INFLUENCE OF CAPITAL BUDGETING TECHNIQUESON THE FINANCIAL PERFORMANCE OF COMPANIES LISTED AT THE RWANDA STOCK EXCHANGE

Liliane Gasana
Jomo Kenyatta University of Agriculture and Technology, Rwanda

Dr. Paul Kariuki
Jomo Kenyatta University of Agriculture and Technology, Rwanda

ABSTRACT

This study sought to determine the effect of capital budgeting techniques on the financial performance of companies listed at the Rwanda Stock Exchange. The study employed a descriptive design. The target population for the study was all the seven companies listed at Rwanda Stock Exchange. Data was collected from 35 respondents who comprised of chief finance officers (CFO), Chief executive officers (CEO), managers and accountants of the 7companies listed in the RSE. This study employed both primary and secondary data. Primary data was collected through questionnaires. The study findings indicated that capital budgeting has effect on financial performance on the studied companies as indicated by 90% of the study respondents. The findings also showed that the most common capital budgeting techniques practiced by most of the company is internal return rate (45%) followed by 29% net present value and 26% payback period. Further the findings indicated that 78% of the variation in company's financial performance could be attributed to Net Present Value, Internal Rate of Return and Payback Period together. All the three independent variables were found to important factors in enhancing better financial performance in the company. However, Net Present Value (0.140) has greater effect on the company financial performance followed by Internal Rate of Return (0.118) and lastly Payback Period (0.104). The study concluded that most companies employed net present value, payback period, internal rate of return as budgeting techniques. Also, the study concluded that there is a positive and significant association between the capital budgeting techniques and the financial performance of companies.

Background Of The Study

The success and growth of any business enterprise depends upon the efficient utilization of available resources particularly budgeting of capital expenditure. Capital budgeting is one of the most important factors in the process of corporate decision-making. Capital expenditures required in investment normally involve large sums of money and the benefits of the expenditures may extend over the future. According to Mooi and Mustapha (2001), utilizing a systematic capital budgeting process would enhance capital expenditure decisions.

Capital budgeting is the process through which firms decide which long-term investments are expected to generate cash flows over several years. Investment decisions involve the firm making cash outlay with the aim of receiving, in return, future cash flows. Decisions about buying a new machine, building a factory, extending a warehouse, improving a delivery service, instituting a staff training scheme or launching a new product line are examples of the investment decisions that may be made by a firm. The process would be based mainly on managers' judgment or based on quantitative analysis using scientific and analytical tools. The decision to accept or reject a capital budgeting decision depends on an analysis of cash flows generated by the project and its costs. The decision rules in capital budgeting decision are Payback Period, Net Present Values, Internal Rates of Returns, Accounting Rates of Returns and Profitability Index. A capital budgeting decision rule must consider all of the project's cash flows, must consider time value of money and must always lead to the correct decision when choosing among mutually exclusive projects.

Study Objectives

The study was guided by the following specific objectives;

i. To evaluate the influence of Discounting cash flow technique (Net Present Value)on performance of companies listed at Rwanda Stock Exchange.
ii. To determine the influence of Discounting cash flow technique (Internal Rate of Returns) on performance of companies at Rwanda Stock Exchange.
iii. To assess the influence of Non-discounting cash flow technique (Pay Back Period)on performance of companies at Rwanda Stock Exchange.

Research Methodology

Research design

The study used a descriptive research design. Descriptive research design is a design in which the major emphasis is on determining the frequency with which something occurs or the extent to which two variables co-vary. It is usually concerned with describing a population with respect to important variables. Descriptive research according to Cooper and Schindler (2008), tries to explain relationship among variables and fact finding enquiries of different kinds.

Target Population

The target population of the study was 35 respondents who comprised of chief finance officers (CFO), Chief executive officers (CEO), managers, auditors and accountants of the 7companies listed in the RSE. The study focused exclusively on the companies listed in RSE.

Sample size

The researcher purposively picked 35 respondents to form the sample size. There was no need to calculate the sample size since the total number of the chief finance officers (CFO), Chief executive officers (CEO), managers and accountants of the 7companies listed in the RSE could be studied.

Sampling Technique

The study employed purposive census sampling technique. The technique was purposive since the researcher only selected the individuals that were deemed to have the required information. In this regard, all the CFO, CEO, managers and accountants of the 7companies were studies hence the sampling technique was also referred to as census method.

Data collection Instruments

Primary data was collected using a self-administered questionnaire. Both close and open questions were used to ensure that detailed information is collected. A drop and pick method was employed to distribute the questionnaires.

Data processing, analysis and Presentation

The raw data collected was sorted, edited, coded and tabulated for analysis. Both descriptive and inferential analyses were used to generate both quantitative and inferential statistics. Through descriptive analyses descriptive statistics mainly percentages and frequencies were generated. Inferential statistics specifically regression analysis was used to establish the relationship between the study variables and the percentage change in financial performance that could be explained by the three independent variables respectively. Statistical Package for Social Sciences (SPSS) version 21 was used as the appropriate tool for analysis.

Multiple regression model below was used

$$Y' = a + b_1X_1 + b_2X_2 + b_3X_3 + e$$

Where,

Y' Denoted the predicted financial performance

$a, b_1, b_2 b_3$ are constants.

X_1, X_2, X_3 are the independent variables i.e. Net Present Value, Internal Rate of Return and Payback Period

e- is the random error term.

Research findings and Discussion

Distribution of Respondents by Gender

Analysis of the distribution of gender among the respondents as indicated in figure 4.2.Figure 4.2 shows that majority (58%) of the respondents were male while female participants constituted 42 % of the study sample.
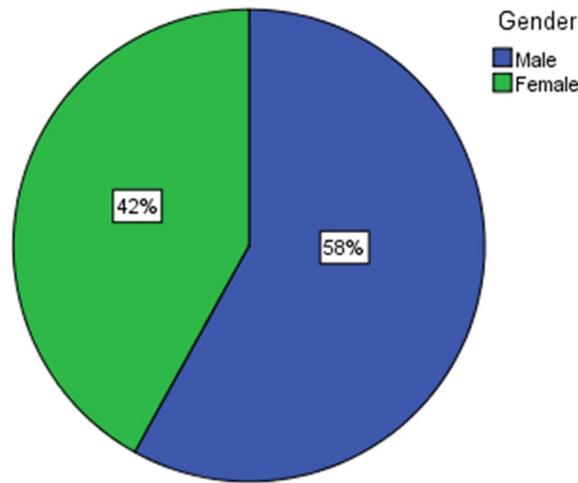

Figure 1 Gender Distribution

Distribution of Respondents by Age and marital status

Table 1 indicate that majority 42% of the respondents were aged between 40-50years,

29% of the respondents were aged between 31-40years, 23% of the respondents were aged above 50 years while 6% aged less than 30 years. Further the table shows that majority (71%) of the respondents were married while 29% were single.

Table 1. Age distribution of Respondents

Age Group	Frequency	Percent (%)
<30 years	2	6
31-40 years	9	29
40-50 years	13	42
>50 years	7	23
Marital status		
Married	22	71
Single	9	29

Distribution of Respondents by the years they have worked for the Company

Figure 2 indicates that 34% of the respondents have worked in their respective companies for a period between 3-5 years, 31% of the respondents have worked with their companies for a period of 2-3 years, 19% of respondents indicated to have worked with their company for less than two years while 16 % of the respondents have worked with their companies for a period of more than 5 years.
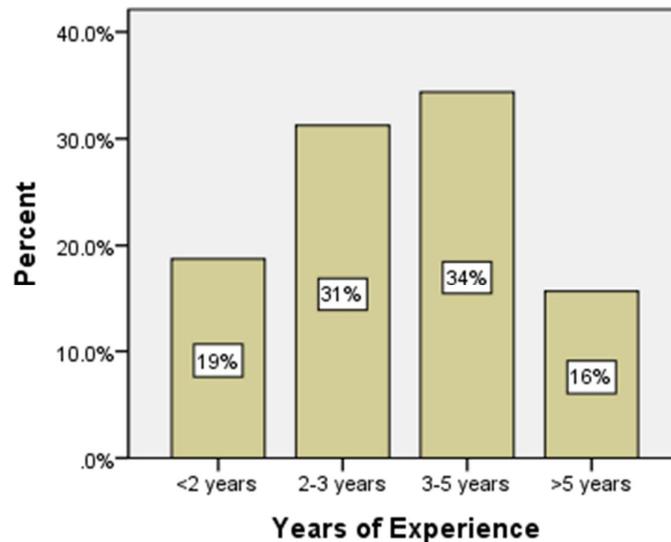

Figure 2 Years of working in the company

This implies that most of the respondents have been in the respective companies for a sufficient time and therefore they were likely to provide relevant information regarding the companies.

Distribution of Respondents by Company legal status

Figure 3 indicate that 61% of the respondents stated that their companies were private while 39% indicated that the companies are public.
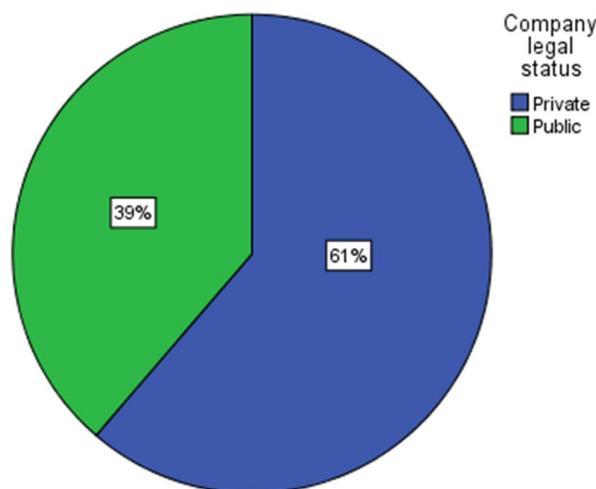

Figure 3 company legal status

Capital budgeting process

Whether companies had defined process to be followed during capital budgeting

Table 3 shows that 45% of the respondents stated that their companies had a defined process to be followed during capital budgeting while 55% indicated that there was no such process in their companies.

Table 3: Presence of defined process to be followed during capital budgeting

This findings are in agreement with those of a study conducted by Yao et al., (2010) That showed that majority of the studied companies did not have a defined process to be followed during capital budgeting

Whether capital budgeting has any effect on financial performance of a company

Table 3 indicates that majority (90%) of the study respondents stated that capital budgeting has effect on financial performance on their company while 10% stated that there was no effect

Table 3 Capital budgeting has effect on financial performance of a company

Capital budgeting techniques practiced by the studied company

Figure 4 show that the most common (45%) capital budgeting techniques practiced by most of the company is internal return rate followed by 29% net present value and 26% payback period.

	Frequency	Percentage
Yes	14	45
No	17	55

	Frequency	Percentage
Yes	28	90
No	3	10
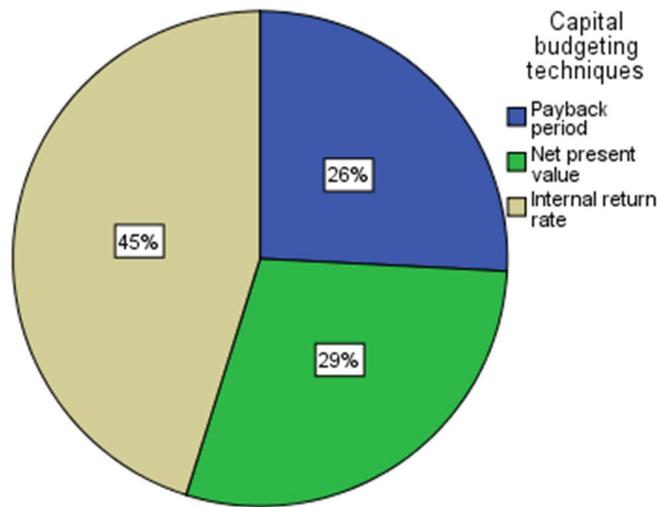
Figure 4 Capital budgeting techniques

	Frequency	Percentage (%)
Yes	13	42
No	18	58

Whether companies switched from one capital budgeting technique to another

Table 4 indicates that 42% of the respondents stated that their companies were switching from one capital budgeting technique to another unlike 58% of the companies.

Table 4 Switching from one capital budgeting technique to another

Influence of Net Present Value on company's financial performance

The study sought to determine the effect of Net Present Value on company's financial performance. Table 5 indicates that 87% of the respondents strongly agreed with the statement that Net present value influences company's financial performance while 13% only agreed. Majority (62%) strongly agreed with the statement that their company usually determines its Net present value, 6% only agreed while 32% disagreed with the statement. The table also shows that 58% of the respondents strongly agreed with the statement that their company register a greater NPV than the cost of doing business, 16% only agreed while 26% disagreed. Majority (52%) of the respondents agreed with the statement that their company considers managerial experience when making capital budgeting decision, 9% strongly agreed while 39% disagreed with the statement.

Table 5 Influence of Net Present Value on company's financial performance

Statement	Strongly agree	Agree	Disagree
Net present value influences company's financial performance	27 (87%)	4(13%)	
Your company usually determines its Net present value	19 (62%)	2(6%)	10(32%)
Your company register a greater NPV than the cost of doing business	18(58%)	5(16%)	8(26%)
Your company considers managerial experience when making capital budgeting decision	3(9%)	16(52%)	12(39%)

These findings indicate that the companies that were studied determined their NPV always. Also, managerial experience was being considered when making capital budgeting decision.

Table 6 Correlation between NPV and company financial performance

		Company financial performance	financialNPV
Company financial performance	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	31	
NPV	Pearson Correlation	.610**	1
	Sig. (2-tailed)	.000	
	N	31	31

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

Table 6 indicates that NPV had a significant relationship with Company financial performance (r= 0.610, P-value < 0.01). This indicates that the more positive the NPV of a company is the better the company performs financially. These findings are in agreement with those reported by Chai (2011) that NPV has a positive and significant relationship with Company financial performance

Influence of Internal Rate of Return on company's financial performance

The study sought to determine the effect of Net Present Value on company's financial performance. Table 7 indicates that 35% of the study respondents strongly agree with the statement that their Internal rate of return influences your company's financial performance, 42% only agreed, 13% disagreed while 10% strongly disagreed with the statement. Majority (62%) of the respondents agreed with the statement that their company's uses IRR technique in capital budgeting, 6% strongly agreed while 32% disagreed. Also majority 75% of the respondents agreed with the statement that their company usually uses internal rate of return

techniques when deciding investment projects to pursue, 19% strongly agreed while 6% disagreed with the statement. Forty two percent of the participants agreed with the statement that CEO characteristics influence the use of a particular capital budgeting technique, 35% disagreed while 23% strongly agreed with the statement. Majority (52%) of the study respondents strongly agreed with the statement that IRR has a significant role in capital investment decision-making 35% agreed while 13% disagreed with the statement.

Table 7 Influence of Internal Rate of Return on company's financial performance

Statement	Strongly agree	Agree	disagree	Strongly disagree
Internal rate of return influences your company's financial performance	11(35%)	13(42%)	4(13%)	3(10%)
Your company's uses IRR technique in capital budgeting	2(6%)	19(62%)	10(32%)	
Your company usually uses Internal rate of return techniques when deciding investment projects to pursue	6(19%)	23(75%)		2(6%)
CEO characteristics influence the use of a particular capital budgeting technique	7(23%)	13(42%)	11(35%)	
IRR has a significant role in capital investment decision-making	16(52%)	11(35%)	4(13%)	

These findings indicate that companies need to accord necessary attention to their internal rate of return in order to ensure improved company performance. Also company managers need to ensure that they develop positive characteristics that are likely to enhance the company financial performance.

Table 8 Correlation between IRR and company financial performance

		Company financial performance	financialIRR
Company financial performance	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	31	
IRR	Pearson Correlation	.596[**]	1
	Sig. (2-tailed)	.000	
	N	31	31

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

Table 8 indicates that IRR had a significant relationship with Company financial performance (r= 0.596, P-value < 0.01). This indicates that the greater the IRR of a company the better the company performs financially. The findings of this study are in agreement with those of a study conducted by Mooi and Mustapha (2001) that revealed that the company performance relates significantly with IRR. Munyao (2010) however did not find a significant relationship between the two variables.

Influence of Payback Period on company's financial performance

The study sought to determine the effect of Payback Period on company's financial performance.Table 9 indicates that 25% of the respondents strongly agreed with the statement that Payback period influences your company's financial performance, 62% only agreed while 13% disagreed with the statement. Majority (58%) of the study respondents disagreed with the statement that their company uses payback period technique in capital budgeting while 42% agreed. Majority 48%) of the study participants agreed with the statement that their company usually uses payback techniques when deciding investment projects to pursue, 29% strongly agreed while 23% disagreed with the statement. Majority (55%) of the respondents agreed with the statement that Payback period has a significant role in capital investment decision-making while 45% strongly agreed.

Table 9 Influence of Payback Period on company's financial performance

Statement	Strongly agree	Agree	Disagree
Payback period influences your company's financial performance	8(25%)	19(62%)	4(13%)
Your company's uses payback period technique in capital budgeting		13(42%)	18(58%)
Your company usually uses payback techniques when deciding investment projects to pursue	9(29%)	15(48%)	7(23%)
Payback period has a significant role in capital investment decision-making	14(45%)	17(55%)	

These findings indicate that there is need for companies to ensure short payback period in order to realize better financial performance. Further, companies should put into consideration the influence of payback period when deciding on the project to pursue.

Table 10 Correlation between Payback period and company financial performance

		Company financial performance	financialPayback period
Company financial performance	Pearson Correlation	1	
	Sig. (2-tailed)		
	N	31	
Payback period	Pearson Correlation	.501**	1
	Sig. (2-tailed)	.001	
	N	31	31

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

Table 10 indicates that Payback period had a significant relationship with Company financial performance ($r= 0.501$, P- value < 0.01). This indicates that the shorter the Payback period the better the company performs financially. Munyao (2010) conducted a study that sought to determine the relationship between capital budgeting techniques and companies financial performance and revealed that payback period was significantly associated with financial performance.

Regression Analysis

The study sought to determine how much variation in company's financial performance could be explained by capital budgeting techniques. Table 11 indicates that 78% of the variation in company's financial performance could be attributed to Net Present Value, Internal Rate of Return and Payback Period together.

Table 1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793[a]	.776	.748	9.63

a. Predictors: (Constant), Net Present Value, Internal Rate of Return, Payback Period.

From the ANOVA- table 12, the *P*-value is less than 0.01 implying that the model is a good fit for the data

Table 12 ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.521	3	.761	5.690	.001[b]
	Residual	15.843	27	.132		
	Total	19.364	30			

a. Dependent Variable: Company financial performance
b. Predictors: (Constant) Net Present Value, Internal Rate of Return, Payback Period.

Table 13 Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.463	.177		2.688	.003
1 Net Present Value	.140	.070	.166	1.861	.002
Internal Rate of Return	.118	.107	.096	1.112	.006
Payback Period	.104	.070	.236	2.615	.002

a. Dependent Variable: Company financial performance

Fitting the study variables in the regression model the following equation was obtained

Y = 0.463 + 0.140 (Net Present Value) + 0.118 (Internal Rate of Return) + 0.104 (Payback Period). The regression equation revealed that holding Net Present Value, Internal Rate of Return, Payback Period to a constant zero, company financial performance would be 0.463. Table 4.14shows that all the three independent variables are important factors in enhancing better financial performance in the company. However, Net Present Value (0.140) has greater effect on the company financial performance followed by Internal Rate of Return(0.118) and lastly Payback Period(0.104). This implies that embarking on either of the variables would improve company's financial performance.

Conclusions and Recommendations

The study concluded that Net present value influences company's financial performance. Also the study concluded that companies that were studied usually determine their Net present value. Further the study concluded that managerial experience was considered by the companies when making capital budgeting decision. Basing on the correlation analysis the study concluded that Net Present Value had a significant relationship with performance of companies listed at Rwanda Stock Exchange.

Regarding the influence of Internal Rate of Returns on performance of companies at Rwanda Stock Exchange, the study concluded that Internal rate of return influences company's financial performance. Also the study concluded that the selected companies used IRR technique in capital budgeting. Further the study concluded that the studied companies used internal rate of return techniques when deciding investment projects to pursue. Further the study concluded that CEO characteristics influence the use of a particular capital budgeting technique Also the IRR has a significant role in capital investment decision-making. The study further concluded that IRR has a significant relationship with Company financial performance.

Regarding the influence of Pay Back Period techniques on performance of companies at Rwanda Stock Exchange, the study concluded that Payback period influences company's financial performance. The study also concluded that the selected companies used payback period technique in capital budgeting. It was also concluded that the payback techniques was being used by the selected companies in deciding the investment projects to pursue. Additionally, the study concluded that Payback period has a significant role in capital investment decision-making. Basing on the correlation analysis, the study concluded that Payback period has a significant relationship with company financial performance.

From the research findings, results showed that the internal return rate was among the capital budgeting

techniques mostly adopted by the studied companies. It was concluded that most companies employed net present value, payback period, internal rate of return as budgeting techniques. The regression analysis results established a positive and significant association between the capital budgeting techniques employed and the financial performance of companies.

Recommendation

Further studies are needed to test the relationship between the capital budgeting techniques and firm performance by use of a different firm financial performance measurement other than ROA for instance earnings per share.

The capital budgeting techniques of listed companies are not likely to be representative of all Rwandan companies. This is so because the study only focused on the listed companies ignoring the unlisted companies. Thus, it is recommended that another study be done in companies not listed at the Rwanda stock exchange.

.

REFERENCES

1. Chai, T. J. (2011). *The Impact of Capital Budgeting techniques on the Financial Performance of the Courier Companies in Kenya. African Journal of Business Management*, 4(7), 1274-1280.

2. Cooper, D & Schindler, P., (2008), *Business Research Methods*. Tata McGraw-hill Edition. ISBN 0-07-03247-8.

3. Mooi, S.,& Mustapha, M. (2011).*Firm Performance and Degree of Sophistication of Capital Budgeting Practice:* Some Malaysian Evidence; Proceedings of the Asia Pacific Management Conference, 19 (1).

4. Munyao, A. (2010). The Relationship between Capital Budgeting Techniques and Financial Performance of Companies listed at the NSE. *Journal of Applied Corporate Finance*,15 (2), 82-88.

5. Yao,L. Smid,P & Hermes, N. (2010). *Capital Budgeting Practices:* A Comparative Study of the Netherlands and China, *Financial management Journal*, 18, 2.