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The Impact of Capital Budget Decision on Financial Performance of Commercial Banks in Sierra Leone

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ABSTRACT

This study aims to un earth the impact of capital budgeting techniques on commercial bank financial performance. The study not only discusses that capital budgeting decision is imperative for the overall performance of commercial banks, but also discusses how to improve the use of the techniques in making decisions. Qualitative as well as quantitative research methodology has been adopted in this study. A questionnaire was developed to get the opinion of employees working in11 commercial banks in Sierra Leone. The results obtained from 187 employees show that the implementation of the payback period technique in capital budgeting decision is highly correlated with commercial banks performance followed by three other techniques except for the internal rate of return technique that was negative and insignificant in both the correlation and regression results. The suggestions of our results are discussed.

Keywords: *Capital budget decision, financial performance, Commercial banks, Sierra Leone*

INTRODUCTION

The need for capital budgeting decisions in the banking system to enhance performance and to improve profit levels cannot be over emphasized since the sustainability of any economic system is predicated on the viability of the financial system of that country. Banks are established to accomplish their set objectives which includes profit making and for these objectives to be attained capital budgeting decision must play a significant role. It is important to know that due to the present competition amongst banks there is the need for the present day banks to adapt and be involved in sound capital budgeting decisions to give them an edge over other banks in the aspect of continuously improving on their levels of performance.

The effect of capital budget decision on financial performance is one of the central questions in both financial management and development. This effect matters not only for the evaluation and design of investment policy, but also for thinking about firm performance.

Making a capital budgeting decision is one of the most important policy decisions that a firm makes. A firm that does not invest in long-term investment projects does not maximize stakeholder interests, especially shareholder wealth. Optimal decisions in capital budgeting optimize a firm's main objective – maximizing the shareholders' wealth – and also help the firm to stay competitive as it grows and expands. These decisions are some of the integral parts of overall corporate financial management and corporate governance. A company grows when it invests in capital projects, such as plant and machinery, to generate future revenues that are worth more than the initial cost (Ross M. 2011; Shapiro 2005).

Drury (2004) opined that the investment, financing and dividend decisions are considered by the capital budgeting process as follow: Determining which specific projects a firm should accept, determining the total amount of capital expenditure which the firm should undertake, and determining how the total amount of capital expenditure should be financed From the above, it is clear that the capital budgeting process is crucial for achieving the goal of maximization of shareholders' wealth. In addition, once an investment is undertaken, it is not easily reversible without a great deal of financial loss to the firm or even a severe decline in the growth of the firm. Given the above background, this

research sought to investigate the effect of capital budget decision on the financial performance of commercial banks in Sierra Leone and proffer solid policy recommendations that could be applied so as to enhance better performance. Practically, this study, as a whole, caters to a perceived need of most commercial banks owners/managers for better capital budgeting practice to improve performance. The findings of this research will provide commercial banks owners/managers with more useful understanding about capital budgeting and participation, i.e. how to apply the budgeting system; how to adjust budget practice within organizations; whether it is useful to apply participation in commercial banks. They may change their attitude and/or behavior concerning capital budgeting activity, and finally enhance the beneficial outcome of performance management. The results will simultaneously contribute to business consultants to better understand financial planning implementation in commercial banks. This study also responds to the fast growth of commercial banks, not only domestically but also globally. As developing countries become more industrialized, the implementation of the performance management in developing countries remains an important issue. Commercial banks are quite different from other organizations. Therefore, more empirical studies are expected to be addressing this issue, to investigate how capital budgeting should be suitably applied and covered, which will positively improve their performance. The findings give more evidence on the effectiveness of capital budgeting practice towards commercial banks in Sierra Leone and give suggestions to commercial banks of other developing countries.

HYPOTHETICAL FRAMEWORK

The relationship describes the association between the independent variables and the dependent variables (Mugenda, O &Mugenda, B., 2003). The framework presents a suitable model to explore how commercial banks performance measured by return on assets (ROA) in Sierra Leone is affected by capital budget decisions such as Payback period, Net present value, internal rate of return, accounting rate of return and Profitability Index.

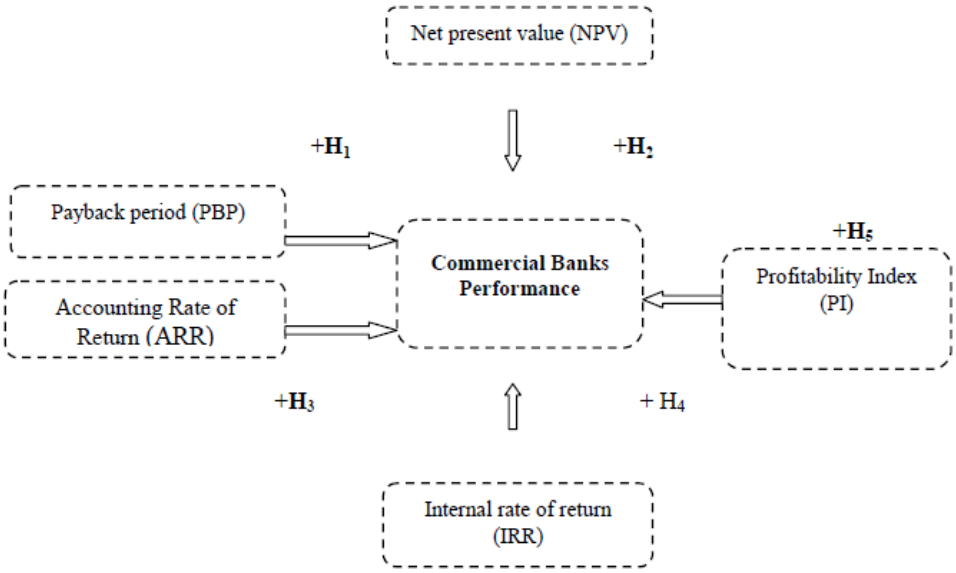

Figure1. *Conceptual framework of the hypothesized model illustrating the proposed relationship between the variables.*

LITERATURE REVIEW

Klammer (2013) investigated the association between capital budgeting techniques and firms' performance. His sample included 369 manufacturing firms. The response rate was about 50%.The aim of study was operational return rates as adequate measure of the firms' performance. Capital budgeting techniques were used to test the payback method and the discounting techniques. Linear regression analysis was carried out to test various hypotheses.

These results pointed out that despite of a growing adoption of sophisticated capital budgeting methods no consistent significant association between performance and capital budgeting techniques were apparent. This implies that mere adoption of various analytical

tools is not sufficient to bring about superior performance. The other factor such as marketing, product development, executive recruitment and training, labor relations deserve sufficient attention.

In Kenya, Olum (2012) studied capital budgeting from the viewpoint of shareholders' wealth maximization. He examined the extent to which capital budgeting techniques were applied by Kenyan corporations. He noted that the current capital investment appraisal techniques were not well applied. Only two fronts tend to utilize it namely private entrepreneur and the general public.

Haka et al. (2014) determined the effects of a firm's market performance by switching from naïve to sophisticated capital budgeting selection procedures. They theoretically stated that, a firm should perform better if it employs sophisticated techniques than if it uses naïve techniques. Equally, a sample size of 50 firms was used. Only 60% of the firms responded. In addition, they used personal interviews for two reasons; first to determine if the firm had indeed adopted sophisticated capital budgeting techniques; secondly; it was important to ascertain precisely when the adoption took place.

Mooi and Mustapha (2011) have investigated on degree of sophistication of capital budgeting practice and firms' performance. Using a sample of 42 firms, 19% used average capital budgeting methods and 43% fairly superior methods. To test the level of association, they performed a t-test. Their results showed that the degree of capital budgeting sophistication did not significantly affect firm performance using ROA and EPS. Generally, the use of superior capital budgeting process should increase the effectiveness of the firms' investments decision making. Thus their study failed to confirm with the theory.

Kadondi (2012) determined the capital budgeting techniques used by companies listed at NSE and how the firms' and CEO characteristics influence the use of a particular technique. With a sample size of 43 companies, 65% responded to questionnaire. His results showed that 85% carry out capital budgeting in stages though many of the respondents ignored the first stages of capital budgeting. Of these, 31% used the payback method, 27% applied NPV while 23% were using the IRR technique. Gilbert (2015) determined the application of capital budgeting methods and their association with firm performance among South African manufacturing firms. A sample of 318 firms was surveyed. The response rate was 37%.The survey tested the application and impact of payback method, return accounting rate, net present value and the internal return rate. The return on assets was used as a measure of the firms' performance. From this study, it was noted that 15% of the firms employed the payback method, 8% used purely the discounting methods while the rest employed a mixture of both. Even though the managers were aware of the cost benefits of using the discounting methods, their responses involved the use of shortcuts and approximations. It was concluded that while discounted cash flow methods play an important role in capital investment decision-making, their costs and proper application was extremely underestimated.

Yao et al. (2006) compared the use of capital budgeting techniques and their impact on performance in Netherlands and China. They compared 250 Dutch and 300 Chinese firms. The response rates were 87 firms responded in total. Out of these 42 and 45 were Dutch and Chinese companies, respectively. Notably, these results suggested that 49% CFOs Chinese firms use the NPV method against 9 % who use traditional investment decision methods. In Dutch, 89% of the firms use NPV investment decision method while traditional investment decision methods took 11%.Their study used return on assets to measure performance which was used in a regression model as a dependent variable and measured against the various investment decision techniques. The results indicated that in both countries, sophisticated capital budgeting techniques mostly NPV and IRR had a positive relationship with return on assets (ROA) while the traditional methods showed an insignificant relationship.

Olawale et al. (2010) conducted an investigation into the companies which make use of sophisticated investment appraisal techniques in investment decisions. The study sample size was 124 firms. The response rate was 39% indicating to be using sophisticated investment appraisal techniques in investment decisions. Moore& Reichert (1989) studied 500 US firms using modern analytical tools and financial techniques. Overall, firms which adopted sophisticated capital budgeting techniques had better average financial performance. Specifically, firms which used modern inventory management techniques and Internal Rate of Return (IRR) reported superior financial

performance against those firms using naïve methods. The aim of this study is to determine the capital budgeting techniques employed by commercial banks in Sierra Leone and the effect of those techniques on the financial performance. The results of most studies have reported the use of both the naïve capital budgeting and discounted cash flow techniques. The naïve methods include; the payback method and the accounting rate of return. The discounted cash flow methods otherwise referred to as sophisticated capital budgeting include the net present value and the internal rate of return.

Many companies seem to prefer the payback method and net present value to accounting rate of return and internal rate of return respectively. In the literature, it has been argued that the use of capital budgeting practices may be related to improved financial performance. A number of arguments to support this have been cited. Some of the studies indicated that sophisticated capital budgeting techniques mostly NPV and IRR had a positive relationship with return on assets (ROA) while the traditional methods showed an insignificant relationship. However similar studies reported a negative relationship of the capital budgeting techniques and financial performance. The studies have indicated that, despite a growing adoption of sophisticated capital budgeting methods, there is no consistent significant association between performance and capital budgeting decision.

This indicates that the mere adoption of various analytical tools is not sufficient to bring about superior performance and that other factor such as marketing, product development, executive recruitment and training, labor relations, etc., may have a greater impact on profitability. Domestic studies on the other hand have mainly dealt with the application of the capital budgeting techniques in listed companies and also in the banking sector.

Their findings indicate that discounted cash flow methods are not extensively being used to appraise investment decisions. The study in the banking sector particularly found the overwhelming application of the naïve capital budgeting techniques. Thus given these conflicting findings in the literature and lack of substantive local study on the effect of capital budgeting decisions on financial performance, this study seeks to fill this gap by establishing the impact of the capital budgeting decisions on financial performance of commercial banks in Malawi.

METHODOLOGY

The study employs correlation and multiple regression analysis. The dependent variable used was Return on Asset (ROA). ROA was proxies as commercial banks profitability indicator (Alkhatib and Harsheh, 2012; Podder, 2012) and the five predictors employed were Payback period, Net present value, internal rate of return, accounting rate of return and Profitability Index. The model adopted is:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon ..} \quad \mathbf{(1)}$$

Where;

Y = Commercial banks financial performance (ROA)

X_1 = Payback period

X_2 = Net present value

X_3 = Internal rate of return

X_4 = Accounting rate of return

X_5 = Profitability Index

β_0 = Slope coefficient of the model

β_1 = Beta coefficient of determination

ε = error term

220 self-designed questionnaires were used to gather primary data from the participants. The questionnaire was divided into three parts. The first part comprised of demographic information of the respondents. The second part consisted general information of the banks operating environments, challenges to the performance of the banks. This part consisted of 25 questions of which five belong to each group which were intended to measure performance and capital budget decisions that influence banks financial performances, using 5-point Likert scale anchored by very great extent to no extent. Out of the three grouped questions, one group requires a 5-point Likert scale while the remaining one was open-ended questions at the end.

RESULTS AND DISCUSSION

Following a line of investigation, fundamentally the research makes use of primary data that has been used in generating questionnaire which has been administered to the capital budgeting committees of the 11 commercial banks in Sierra Leone. However, out of the 220 questionnaires administered by the researcher, 187 filled questionnaires were collected translating to 85% response rate. According to Babbie (2002), any response of 50% and above is adequate for analysis and therefore, the response rate of 85% is adequate for analysis of this research.

HYPOTHESIS TESTING

Reliability Analysis

Reliability analysis was subsequently done using Cronbach's Alpha which measures the internal consistency by establishing if certain item within a scale measures the same construct. Reliability of the questionnaire was evaluated through Cronbach's Alpha which measures the internal consistency. Cronbach's alpha was calculated by application of SPSS for reliability analysis. The value of the alpha coefficient ranges from 0-1 and may be used to describe the reliability of factors extracted from dichotomous and or multi-point formatted questionnaires or scales.

Table1. *Reliability Analysis*

Extent	Cronbach's Alpha	Number of Items
Payback period (PBP)	.93	2
Accounting Rate of Return (ARR)	.74	2
Internal rate of return (IRR)	.86	4
Net present value (NPV)	.77	5
Profitability Index (PI)	.81	3

The higher the value, the more the reliability of the scale generated. Cooper & Schindler (2008) has indicated 0.7 to be an acceptable reliability coefficient. In the above table Payback period had the highest reliability (α=0.93) followed by Internal rate of return (α=0.86), Profitability Index had (α = **0.81**), Net present value had (α=0.77) and Accounting Rate of Return had (α=**0.74**). This illustrates that all the five scales were reliable as the values of their reliability were above the prescribed cut off point (0.7) proposed by Cooper & Schindler (2008).

Correlation Result

Bivariate correlations of the predictor variables with commercial banks performance were statistically significant and in the hypothesized direction except for internal rate of return. As illustrated in Table 2, payback period technique of capital budgeting was positively related to commercial banks performance (r = .734, p < .01). Thus, the first hypothesis (Hypothesis 1) was supported by the study. The accounting rate of return technique was also positively correlated with commercial banks performance and in the hypothesized direction (r = .485, p < .05). Thus the second hypothesis (Hypothesis 2) was also supported. However the third hypothesis (Hypothesis 3) was not supported by the study as the magnitude of relationship between the internal rate of return technique had shown a negative and insignificant result (r = -.364, p > .05). The net present value technique was also positively correlated with commercial banks performance and in the hypothesized direction (r = .559, p < .05). Thus the fourth hypothesis (Hypothesis 4) was also supported by the study. Similarly, the profitability index technique was also positively correlated with commercial banks performance and in the hypothesized direction (r = .548, p < .01). Thus the fifth hypothesis (Hypothesis 5) was also supported.

Table2. *Correlation Result*

	Y	X_1	X_2	X_3	X_4	X_5
Y	1					
X_1	.734**	1				
X_2	.485*	.432*	1			
X_3	-.364	.058	.101	1		
X_4	.559*	.311	-.052	.113	1	
X_5	.548**	.204**	-.410*	.215	.196	1

Regression Result

From the table 3 below, R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table below there was a strong positive relationship between the study variables as shown by 0.848 at the 1% significance level. The Adjusted R squared is the coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variables, from the findings in the table below the value of adjusted R squared was 0.792 which is an indication that there was variation of 79.2% on commercial banks performance due to changes in Payback period, Accounting Rate of Return, Internal rate of return, Net present value and Profitability Index at 95% confidence interval. This is an indication that 79% of the changes in commercial banks performance could be account for by the independent variables.

Table3. *Model Summary*

Model	R	R square	Adjusted R square	Std. error of the estimate	R Square Change	F Change	Sig. F Change
1	.921[a]	.848	.792	.89382	.848	15.321	.000
Predictors: (Constant), X1, X2, X3, X4, X5							

Table4. *Regression Coefficients*[a]

Model	Unstandardized coefficients		Standardizes coefficient	T	Sig.
	B	Std. Error	Beta		
(Constant)	15.921	6.753		2.358	.038
X1	.625	.180	.568	3.464	.002
X2	.115	.048	.163	2.418	.031
X3	-.352	.238	-.383	-1.481	.151
X4	.192	.060	.176	3.203	.007
X5	.132	.042	.371	3.129	.010

From the regression equation below, it was found that holding all the capital budgeting decision techniques to a constant zero, commercial banks performance will be 15.921 percent, a unit increase in the use of the payback period technique would lead to increase in commercial banks performance in Sierra Leone by 62.5%, a one percent increase in the use of net present value technique would lead to an increase in commercial banks performance in Sierra Leone by 19.2%, a one percentage increase in the use of profitability index would lead to 13.2% increase in commercial banks performance and a one percentage increase in the use of accounting rate of return would lead to an increase in commercial banks performance by 11.5%. Unfortunately, the internal rate of return technique is not only insignificant for the study but shows a negative effect on commercial banks performance. Had this result been statistically significant, a one percentage increase in the use of internal rate of return technique would have hindered commercial banks performance by 35.2%. Overall, the payback period method had the greatest effect on commercial banks performance in the sample, followed by net present value, profitability index, then accounting rate of return. At 5% level of significance and 95% level of confidence, payback period had a 0.002 level of significance; net present value had a 0.007 level of significance, profitability index had a 0.01 level of significance while accounting rate of return had 0.151 level of significance hence the most significant factor is the payback period technique. All the variables were significant ($p<0.05$) except for internal rate of return. Substituting the estimated results in the empirical model specified in chapter three gives:

$$\mathbf{Y = 15.921 + 0.625X_1 + 0.115X_2 - 0.352X_3 +} 0.192\mathbf{X_4 + 0.132X_5}$$

The above equation is our final estimated equation which shows how much each independent variable may impact or influence the dependent variable as already explained in the interpretation and analysis above.

The authors have decided to use regression because Regression analysis is one of the most important statistical techniques for financial applications. It's a statistical methodology that helps estimate the strength and direction of the relationship between two or more variables. The financial analyst may use regression analysis to determine the actual relationship between these variables by looking at the use of the capital budgeting decision by commercial banks and the banks performance. The regression results show that this relationship is valid. Regression analysis is an indispensable tool for analyzing relationships between variables. For example, it can:

- Identify the factors that are most responsible for commercial banks performance
- Determine how much a change in capital budgeting technique will impact bank performance
- Develop a forecast of the future value of the bank's performance in terms of their capital budgeting decisions

Concluding Remarks

This section rounds off this research study. It condenses the findings and results of the research, draws up conclusions and makes recommendations for future improvements or initiative on the issues discussed. The study in essence sought to unearth the impact of capital budgeting decision on banks performance in eleven commercial banks in Sierra Leone. The research contributes to capital budgeting and performance literature by exploring the relationship between capital budgeting decision and commercial banks performance in Sierra Leone context. Theories and literatures were reviewed to develop a suitable model for banks performance and the model was developed based on capital budgeting techniques and firms' performance literature that are mostly focused in the US setting. The reliability and validity measurement scales were used to measure the relationship between capital budget techniques and banks performance. Results of testing the

model using a correlation and regression analysis discovered some important findings: firstly, all the independents variables have a direct positive relationship with commercial banks performance except for the internal rate of return technique (IRR) which supported the first (hypothesis H_1), second (hypothesis H_2) fourth (hypothesis H_3), and fifth (hypothesis H_5) hypotheses of the study. Thus (hypothesis H_3) was not supported. Consequently, in a Statistical view point; the findings confirm that increasing the use of the payback period technique in capital budgeting decisions will strongly invoke commercial banks performance. This empirical result is also somewhat consistent and has supported and expanded capital budgeting decisions, and firms' performance research literature mostly published in US settings. In summary, what can be concluded is that all the budgeting techniques have positive impact on commercial banks financial performance except for the IRR technique. The impact which the techniques have on performance can be reinforcing. It is considered that the banks budgeting committees have well managed to take the right budgeting decisions. For this case study banks what can be concluded is that the techniques which they have in use are positively impacting the banks performance as suggested by the regression result. This study has certain limitations as in any research. First and foremost, the research made up of 187 staffs working at the 11 commercial banks in Sierra Leone, the sample might not be adequate for generalization. Secondly, the capital budgeting decision techniques of the banks are sensitive to location. That means, surveys with the same sample in different locations may result in different outcomes. It is suggested that further researchers take the current constraints into consideration and use different measurement scales to measure the connection between the capital budgeting decision and firms' performance.

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