed to provide lenders with single assessment of the borrowers. The score is represented by number from 250 to 900 which also comprise of risk grade ranging from A to E. essentially the higher the score the lower the risk. Lenders need to have adequate positive as well as negative information about the customer credit score while the borrowers need to know their capacities to avoid financial stress in loan repayment. Positive and negative information sharing creates three types of borrowers. First the exposed borrowers are those who are screened from multiple loan contracting and as a result are inferior to their perfect-information contract. Second are the borrowers who have defaulted on previous loans. The third group comprises of the borrowers who have clean credit records. (Jagongo & Kerage, 2015)

Information sharing theory assumes that all information regarding credit is available and shared to all players. This is only possible with advancement of technology but ignorance and illiteracy amongst the players may hinder effective credit information sharing. This theory is relevant to this study in that it unearths the hidden actions of borrowers including complete, recent, accurate and timely information about the financial capacity of potential borrowers, (Kusi Baah Aye, et.al, 2018). The theory anchors objective one and two to determine the effect of customer information sharing and credit scoring on financial performance of commercial banks in Meru County.

2.2.2 Moral Hazard Theory

The term moral hazard as used in this theory refers to the risk that a party to a transaction has not entered into the contract in good faith by providing misleading information about its credit capacity, liabilities or assets or alternatively the party may take unusual risks in a desperate attempt to get profit before the contract expires (Stone, 2011).

In the recent global financial crisis, there were a lot of moral hazards taking place. Economists present the argument that this inefficiency is inherent in the moral hazard theory. The moral hazard theory implies that a borrower has the incentive to default except there are consequences for his or her application for credit. This causes the lenders to have difficulty in assessing the level of creditworthiness of the borrowers in terms of the wealth they have accumulated by the date on which the debt that they borrowed must be repaid but not at the moment of application. If lending institutions cannot be able to assess the wealth of their borrowers, then the latter are more likely to default on the borrowing. When lending institutions forestall this, they increase the interest rates eventually, leading to the breakdown of the market (Omasete, 2012).

Hoppe & Kusterer (2011) describe moral hazards as the problems that are associated with the inability of buyers to observe actions that are taken by the seller. Furthermore, it is challenging for the buyer of services to assess whether the actions of the seller were adequate and proper since it is quite difficult to judge the quality of service. Because of the exogenous factors, the service is irreversible while the outcome of the service is uncertain.

The difference between moral hazard and adverse selection problems is inherent in the lending activity. Amoral hazard emanates from the lack of ability by the lending institution to observe the actions of the borrower that affect the probability of loan repayment (Skala, 2011). In this case, a borrower may have the encouragement to misapply funds for personal use or to undertake investment in projects that are not profitable only to increase their stature or personal power. If the project does not succeed, then the lender will be the one who suffers the loss. This opportunistic behavior exhibited by the borrower can be considered as a moral hazard to the bank (Benson, Meirowitz & Ramsay, 2014). This increases the chances of the buyers actually repaying the loans. Nevertheless, such restrictions are very expensive to enforce and also to monitor hence, they are inevitably limited in their reach.

Padilla and Pagano (1997) invented a model in which loan performance depend on the quality of the borrower as well as on his or her effort. At the outset, each commercial bank possesses private information on the credit worthiness of a borrower. After giving a loan to a borrower, a bank has the ability to exploit the private information of that borrower by threatening to bar him or her from acquiring the loans in order to extract rents from him or her. Forestalling that the returns of his or her effort will be appropriated by the lender, the borrower has then a low incentive to put in effort ex-ante (McCaffrey, 2016). Consequently, this makes the loan repayment performance worse. Banks can be able to deal with the problem of incentive by committing ex-ante

to sharing information about the credit worthiness of the borrowers with one another. Development of information capital is crucial for financial performance of commercial banks

2.2.3 Consumer Behaviour Theory

The theory is stated by Capgemini (2014) is the study of individuals, groups or organizations and the process which they use to select, secure, and disposal of products, ideas, experience or services in order to satisfy needs and the impacts that these processes have on the consumer and the society as whole. This is enabled by the research conducted by CRB on consumer behavior and bank products which include loans, new accounts opening, mobile banking and mortgages. Consumers make different and many buying decisions every day, banks require market research when they want to expand their business through new branches, to acquire potential borrowers for mortgage loans. Mobile banking serves customers access to their accounts balances, money transfer to other accounts, cash withdrawals and mobile loans. Most banks research consumer buying decisions to answer the questions about what consumers buy, how much they buy, where they buy, why they buy and when they buy. Marketers study this to establish the customer's bevaviour. (James Chen, 2018)

The marketing stimuli consist of the four Ps, i.e. product, price, place, and promotion. Other stimuli include major forces and events in the buyer's environment: technological, political, economic and cultural. All these aspects enter the buyer's black box and turned in to observable buyer responses. Brand choice, product choice, purchase amount and purchase timing. The marketer wants to understand how the stimuli's are converted into response inside the consumer's black box which has two parts. First being the buyer's characteristics influence how he or she perceives and react to the stimuli. Secondly, the buyers decision process itself affects the buyer's behavior. This chapter looks first at the buyer characteristics as they affect buying behavior, and then discusses the buyer decision process.

The customer behavior study is based on consumer buying behavior, where the customers play the three distinct roles of buyer, payer and the user. The carried out research shows that consumer behavior is hard to predict, even for experts in the field. The relationship marketing is an influential aspect for customer behavior analysis has a keen interest in the discovery of the true meaning of marketing through the re- affirmation of the importance of customer or buyer. Banking sector needs to understand the reaction of customers as far as banking matters are concerned, the economic activity of the focused customers , their technology level, availability of gadgets such as smart phones, and the affordability of the products. CRB conducts the survey to ascertain these. A greater importance is also focused on customer relationship management, consumer retention, personalization, customization and one to one marketing. Social functions can be categorized in to social choice and welfare functions (Dorcas and Douglas, 2015). CRB's market survey is of great importance in financial performance of commercial banks.

2.2.4 Effect of information sharing on financial performance of commercial banks

The information sharing regarding the borrower's behavior and indebtedness has important effects on credit market activities (Tullio Jappeli & Marco Pagano, 2015). Information sharing enables the banks on knowing the borrowers characteristics in order to permit more accurate predictions of their loans repayment possibilities. Also it helps the banks to reduce the information rents which they could extract from the customers. Third it eliminates the vice where customers could over indebt themselves by drawing credits simultaneously from different banks without being realized by the lenders. Finally, it can be used as a discipline device to the borrowers. According to (Chikalipah, 2017). Major challenges confronting efforts at curbing the problem are issues of moral hazard and adverse selection driven by information asymmetry between lenders and borrowers. By understanding the information sharing it helps to shed lights on how to design the credit information system, which formulates the mechanisms on lending policies between banks and the customers. The mobility and heterogeneity of borrowers is determined by the incentive of lenders sharing of borrower's information (Asongu et al. (2016). Information sharing enables the banks to increase their volume on loan portfolio, this when the adverse selection is so severe that the safe borrowers gets out of market. These kinds of predictions are supported by international and historical facts in the consumer credit market context.

Under the banking or credit bureau Act of 2008, banks and other money lending institutions are required to share information about borrowers with the credit bureau services on a monthly basis. The bureau then gets updates on any eventual or positive changes to the information as they occur. The credit reports by the bureau form a basis on which banks make their lending decisions. A credit bureau is usually characterized by

the voluntary exchange of information among lending institutions regarding credit consumers (Adam, Collier & Njuguna, 2010).

The information that is shared among lenders can either be negative information which highlights past defaults or areas, or alternatively it can be positive information which includes the current liabilities, employment, guarantees, income and current assets of the potential borrower (Gettee, 2012). For financial institutions that are regulated such as the commercial banks in Kenya, credit information that is shared includes the bio data and respective contact information of the credit applicant.

Information sharing results to various benefits to the lenders, borrowers and the economy in general. The report from CRB enables the banks to review the customer's credit or loan application faster and in an efficient manner, eliminate the aspect of moral hazard, non-performing loans (NPLs) and strengthen bank's risk management processes . Customers benefit from information sharing by distinguishing themselves from persistent defaulters, thus keep their credit reputation intact. It enables the customer to negotiate credit terms on the basis of their good loan repayment history, CRBs make this information available as an evidence, this translate to lower cost of credit, lower reliable on collateral and flexible repayment periods. The borrower evades the costs associated with third party investigators who search for customer details and credit performance. It's through the CRB report where paper work is reduced for the customers who apply for credit such as mobile loans and salary advance from various banks.

Credit information sharing (CIS) helps to create opportunity for the entire population to access credit including those who have no tangible collateral. Since introduction of mobile banking large population have been able to access the mobile soft loans from various banks For instance, KCBM pesa, Coop Bank MCo-oP Cash, CBA Loop, Family Bank Pesa Pap, and Equity Bank Eazzy Banking. (Mohan Raj, 2018).

2.2.5 Effect of Credit Scoring on Financial performance of commercial banks

Credit scoring is the method used in evaluating the credit risk of loan applicants by use of statistical techniques and historical data. The practice of credit scoring began in 1960s when the credit card business automated its decision making process, credit scoring tries to isolate the effects of various loan applicants' characteristics on loan default and delinquencies. (J N Crook, D E Delman & L C Thomas, 2017). The CRB undertake the process to produce a "score" which the banks use to rank their loan applicants. In order to build a scorecard or the scoring model the developer analyses the historical data on the credit performance of the previously made loans so as to determine the useful characteristics of borrower in predicting whether the loan performed well or otherwise. According to (Ugirase, Josiane Magnifique, 2013) research conducted in Rwanda on effectiveness of credit scoring on commercial banks, it was found that credit scoring had significance to explain the financial performance of commercial banks.

In a new or emerging market, the operational, technical, business and cultural issues should be considered with the implementation of the credit scoring models for retail loan products. The operational issues relate to the use of the model and it is imperative that the staff and the management of the bank understand the purpose of the model. Application scoring models should be used for making credit decisions on new applications and behavioral models for retail loan products to supervise existing borrowers for limiting the expansion or for marketing new products. The technical issues relate to the development of proper infrastructure, maintenance of historical data and software needed to build a credit scoring model for retail loan products within the bank. The business issues relate to whether the soundness and safety of banks could be achieved through the adoption of quantitative credit decision models, which would send a positive impact in the banking sector. The cultural issues relate to making credit irrespective of race, colour, sex, religion, marital status, age or ethnic origin. Further, models have to be validated so as to ensure that the model performance is compatible in meeting the business as well as regulatory requirements. Thus, the above issues have to be considered while developing and implementing credit scoring models for retail loan products, (Rais Ahmad Itoo, 2015)

Credit scoring has changed the way banks give credits to their customers, some banks and other institution enter the market through the use of credit scoring, by processing mobile loans applications using automated and centralized systems which is necessitated by the report from the CRBs. Loan applications are accepted over the phone and also some banks solicit borrowers through the short messages, as credit card lenders do. Banks not only use the credit scoring for loan approvals but also for loan pricing. The system has made the banks to improve their performance by giving more loans of smaller sizes than they could use the traditional methods of loans assessments thus increasing their profits. (R.Y. Goh & L.S. Lee, 2018)

According to (Lyn C. Thomas, Jonothan N. crook & David B. Eldelman, 2017). There are two main approaches for credit scoring, judgmental approach and statistical approach. Both use the historical information but the type of information they use is different, the judgmental approach is a qualitative, expert-based approach based on business experience and common sense the credit committee comprises of credit expert which makes decision on credit risks. This is done based on inspecting the five Cs of the applicant and loan. First is the character which measures the borrower's integrity and the character on reputation and honesty. Second is the Capital which compares the difference between the borrower's assets and liabilities. Third is the collateral which is pledged against the loan or credit. Forth is the capacity which measures the borrower's ability to pay. Fifth C reflects on the conditions which measures the borrower's circumstances i.e. the market conditions, competitive pressure and seasonal characters. While doing the information analysis, qualitative or subjective evaluation of the credit risk is done.

For judgmental approach being subjective and unsophisticated is used by the banks on specific credit portfolio such as project finance and new credit products. The statistical approach is based on statistical analysis of historical data in order to find the optimal multivariate relationship between the customer's characteristics and the binary good or bad target variable. This approach is said to be less subjective than judgmental since it's not tied to a particular credit expert's background knowledge and experience. The approach aims at building the score cards which are based on multivariate correlations between inputs such as marital status, income age and then borrower's savings. The scores are assigned to these factors added up and compared with the critical threshold, which specifies the minimum level of required credit quality. Where the aggregate scores exceed the threshold, the borrower qualifies for the credit, and if it's below the threshold the credit is denied.

In credit scoring, statistical approach has advantages over the judgmental approach in relation to bank performance. First it's better in terms of speed and accuracy, second, it helps the lenders to make fast decisions on credits, mostly involving the mobile loans are made quick and real time due to mathematical formula. In addition the model has consistency and reduction of bad debts loss and operating costs, all these lead to improved bank performance. (Bart Baesens, Daniel Roesch, Harald Scheule, 2016)

Good or poor bank performance is affected by the use of the credit scoring; there are a number of benefits reaped from the credit scoring regardless of individual credit score. First, the applicant receives the loan decision more quickly, and also the lenders speed up the loans decisions. Second, credit decisions are made fairer by lenders only focusing on facts related to credit risks. Third, precise information leads to increased lending opportunities, by use of credit scoring banks have the confidence to approve more loans, because the credit score gives them precise information on risk and other credit factors. (Fair Isaac, 2017).

2.2.6 Effect of market research on financial performance of commercial banks

Market research is a key factor in banking industry; CRB conducts market research for the banks, the research involves collecting of information about your target market and customers. The research reveals the size of your potential market, how one can stand out from the competition, customer likes and dislikes and the number of customers willing to pay for the product. It also helps one to improve your products and services. Market research is an important activity in a business as it helps in launching new products, or improves the existing ones, you may believe that your products or services have ready market, but without market research you are left with guess work. By discovering there is market for your products and services and finding out that your business idea is a good one before you launch, will help you to avoid costly mistakes. (George Kuhn, 2017)

Banks do market research through the CRBs, to know the viability of a region in terms of economic activities, technology level of an area or town, this helps them determine whether the place is good to open a branch, or if there is an existing one introduce various products such as mortgage loans, if there are employed customers introduce a non-collateral loans, salary advances and linking of customer accounts to their mobile phones. The improvement of the mobile platform technology makes easier for m-banking users to transact banking services from anywhere, any time. The new paradigms of banking services has changed the face of retail banking since its inception in Philippines, with new products and services and new point of interaction between the banks and their customers.(Ensor & Wannemacher, 2015).

Traditionally, banks were seen as money holders, which later changed their role as creator of money. Though various marketing research and strategies, today the scope of banks has widened, now the banks are seen as purveyor of finance in the entire nation. Sound banking system is the life blood of any developing economy, which reflects the economy growth. There are five key stages of bank marketing development that

shows the specific aspects of bank marketing, closely connecting with characteristics of bank services and market, respectfully in which bank act. Dynamical changes of external environment determine extraordinary demands on strategic thinking of banks and their innovative orientation. (Mthengi Winfred K. 2015)

The actual and expected changes of external market environment should find a reflection mainly in an area of strategic management of the banks. During the realization of banks strategies, in connection with the products, market, goal determination and segmentation, are in marketing mix tools. Further the marketing mix tools are connected to the seven characteristics of services which consists of, Product, Price, Place, Promotion, Personnel, Process and Physical evidence, banks are orientated to the customers by trying to satisfy their needs. The achievement of this goal is by gathering enough information regarding their customers, what their needs are and how to reach them. (Kazik Jerzy, 2017)

In banking industry, there are various benefits in regard to performance which arises from market research done by the CRB. Market research helps the bank to increase their profit consciences through increasing of credit portfolio, service charges through the mobile banking, as well as increasing their liquidity through the customer deposits. Also marketing help the bank improve their services hence performance by giving loans within the shortest time possible, improve their customer relations and venture in new markets through opening of new branches to reach more customers.

2.2.7 Development of Information capital on financial performance of commercial banks

Globalization has provided the contemporary businesses with diverse advantages, especially in facilitating business ventures in the international markets. In this new global economic era, Information capital resources such as customer relations and human capital have become imperative in the success factor of many businesses and significant in sustaining a competitive advantage and creation of value in an organization. Information capital consists of systems, databases, and networks which makes information and knowledge available to the banks. While the banks are focused in improving their performance's, through loan process improvement, quality work and workforce productivity. The potential of an organization creating a competitive advantage and long-term value is based on the premise of efficient management of Information capital as compared to tangible assets. Knowledge-based industries include financial industries such as banks where resources are intellectual in nature and non-tangible (Al-Musali & Ismail, 2016)

Ahujaand Ahuja (2012) assert that effective utilization of information capital is more essential in accomplishment of success in the banking sector than other industries. (Gaddam, Al Khathlan, & Malik, 2009) posit that for a bank to deliver high quality services, it is dependent on the investments it has made in relation to information capital as its brand building, systems and processes and human resource. Despite physical capital being crucial for bank everyday operation, Information capital is what determines the quality of services offered to the customers hence, it becomes imperative that Information capital is managed by the bank (Jordan Nielsen, et.al, 2017)

Considering the fact that banks' primary resources are both intangible and intellectual in nature and they participate in the most vital process which is creation of value, so that they can maintain a sustainable competitive advantage over their rivals, it is important for the researcher to investigate value creation efficiency in the banking industry and analyze how efficiently Information capital resources are managed. Information capital can be classified into three categories; structural capital, human capital, and relational capital. Information capital is the sole strategic asset in organizations and this plays a vital role in creating and maintaining organizations' competitive advantage and its performance (Al-Musali & Ismail, 2016).

2.6 Chapter Summary

In summary, this chapter is based on the various functions of credit bureau Services and their effectiveness as pertains to customers and commercial banks. Some of the facets in this concept include Information Sharing, Credit Scoring, Market Researchand development of information capital. Placed in the correct context, these facets ensure excellent performance of commercial banks. From the information provided, it is evident that CRBs create an information pool where lenders can access timely and accurate credit information regarding borrowers which ultimately reduces accumulation of nonperforming loans and establishes a borrower's credit worthiness. Sharing credit information also aid in ensuring commercial banks operate efficiently and also credit cost are reduced. Market research enables banks to expand their ventures, get customer needs and satisfaction and designs mechanisms to counter competition. It is for this reason that this

study attempts to fill the gap whether Information Sharing, Credit Scoring, Market Researchand development of information capital have an effect on the relationship between credit reference bureau services and the performance of commercial banks.

Research Methodology

3.1 Introduction

This chapter details the procedures that will be applied while conducting the research. This includes the study design, target population, sample design, data collection procedures and data analysis techniques.

3.2 Research Design

According to Cresswell (2014), research design is the research process that involves the overall assumptions of the research to the method of data collection and analysis. Orodho (2009) defines research design as the arrangement of conditions for collection and analysis of data in a manner that aims to combine relevance to the research purpose with economy in the procedure. Kombo and Tromp (2009) add that research design is the glue that holds all of the elements in a research project together. Kothari as quoted by Kombo and Tromp (2009) asserts that a research design constitutes the blue print for the collection, measurement and analysis of data.

The choice of the research design is subject to the study objectives so as to test the research hypothesis (Orodho, 2009). This study will employ correlational research and descriptive research design. Correlational research involves collecting data in order to determine whether and to what degree a relationship exists between two or more quantifiable variables. The degree of relationship is expressed as a correlation co-efficient (Mugenda & Mugenda, 2009). Correlational research is used when investigating the relationships between naturally occurring variables and with studying individual differences. In this study, the relationship between credit reference bureau services and performance of commercial banks is naturally occurring and can only be correlated for prediction purposes.

According to Mills, Albert, Gabrielle and Wiebe (2018), descriptive research design designs help provide answers to the questions of who, what, when, where, and how associated with a particular research. Descriptive survey focuses on describing the variables that are present in a given situation and sometimes describes the relationships that exist in the variables (Johnson & Christensen, 2012).

This study seeks to establish the relationship between credit reference bureau services and the performance of commercial banks in Meru County. Descriptive research is typically structured and precisely designed to measure the characteristic described in a research objective. The object of descriptive research is to depict an accurate profile of persons, events or situations. It is necessary to have a clear picture of the phenomena on which the researcher wishes to collect data prior to the collection of the data. The main objective of this study was to examine the relationship between credit reference bureau services and the performance of commercial banks in Meru County. Banks' performance will be compared against customer's information sharing, credit scoring, market research, and information capital.

3.2.1 Location of the Study

This research will be conducted in Meru County. The County borders Laikipia County, Isiolo County, Embu County and Tharaka Nithi County. In Meru County, the main economic activity is agriculture which is favored by the fact that a significant part of Meru County is on the slopes on Mount Kenya with rivers and streams as the main source of water.

3.3 Target Population

A population is a group of individuals, objects or items from which samples are taken for measurement (Kombo & Tromp, 2009). It includes the entire set of individuals that is of interest to the researcher. It is the large group to which a researcher wants to generalize his or her sample results (Johnson & Christensen, 2012). The target population of this study will comprise the bank managers and heads of credit department in the 18 commercial banks operating in Meru County as at March 2018. In each bank, the head of credit department will be included for the study; hence the study population will be 18 officers in charge of the credit departments in their respective bank.

3.4 Sample Design

Census will be conducted involving all the eighteen banks operating Meru County. In such an inquiry, all items of population are covered, hence no element of chance is left and highest accuracy is obtained (Kothari, 2008).

3.5 Research Instruments

Data will be collected using self-administered structured questionnaires. Orodho (2009) asserts that questionnaires are commonly used instruments to collect important information about the population. Questionnaires have been chosen because they take less time and energy and are less expensive. According to Mugenda and Mugenda (2009), questionnaires are ideal for survey study and are widely used to obtain information about current conditions and practices and to make enquiries about attitudes and opinions quickly and in precise form.

A questionnaire has been developed to get information on credit reference bureau services and performance of commercial banks in Meru County. The questions have been developed in reference to each study objective. Specifically, the questionnaire has six sections. Section one has questions on general information, section two, three, four and five contain questions on each the four independent variables while section six has questions on the dependent variable. Closed ended questions have been preferred over open-ended questions to enhance reliability and validity of data plus effective data analysis.

3.6 Pre-test Study

According to Cohen, Manion and Morrison (2011), the best fit pilot sample should constitute at least 10% of the study sample. Three banks in neighboring Embu County will be used for the pre-test which is approximately 16% of the sample size. The 16% will be obtained through purposive sampling. This will be done by the researcher himself. Piloting will assist the researcher to establish the validity and reliability of the instrument items. It will also assist in removing ambiguities of the questions and researcher bias as well as assessing the possible responses and the analysis of data to be collected.

3.7.1 Validity

Validity is the degree to which results obtained from analysis of the data represents the phenomenon under investigation (Orodho, 2009). It is the accuracy and meaningfulness of inferences which are based on the research results. In other words, validity is the degree to which results obtained from the analysis of the data actually represent the phenomena under study. If validity is high, the inferences made based on such data will be accurate and meaningful. Cresswell (2014) asserts that a behavioural measure is said to be valid if it measures what it has been designed to measure. Content validity or sampling validity will be ensured by having a range of items that measured the four independent variables as well as the dependent variable. The pilot study results will also be used to enhance content validity.

Cresswell (2014) points out that validity of an instrument is improved through expert judgment. The examiners during proposal presentation and the supervisors will give expert judgment which will help to improve content validity. The necessary adjustments will then be made on the instrument to enhance validity.

3.7.2 Reliability

Reliability is defined as the extent to which a questionnaire, test, observation or any measurement procedure, produces the same results on repeated trials (Orodho, 2009). For instance, the degree to which an individual response on a survey would remain the same or consistent over time, this is a sign of reliability. To establish reliability of the instruments pre-testing will be done during the pilot study. Internal consistency reliability was be used. This concerns the extent to which items on the test or instruments are measuring the same thing (Yin, 2013). The reliability of each item will be determined. For example, items developed to measure constructs like information capital. Such items developed must be highly correlated to these constructs to assume high reliability of instruments. Internal consistency will be estimated using the Cronbach's Coefficient Alpha (Mugenda and Mugenda, 2009). The acceptable correlation coefficient will be a cut-off of r =.70 (Siegle, 2011).

3.8 Data Collection Techniques

The researcher will seek a research permit from the National Commission for Science Technology and Innovation (NACOSTI). This will authorize him to carry out research in the Banks. The researcher will also seek permission from the bank managers of the respective banks. The self-administered questionnaires will be distributed to the respondents and picked at an agreed date.

3.9 Data Analysis

Orodho (2009) defines data analysis as categorizing, manipulating and summarizing of data in order to obtain answers to research questions. The data to be collected will be mainly quantitative. Data will be coded appropriately as per the responses to different questions. The Statistical Package for Social Sciences (SPSS) will be used as an aid to analyze the quantitative data. Both descriptive and inferential statistics will be used.
Descriptive statistics and multiple linear regression models will be used to analyze the data. Descriptive statistics were used to summarize the data and establish characteristics of the population.
The multiple regression function will be expressed as $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + e$
Where; Y = Dependent variable
X_1, X_2, X_3, X_4, = Independent variables
X_1 = Information sharing
X_2 = Credit scoring
X_3 = Market research
X_4 = Information capital
β_0 = Intercept
$\beta_1, \beta_2, \beta_3, \beta_4$ = Regression coefficients
e = error

Results and Discussions

4.1 Introduction

This chapter presents data analysis, presentation of results, interpretation and discussion of findings. Descriptive statistics and multiple regression analyses were used to examine the relationship between credit reference bureau services and financial performance of the commercial banks in Kenya.

4.2 Data Collection and Analysis

The data was collected using questionnaires that was administered to the bank managers and credit managers of commercial banks in Meru. The data was collected from 34 commercial banks. The findings of the study were analysed using statistical package for social sciences (SPSS), presented in frequency tables.

4.2.1 Reliability of the Test

According to Nunnally (1978) reliability of 0.70 and above is a sufficient measure of reliability; in this regard, the instruments were deemed suitable for data collection since they met the 0.7 minimum threshold.

4.3 Summary of the data.
4.3.1 Descriptive Statistics

The profile of the respondents details the age, education level, and the duration the employee has been in the commercial bank in Meru.

4.4 Customers Information Sharing on Financial Performance

The study sought to determine whether the respondents agreed with different statements relating to customers information sharing on financial performance of commercial banks in Meru. The findings are presented in the table below.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Borrower over- indebtness	36	1.2222	.48469	.08078
Risk Identification	36	1.1389	.35074	.05846
Non performing Loans	36	1.7778	3.49785	.58297
Good Credit Terms	36	1.1667	.44721	.07454
Loan Protofolio	36	1.2500	.64918	.10820
Loan Repayment Possibilities	36	1.2222	.48469	.08078
Credit Draw	36	1.1667	.37796	.06299
Descipline Device	36	1.1389	.35074	.05846
Customers categorization	36	1.1667	.44721	.07454
Lending Deisions	36	1.1944	.46718	.07786
Loan Application Review	36	1.2778	.45426	.07571
Credit Terms Decision	36	1.2500	.60356	.10059
Borrowers Propotions	36	1.4722	.77408	.12901

From Table 4.4 it was found that majority of the respondents believed that all factors contributing to the customer's information that affects financial performance of the banks.

4.4.1 Effect of Customer's Information Sharing on Performance of Commercial Banks in Meru County

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.880[a]	.774	.655	.23560

a. Predictors: (Constant), Borrowers Propotions, Loan Protofolio, Non performing Loans, Credit Terms Decision, Loan Application Review, Loan Repayment Possibilities, Lending Deisions, Descipline Device, Risk Identification, Borrower over- indebtness, Credit Draw, Customers categorization

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.082	.179		.456	.653
	Borrower over- indebtness	-.263	.290	-.318	-.908	.373
	Risk Identification	.013	.295	.011	.043	.966
	Non performing Loans	.010	.023	.083	.408	.687
	Loan Protofolio	-.015	.081	-.024	-.183	.856
	Loan Repayment Possibilities	-.186	.240	-.225	-.773	.447
	Credit Draw	.813	.320	.766	2.545	.018
	Descipline Device	-.187	.204	-.164	-.917	.369
	Customers categorization	.519	.453	.578	1.145	.264
	Lending Deisions	.412	.150	.480	2.750	.011
	Loan Application Review	-.050	.149	-.057	-.335	.740
	Credit Terms Decision	-.138	.146	-.207	-.940	.357

Borrowers Propotions	.035	.060	.067	.585	.564

From table 4.6 It was found that most factors were significant while others were not significant. R-squared (co-efficient of determination) is 77.4% implying that the predictors in the model can only explain the variation of financial performance by 77.4%. This is a good regression fit model.

4.5 Customers Credit Scoring Sharing on Financial Performance

The study sought to determine whether the respondents agreed with different statements relating to credit scoring on financial performance of commercial banks in Meru. The findings are presented in the table below.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Instant Credit Decision	36	1.1667	.37796	.06299
Unbiased Credit Decision	36	1.1389	.35074	.05846
Reduction of Creit Mistakes	36	1.1944	.46718	.07786
Lending Opportunities	36	1.3611	.72320	.12053
Customer Credit Assessments	36	1.2500	.64918	.10820
Borrowere Honesty	36	1.2500	.43916	.07319
Loan Repayment Period	36	1.5556	.84327	.14055
Borrowers ability to pay	36	1.4167	.60356	.10059
Reduction of Paperwork	36	1.3611	.48714	.08119

All factors contributing to credit scoring were strongly agreed on by all respondents to have an effect on financial performance.

4.5.1 Effect of Credit Scoring on Performance of Commercial Banks in Meru County

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.722[a]	.521	.355	.47015

a. Predictors: (Constant), Reduction of Paperwork, Lending Opportunities, Borrowere Honesty, Loan Repayment Period, Borrowers ability to pay, Unbiased Credit Decision, Instant Credit Decision, Customer Credit Assessments, Reduction of Creit Mistakes

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.227	.379		.600	.554
	Instant Credit Decision	.661	.336	.427	1.971	.060
	Unbiased Credit Decision	-.237	.377	-.142	-.630	.534
	Reduction of Creit Mistakes	-.130	.341	-.104	-.382	.706
	Lending Opportunities	.088	.198	.109	.448	.658
	Customer Credit Assessments	.305	.243	.339	1.257	.220

Borrowere Honesty	.261	.246	.196	1.059	.299
Loan Repayment Period	-.075	.109	-.108	-.689	.497
Borrowers ability to pay	-.079	.180	-.082	-.440	.663
Reduction of Paperwork	.118	.215	.098	.551	.587

a. Dependent Variable: Financial Performance

From the table above most factors are not significant though they are positively contributing to financial performance. Unbiased credit decision, reduction of credit mistakes, loan repayment period and borrower's ability to pay have negative impacts on the financial performance. R-squared (co-efficient of determination) is 52.1% implying that the predictors in the model can only explain the variation of financial performance by 52.1%. This is a good regression fit model.

4.6 Market Research on Financial Performance

The study sought to determine whether the respondents agreed with different statements relating to market research on financial performance of commercial banks in Meru. The findings are presented in the table below.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Customers Satisfaction	36	1.5833	.50000	.08333
New Product Development	36	1.6111	.59894	.09982
Business expansion	36	1.6944	.52478	.08746
Competition Encounter	36	1.6389	.54263	.09044
Introduction and Improvements of new Products	36	1.6389	.54263	.09044
Credit Protofolio	35	3.1714	7.14754	1.20816
Customers Relation	36	2.0278	.69636	.11606
Bank Expansion	36	2.0556	.79082	.13180

In table 4.10 Above respondents were neutral on the issue of credit protofolio as a factor of market research but majority strongly agreed and agreed that these factors of market research affects financial performance.

4.6.1 Effect of Market Research on Performance of Commercial Banks in Meru County

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.756[a]	.571	.439	.42538

a. Predictors: (Constant), Bank Expansion, Credit Protofolio, Customers Satisfaction, Customers Relation, Introduction and Improvements of new Products, Business expansion, Competition Encounter, New Product Development

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.358	.378		.946	.353
	Customers Satisfaction	.121	.228	.107	.529	.601
	New Product Development	-.109	.254	-.115	-.430	.671
	Business expansion	.020	.277	.019	.072	.943
	Competition Encounter	.308	.210	.297	1.471	.153
	Introduction and Improvements of new Products	-.118	.176	-.114	-.673	.507
	Credit Protofolio	.005	.010	.065	.500	.621
	Customers Relation	.279	.120	.336	2.321	.028
	Bank Expansion	.255	.114	.360	2.245	.033

a. Dependent Variable: bank financial performance

From the table above most factors are not significant though they are positively contributing to financial performance on market research. New product development and improvement of new products are market research factors contributing negatively to financial performance of commercial banks in Meru. . R-squared (co-efficient of determination) is 57.1% implying that the predictors in the model can only explain the variation of financial performance by 57.1%, which is a good model fit.

4.7 Information Capital on Financial Performance

The study sought to determine whether the respondents agreed with different statements relating to information capital on financial performance of commercial banks in Meru. The findings are presented in the table below.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Timely access of information	36	1.8611	.72320	.12053
making decisions	36	1.7778	.54043	.09007
Information Accuracy	36	2.0556	.67377	.11230
Credit Cost	36	3.5278	6.98769	1.16461
Decision Making	36	2.1667	.87831	.14639
Improvement on Everyday Opertions	36	2.2778	.81455	.13576
Competitive Advantage	36	1.9167	.50000	.08333

Table 4.13 shows that the respondents agreed on all factors contributing to information capital. Majority were neutral on the matters of credit cost while majority agreed that making decisions has much effects on Financial performance.

4.7.1 Effect of Information Capital on Performance of Commercial Banks in Meru County

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.677[a]	.459	.319	.44768

a. Predictors: (Constant), Competitive Advantage, Timely access of information, Improvement on Everyday Opertions, making decisions, Decision Making, Credit Cost, Information Accuracy

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.907	.445		2.040	.051
	Timely access of information	-.250	.142	-.338	-1.757	.090
	making decisions	.108	.194	.109	.558	.581
	Information Accuracy	.401	.208	.491	1.924	.065
	Credit Cost	.018	.014	.231	1.240	.225
	Decision Making	.081	.109	.132	.750	.460
	Improvement on Everyday Opertions	.031	.113	.045	.278	.783
	Competitive Advantage	.128	.164	.120	.784	.440

a. Dependent Variable: Financial Performance

From table 4.1 It was found that the all the factors were significant except for decision making and everyday improvement. All the factors were positively affecting the financial performance except for the timely access of the information. R-squared (co-efficient of determination) is 45.9% implying that the predictors in the model can only explain the variation of financial performance by 45.9%.

4.8 Effect of Customer's Information Sharing, Credit Scoring ,Market Research and Information Capital on Performance of Commercial Banks in Meru County.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.778[a]	.605	.554	.26798

a. Predictors:(constant), Customers Information, Credit Scoring, Market Research, Information Capital

From table 4.15, R-squared (co-efficient of determination) is 60.5% implying that the predictors in the model can only explain the variation of financial performance by 60.5%. Therefore the regression model has a good fit.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.295	.169		1.744	.091
	Customers Information	-.080	.272	-.096	-.293	.042
	Credit Scoring	.266	.286	.232	.928	.030
	Market Research	-.013	.023	-.113	-.576	.569
	Information Capital	.614	.319	.684	1.928	.063

a. Dependent Variable: Financial Performance

H1: There is no significant relationship between customer's information sharing and financial performance of commercial banks in Meru County.

Customers Information had a coefficient of -0.080 and the significance value of 0.042. At 95 % significance level we reject the null hypothesis hence Customers Information had significant effect on financial performance of commercial banks in Meru.

H2:There is no significant relationship between credit scoring and financial performance of commercial banks in Meru County

Credit Scoring had a coefficient of 0.266 and the significance value of 0.030. At 95 % significance level we reject the null hypothesis hence Credit scoring had significant effect on financial performance of commercial banks in Meru

H3: There is no significant relationship between market research and financial performance of commercial banks in Meru County.

Market research had a coefficient of -0.013 and the significance value of 0.569. At 95 % significance level we fail to reject the null hypothesis hence Market Research had no significant effect on financial performance of commercial banks in Meru

H4:There is no significant relationship between information capital and financial performance of commercial banks in Meru County.

Information capital had a coefficient of 0.614 and the significance value of 0.063. At 95 % significance level we fail to reject the null hypothesis hence Information capital had no significant effect on financial performance of commercial banks in Meru

Conclusion

5.1 Introduction

This chapter presents the summary of the findings, conclusion and recommendations for further research. The responses arrived at were based on the objectives of study. The research explored the relationship between credit reference bureau services and financial performance of the commercial banks in Meru**.** This study investigated the effect of customer's information, credit scoring, market research and information capital on financial performance of commercial banks in Meru.

5.1 Summary of the Findings

The descriptive statistics showed respondents details on the age, education level, and the duration the employee has been working in the bank. It was established that the majority of the respondents (47.2%) were in the age group of 36-45. Majority of the employees were graduates and the majority of credit managers have only worked for 3-5 years (52.8%).

From the linear regression model, it was found that; Customers Information had significant effect on financial performance of commercial banks in Meru. Credit scoring had significant effect on financial performance of commercial banks in Meru,Market Research had no significant effect on financial performance of commercial banks in Meru and Information capital had no significant effect on financial performance of commercial banks in Meru

5.2 Conclusion

The first objective of the study was set to determine the effect of customer's information sharing on performance of commercial banks in Meru County. The findings revealed that customers information sharing has no significant effect on financial performance.

The second objective of the study was to determine the effect of credit scoring on performance of commercial banks in Meru County. Results revealed that credit scoring has significant effect on financial performance.

The third objective of the study was to determine the effect of market research on performance of commercial banks in Meru County. Results showed market research had no significant effect on financial performance.

The fourth objective of the study was to examine the effect of capital information on financial performance of commercial banks in Meru County. Findings on the information capital showed that it has significant effect on financial performance.

5.2 Recommendations

Since the study focused on commercial banks, it is suggested that the study be extended to other financial institutions to assess whether different findings may be reached regarding relationship between credit reference bureau services and the performance.

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APPENDIX

Appendix: List of Commercial Banks in Meru County

1	Commercial Bank of Africa Ltd
2	Equity Bank Ltd
3	Co-operative Bank of Kenya Ltd
4	Kenya Commercial Bank Ltd
5	Barclays Bank of Kenya Ltd
6	Standard Chartered Bank Ltd
7	Family Bank Ltd
8	Diamond Trust Bank Kenya Ltd
9	National Bank of Kenya Ltd
10	CFC Stanbic Bank Ltd
11	I & M Bank Ltd
12	NIC Bank Ltd

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13	Housing Finance Company of Kenya Ltd
14	Bank of Africa Kenya Ltd
15	Ecobank Ltd
16	Sidian Bank Ltd
17	Consolidated Bank of Kenya Ltd
18	African Banking Co-operation Ltd

Source: Researcher (2018)