



EFFECT OF CAPITAL BUDGETING ON FIRM'S PERFORMANCE IN MANUFACTURING COMPANIES IN KANO, NIGERIA

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Abstract

This study entitled Capital Budgeting decisions and profitability of selected manufacturing companies in Nigeria. The objectives of the study included to; assess how acquisition of long term assets affect the profitability of manufacturing firms, assess how replacement of long term assets affect profitability of manufacturing firms, and to assess how investment appraisal techniques affect profitability of manufacturing firms in Kano state, Nigeria . The study employed a cross-sectional survey design which was chosen because it enabled the researcher to study the experience of different manufacturing firms. The study used target population of 150 staff of selected manufacturing companies in Kano state Nigeria. Purposive sampling technique was employed and was computed according to Sloven's formula. A self administered questionnaire was designed and distributed to the selected manufacturing companies in Kano state. However, data was collected. entered into a computer and analyzed using Statistical Package for Social Scientists (SPSS). The analysis of the findings indicates that majority of the respondents reported that capital budgeting decisions affects the profitability of the firm, in which respect the manager's objective is to select the combination that yields maximum production at the most reasonable price. Managers must therefore be able to understand costs associated with a particular piece of equipment. Base on the findings the researcher recommended that the governing boards of the selected Manufacturing Companies in Kano, Nigeria ought to embrace Capital budgeting in order to achieve sustainable profitability in their companies. The researcher concluded that the ability to appraise Capital budgeting projects creates a framework for businesses to plan out future long term direction.

Keywords: Capital Budgeting; Firms Performance; Manufacturing companies Primary data

1.1 Introduction

Capital budgeting in manufacturing firms is the most important decision taken by finance managers. Decisions like replacement of machinery, investment in research and development and expansion of existing facilities are helpful in improving the smoothness of the production

system and deliver high quality products. On the other hand, expansion decisions are aimed to utilize the existing opportunities in the market and lead to the firm's growth. Almost everyone all over the world uses some form of budgeting to handle personal finances (Calvin 1988), whether it should be a written plan for how much to spend for rent, food, clothing, entertainment, travel, and the like, or mental plan for what to do on a Friday night date. Most individuals use some form of financial planning; only rare individuals consistently buy everything they need on impulse (Calvin 1988). Careful planning is at the root of any firm's financial success. Planning is therefore the process of deciding what objectives to pursue during a particular period and what to do in order to achieve those objectives. Profit planning is the preparation of budgets to achieve the objectives that have been set.

Capital budgeting is the planning of long-term corporate financial projects relating to investments funded through and affecting the firm's capital structure. Management must allocate the firm's limited resources between competing opportunities (projects), which is one of the main focuses of capital budgeting. Capital budgeting is also concerned with the setting of criteria about which projects should receive investment funding to increase the value of the firm and whether to finance that investment with equity or debt capital. Investments should be made on the basis of value added to the future of the corporation. Capital budgeting projects may include a wide variety of different types of investments. Including but not limited to, expansion policies, or mergers and acquisitions. When no such value can be added through the capital budgeting process and excess cash surplus exists and is not needed, then management is expected to pay out some or all of those surplus earnings in the form of cash dividends or to repurchase the company's stock through a share buyback program, Kalish (2002).

2.1 Literature Review

The literature review provides background explanations of the elements of the research work such as effect of capital budgeting on firm performance in manufacturing companies, such as acquiring and replacing of assets and theories of methods of capital budgeting, techniques of capital budgeting with emphasis on the five commonly used methods (net present value, payback period, internal rate of return and profitability index), in relation to profitability of the company. This is an overview of literature and past research work in related areas which provide a setting for this current research. Theoretically, Chen and Mayes (1989), Businesses are formed in order to create value for their owners. For corporations this value creation goal is transformed into stockholder wealth maximization. To fulfill this goal financial managers have certain responsibilities. One of them is to make wise capital budgeting decisions. Hilton (2002), managers in all organizations periodically faces major decisions that involve cash flows over several years. Decisions involving the acquisition of machinery, vehicles, buildings and other capital assets are examples of such decision. It is on the basis of this theory that the researcher created a mini theory which is summarized in the conceptual framework. Profitability is generally defined as the use of outcome-based financial indicators that are assumed to reflect the fulfillment of the economic goals of the firm (Venkatraman & Ramanujam, 1986; Murphy, et al. (1996). It has been widely used to measure business performance in both SMEs and larger firms. A great deal of accounting literature (Hopwood, 1972; Ross, 1994; Kaplan & Atkinson, 1998; Lau & Sholihin, 2005) recognizes the inherent advantages of financial measures. They argue that financial measures might be beneficial because they are objective and certain to provide a summary view of the success of the organization's performance and operating tactics. Kaplan and Atkinson (1998) consider financial measures as the traditional, most widely practiced, and

popular management accounting tool because they focus on “what matters most in most organizations profitability”.

Financial measures consist of a wide range of dimensions, but efficiency (such as return on investment, return on asset etc.), profitability (sub-dimensions include return on sales, net profit margin, gross profit margin etc.), and growth (such as sales growth, market share growth, change in net income etc.), are the commonly chosen output measures. Sales revenue and return on investment are the most frequently used financial ratios (Murphy et al., 1996). Sales revenue as an outcome based performance indicator is readily available, reasonably accurate effectiveness measures (Robinson, 1983). Daclzie and Cho (1989), Bento and White (2001) further argue that sales revenue, which is less subject to manipulation for tax reporting purposes and is not affected by the historical cost of input, is one of appropriate measures used to reflect profitability of manufacturing companies. As for return on investment (ROI), this is also a commonly used measure which reflectively reflects the manager’s ability to improve profit and increase sales from a given level of investment (Atkinson et al., 2001).

3.1 Research Methodology

The study was conducted through cross-sectional survey design. Cross sectional survey design examines several groups of people at one time (Salkind, 2000). Cross sectional survey was particularly chosen because it enables the researcher to study the experience of different manufacturing firms on assessing the effect of capital budgeting in all manufacturing firms because they heavily rely on property, plant and equipment in the production and delivery of goods to its customers. The target population was a total of 150 staff of selected manufacturing companies in Nigeria. The researcher targeted both the top managers as well as employees from the different departments in the companies. It’s from the above population that a sample was selected to participate in the research. This population was purposively selected by considering individuals and departments that possessed characteristics that matched the research needs. Data was collected from eight selected companies within manufacturing industries as shown in the table below.

No	Company name	Number of workers in each company	Sample size selected
1	Panar limited	20	15
2	M.c. plastic limited	20	7
3	Silvexinternational limited	20	13
4	Ilera agro processing limited	20	13
5	Loquat classic Nigeria limited	40	25
6	Mamuda industries Nigeria limited	30	8
	Total	150	

Source: Author’s Computation 2025

4.1 Data Analysis and Presentation of Findings

4.2 Data Presentation and Analysis

Table 4.1 Number of Questionnaire Administered and Number Retrieved

Description	Frequency	Percentage (%)
Retrieved	150	100
Not Retrieved	0	
Total	150	100

Source: Author's Computation, 2025

Table 4.1 shows that out of 150 questionnaires that were administered 100 percent were retrieved 0 percent were not retrieved. Therefore, the questionnaire is valid for further analysis, the number collected is 100 percent which is the standard level of questionnaire retrieved.

Table 4.2 Gender Distribution of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Male	100	66.7	66.7	66.7
Female	50	33.3	33.3	100.0
Total	150	100.0	100.0	

Source: Author's Computation, 2025

Table 4.2 shows that 100 representing 66.7 percent of the respondents were males and 50 representing 33.3 percent of the respondents were females. This indicates that males are the dominate gender that was investigated.

Table 4.3 Marital Status of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Married	130	86.7	86.7	86.7
Single	20	13.3	13.3	13.3
Divorced	0	0	0	100.0
Total	150	100.0	100.0	

Source: Author's Computation, 2025

Table 4.3 shows that 130 representing 86.7 percent of the respondents were married persons; 20 representing 13.3 percent of the respondents were single persons and 0 representing 0 percent of the respondents were divorced persons. This indicates that most of the respondents were married persons.

Table 4.4 Age Distribution of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 18-30years	95	63.3	63.3	63.3
31-40years	5	3.4	3.4	3.4
41-50years	20	13.3	13.3	13.3
51years and above	30	20	20	20
Total	150	100.0	100.0	

Source: Author's Computation, 2025

Table 4.4 shows that 95 representing 63.3 percent of the respondents were within the age range of 18-30years; 5 representing 3.4 percent of the respondents were within the age range of 31-40years of age; 20 representing 13.3 percent of the respondents were within the age range of 41-50years of age; 30 representing 20 percent of the respondents were within the age range of 51years and above. This implies that majority of the responses from the respondents were within the age range of 18 – 30years.

Table 4.5 Educational Qualification of Respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Primary	15	10	10	10
Secondary	33	22	22	22
Tertiary	100	66.7	66.7	66.7
Other	2	1.3	1.3	1.3
Total	150	100.0	100.0	

Source: Author's Computation, 2025

Table 4.5 shows that 15 representing 10 percent of the respondents were holders of primary certificate; 33 representing 22 percent of the respondents were Secondary Certificate holders; 100 representing 66.7 percent of the respondents were Tertiary certificate holders and 2 representing 1.3 percent of the respondents were other certificate holders. This implies that most of the respondents were educated persons having a majority of Tertiary certificates.

Table 4.7 Statistics Table on Hierarchical Structure

		Adherence to financial standard contributes to improved financial accountability	Full implementation is needed for management effectiveness	For successful budget preparation and control bottom up approach is recommended	Organization that does not seek the inputs of all stakeholders cannot achieve its goal	Budget preparation without implementation measures is a setback to the organization
N	Valid	23	23	23	23	23
	Missing	0	0	0	0	0
Mean		2.5652	2.2174	2.1304	2.6087	2.3478
Median		2.0000	2.0000	2.0000	2.0000	2.0000
Std. Deviation		1.37597	1.12640	1.25424	1.52968	1.30065
Range		4.00	4.00	4.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00

Source: Author's Computation, 2025

The above table shows that the entire key in values was perfectly filled and there is no missing value during the process of collecting the data on (independent variable) hierarchical structure. Also, the table shows that the value of mean, median and standard deviation on each question.

Table 4. 8 Statistics Table on capital budgeting

		Structures promote open communication and offer specialized collaboration within functions	Size of organization may help enhance job satisfaction and provide extensive benefits and support systems	The size of an organization impact its ability to implement effective training programs	Organizations with a close-knit culture enhance job satisfaction and a sense of belonging	Streamlined decision-making in well-sized organizations enables quick and efficient choices
N	Valid	109	109	109	109	109
	Missing	0	0	0	0	0
Mean		2.3478	2.2609	2.1739	2.5652	2.3043
Median		2.0000	2.0000	2.0000	2.0000	2.0000
Std. Deviation		1.26522	1.05388	1.23038	1.37597	1.25896
Range		4.00	4.00	4.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00

Source: Author's Computation, 2025

The above table shows that the entire key in values was perfectly filled and there is no missing value during the process of collecting the data on (independent variable) capital budgeting. Also, the table shows that the value of mean, median and standard deviation on each question.

Table 4.9 Statistics Table on financial process

		Clear and well defined financial process have been implemented	The financial process implemented support financial transparency and accountability	A system for regular review of these implemented process has been established	A process of regular training and educating government employee on policies and process has been put in place	The process of collecting and analyzing data on government spending are closely monitored
N	Valid	109	109	109	109	109
	Missing	0	0	0	0	0
Mean		2.1304	2.2609	2.2609	2.3913	2.2609
Median		2.0000	2.0000	2.0000	2.0000	2.0000
Std. Deviation		1.25424	1.13688	1.38883	1.33958	1.13688
Range		4.00	4.00	4.00	4.00	4.00
Minimum		1.00	1.00	1.00	1.00	1.00
Maximum		5.00	5.00	5.00	5.00	5.00

Source: Author's Computation, 2025

The above table shows that the entire key in values was perfectly filled and there is no missing value during the process of collecting the data on (independent variable) financial performance. Also, the table shows that the value of mean, median and standard deviation on each question.

Table 4.11 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
		Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Hierarchical Structure	109	1.00	5.00	2.6087	1.52968	.484	.481	-1.344	.935
Organizational Size	109	1.00	5.00	2.3478	1.30065	.774	.481	-.429	.935
Departmentalization	109	1.00	5.00	2.3478	1.26522	1.187	.481	.574	.935
Employee Performance	109	1.00	5.00	2.2609	1.05388	.956	.481	.827	.935
Valid N (listwise)	109								

Source: Author's Computation, 2025

From the above table 4:11, descriptive statistic of both dependent variable (capital budgeting and the independent variables (organizational performance, Organizational size and) are explained. The minimum, maximum, mean, standard deviations, skewness, kurtosis of each variables were analyzed. The analysis indicates that, there is a significant relationship between the dependent variable and independent variables since they have same minimum value altogether. Hierarchical structure, Organizational size and Departmentalization has the mean score of 2.6087, 2.3478 and 2.3478 with standard deviation 1.52968, 1.30065 and 1.26522. The analysis shows that, the value of skewness 0.481 each are on normal distribution curve because, skewness range from -1.96 to 1.96 and the values of skewness fall within the range. Also the value of kurtosis representing 0.935 each are concentrated at centre which is not more than the standard value required (1.0).

Table 4.13 Correlations Analysis

		Hierarchical Structure	Organizational Size	Departmentalization	Employee Performance
Capital budgeting	Pearson Correlation	1	.848**	.238	.094
	Sig. (2-tailed)		.000	.274	.668
	N	23	23	23	23
Organizational Size	Pearson Correlation	.848**	1	.365	.229
	Sig. (2-tailed)	.000		.087	.293
	N	23	23	23	23
Financial performance	Pearson Correlation	.238	.365	1	.883**
	Sig. (2-tailed)	.274	.087		.000
	N	23	23	23	23
	Pearson Correlation	.094	.229	.883**	1
	Sig. (2-tailed)	.668	.293	.000	
	N	23	23	23	23

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

Source: Author's Computation, 2025

The above table 4.13 indicates that there is positive correlation relationship between dependent variable (Employee Performance) and independent variables (Hierarchical structure, Organizational size and departmentalization). The relationship between the co-efficient value of employee performance and hierarchical structure is significant at 1% (.000). The coefficient value of hierarchical structure is 0.094 which shows a strongly positive correlation. The relationship between the co-efficient value of employee performance and organizational size is

significant at 1% (.000). The coefficient value of organizational size is 0.229 which shows a strongly positive correlation. The relationship between the co-efficient value of Employee Performance and Departmentalization is significant at 1% (.000). The coefficient value of Departmentalization is 0.883 which shows a strongly positive correlation.

5.1 Summary of the Findings

Respondent's demographic characteristics in terms of gender, age, educational qualifications post/position in the organization and length of experience in the Capital Budgeting Decisions of selected Manufacturing Companies in Kano state. Pertaining age, (75.2%) most of the respondents (Table 4.1), were in the age bracket of 40-59, (15.6%) were in the age bracket of 6 years and above of age and (9.2%) were at the age between 20-39 years who were composed of the minority respondents. It can therefore be deduced that though all age categories were represented, the mature middle age respondents dominated in this study. This is true because people prefer engaging in businesses due to the experience obtained during the course of employment and has interacted with various stakeholders who have the potential to work towards survival and development among the enterprises. The findings indicated in (Table 4.1) that most respondents were male (56%). followed by female (44%). this implies that majority of the respondents among selected Manufacturing Companies in Kano state, are operated by male compared to their female counterpart.

This attributes to the fact that, male are hostile in terms of innovativeness. Creativeness, risk-takers than female counterparts. Regarding the educational qualification of respondents (Table 4.1 below), half of them (78%) were undergraduate, (22%) were postgraduate, who had certificates, therefore respondents with Diploma dominated in the sample. This implies that few postgraduate respondents participated in Capital Budgeting Decisions and Profitability of selected Manufacturing Companies in Kano state. Pertaining Marital Status, (73.4%) most of the respondents (Table 4. 1), were Married. (21.1%) were single, (5.5%) were widowed and none of the divorced participated in the study. It can therefore be deduced that although all marital status categories were represented, the married respondents dominated in the study. This is true because they have more responsibilities, experienced and vibrant workforce who have the prospective to work towards Capital Budgeting Decisions and Profitability of selected Manufacturing Companies in kano state. The extent of Capital budgeting opportunities as practiced in some selected companies ranged from very high, high, moderate to low. Evidently there were some areas of Capital budgeting opportunities in which the respondents were not fully satisfied such as; All aspects of Capital Budgeting Decisions were found to be High for example; When deciding on an Capital budgeting opportunity. risk consideration is always vital (rmean=3.60), Evaluating Capital budgeting decisions based on capita! budgeting is not as easy as the process itself is based on a hierarchy (mean=3.58), Exploring and evaluating alternative courses of action available is easier for you (mean=3.56), Implementation and control are always ensured to achieve the targeted results(rmean~ 3.54), For your firm the average rate of return methods effectively deal with the opportunity cost associated with Capital budgeting decision (mean=3.53), For your firm simple payback methods effectively deal with the opportunity cost associated with Capital budgeting decision (mean=3.50), Your firm uses Net Present \7aluc (NPV) technique. (mean=3 48). For time bound projects, NPV technique for estimating capital budgeting is more significant in nature (mean=3.46), NPV focuses on opportunity cost and taking risk into account (mean=3.44), NPV covers uncertainty of cash flows in a better way (mean=3.40). While using NPV technique you conduct sensitivity and simulation analysis of

Capital budgeting, (mean=3.38), Using NPV technique you develop an understanding about both reward and risk of variables to the Capital budgeting (mean=3.37), Rewards have been beneficial and shown to have increase in value due to capital budgeting in your firm (3.36), There are challenges involved from balancing the possibility of such benefits and gains against the odds of losses arising out of adverse or opposite movement in the variables in capital budgeting (mean=3.34), Fluctuations of any kind or quantity, (financial, economic and political variables ranging from exchange rates, interest rates, commodity prices or political turmoil) have always had destabilizing effects on Capital budgeting strategies and performance on your firm, (mean=3.33), Your firm familiar with simulation analysis (appraises and evaluates the future cash flow and returns on Capital budgeting when more than one uncertain elements is involved), (mean=3.30), In the capital budgeting simulation major goals are always to increase market value of the Capital budgeting by keeping pace with innovations and technology (mean=3.25), Simulation analysis is more realistic than any other analysis because it allows and introduces uncertainty for many variables to be considered (mean=3.24), Rationality and adequate discount rate help in handling the risk. (mean=3.20).

In your firm you take help of profitability index to determine which of the projects will provide the highest value per share (mean=3.18), Capital budgeting decisions should be made only on the outcome of profitability, (mean=3.16), By sound forecasting techniques your firm may predict the ways to negotiate the risk involved in capital budgeting (mean=3.14), It is important that a decision maker identify the risks and diverse ways to mitigate those risks, (mean=3.10), When evaluating Capital budgeting managers should choose among many capital budgeting methods (mean=2.90), NPV leads to better Capital budgeting decisions than other criteria (mean=2.77). NPV is recommended since it incorporates all cash-flows that the Capital budgeting generates as well as the time value of money (mean=2.69), Pay—back methods do not consider the time value of money (mean=2.60). Pay-back methods ignore cash-flows that occur after the maximum pay—back time (mean=2.59). with an overall mean of mean=(3.27). Majority of the respondents response on the level of capital budgeting decisions were good with these options most frequently rated high: The findings (Table 4.3) indicate that, All aspects of profitability were found to be High for example Your company ensures monitoring of financial performance (mean=3.50), Your company uses financial ratios in its business (mean=3.47), There is engagement in measuring profitability drivers (mean=3.45), Cash flow and liquidity are well monitored in your company (mean=3.42), There is adequate assessment of risk and return in Capital budgeting of your company (mean=3.40), Measuring turnover and sales usually give you the profitability of your company (mean=3.38), ~Your company engages in monitoring of nonfinancial ratios (mean=3.36), You use Activity ratios to measure your company efficiency in managing its assets (mean=3.34). The asset turnover ratio is used to measure your company's efficiency in using assets to generate revenue (mean=3.33).

5.2 Conclusions

In conclusion it be stated that Capital budgeting planning with activities like planning for accounting rate of return, payback period, net present value of capital, profitability index, internal rate of return and equivalent annual cost improves profitability, return on investment and equity of the company. Capital budget analysis like analysis of investment cost, payback period, inflation rate, profitability index and internal rate of return (cash flow) before capital investment and this improves profitability, return on investment and equity of the company. Capital budget control and monitoring system the policy for managing capital investment, board meetings, audit

team report and management implementation of board directives ensures proper management of capital investment hence improves profitability, return on investment and equity of the company. Therefore it can be concluded that the relationship between Capital Budget investment decision and Performance in some selected manufacturing companies in Kano state correlated. By use of Pearson correlation whereby the respondents N is 150 and the significant level is 0.01, the results indicate that independent variable has positive high correlation to dependent variable equal to .833** and the p-value is .000 which is less than 0.01. When p-value is less than significant level, therefore researchers conclude that variables are correlated and null hypothesis is rejected and remains with alternative hypothesis. This means that there is a significant relationship between Capital Budgeting investment decision and Performance of organizations.

5.3 Recommendations

1. The company needs to carry out proper market survey before investing in any business in order to avoid the potential risk. This can be done by environment scanning both economically and socially this can be done by professional risk analyst 47 Involvement of employees in the investment planning is vital as they will be the ones responsible for implementing the investments.
2. The company's participation creates ownership and responsibility. The company should employ a strategic competitive strategy in order to overcome competition from the competitors both locally and internationally Raw material scarcity which sometimes increases the operating cost beyond the budget coupled with inflation and arising from many factors for example government policy and natural factor.
3. The company should employ technology which should be able to overcome and support the organization favorably in the investment plan and enable them meet their targets accordingly. The organization should employ professional staffs and trained local staffs in order to cut the cost invested in the human resources experts from other countries who are expensive compared to the local labor market.

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