Credit Risk and Financial Performance of Selected Commercial Banks in Kampala District, Uganda. A Cross-Sectional Study.

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Abstract

Background:

The main purpose of the study is to examine the relationship between credit risk and the financial performance of commercial banks in Uganda by; examining the relationship between default risk and financial performance and examining the relationship between recovery risk and financial performance of commercial banks.

Methodology:

The study used a descriptive, correlational and cross-sectional research design. It also adopted both quantitative and qualitative survey designs. The study sample size comprised of 130 employees of the selected commercial banks in the Kampala Central business district. Further, the study used a questionnaire as a research instrument and simple random sampling to collect data.

Results:

The findings revealed that the average loan approval period was 2.65 weeks with a minimum of 1 and maximum of 5 weeks. This signifies inefficiency as customers may not use the borrowed funds for its intended purpose as money comes after a long time. Further, the results show that customers must at least wait for two weeks to access a loan.

The findings of the Kaplan plot showed a negative relationship between loan period and recovery rate. Further, there is a steep fall in the recovery of loans after 6 months.

The findings revealed r = 0.441 correlation coefficient and a sig value of 0.00. This indicated a significant positive relationship between recovery risk and financial performance of commercial banks. The correlation between default risk and financial performance of the selected commercial banks was -0.476. Therefore, there is a negative significant relationship between default risk and financial performance of commercial banks.

Conclusion:

Generally, there was a relationship between credit risk and financial performance of the selected commercial banks.

Recommendation:

The selected commercial banks need to improve efficiency in operations by reducing on the loan approval period to at least one week.

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1. Background of the study

The Uganda government through the "Uganda commercial bank act of 1965" gave commercial banks the mandate to create credit by providing loans and receive deposits from individuals, companies and organizations. This has made commercial banks in Uganda inevitably exposed to credit risk because they grant credit facilities as they accept the deposits ("Uganda Commercial Bank Act," 1965).

Debt and financial leverage have for long been well debated financial topics and credit problems have been identified as being the major reasons behind banking difficulties (Lundin, 2016). Credit creation is a major source of revenue to commercial banks and puts a significant risk of borrower default and the small individual defaults by borrowers that can result into cumulative large losses that can lead to massive financial distress to banks (Gathaiga, 2015).

There are various theories and models that have been developed and used to explain the relationship between credit risk and financial performance by various researchers (Gathaiga, 2015; Jamil J Jaber, 2017; Jane Gathigia Muriithi, 2016; Lundin, 2016; Moles, 2017; Oludhe, 2011).

Financial distress theory states that "when a business deteriorates to the point where it cannot meet is financial obligation, the firm is said to be financially distressed" (Jane Gathigia Muriithi, 2016). This means that commercial banks are financially distressed if they cannot provide credit to other business entities.

Financial distress refers to an entity's inability to pay its debts. This implies operating cash flows of the firm are not able to meet the present needs and obligations. It can be identified through different events such as closing branches, reducing dividends, layoffs and financial loss (Sarah Ndegwa, 2017).

According to (Chijoriga, 2011) credit risk is the most critical and expensive risk associated with financial institutions and its impact on performance is quite significant compared to any other risk associated to the banking sector as it is a direct threat to solvency of the institution.

Credit risk is the risk of loss that may occur from the failure of any party to abide by the terms and conditions of any financial contract, principally, the failure to make required payments on loans due to an entity (Ssengendo, 2015). Financial performance is a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues. The term is also used as a general measure of a firm's overall financial health over a given period (Will Kenton, 2020).

Most of the researches carried out by past researchers have been on credit risk management and financial performance (Gathaiga, 2015; Jamil J Jaber, 2017; Jane Gathigia Muriithi, 2016; Kalu, 2018; Mercylynne, 2017; Mwangi, 2012; Olousi, 2014; Isah Serwadda, 2018; Isah Serwadda, 2018; Wanjohi, 2017). These researches have been conceptualized on rik management processes and profitability as a measure of financial performance. This always left a gap the effect of credit risk on financial performance using other measures like solvency and liquidity ratios to measure performance.

Further, no research has used survival time models to analyze credit risk measures such as default rate and Non-performing loans ratio using Kaplan Meir model and Cox regression models.

In 1998/99, four commercial banks were intervened and closed by the central bank in Uganda. This was because the losses incurred by the distressed banks were much greater than the estimated revenues (Brownbridge, 2002).

Hasabubwenje (2020) detailed the cause of closure of all the ten commercial banks right from Teefe trust bank in 1993, International credit bank in 1998, Greenland bank and Cooperative banks in 1999, National bank of commerce in 2012, Global Trust bank in 2014 and Crane Bank in 2016. Further, some banks have resorted to closing branches in order to reduce on working capital necessary to run branches. For example, tropical bank closed Mbale and Mbarara branches (Kirinya, 2020). More signs of financial distress have been cited in Diamond Trust Bank which would get loans from its sister bank in Kenya hence causing court cases("Ham Enterprises Ltd

& 2 Ors v Diamond Trust Bank (U) Ltd & Anor (Miscellaneous Application-2020/654)," 2020).

Further, the financial performance of commercial banks continued to gradually decline with industry losses increasing from UGX39.4 billion to UGX57.5 billion as the number of loss-making banks increased from five to seven. Commercial Bank of Africa (CBA) and Tropical Bank registered particularly big losses of UGX10.5 billion and UGX24 billion respectively (Kyamutetera, 2020). Due to covid 19, most businesses closed and their business operations were affected. This is likely to increase the level of non-performing loans, default rates, the cost of recovery and legal fees hence increased cost of credit risk in all commercial banks (Lyatuu, 2021). Therefore this study examines the relationship between credit risk and financial performance of commercial banks in Uganda.

2. RESEARCH METHODOLOGY:

2.1. Research Design

The study adopted a descriptive correlational and cross-sectional research design. Further, it was also both quantitate and qualitative in nature. This is because the researcher used words, texts and graphs to describe the study the findings and the research was quantitative because the researcher used figures to examine some of the study variables hence a mixed research design. Further, the study was cross-sectional in nature since the researcher collected data at in short period of time and the study had no follow up. The study was also correlational in determining the relationship between the study variables.

2.2. Study population

The study used the staff of selected commercial banks as the study population. According to UBA report (2020) the selected four commercial banks have a total of 200 staff in Kampala district as shown in the table below.

3. Sample size

The study will adopt Solven's formula to estimate the sample size at 95% level of confidence (Adam, 2020).

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

$$n = \frac{200}{1 + 200(0.05^2)}$$

$$n = \frac{200}{1.5}$$

$n = 133$ Staff

3.1. Sampling method

The study used simple random sampling method to select respondents of this study. The method was used to ensure that all the staff of the selected commercial banks have the same chance of being selected to participate in this study.The researcher used simple random sampling to ensure that all the staff of the selected commercial banks have an equal chance of being selected into the sample.

3.2. Sources of data

This research used both primary and secondary sources of data as explained below.

Primary data was obtained using Self-Administered Questionnaires (SAD) and interviews to collect data from selected staff in selected commercial banks. The study used self-administered questionnaires to collect information from the identified loan officers of selected commercial banks. These were issued to the staff of the selected commercial bank to fill and were collected after two weeks.

Secondary data was obtained directly from the financial records, magazines, journals, newspapers, annual reports and websites of the selected commercial banks, Bank of Uganda and Uganda Bankers Association.

3.3. Research Instruments

The study used a self-administered questionnaire as a research instrument to collect data necessary for this study form staff of the selected commercial banks within the Kampala Central business district.

Table 1: **showing sample size and sampling method.**

Selected commercial bank	**Number of employees**	**Sample size**	**Method of sampling**
Commercial Bank of Africa	53	30	Simple random sampling
Kenya Commercial bank	52	30	Sampling random sampling
Finance Trust Bank	65	50	Simple random sampling
Diamond Trust Bank	30	23	Simple random sampling
Total	**200**	**133**	

Source: Primary

3.4. Validity of instruments

Validity of an instrument refers to the appropriateness of the instrument to measure what it intends to measure (Mugenda, 2009). Validity refers to the truthfulness of findings or the extent to which the instrument is relevant in measuring what it is supposed to measure (Earl-Babbie, 2013).

To ensure greater chances of data validity, the questionnaires were reviewed with the research supervisor for expert input. A content validity index (CVI) was determined by diving the relevant questions to the total number of questions (CVI=n/N). A CVI of 0.8 (8/10) was obtained hence the questionnaires were administered to the rest of the respondents as the instrument was valid since the benchmark was 0.7.

3.5. Reliability

To test for reliability of the instrument, the researcher used the Cronbach alpha coefficient using data collected from the pilot study of 15 respondents. The data from the pilot study was entered into the computer Statistical Package for Social Sciences (SPSS) and a Cronbach Alpha coefficient was be computed of 0.82 was obtained and declared the instrument reliable. Since the minimum recommended value is 0.7 (Amin, 2005).

3.6. Ethical Consideration.

• The researcher requested for permission from the school of research and graduate studies and obtained an introductory letter to go with in the field.

• The researcher also requested for the consent of the respondents to participate in the study and feel free to provide relevant information for the study. Further the researcher will inform the respondents about the purpose of the research project and the expected outcome of the study.

• The researcher also assured the respondents that the information provided was to be treated with maximum confidentiality and was to be used for academic purposes only.

• Further, the researcher credited and extended his gratitude to all previous researchers whose literature has contributed to this study and was not allowed taking their work as his.

• The researcher also ensured validity by ensuring that the answers provided answer the questions at hand.

• The researcher used simple random sampling technique to avoid bias on the research findings.

3.7. Data Analysis

Before data was analyzed, it was carefully classified, edited, coded basing on clarity, completeness, accuracy and consistence to ensure reliability. This was be done using Micro soft excel. Data was then exported to SPSS version 23 for analysis. The study was used actuarial models (Kaplan Meir) to estimate the default risk (rate) at a point at a specified time and loan losses of the commercial bank as follows.

Default risk

$\Delta =$ 1 total default

0 repaid after maturity period

The estimator of the function for the recovery rate is $S_t = \prod_{i=1 \leq t} (1- \frac{d}{n})$ equation (1)

Where,

Is the default

Is the total number of loan portfolios

Is the time at which the loan is repaid or defaulted

The researcher then drew a graph showing the credit risk at various periods of the observed time.

Recovery risk

$\Delta =$ 1 total default

0 repaid after maturity period

The estimator of the function for the recovery rate is $S_t = \prod_{i=1 \leq tm} (1- \frac{r}{nd})$ equation (1)

Where,

Is the recovery loan

nd is the total number of defaulters at maturity.

Tm is the time after maturity date of the loan.

3.8. Bivariate analysis and correlational analysis

The researcher will use chi-square test with Pearson co-efficient to examine the relationship between the study variables that are categorical in nature. The researcher will use paired sample t-test to examine the relationship between numeric variables. Multiple regression models will be used for analysis of the relationship between credit risk and financial performance of commercial banks. The researcher will use multiple regression models because the dependent variable is numeric while the independent is categorical (Bosco, 2016).

4. FINDINGS, PRESENTATION AND DISCUSSIONS

4.1. Introduction

This section provides an insight view of the recorded, organized, coded, validated data that were collected from the respondents of the study. The findings of the study were presented in line with the research objectives. The findings were organized, coded and processed using Special Package for social sciences (SPSS) software and are presented as follows.

4.2. Response Rate

The sample size of the study was 133 staff of the selected commercial banks in Kampala Central Business district. Off the selected 133 staff, 3 did not return the questionnaires thus reducing the sample size by 2%. However, 2% is insignificant and has no effect on the findings of the study.

From the table 2, the response rate for CBA, KCB and FTB was 100%. However, 3 respondents of DTB did not return their questionnaires hence reducing the response rate by 2%. Therefore, the response rate for this study was 98% by 130 respondents.

4.3. Background Information of the respondents.

4.3.1. Gender of the respondents

From the table 3, 63.1% (82) of the respondents of the study were males and 36% were males. The total number of respondents for the commercial banks was 130. This means that majority of the staff in the banking industry are males.

4.3.2. Level of education of the respondents

According to figure 1, majority of the respondents are diploma holders, followed by those with a degree. The smallest proportions of the respondents are masters' degree holders. This shows that all the staff within commercial banks are educated and posses adequate knowledge about commercial banking.

4.3.3. Level of experience

The level of experience for the respondents was summarized for easy interpretation of the findings. Therefore, 0-2 years = 1, 3-5 years=2, 6-10 years=3 and 11-15 years= 4.

The findings of the study revealed that majority of the respondents have worked in the banking industry for 3-5 years. The average level of experience for the respondents was 2.05with a standard deviation of 0.771. This is below 1 hence the mean level of experience 2.05 is not spread from the center. Therefore 70% of the respondents have worked in the banking industry for over 3 year and possess sufficient skills in banking industry.

4.4. Background information for the commercial banks

4.4.1. Types of loans issued

According to table 4, the finding revealed five types of loans that are usually issued by commercial banks. These were, business loans, housing

Table 2: Showing response rate

Response	**Questionnaires and interviews Issued**		**Questionnaires received**	
	Frequency	Percent (%)	Frequency	Percent (%)
Commercial Bank of Africa(CBA)	30	22.5	30	22.5
Kenya Commercial Bank(KCB)	30	22.5	30	22.5
Finance Trust Bank(FTB)	50	37.6	50	37.6
Diamond Trust Bank(DTB)	23	17.4	20	15.4
Total	**133**	**100**	**130**	**98**

Source: Primary

Table 3: Summary of Gender of the Respondents

Gender		Frequency	Percent
	Female	48	36.9
Valid	Male	82	63.1
	Total	**130**	**100.0**

Source: Primary

Table 4: showing loans issued by commercial banks.

Loan type		Frequency	Percent
Valid	Business	48	36.9
	Housing	13	10.0
	Land	23	17.7
	Salary	19	14.6
	School fees	27	20.8
	Total	130	100.0

loans, land loans, salary loans and school fees loans. The biggest proportion 36.9% of loans issued by commercial banks is business loans and the smallest proportion 10% is Housing loans.

4.4.2. Type of loan and loan size

For the bar graph below 1= 0.5-1(million), 2=2-5(million), 3=6 and above.

The figure 3 revealed that commercial banks mostly issue out business loans, followed by school fees loans, land loans, salary loans and lastly housing loans. The issue of loans was categorized into three levels for this study. For business loan type, majority of customers are issued with level 2 loans and level one. For housing loans, commercial banks issue level 1, 2, and 3 but most customers acquire housing loans to supplement their savings in payment of houses. Further, the number of housing loans issued is the smallest in the industry because most customers use other means. For school fees loans, customers mostly acquire level 1 loans followed by level 2 and lastly level three. This means the loan sizes are usually below 6 million. For salary loans, customers usually acquire mostly level 2 and 1 loans. This is because most employees acquire such loans in medium amounts to finance their emergencies or supplement money to buy land or houses.

Generally, level 3 of loan size is mostly acquired to finance business, buy a house or land. There-

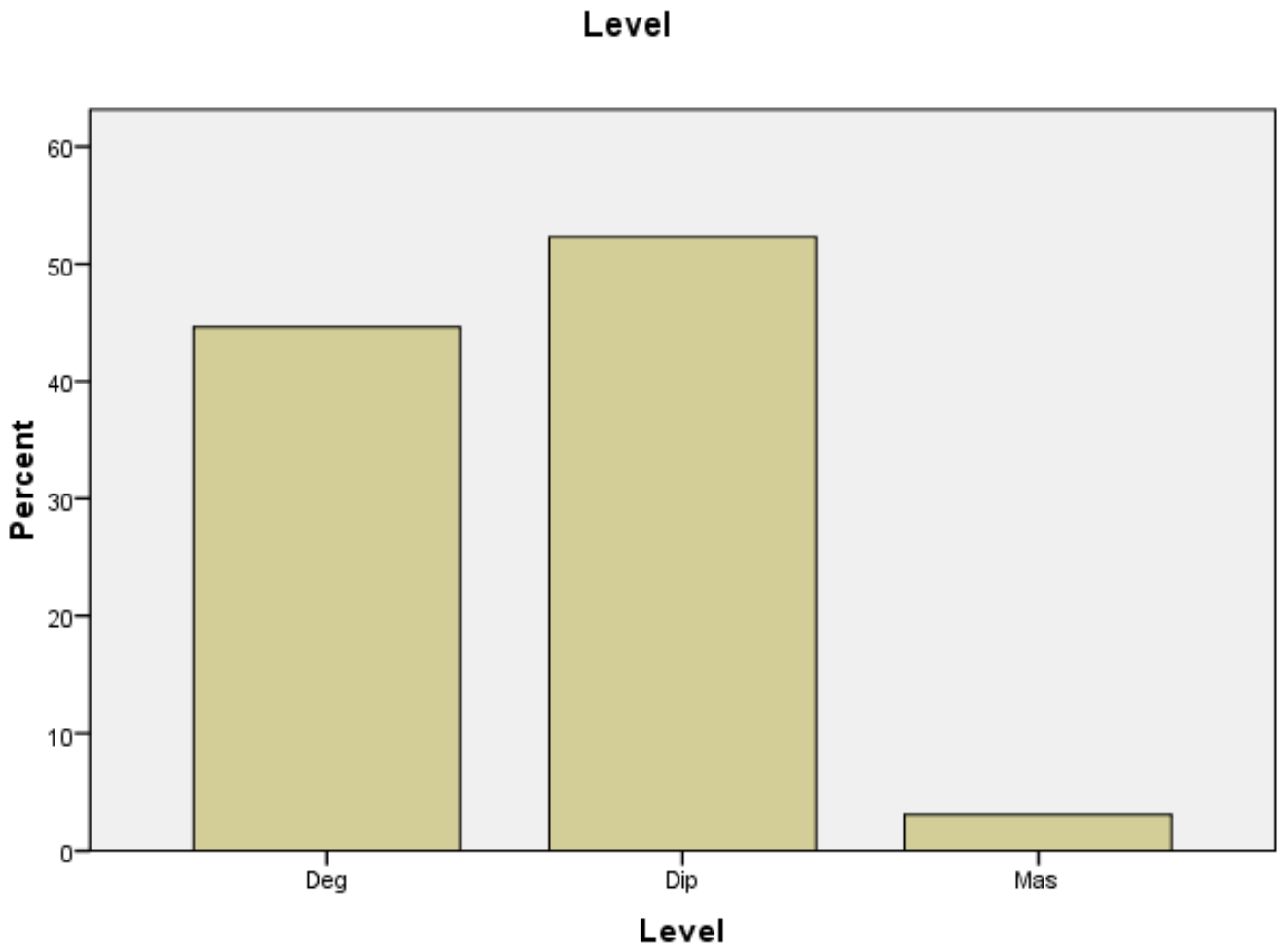

Figure 1: Showing Level of education of the respondents

fore there is a positive relationship between loan type and loan size. As the use of the loan is for business purpose, the amount of loan availed also increases.

4.5. Loan size and Approval period.

The results in table 5 indicate a positive weak correlation between loan size and approval period. This implies that large loan sizes tale a long period to be approved by management.

Therefore, there is need to improve on loan approval period hence efficiency in loan approval.

4.6. Credit risks associated with loans

For this study, the findings revealed defaulting, non performing loans and loan deliquesces as the risks associated with loans in commercial banks within Kampala district. 41.5% of the respondents identified loan delinquencies as a serious risk affecting credit followed by 28.5% that identified NPL and 30% identified defaulting. Therefore majority of the customers delay paying their loans and do not pay loan on the agreed date. 28.5% of the respondents believe customers may delay loan repayment by over 3 months period.

4.7. Financial performance of Commercial banks

To measure the financial performance of commercial banks, the researcher used the loan approval period to measure efficiency and Net Interest Margin to measure profitability.

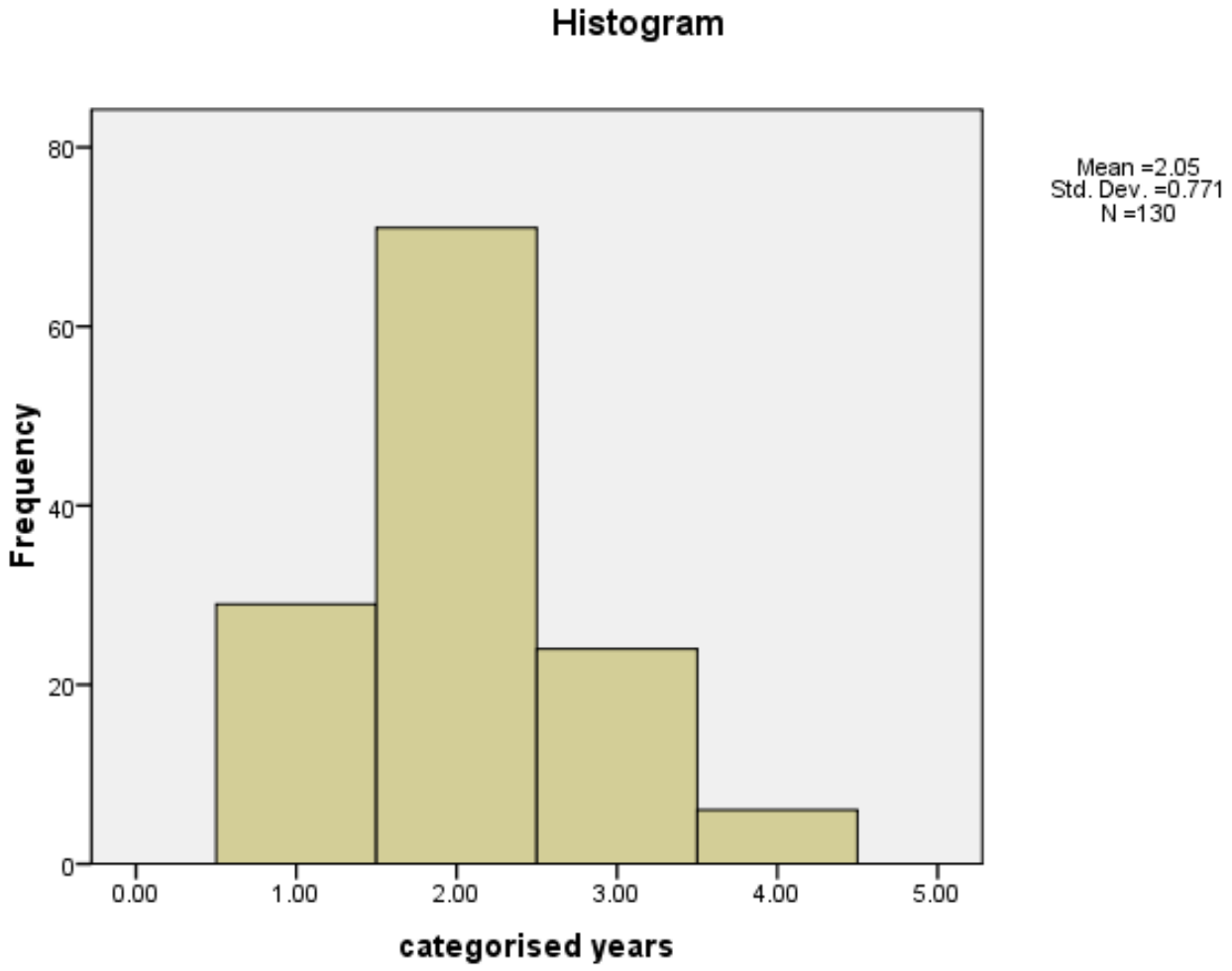

Figure 2: Showing years of experience of respondents

Table 5: showing correlation between loan size and approval period.

		Value	Asymp. Std. Error[a]	Approx. T[b]	Approx. Sig.
Interval by Interval	Pearson's R	.188	.087	2.049	.043[c]
Ordinal by Ordinal	Spearman Correlation	.197	.088	2.155	.033[c]
N of Valid Cases		130			

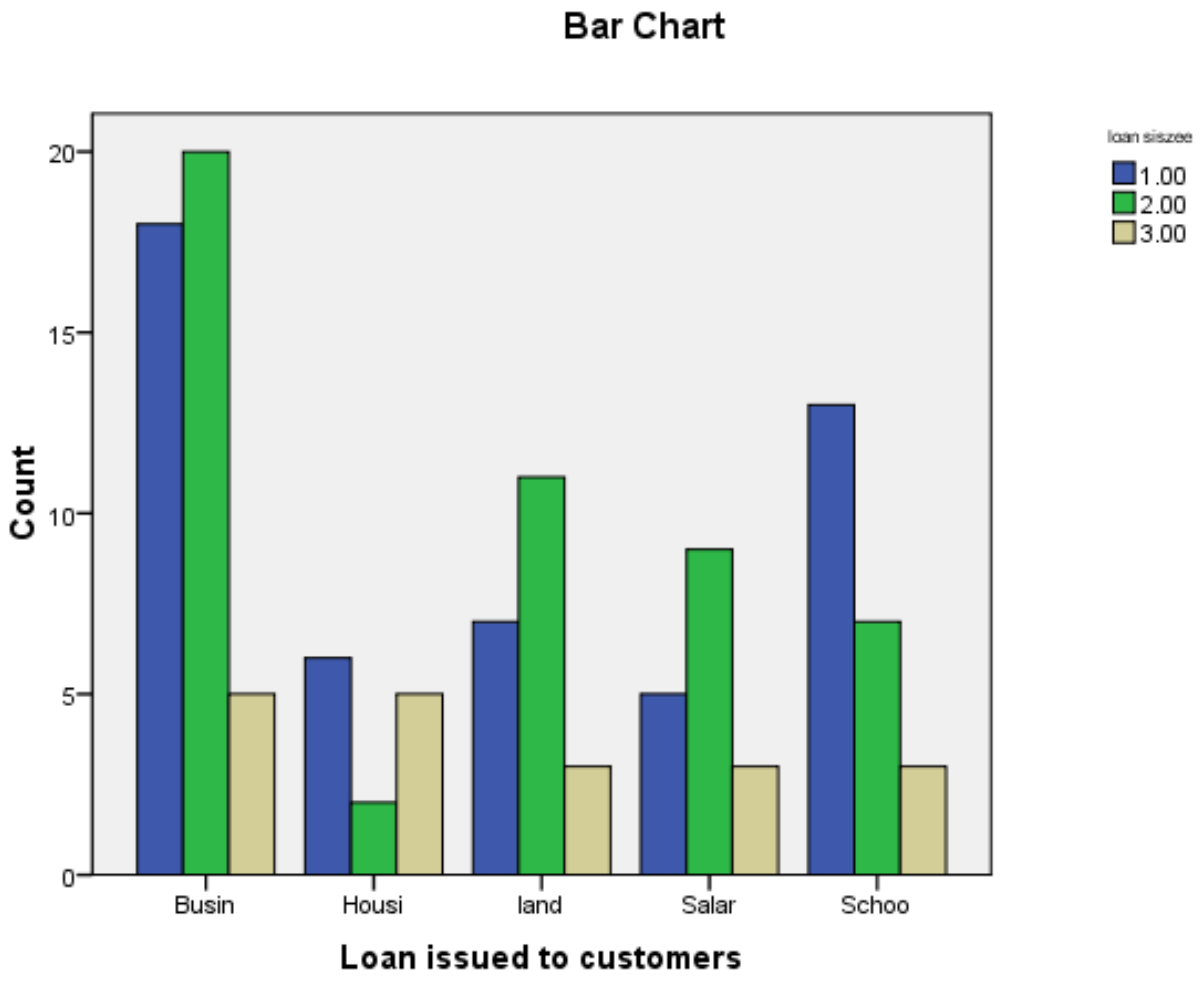

Figure 3: showing categorized loan size and type of loan

Table 6: showing credit risks associated with loans for Commercial banks

Risks		Frequency	Percent
Valid	Default	39	30
	NPL	37	28.5
	Deliquesces	54	41.5
Total		130	100.0

4.7.1. Loan approval period

According to the table 7 above, the average loan approval period is 2.65 weeks with a minimum of 1 and maximum of 5 weeks. This implies that commercial banks can take up to one month to approve loans. This signifies inefficiency as customers may not use money for emergencies. Further, the results show that customers must at least wait for two weeks to access a loan.

Net interest margin on various loans

To calculate the Net interest margin, the researcher adopted the formula;

$$\text{Net Interest Margin} = \frac{(\text{Investment Income} - \text{Interest Expenses})}{\text{Average Earning Assets}}$$

Where investment income was the interest income, interest expenses were the cost of recovery and Average earning assets (loan size)

Averagely, the Net Interest Margin on loans is 0.59. This shows that the loans issued to customers are highly profitable by 50%. However, the minimum Net interest margin was -0.79. This indicates default on some loans hence defaulting. The standard deviation is 0.54. This shows that the true value of average NIM is correct and other values are not so far away spread from the centre. Therefore, the loans issued to customers are 50% certain of profitability.

4.8. The relationship between default risk and loan period of commercial banks.

Kaplan Meir table for loan default rates of the selected commercial bank.

Number censored 41

From table 9, the number of censored cases was 41. Therefore, the default cases were 41.By analyzing the trend of default with loan period, as the loan period increases, the risk of defaulting also increases. However, as the loan period increases, the probability of recovering loans reduces. By critically observing the 6 months, the risk of defaulting sharply increases faster than time. This means that the probability of defaulting increases substantially after six months. Therefore managements of commercial banks need to be sensitive to loans exceeding six months.

4.9. Correlation between default risk and loan period of selected commercial banks.

The Pearson correlation coefficient between default risk and loan period was 0.721. The sig. value was 0.024. The findings of the study revealed a positive strong significant relationship between loan period and defaulting. This implies that default is influenced by loan period. The loan period increases with the rate of default hence default risk.

4.10. The relationship between default risk and financial performance of selected commercial banks.

Kaplan survival function for loan recovery rate.

The findings of the graph above show a negative relationship between loan period and recovery rate. This implies as the loan period increases the probability of loan holders repaying their loans reduces. Further, there is a steep fall in the recovery of loans after 6 months. Therefore management should be strict on loans whose repayment exceeds 6 months.

4.11. The descriptive analysis between loan recovery and financial performance of commercial banks.

The researcher used Likert scale where the answers were on a scale of 1 to 5. Where 5= Strongly Agree, 4= Agree, 3 = Neutral, 2 = Disagree and 1 = Strongly Disagree. The table also includes the summary of the participant's responses basing on percentages (%), frequency (F), standard deviation (Std) and mean.

The findings from the table 4.10 above revealed loan recovery increases profitability of commercial banks. 76% of the respondents agreed with a mean value of 4.00 and standard deviation of 0.03.

Also the findings from the table 4.10 showed that the rate of loan repayment (recovery risk) increases with the loan period hence efficiency of commercial banks" statement, 43% of the respondents agreed with the statement. The average response was 2.56 with a standard deviation of 0.654. This shows that as the rate of loan payment increases, loan repayment reduces. This is

Table 7: Showing financial performance of commercial banks

N		Valid	130
		Missing	0
Mean			2.65
Std. Deviation			1.105
Minimum			1
Maximum			5
Weeks		Frequency	Percent
Valid	1	24	18.5
	2	33	25.4
	3	41	31.5
	4	28	21.5
	5	4	3.1
	Total	130	100.0

Table 8: Showing the average Net interest Margin of commercial banks

Net interest Margin		
N	Valid	130
	Missing	0
Mean		.5980
Std. Deviation		.54688
Variance		.299
Minimum		-.79
Maximum		2.51

Source: Primary

true because as loan holders clear their loans, they terminate loan periods hence improved efficiency.

Further, the findings of the study showed that loan repayment increases the Net Interest Margin of commercial banks. The average response was 4.15 with a standard deviation of 0.16. This shows that net interest on loans increases due to loan repayment hence profitability of loan portfolios. Also the findings revealed 87.7% as the response for agreeing with the statement.

Also the findings from table 4.10 showed that loan recovery rate (risk) has a relationship with financial performance of commercial banks. The average response was 4.19 with a standard deviation of 0.28. Also 93.9% of the respondents agreed with the statement. Therefore, loan recovery rate has an influence on the profitability of commercial banks.

4.12. Pearson correlation coefficient for loan recovery risk and financial performance of commercial banks.

According to the findings in table 12, the correlation between recovery risk and financial performance, the researcher used recovery rate and Net Interest Margin. The findings revealed 0.441 as the correlation coefficient and a sig value of 0.00. This indicated a significant positive fair relationship between recovery risk and financial performance of commercial banks. Therefore, for commercial banks to improve their profitability, they must improve the rate of recovering loans firm

Table 9: Showing the default risk rates on loans

Loan period	Recovery risk	Default risk	N
0	1	0	6
1	0.954	0.046	22
2	0.875	0.125	34
3	0.83	0.17	62
4	0.684	0.316	78
5	0.594	0.406	102
6	0.297	0.703	120
7	0.256	0.744	121
8	0.231	0.769	123
9	0.206	0.794	124
10	0.198	0.802	126
11	0.185	0.815	127
12	0.137	0.863	129
13	0	1	130

Source: Primary

Table 10: Showing the spearman's correlation between loan period and default risk

Correlations				
			Default risk	Loan period
Pearson	Default risk	Correlation Coefficient	1.000	0.721
		Sig. (2-tailed)	.	.024
		N	130	130
	Loan period	Correlation Coefficient	0.721	1.000
		Sig. (2-tailed)	.024	.
		N	130	130

Source: Primary

Table 11: Descriptive analysis loan recovery and financial performance of commercial banks

	Statement		**SD**	**D**	**N**	**A**	**SA**	**Mean**	**Std**
i)	Loan recovery increases the profitability of commercial banks	F		10	20	59	41	4.00	0.03
		%		7.7	15.4	45.04	31.5	76.75	
ii)	The rate of loan repayment (recovery risk) increases with the loan period hence efficiency of commercial banks	F	32	24	43	31		2.56	0.654
		%	24.6	18.6	33.1	23.8		43.2	
iii)	Loan repayment increases the Net Interest Margin of commercial banks	F			16	78	36	4.15	0.16
		%			12.3	60	27.7	87.7	
iv)	Loan recovery rate (risk) has a relationship with Financial performance of commercial banks.	F			8	89	33	4.19	0.28
		%			6.1	68.5	25.4	93.9	

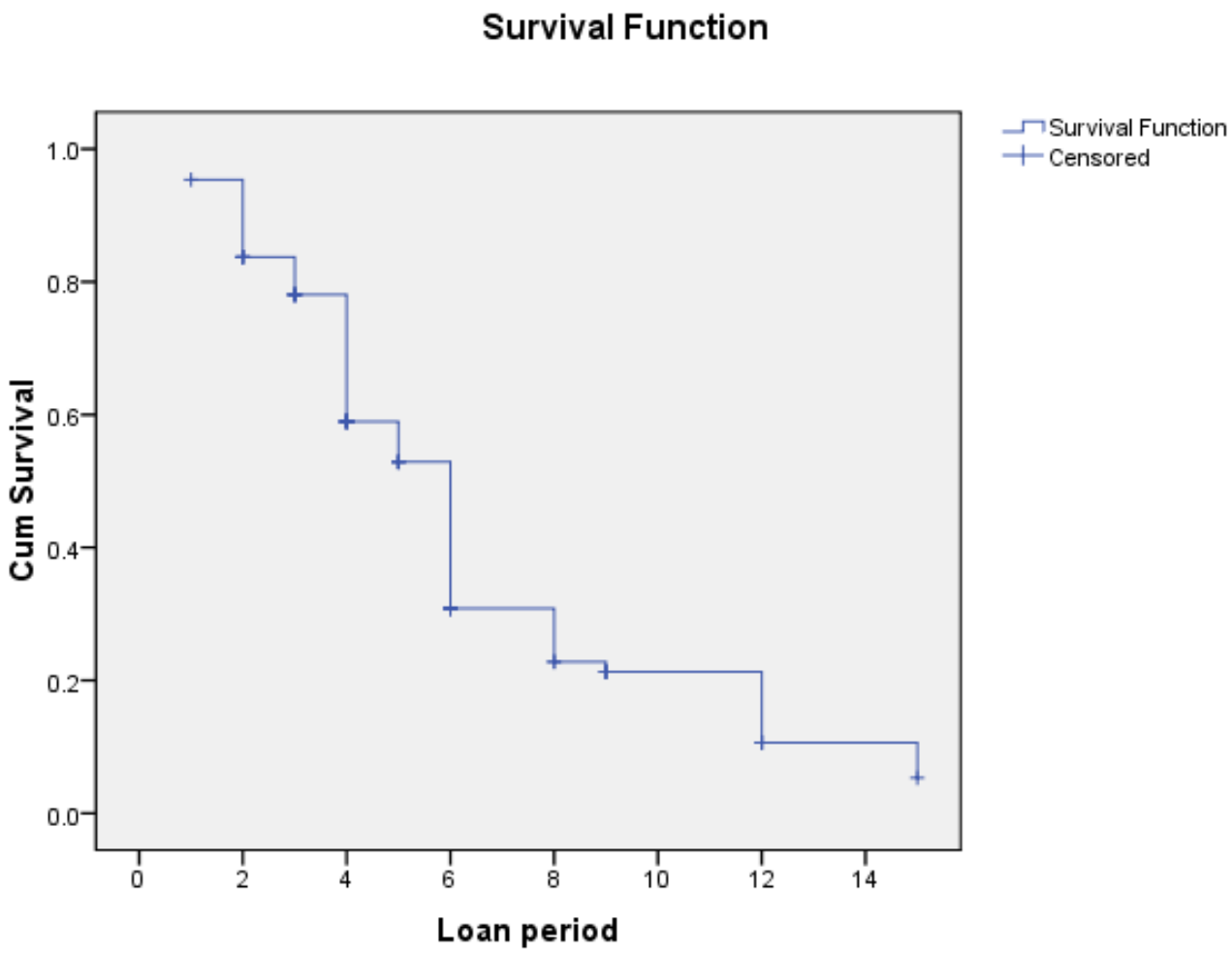

Figure 4: Showing recovery rates for loans

Table 12: Correlation between recovery risk and financial performance

Correlations

		Recovery rate	Financial performance
Recovery risk	Pearson Correlation	1	.441**
	Sig. (2-tailed)		.000
	N	130	130
Financial performance	Pearson Correlation	.441**	1
	Sig. (2-tailed)	.000	
	N	130	130

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

loan holders.

4.13. The relationship default risk and financial performance of commercial banks.

Descriptive analysis of the default risk and financial performance of Commercial banks

The researcher used Likert scale for this particular section of the study where the responses were on a scale of 1-5. Where 1 = Strongly Agree, 2= Agree, 3 = Neutral, 4 = Disagree and 5 = Strongly Disagree. The table below shows a summary of the participant's responses basing on percentages (%), frequency (F), standard deviation (Std) and mean;

From the table 13 above, the findings revealed 4.15 mean response value and 0.67 for the statement "Defaulting of loans reduces the Net Interest Margin hence profitability of commercial banks". Also 90.8% of the respondents agreed with the statement. Therefore, defaulting reduces the profits made by commercial banks on a given loan. Commercial banks need to reduce the default risk by adopting various policies.

Also the findings in table 13 revealed Default risk increases with time (loan period) commercial banks". The average response value was 3.13 with a standard deviation of 1.02. This means that the average response is neutral and the mean value is far away spread from other responses since standard deviation is greater than 1. However the findings reveal that 61.7 of the respondents agreed that default risk increases with loan period. This means that clients that take loans for a long period of time should be highly accessed because they are likely to default and cause losses to commercial banks.

The findings in table 13 showed that default risk increases with the loan approval period hence delaying of giving out of loans leading to inefficiency of commercial banks" statement, 86.9% of the respondents agreed that higher default risk is likely to delay loan approval. Also the mean response was 4.31 with a standard deviation of 0.31. Therefore, defaulting risk on loans call for long periods before approval.

The findings form table 12 also showed that there is a relationship between default risk and financial performance of commercial banks. The mean response was 4.6 with a standard deviation of 0.28. Therefore there is a relationship between default risk and financial performance. Meaning an increase in loan default reduces the profits of commercial banks.

4.14. Correlation between default risk and financial performance of commercial banks.

From table 14 above, the correlation between default risk and financial performance is -0.476. The significance value is 0.045. Therefore, there is a negative significant relationship between default risk and financial performance of commercial banks. This means that increased defaulting of loans reduces the profits made by commercial banks hence declining financial performance.

4.15. Regression analysis for credit risk and financial performance.

The findings from table 14 showed that financial performance of commercial banks was 46.2% predicted by default risk (Adjusted R Square = 0.462). The remaining 53.8% was predicted by other factors outside the study. The regression model was also valid (sig.0.02 <.05). Therefore the defaulting of loans predicts 46% loss of profits for the commercial bank. This is true because the coefficient value is negative.

Also the table showed that financial performance of commercial banks is 25.7% predicted by recovery risk (Adjusted R Square =0.250). The remaining 75.0% was predicted by other factors outside the study. The regression model was sig. <.002). Therefore, loan recovery predicts high loan repayment rate by customers resulting into increased Net Interest Earned by 25% hence improved financial performance.

Results also showed that financial performance was 11% predicted by loan period (Adjusted R Square =0.48). The remaining 89% was predicted by other factors outside the study. The regression model was not significant since Pvalue is greater than 0.05. This means that as the loan repayment period increases, the likelihood of defaulting increases hence predicting loss of interest income, high cost of loan recovery and losses.

Table 13: Descriptive analysis default risk and financial performance

	Statement		SD	D	N	A	SA	Mean	std
i)	Defaulting of loans reduces the Net Interest Margin	F			12	86	32	4.15	0.67
	hence profitability of commercial banks	%			9.2	66.1	24.7	90.8	
ii)	Default risk increases with time(loan period)	F		32	18	78	2	3.13	1.02
	commercial banks	%		24.6	13.8	60.2	1.5	61.7	
iii)	Default risk increases the approval period hence	F			17	56	57	4.31	0.31
	delaying of giving out of loans leading to inefficiency	%			13.1	43.1	43.8	86.9	
	of commercial banks								
iv)	There is a relationship between default risk and	F				49	81	4.6	0.28
	financial performance of commercial banks	%				37.69	62.3	100	

Table 14: Showing correlation between default risk and financial performance of commercial banks

Correlations

			Default risk(rates)	Financial performance
Pearson's rho	Default rates	Correlation Coefficient	1.000	-.476*
		Sig. (2-tailed)	.	.045
		N	130	130
	Financial performance	Correlation Coefficient	-.476*	1.000
		Sig. (2-tailed)	.045	.
		N	130	130

*. Correlation is significant at the 0.05 level (2-tailed).

Table 15: Regression analysis for microfinance loans and financial performance

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1 2 3	(Constant)	1.037	.229		4.534	.000
	Default risk	-0.81	.000	.219	2.536	.002
	Recovery risk	.127	.036	.042	1.292	.019
	Loan period	-.016	.012	-.016	-.181	.857

a. Dependent Variable: Financial performance

Table 16: a. Dependent Variable: Financial performance

Model	R	R Square	Adjusted R Square
1	.685[a]	0.47	0.462
2	.509[b]	0.26	0.250
3	.332[c]	0.11	0.120

Source: Primary

Generally, there is a relationship between credit risk and financial performance of the selected commercial banks.

5. Discussions

Mwangi (2012) stated that credit risk is a vicinity of concern for the entire business world because the risk of trading partners not fulfilling his obligation in full jeopardizes the other partners business operations. Further, Mwangi like Idowu, used financial performance and non-performing loans ratio as indicators of financial management. His findings revealed that profitability is significantly influenced by credit risk. Therefore these study findings tend to concur with his findings in Kenya. However, he did not explain the extent to which credit risk influences profitability and financial performance. Also, Mwangi used non performing loans as an indicator of performance which the current researcher does not prefer due its contribution to credit risk than financial performance.

Olousi (2014) analysed the effect of credit risk on profitability using Panel regression. Credit risk was measured by NPL and Capital adequacy ratio and profitability was measured using ROE and ROA. His findings were similar to findings of Mwangi (2012), Gathiaga (2015) and the current researcher. However, Olousi(2014) used panel regression model and the current researcher used multiple regression model. This implies that there are no significant difference in the findings generated using two different regression models.

Lundin (2016) identified debt and financial leverage to have an impact on the performance of business enterprises. He proposed that small businesses should avoid credit by opting for trade credit in order to improve performance. His findings were found to be similar to this research but Lundin (2016) did not clearly identify the sources of credit (debt), their effects and did not cover the loan period. Therefore this study fills the gap.

Muriithi (2016) analysed the effect of credit risk on the profitability of commercial banks in Kenya and ignored other measures of financial performance such as liquidity, solvency and efficiency that the current researcher has used like loan period which the current researcher has clearly studied and recommends short term loans of less than 6 months to be less risky for defaulting.

6. Conclusion

The average loan approval period was 2.65 weeks with a minimum of 1 and maximum of 5 weeks. This implies that commercial banks can take up to one month to approve loans. This signifies inefficiency as customers may not use the borrowed funds for its intended purpose as money comes after a long time. Further, the results show that customers must at least wait for two weeks to access a loan.

Averagely, the Net Interest Margin on loans is 0.59. This shows that the loans issued to customers are highly profitable by 50%. However, the minimum Net interest margin was -0.79. This indicates default on some loans hence leading to losses on some loan portfolios of the selected commercial banks. The standard deviation is 0.54. This shows that the true value of average NIM is correct and other values are not so far away spread from the centre. Therefore the loans issued to customers are 50% certain of profitability.

To estimate the default risk, the researcher used Kaplan Meir model, the number of censored cases was 41. These were cases of default. By analyzing the trend of the Kaplan Meir survival table showed that as the loan period increases, the risk of defaulting also increases. However, as the loan period increases, the probability of recovering loans reduces.

The spearman's correlation coefficient between default risk and loan period was 0.721. The sig. value was 0.024. The findings of the study revealed a positive strong significant relationship between loan period and defaulting. This implies that default is influenced by loan period. The loan period increases with the rate of default hence default risk.

The findings of the Kaplan plot showed a negative relationship between loan period and recovery rate. This implies that as the loan period increases the probability of loan holders repaying their loans reduces. Further, there is a steep fall in the recovery of loans after 6 months.

To examine the correlation between recovery risk and financial performance, the researcher used recovery rate and Net Interest Margin. The findings revealed 0.441 as the correlation coefficient and a sig value of 0.00. This indicated a significant positive fair relationship between recovery risk and financial performance of commercial banks.

The correlation between default risk and financial performance of the selected commercial banks was -0.476. The significance value is -0.045. Therefore, there is a negative significant relationship between default risk and financial performance of commercial banks. This means that increased defaulting of loans reduces the profits made by commercial banks hence declining financial performance.

The findings from table 4.14 showed that financial performance of commercial banks was 46.2% predicted by default risk (Adjusted R Square = 0.462). The remaining 53.8% was predicted by other factors outside the study. The regression model was also valid (sig.0.02 <.05).

Generally, there is a relationship between credit risk and financial performance of the selected commercial banks.

7. Recommendations of the Study

After critically analyzing the findings of the study, the researcher came up with the following recommendations.

i) The selected commercial banks should improve efficiency in operations by reducing on the loan approval period to at least one week. This will help the selected commercial banks attract more borrowers hence increasing sales, Interest income and profitability in the long run hence improved financial performance.

ii) By critically observing the first 6 months of loan period, the risk of defaulting sharply increases faster after 6 months of loan period. This means that the probability of defaulting increases substantially after six months. Therefore managements of commercial banks should be sensitive to loans exceeding six months as they are more risky and borrowers are likely to default on repayments.

iii) Therefore, for commercial banks in order to improve their profitability, they should improve the rate of recovering loans from loan holders at a relatively low cost. Still management should schedule loan on increasing annuity arrangement so that by the time of defaulting a small percentage that is negligible remains. This could have no significant effect on the profitability of the bank.

iv) Also commercial banks should encourage loan holders to pay in time through designing credit scores. This allows borrower acquire scores (points) that allow them access a higher level of loan sizes in the next credit applications. This will act as a motivating factor for borrowers to repay loans promptly.

8. Limitations of the study

i) The outbreak of covid 19 pandemic has been a threat to this research by limiting the movement and meetings between the researcher and the supervisor. Further, covid 19 has altered the methods of collecting data as physical movements are limited

ii) Limited Access to Information. Due to lockdown, collecting information from certain stakeholders and offices has been limited hence a limitation to the study. For example due to Standard Operating Procedures it was difficult to obtain additional information from bank of Uganda officials.

iii) There is also limited literature in relation to credit modeling especially using Kaplan Meir hence a limitation to the study. There was little information discovered about credit risk and financial performance of commercial banks especially in Uganda.

iv) Some of the respondents for this study did not return the questionnaires hence reducing the response rate. This further limited the findings of the study.

v) High cost of internet and transport. The cost of using internet in updating citations and collecting relevant data on related literature was expensive. Further, the cost of transport was also high making the overall cost of doing research expensive.

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