

## **CAPITAL BUDGETING AND FINANCIAL PERFORMANCE OF FIRMS IN NIGERIA**

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### **Abstract**

*The individuals involved in making capital budgeting decisions are assumed to be rational in their investment decisions. However, in reality human irrationality can affect the capital budgeting decisions made. This results from divergence of individual goals from the goals of the firm. It is as a result of this irrationality that capital budgeting is being viewed as an inconvenient tool for shareholders wealth maximization goal. The Term Paper aimed to explain the Capital Budgeting and Financial Performance of Firms in Nigeria.*

**Key Words:** *finance, budgeting, performance, firms, investment*

### **INTRODUCTION**

Capital budgeting decisions aim at identification and allocation of funds by an organization into profitable projects. It enhances financial performance of an organization by providing suitable rationale of selection viable investment projects that maximizes the wealth of its shareholders (Adu, and Ajigbotoso, 2024).

Capital budgeting is the most important function of finance since the results continue for a long time and the firm may lose some of its flexibility. It defines firm strategic direction because to invest in new products, services or markets it must be preceded by capital expenditure. Capital budgeting enables organizations to evaluate various investment options for optimal shareholders' wealth creation (Abor, 2005).

It is important that future cash flows from a given project are estimated to help the management make a wise decision. A company decision to spend money on long term assets has a decisive impact on the rate and direction of its growth. A wrong choice can threaten the going concern or the continued survival of the firm; huge operational costs incurred by the firm as a result of investing in undesirable or unprofitable long term assets. Alternatively, inadequate asset investment might make it hard for the company to compete with other firms in the market and consequently result in a reduction in the firm's market share (Ahmad, 2011).

The conventional capital budgeting theory which established that in capital budgeting, the NPV criterion is used to measure shareholders' wealth which is the main objective in financial management.

### **Literature Review**

## **Conceptual Review**

### **Capital Budgeting Decisions**

The process by which organizations appraise their projects in order to be able to allocate scarce resources to achieve optimal output refers to capital budgeting. Capital budgeting involves current decisions that have a long term effect on an enterprise. The nature of capital budgeting consists of heavy investments being made and existence of a time gap between initial outlay and return of the investment (Adu, 2016). These characteristics therefore mean capital budgeting decisions have an implication on the financial performance of an enterprise due to the effects on profitability and risk profile of the enterprise. Today's companies face tremendous pressure to record growth in revenues, earnings per share and liquidity. However, these growths can only add to the value of the enterprise only when new customers, projects and acquisitions generate returns greater than the risk adjusted cost of capital of the enterprise (Arnold, and Shockley, 2003).

Capital budgeting decisions involve the process of determining projects with positive net present values and investing in them. Capital budgeting decisions involve allocation of significant corporate resources and the decisions are mostly irreversible or where reversible the company incurs a significant loss (Brian, 2012).

The impact of capital expenditure is on shareholder value addition. Efficient allocation of scarce or costly corporate resources is important to firm's management. Tying huge corporate resources inefficiently in non-productive assets could lead to collapse of the firm. Corporate managers are therefore expected to reallocate corporate resources from the low returns assets to high return assets which are able to maintain consistent growth in rates of return. A good investment decision can boost a firm's earnings sharply and dramatically increase the firm's value. Companies appraise the various projects available to be undertaken and select the ones with greatest positive contribution to its market value (Brigham, and Daves, 2009).

In assessing which project to undertake, management may use discounted and non-discounted cash flow methods. Evaluation is necessary because the firm may have many projects with positive contribution but the capacity to undertake these projects is limited by available resources.

### **Financial Performance**

Performance refers to how well the business is doing in wealth creation and acquisition of resources. It measures the financial health of a firm over a certain period. Terms financial performance as an analysis of financial statements in organizations so as to establish its profitability. Financial performance is considered as the best possible way for us to determine how a firm generates its' revenues through utilization of its assets (Adu, 2016). Performance in financial perspective involves the act of carrying out financial activity so as to realize the financial objectives within a given time period. It is not only used to determine a given period financial status but also the results of its operations and policies through monetary terms. These measures are important since they can be used for comparison between firms which are on the same or different industry. The resultant difference i.e. excess revenues over expenses for any activity is referred to as profits while the opposite of is referred to as a loss (Cherono, 2017).

Over the years, different approaches have been suggested in measuring the financial performance in organizations: both financial and non-financial means. There exists an array of measures of firm performance, though there is yet to be a consensus on a universally acceptable measure of performance. The financial measures include: Return on Asset, Return on Investment and Return on Equity (Koller, Goedhart, and Wessels, 2010).

### **Firm Size**

Firm size positively affects the financial performance of firms because of increasing output of reduction of expenditure on unit cost of functional efficiencies. Large firms enable investors to promptly respond to changes in market conditions by effectively diversifying their assumed risks. Large firms possess monopoly power that allows them to price their products above the economic costs accruing from production so as to maximize profit. In conditions of investment performance, business risks could be reduced by the ability of large companies to diversify their investment portfolios. The size of the organization affects both the profitability and liquidity of firms. Broader market share is acquired by larger firms which make them

possess more competitive power in contrast to small firms. Moreover, larger firms have better opportunities to work in the fields that seek high capital requirements as they have huge resources (Adu, 2014).

### **Profitability**

Profitability is the essential objective of all business ventures as they seek to optimize the share value of the shareholders. Without profitability, the business will not achieve the desired level of success over the long time because profitability is an indicator of the efficiency with which the management applies the resources entrusted to them by the shareholders in the generation of wealth. Therefore, measuring present and past benefit and anticipating future profitability is important in decision making regarding a firm's future prospects. Management benefits are measured with a salary proclamation. This is basically a posting of pay and costs amid a timeframe on an annual basis for the whole business (Lazaridis, 2004).

### **The Techniques of Capital Budgeting and Financial Performance**

The process involves analyzing a project's cash inflows and outflows to determine whether the expected return meets a set benchmark. The major methods of capital budgeting include discounted cash flow, payback analysis, and throughput analysis.

### **The Techniques of Capital Budgeting**

#### **Discounted Cash Flow Analysis**

**Discounted cash flow (DCF)** analysis looks at the initial cash outflow needed to fund a project, the mix of cash inflows in the form of revenue, and other future outflows in the form of maintenance and other costs. These cash flows, except for the initial outflow, are discounted back to the present date. The resulting number from the DCF analysis is the net present value (NPV). The cash flows are discounted since present value assumes that a particular amount of money today is worth more than the same amount in the future, due to inflation.

In any project decision, there is an opportunity cost, meaning the return that the company would have received had it pursued a different project instead. In other words, the cash inflows or revenue from the project need to be enough to account for the costs, both initial and ongoing, but also to exceed any opportunity costs.

In addition, a company might borrow money to finance a project and, as a result, must earn at least enough revenue to cover the financing costs, known as the cost of capital. Publicly traded companies might use a combination of debt—such as bonds or a bank credit facility—and equity, by issuing more shares of stock. The cost of capital is usually a weighted average of both equity and debt. The goal is to calculate the hurdle rate or the minimum amount that the project needs to earn from its cash inflows to cover the costs. To proceed with a project, the company will want to have a reasonable expectation that its rate of return will exceed the hurdle rate.

Project managers can use the DCF model to decide which of several competing projects is likely to be more profitable and worth pursuing. Projects with the highest NPV should generally rank over others. However, project managers must also consider any risks involved in pursuing one project versus another (Munyak, 2010).

#### **Payback Analysis**

Payback analysis is the simplest form of capital budgeting analysis, but it's also the least accurate. It is still widely used because it's quick and can give managers a "back of the envelope" understanding of the real value of a proposed project.

Payback analysis calculates how long it will take to recoup the costs of an investment. The payback period is identified by dividing the initial investment in the project by the average yearly cash inflow that the project will generate. Payback analysis is usually used when companies have only a limited amount of funds (or liquidity) to invest in a project, and therefore need to know how quickly they can get back their investment. The project with the shortest payback period would likely be chosen. However, the payback method has some limitations, one of them being that it ignores the opportunity cost.

Also, payback analysis doesn't typically include any cash flows near the end of the project's life. For example, if a project that's being considered involves buying factory equipment, the cash flows or revenue generated from that equipment would be considered but not the equipment's salvage value at the conclusion of the project. As a result, payback analysis is not considered a true measure of how profitable a project is, but instead provides a rough estimate of how quickly an initial investment can be recouped (Adu, 2023). Salvage value is the value of an asset, such as equipment, at the end of its useful life.

$$\text{Payback Period} = \frac{\text{Initial Cash Investment}}{\text{Annual Cash Flow}}$$

### **Accounting Rate of Return (ARR)?**

The accounting rate of return (ARR) is a formula that reflects the percentage rate of return expected on an investment or asset, compared to the initial investment's cost. The ARR formula divides an asset's average revenue by the company's initial investment to derive the ratio or return that one may expect over the lifetime of an asset or project. ARR does not consider the time value of money or cash flows, which can be an integral part of maintaining a business.

The accounting rate of return is a capital budgeting metric that's useful if you want to calculate an investment's profitability quickly. Businesses use ARR primarily to compare multiple projects to determine the expected rate of return of each project, or to help decide on an investment or an acquisition.

ARR factors in any possible annual expenses, including depreciation, associated with the project. Depreciation is a helpful accounting convention whereby the cost of a fixed asset is spread out, or expensed, annually during the useful life of the asset. This lets the company earn a profit from the asset right away, even in its first year of service (Adu, Oke-Potefa, and Adeleke, 2023).

### **The Formula for ARR**

$$\text{ARR} = \frac{\text{Average Annual Profit}}{\text{Initial Investment}}$$

#### **Pros**

- Determines a project's annual rate of return
- Simple comparison to minimum rate of return
- Ease of use/Simple Calculation
- Provides clear profitability

#### **Cons**

- Does not consider the time value of money
- Does not factor in long-term risk
- Does not account for cash flow timing

### **Net Present Value Method (NPV)**

Evaluating capital investment projects is what the NPV method helps the companies with. There may be inconsistencies in the cash flows created over time. The cost of capital is used to discount it. An evaluation is done based on the investment made. Whether a project is accepted or rejected depends on the value of inflows over current outflows.

This method considers the time value of money and attributes it to the company's objective, which is to maximize profits for its owners. The capital cost factors in the cash flow during the entire lifespan of the product and the risks associated with such a cash flow. Then, the capital cost is calculated with the help of an estimate.

### **Internal Rate of Return (IRR)**

IRR refers to the method where the NPV is zero. In such as condition, the cash inflow rate equals the cash outflow rate. Although it considers the time value of money, it is one of the complicated methods.

It follows the rule that if the IRR is more than the average cost of the capital, then the company accepts the project, or else it rejects the project. If the company faces a situation with multiple projects, then the project offering the highest IRR is selected by them.

Internal Rate of Return Rule

Accept investment if IRR is more than company Cost of Capital  
Reject investment if IRR is less than company Cost of Capital

### **Profitability Index**

This method provides the ratio of the present value of future cash inflows to the initial investment. A Profitability Index that presents a value lower than 1.0 is indicative of lower cash inflows than the initial cost of investment. Aligned with this, a profitability index great than 1.0 presents better cash inflows and therefore, the project will be accepted.

$$\text{Profitability Index} = \frac{\text{Present Value of Cash flow}}{\text{Initial Investment}}$$

### **Process of Capital Budgeting**

The process of Capital Budgeting involves the following points:

#### **Identifying and Generating Projects**

Investment proposals are the first step in capital budgeting. Taking up investments in a business can be motivated by a number of reasons. There could be the addition or expansion of a product line. An increase in production or a decrease in production costs could also be suggested.

#### **Evaluating the project**

It mainly consists of selecting all criteria necessary for judging the need for a proposal. In order to maximize market value, it has to match the company's mission. It is crucial to consider the time value of money here.

In addition to estimating the benefits and costs, you should weigh the pros and cons associated with the process. There could be a lot of risks involved with the total cash inflows and outflows. This needs to be scrutinized thoroughly before moving ahead.

#### **Selecting a Project**

Since there is no 'one-size-fits-all' factor, there is no defined technique for selecting a project. Every business has diverse requirements and therefore, the approval over a project comes based on the objectives of the organization.

After the project has been finalized, the other components need to be attended to. These include the acquisition of funds which can be explored by the finance department of the company. The companies need to explore all the options before concluding and approving the project. Besides, the factors like viability, profitability, and market conditions also play a vital role in the selection of the project.

#### **Implementation**

Once the project is implemented, now come the other critical elements such as completing it in the stipulated time frame or reduction of costs. Hereafter, the management takes charge of monitoring the impact of implementing the project (Adu, 2023).

#### **Performance Review**

This involves the process of analyzing and assessing the actual results over the estimated outcomes. This step helps the management identify the flaws and eliminate them for future proposals.

### **Measuring Financial Performance**

Through a financial performance analysis, specific financial formulas and ratios are calculated, which, when compared to historical and industry metrics, provide insight into a company's financial condition and performance.

When calculating financial performance, there are seven critical ratios that are extensively used in the business world to assist and evaluate a company's overall performance (Adu,2014).

#### **i. Gross Profit Margin**

The gross profit margin is a ratio that measures the remaining amount of revenue that is left after deducting the cost of sales.

The ratio is useful because it indicates as a percentage the portion of each sales dollar that can be applied to cover a company's operating expenses.

$$\text{Gross Profit Margin} = \frac{\text{Revenue} - \text{Cost of Sales}}{\text{Revenue}} \times 100$$

#### **ii. Working Capital**

The working capital measurement is used to determine an organization's liquid net assets available to fund day-to-day operations.

Determining liquidity in a business is important because it indicates whether a company owns resources that can quickly be converted to cash if needed.

$$\text{Working Capital} = \text{Current Assets} - \text{Current Liabilities}$$

#### **iii. Current Ratio**

The current ratio is a liquidity ratio that helps a business determine if it owns enough current assets to cover or pay for its current liabilities.

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

#### **iv. Inventory Turnover Ratio**

The inventory turnover ratio is an efficiency ratio that is used to measure the number of times a company sells its average inventory in a fiscal year (Adu and Ajigbotoso, 2024).

The ratio is beneficial because it allows the organization to easily determine if their inventory is in demand, obsolete, or if they are carrying too much.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Sales}}{\text{Beginning Inventory} + \text{Ending Inventory}/2}$$

#### **v. Leverage**

Leverage is an equity multiplier that is calculated by a business to illustrate how much debt is actually being used to buy assets.

The leverage multiplier remains at one if all assets are financed by equity, but it begins to increase as more and more debt is used to purchase assets.

$$\text{Leverage} = \frac{\text{Total Asset}}{\text{Total Equity}}$$

#### **vi. Return on Assets**

Return on assets, as the name suggests, helps an organization determine how well its assets are being employed to become more profitable.

If the assets are not being used effectively, the company's return on assets sum will be low.

$$\text{Return on Assets} = \frac{\text{Net profit}}{\text{Beginning Equity} + \text{Ending Equity}/2}$$

#### **vii. Return on Equity**

Similar to return on assets, the return on equity is a profitability ratio that is used to analyze the equity effectiveness, which, in turn, earns profits for investors. A higher return on equity suggests that investors are earning at a much more efficient rate, which is more profitable to the business as a whole (Adu, 2016).

$$\text{Return on Equity} = \frac{\text{Net profit}}{\text{Beginning Equity} + \text{Ending Equity}/2}$$

### **Summary**

Capital budgeting is used by companies to evaluate major projects and investments, such as new plants or equipment. The process involves analyzing a project's cash inflows and outflows to determine whether the expected return meets a set benchmark.

### **Conclusion**

Capital budgeting is a crucial aspect of financial decision-making for any organization. It involves evaluating potential investment opportunities and deciding which projects to undertake based on their potential return on investment.

### **Recommendations**

Managers feel that capital budgeting is at times implemented without adequate education to implementers and ill-fitting financial and operating structures. Proper understanding of the demand placed by implementation of these projects on the resources of a firm should be well assessed before implementation. It is vital that the management of the companies immerse themselves in employee training and skill development especially in areas of capital budgeting and investments.

Capital budgeting being identified as important in that it determines the financial performance of manufacturing firms should be developed to include non-financial aspects in evaluation of investments. Also, the organizations should venture more outside the organization tradition in evaluation of investments and use techniques which align more to the current organizational needs rather than what is relevant in the future. Finally, on-financial criterion should be equally considered in the capital budgeting process. To make performance targets more realistic.

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