



THE RELATIONSHIP BETWEEN CAPITAL BUDGETING PRACTICES AND FINANCIAL PERFORMANCE OF COMMERCIAL STATE CORPORATIONS IN KENYA

KAKIYA Annruth Ambogo¹, Dr BOSIRE Mary²

¹MBA Student: Department of Accounting and Finance, Egerton University

²Lecturer: Department of Accounting and Finance, Egerton University

Abstract: The study sought to determine the relationship between the usage of capital budgeting practices and financial performance of Commercial State Corporations in Kenya. The specific objectives were to establish the relationship between Accounting Rate of Return and financial performance of Commercial State Corporations in Kenya and establish the relationship between Net Present Value and financial performance of Commercial State Corporations in Kenya. A census research design was used and data collected from 53 Commercial State Corporations using a structured questionnaire. Primary data, the study targeted 53 finance managers from the head office of all the Commercial State Corporation in Kenya to fill questionnaires. The data was analyzed by use of descriptive and inferential statistics. Multiple regression analysis was used to establish the relationship of independent variables on financial performance of commercial state corporations. The results revealed accounting rate of return (-0.121) negatively affect financial performance of commercial state corporations. On the other hand, the usage of net present value (0.404) positively affects financial performance of commercial state corporations. The study concludes net present value has a positive relationship with financial performance while accounting rate of return has an inverse relationship with financial performance.

Introduction

Capital budgeting is defined as the total process of generating, evaluating, selecting and following up on capital expenditures (Hasan, 2013). These investments decisions are usually undertaken by top management (Kengatharan, 2016). Investment decisions are based on predictions of the economy and experiences from the past (Farrukh, Areal & Rodrigues, 2015). Every organization that embarks on capital budgeting decisions must take all the necessary steps to ensure that the decision of investing into a new project, expand the existing business or replace an old equipment supports the business strategy and enhances its competitive advantage over its rivalries. According to Lakew (2014) proper capital budgeting analysis is important for the success of a firm because sound investment decision improves cash flow and poor decisions can lead to financial distress or bankruptcy. Hussain and Shafique, (2013) argue that Capital budgeting is an important aspect to the firm because these investments require huge amount of cash and irreversible in nature. Once projects are undertaken, they are expected to yield returns over a series of years and usually there is a time lag between commitment of capital and receipts of benefits from the projects. Capital budgeting process defines the size of a firm's real assets which in turn generates cash flows that ultimately determine its profitability (Obi & Adeyemo, 2014).

The use of appropriate capital budgeting techniques helps the firm to rank investments according to their efficiencies and optimality of returns for selection (Vitalis, 2015). Many companies tend to see the various capital budgeting techniques as alternative ways of looking at an investment opportunity. They often use various techniques to capture as many facets of a project proposal as possible. There are two major methods used to analyze the viability of an investment which are; the discounted cash

flow and the non-discounted method. The non-discounted method entails the use of Payback period, and Accounting rate of return. Discounted cash flow method includes the use of Net Present Value, Internal rate of return and the profitability index (Kitili & Nganda, 2014). Capital budgeting practice is based on the assumption that the objective of the firm's manager is to maximize the value of the firm. Hence, managers should undertake capital investment project that add value to the firm. Profitable capital investment leads to the growth of the firm as well as the growth of the economy. Performance is defined as a set of financial and non-financial indicators which offer information on the degree of achievement of objectives and results (Gavrea, Ilies, & Stegorean, 2011). Financial performance is measured in terms of Return on Asset, Return on Equity, Earnings per Share and Tobin's Q. Product market performance is measured in terms of sales and market share. Shareholders return is measured using total shareholders return and economic value added (Richard, Devinney, Yip & Johnson, 2009). In this study organization performance was measured using financial performance. This measure is similar to Olaniyi, (2015) who states that financial performance is one of the common measures of how well a firm can use assets from its primary mode of business and generate revenue.

Commercial State Corporations are legal entities that are created by the government in order to partake in commercial activities on the government's behalf. Their legal status varies from being a part of government, being fully owned, to listed Commercial State Corporations with the government as the major shareholder (Ong & Awino, 2015). Commercial State Corporations have become a strong entity in Kenya and a very useful engine to promote development. They are created to ensure effective and efficient delivery of essential services. The Kenyan presidential report 2013 showed that the output of State Corporations to GDP has been increasing from 9.54% in 2009 to 11.64% in 2011, based on internally generated income. They operate within the general supervision of respective ministries under which they were created. There are approximately 53 Commercial State Corporations in Kenya today which are divided into ten broad functional categories based on the mandate and core functions. The ten categories are: agriculture, livestock & fisheries, East African Affairs, commerce & tourism, Education, science & technology, Energy & petroleum, Environment, water & Natural Resources, Industrialization & Enterprise Development, Information, Communication & Technology, Lands, Housing & Urban Development, National Treasury and lastly Transport and Infrastructure. The total number of Commercial State Corporations keeps on changing over time since there is creation of new ones while others too are being privatized (Kamau, 2017).

Statement of the Problem

Investment projects take long time to mature and demands high capital which means that once started, it may not be easy for an organization to abandon them without incurring the losses thus there is a need for firms to use capital budgeting practices to evaluate the proposed projects. Nyambura, (2014) did a study on relationship between capital budgeting techniques and financial performance of companies listed at the NSE and found no significant relationship between the capital budgeting techniques employed and the financial performance. Menya and Gichinga (2015) on the other hand did a study on the effect of capital budgeting techniques on the growth of micro finance enterprises in Mombasa County and found out that capital budgeting techniques play an essential role in the growth of micro-finance enterprises. The findings from these studies present contradicting outcomes. Furthermore, it is not clear the extent to which these inadequacies observed in commercial state corporations can be linked to investment appraisal practices they employ. Therefore, this study sought to establish the relationship of capital budgeting practices and financial performance of Commercial State Corporations in Kenya.

Literature Review

The Real Options Theory

The term 'Real options Theory' was coined by Myers, (1984), the theory states that firms have a right but not an obligation to undertake some business decision. The subject has generated much interest among some finance academics and practitioners. Real options deal with choices about the real investments such as capital budgeting projects, as opposed to financial investments. Among the more common real options in capital budgeting are the option to invest or not, the option to abandon or continue a project, and the option to delay or carry on with an investment (Peterson, 2002). Real options potentially offer a more efficient way for managers to allocate their firm's capital and maximize shareholder value by leveraging uncertainty and limiting downside risk. The theory further asserts that the presence of real options can make an investment worth more than its conventional discounted cash flow value. This study linked the capital budgeting practices to this theory by recognizing that managers have an option to use any of the capital budgeting practices (ARR, NPV), in order to obtain valuable information before selecting a given project. The acceptance of a project will either positively or negatively affect the financial performance of the firm since these projects are costly. The managers also have an option to either accept or reject the proposed investment projects.

Portfolio theory

Portfolio theory was introduced by Harry Markowitz in 1952. The theory holds that rational investors hold a portfolio rather than investing in a single investment. The effect of this is that risk is less through holding a portfolio. Any investor who invests in these markets must thus be subject to this risk as it cannot be eradicated through diversification. Unsystematic (specific, diversifiable) risk relates to specific investments. This risk can be abolished through investing in a portfolio. Quite simply, it is based on the principle that some companies will achieve more when others do desperately and vice versa. The differences between company risks can be eliminated, but the overall market risk cannot and everyone has to dance to its tune, at least in the short run period (Brealey, Myers & Framclin, 2014). "Portfolio theory is based on the idea of finance managers evaluating the applicable probabilities and deciding the combination of activities for the business. Some Managers may be risk averse and this may distort managers' investment decisions.

Empirical Review

Afande, (2015) research results, examined the relationship between capital budgeting methods and organization performance. The subjects were finance managers of seven water boards that were created by Water Company's act 2002. The researcher found that the older methods such as ARR are still practiced, but they are increasingly being used merely as a secondary methods to support the primary methods. The researcher also noted that when selecting the discount rate to be used in capital budgeting, a firm must consider cost of debt, average cost of capital for its stakeholders, average rate of return on equity invested and risk associated with the project. The study revealed that dividends and taxation payouts as well as shareholders' funds and share capital strongly influence growth performance when related with retained earnings and credit investment. There is a strong positive impact of net cash flows on investment return. Imegi and Nwokoye, (2015) examined the effectiveness of capital budgeting techniques in evaluating project's profitability. The aim of the study was to find out the various capital budgeting techniques used in evaluating projects, the factors that influence the choice of capital budgeting techniques in evaluating the project's profitability, the relevance of capital budgeting techniques in the evaluation of risky projects, the most effective capital budgeting technique in evaluating risk-free projects and lastly whether the act of ignoring taxation in capital budgeting decision has any effect on project's evaluation. The study examined 56 general managers of quoted

companies in River State using questionnaires. The hypotheses of the study were tested using chi square. The study concluded that the various capital budgeting techniques used in evaluating the profitability of a project are payback, NPV, and net terminal value. The researchers also found out that the most significance factor influencing the choice of capital budgeting technique is the wealth maximization factor. Capital budgeting techniques lacks relevance in evaluating projects under conditions of risk and uncertainty. The most effective capital budgeting technique for evaluating the profitability of risk-free projects is NPV. Lastly, the study found out that taxation has no significant effect on project evaluation.

Research Gap

A critical review of past literature shows that several conceptual and contextual research gaps exists in the relationship between capital budgeting practices and the financial performance of Commercial State Corporations. For instance, the study by Afande (2015) examined the usage of capital budgeting practices in six water service boards in Kenya. The study suggested that capital budgeting practices has a significant influence on firm performance. It also revealed that dividends and taxation payouts as well as shareholders' funds and share capital strongly influenced water services boards' growth performance when related with retained earnings and credit investment. Nwokoye, (2015) examined the effect of capital budgeting decision on organizational performance a case study of Bahresa grain milling in Rwanda and found out that there is a significant positive relationship between capital budgeting decision and organizational performance with regard to rate of growth, operating costs and cash outflow and a negative relationship with regard to cash inflow/ share price maximization.

Conceptual Framework

Mugenda and Mugenda, (2003) define a conceptual framework as a hypothesized model, identifying the area under study and the relationship between the dependent and independent variables. The researcher examined the relationship between capital budgeting practices and financial performance.

Independent Variables

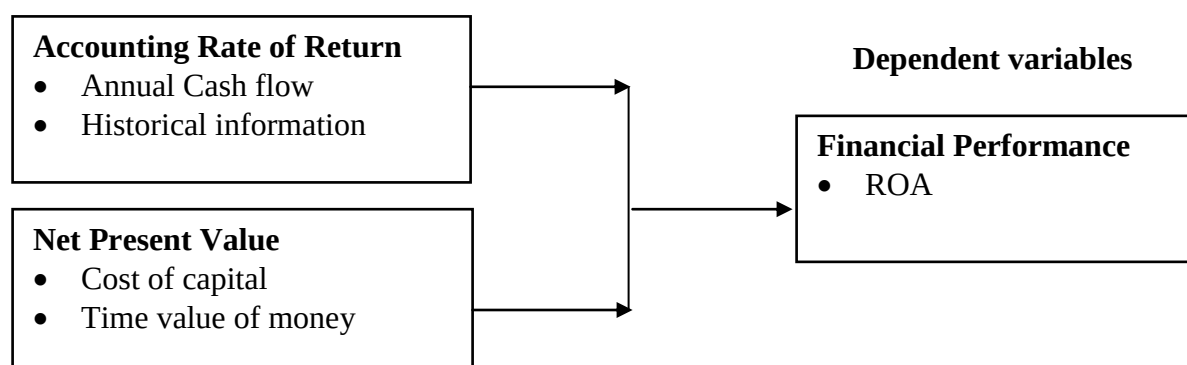


Figure 1: Conceptual Framework

Research Methodology

The study adopted a Census research design. A survey of finance managers and audited financial of Commercial State Corporations in Kenya was carried out to ascertain whether the usage of capital budgeting practices has a relationship with financial performance of Commercial State Corporations. There are 53 Commercial State Corporations as per the report. For the primary data the target respondents was 53 finance managers from the head offices. While for secondary data, the researcher

collected data for 5 years that is from 2012-2016 from 53 audited financial reports of Commercial State Corporation. The study employed census therefore there was no sampling and sample size.

The study used both primary and secondary data. Data for financial performance was secondary and it was audited financial statement from respective State Corporation's. The study covered a period of 5 years that is from 2012 to 2016. Secondary data was obtained from respective State Corporation websites and a data collection sheet was used to collect the data. Primary data was obtained through the use of structured questionnaire on capital budgeting practices used by Commercial State Corporations in Kenya.

Data was analyzed using both descriptive and inferential statistics. Descriptive statistics was used to generate, means, standard deviations and percentages and presented in the form of tables. Hypotheses were tested using multiple regression analyses. The study used also multiple regression analysis to test the relationship of the usage of each capital budgeting practice on financial performance. Multiple regression analysis yielded the coefficient of determination which provided the proportion of variance in the dependent variable accounted for by the combination of independent variables.

Results and Discussion

Accounting Rate of Return

The second objective sought to determine the relationship between Accounting Rate of Return and financial performance. The firm compares the average annual returns of an investment against its average net book value had a mean of 3.6364 and standard deviation of 0.89159 which means that there is a strong relationship between the variables. The estimated annual profits of an investment are derived from its annual incremental cash inflows had a mean of 2.6136 and the standard deviation of 1.20495 and this depicts accounting rate of return is not mostly prefer because it does not consider the time value of money or other factors which are not captured in this study. The mean of 2.8864 was recorded in this study where it was in line with the statement that the firm uses historical information in evaluating future proposed projects. The investment period considered is neglected during capital budgeting decisions had a mean of 2.5227 and the standard deviation of 1.24804 which depicts less dispersion between the variables. The findings are summarized in Table 1.

Table 1: Accounting Rate of Return

	N	MIN	MAX	MEAN	SD
The firm compares the average annual returns of an investment against its average net book value.	44	2.00	5.00	3.6364	.89159
The estimated annual profits of an investment are derived from its annual incremental cash inflows.	44	1.00	5.00	2.6136	1.20495
The firm uses historical information in evaluating future proposed projects.	44	1.00	5.00	2.8864	1.08297
The fitness of investment opportunities is compared against the corporate strategic plan	44	1.00	5.00	3.1136	1.20495
The investment period considered is neglected during capital budgeting decisions	44	1.00	5.00	2.5227	1.24804

Net Present Value

In Table 2, the mean of 3.5000 was for the statement that when making investment proposals, approved budget is considered and it had a standard deviation of 1.1513 which means the least dispersion between the variable. The researcher also sought to determine if When evaluating projects all cashflows are considered, the mean was 3.2045 which was a neutral response and this means there is a moderate response that net present value considers all cash inflows from the proposed project. The

increase in the current value of future cashflows is based on a choosen cost of capital and it recorded the mean of 3.3409 and the standard deviation of 1.2929 which means least dispersion among the variables and the changes in the cost of capital moderately influence the use of net present value. Based on the level of agreement on whether the decision makers decide between alternative investment, to maximize the value of the firm, the corporate investment rate is probably a better choice, the mean of 3.4773 with the standard deviation of 1.2847 was obtained. This means that the firms usually prefer their own corporate investment rate.

Table 2: Net Present Value

	N	MIN	MAX	MEAN	SD
When making investment proposals, approved budget is considered	44	1.00	5.00	3.5000	1.1513
When evaluating projects all cashflows are considered.	44	1.00	5.00	3.2045	1.4072
The increase in the current value of future cashflows is based on a choosen cost of capital	44	1.00	5.00	3.3409	1.2929
The prevailing inflation rate make money in present worth more than the same amount in future.	44	1.00	5.00	3.6364	1.2217
To decide between alternative investment, to maximize the value of the firm, the corporate investment rate is probably a better choice.	44	1.00	5.00	3.4773	1.2847

Test of hypotheses

The objective of the study was to determine the relationship between the usage of accounting rate of return and financial performance of commercial state corporations in Kenya. In order to test this relationship, a hypothesis H_{02} : Accounting Rate of Return has no relationship with financial performance of Commercial State Corporations in Kenya was tested. The t-statistics significance value in the regression model was used to test the hypothesis. The coefficient results in Table 3 depicted that there exists a negative and not statistically significant relationship of accounting rate of return on financial performance. The Beta value of -0.121 and p-value of 0.447 was insignificant as it was more than 0.05. The study therefore accepts the null hypothesis that accounting rate of return has no relationship with financial performance of Commercial State Corporations.

The objective of the study was to establish the relationship between net present value and financial performance of commercial state corporations in Kenya. In order to establish this third objective, a corresponding hypothesis, H_{03} : Net Present Value has no relationship with financial performance of Commercial State Corporations in Kenya was stated and tested. The t-statistics significance value in the regression model was used to test the hypothesis. As presented in Table 3, net present value had significant relationship ($p=0.017$) with financial performance of commercial state corporations at 95% confidence level. Based on these results of Hypothesis H_{03} (Net Present Value has no relationship with financial performance of Commercial State Corporations in Kenya) was rejected. By failing to accept the null hypothesis, the results indicated that net present value has a relationship with financial performance of Commercial State Corporations in Kenya.

Model summary shows the output for model fitness and value of adjusted R squared was 0.360. This shows that the independent variables (accounting rate of return, net present value) tested had a variation of 36% on the financial performance. The above independent variables that were studied, explain only 36% of the relationship between capital budgeting practices and financial performance as represented by the adjusted R^2 . Additionally, the findings showed that there was a strong positive relationship between the study variables as shown by R which is the correlation coefficient of 0.659. F

statistics had a p value < 0.05 hence there was a strong positive relationship between return on asset and the set of the independent variables (ARR and NPV) which was significant at 0.000. This indicated that the sample provided sufficient evidence to conclude that the model is significant, it predicts the response variable better. R square change is the same as the initial R square (0.435) since there was no addition of another predictor variable. From the regression coefficient results, it is evident when all the variables are held constant, financial performance of Commercial State Corporations would be at 1.401. A unit increase in accounting rate of return will lead to 0.121 decrease in financial performance also a unit increase in net present value will lead to an increase in financial performance by 0.404 units.

Table 3: Multiple Regression Results

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change
1	.659 ^a	.435	.360	.53300	.435	5.842	5	38	.000
ANOVA^a									
Model		Sum of Squares	Df	Mean Square		F			Sig.
1	Regression	8.298	5	1.660		5.842			.000 ^b
	Residual	10.795	38	.284					
	Total	19.093	43						
Coefficients^a									
Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF	
1	(Constant)	1.401	1.189		1.179	.246			
	ARR	-.121	.158	-.103	-.768	.447	.827		1.209
	NPV	.404	.161	.310	2.503	.017	.972		1.029

a. Dependent Variable: ROA

b. Predictors: (Constant), ARR, NPV,

Conclusion

The study concludes that accounting rate of return insignificantly relate with the financial performance and it has a negative relationship. The firm only prefer accounting rate of return when there is adequate management skills and knowledge on how to adequacy and effectively evaluate the viable projects. The study concludes that net present value had a positive relationship with the financial performance of Commercial State Corporations and it is statistically significant as indicated by the p -value from the regression analysis. The net present value is considered by the management because it considers the budget preparation and approval and also because it considers all the cash flows from the project.

Recommendations of the Study

There is need though for all decision makers, when evaluating projects to clearly understand the pitfalls arising from the usage of non discounted cash flow methods. The problems arising from the usage of non discounted cash flow methods are not caused by the practices themselves.

Finance officers of commercial state corporations must be well versed and acquainted with capital budgeting practices knowledge and skills so as to be able to shield the organization from financial turbulence. The government through the ministry of finance in collaboration with the Institute of Certified Public Accountants of Kenya (ICPAK) should stive to ensure that commercial state

corporation finance officers are properly trained on emergent financial trends like capital budgeting. This would make the commercial state corporations to thrive thus positively impact the economy.

References

- Afande, F. O. (2015). Capital Budgeting Methods and Performance of Water Services Boards in Kenya. *Journal of Resources Development and Management*, 7(1), 13–31.
- Farrukh, S., Areal, N., & Rodrigues, A. (2015). A cross sectional comparison of capital budgeting practices in Pakistan. *International Journal of Innovative Science, Engineering & Technology*, 2(2), 431–437.
- Gavrea, C., Ilies, L., & Stegorean, R. (2011). Determinants of organizational performance: The case of Romania. *Management & Marketing*, 6(2), 285–300.
- Hasan, M. (2013). Capital Budgeting Techniques Used by Small Manufacturing Companies. *Journal of Service Science and Management*, 1(6), 38–45.
- Hussain, A., & Shafique, I. (2013). Capital Budgeting Practices in Islamic Banking : Evidence from. *Euro-Asian Journal of Economics and Finance*, 1(1), 9–23.
- Kamau, J. K. (2017). Effect of Budgeting Process on Budget Performance of State Corporations in Kenya : A Case of Kenyatta National Hospital. *International Academic Journal of Human Resource and Business Administration*, 2(3), 255–281.
- Kengatharan, L. (2016). Capital Budgeting Theory and Practice: A Review and Agenda for Future Research. *Applied Economics and Finance*, 3(2), 15–38. <https://doi.org/10.11114/aef.v3i2.1261>
- Lakew, M. D. (2014). Journal of international academic research for multidisciplinary. *Journal of International Academic Research for Multidisciplinary*, 4(8), 139–147.
- Mugenda and Mugenda. (2003). Quantitative and Qualitative Approaches. *International Business Research*, 3(11–15), 105–137.
- Myers. (1984). the determination of overall debt ratios for a particular type of firm in a particular institutional setting. *Economics and Finance Review*, 1–41.
- Nyambura, I. E. (2014). *The Relationship Between Capital Budgeting Techniques And Financial Performance Of Companies Listed At The Nairobi Securities Exchange*. University of Nairobi.
- Nyarombe, F., Kipyegon, K., Kamar, I., & Gwaro, S. (2015). An investigation of capital budgeting techniques on performance: A survey of selected companies in Eldoret Town. *International Journal of Business and Management Invention*, 4(1), 54–70.
- Obi, A. N., & Adeyemo, S. O. (2014). Evaluation of Capital Budgeting and Investment Decisions in Nigeria — A Study of Selected Industrial Firms in Imo State. *Journal of International Academic Research for Multidisciplinary*, 2(1), 1–20. <https://doi.org/10.4236/oalib.1101141>
- Olaniyi, T. A. (2015). Impact of Capital Structure on Corporate Performance: A Pre and Post Crisis Evaluation of Selected Companies in US. *International Journal of Accounting Research*, 2(8), 1–20.
- Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring Organizational Performance: Towards Methodological Best Practice. *Journal of Management*, 35(3), 718–804. <https://doi.org/10.1177/0149206308330560>
- Richard A. Brealey, S. C. M. and F. A. (2011). *Principles of Corporate Finance* (Tenth Edition).

Newyork: McGraw-Hill Irwin. Retrieved from www.mhhe.com

Vitalis, M. A. (2015). Influence of Investment Appraisal on Efficient Portfolio Selection in the Soft Drink Industry in Kenya. *Journal of Business Finance and Accounting*, 7(8), 81–98.