



Utilization of Investment Appraisal Techniques by Large-Scale Businesses in Lagos State, Nigeria

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Article History

Received: November 6, 2020

Revised: December 10, 2020

Accepted: December 13, 2020

Published: December 16, 2020

Abstract

The study was carried out to investigate the utilization of investment appraisal techniques by large-scale businesses in Lagos State. Two research questions guided the study. The study adopted descriptive survey research design. The population for the study was 150 portfolio managers of large-scale businesses (both banking and insurance organizations) from the three senatorial zones of Lagos State. Due to the manageable size of the population, the entire 150 portfolio managers were involved in the study; therefore, there was no sampling. The instrument for data collection was a well structured 30-item questionnaire. The questionnaire was face validated by three experts. The data for the study was collected by the researcher with the help of three well trained research assistants. The data collected for the study was analyzed using mean and standard deviation for answering the research questions while t-test statistics and Analysis of Variance (ANOVA) were used for testing the hypothesis. Based on the data analyzed, the findings of the study showed that portfolio managers of large-scale businesses in Lagos State were not adequately utilizing non-discounted and discounted cash flow techniques analysis approaches for their investment appraisal in the State. Based on the findings, the study recommended that adequate and effective utilization of investment appraisal techniques should be ensured by management of large-scale businesses such as banks and insurance companies for economic success of the sub-sector and that Portfolio managers of businesses should be continuously made to undergo in-service training in investment appraisal techniques for proficiency on their jobs.

Keywords: Capital investment; Non-Discounted; Cash-Inflow; Discounted; Appraisal; Techniques.

1. Introduction

In today's economy, successful business firms must be strategically poised to take advantage of constantly changing market opportunities. They must at the same time have a solid defence mechanism in place against competition. One of the most significant strategic decisions that a large-scale business firm must make is how to allocate scarce investment resources amongst business processes and projects (Fatoki *et al.*, 2010).

Investment is a key part of building business firms. Investments in product development, research and development, expertise and new markets can open up exciting growth opportunities (Wikipedia, 2019). Different appraising techniques help the business firm assess the effects an investment will have on their cash flow. It helps to compare the expected return to the cost of funding and the returns offered by other potential investment (Wikipedia, 2019). Effective investment appraisal does not consider an investment in isolation. Instead, the business firm should consider how the investment could contribute to its overall strategic objectives.

Businesses are all about investment (Egbo, 2018). Investment involves a decision to part with the present wealth or asset (money or money's worth) with the hope of increasing the value of the wealth in future (Egbo, 2018). The wealth will increase in value through the earning of income by way of interest. The value of investments is usually measured in many terms for purpose of evaluation and other comparison. Egbo (2001), noted that finance experts differentiate between capital investment and other forms of investment. Capital investment is a project which consists of an initial outlay of capital, a set of estimated cash-flows and out-flows over the life of the project and optionally a resettlement figure which might be caused by a resale of plant or shares or a cash settlement to clear liabilities incurred.

Drury (2002), postulates that capital investment decisions are those decisions that involve current outlay in return for a stream of benefits in future years. It is true to say that all of the business firm's expenditures are made in expectation of realizing future benefits. The distinguishing feature between short-term decision and capital investment decision is time. Generally, short-term decisions can be classified as those that involve a relatively short time horizon, say one year, from the commitment of funds to the receipt of the benefit. On the other hand, capital investment decisions are those decisions where a significant period of time elapses between the outlay and the recoupment of the investment. This commitment of funds for a significant period of time involves an interest cost,

which must be brought into the analysis. With short-term decision, funds are committed only for short period of time, and the interest cost is normally so small that it can be ignored.

In this study, the researcher shall concentrate on the investment decisions made by banks and insurance companies to know the extent at which they use investment appraisal techniques in making their capital investment decision, even though the same principles, with modifications apply to individual and the public sector. Appraising an investment decision by banks and insurance companies can be very useful in deciding whether the decision is worth pursuing. Investment appraisal, more popularly known as capital budgeting is the planning process used to determine a business firm's long-term and short-term investment (Wikipedia, 2019), and this planning process is closely related to the idea of capital expenditure that assess the outlay of cash for a project set in to bring a cash inflow over a period of time (NetMBA, 2017). In essence, an investment appraisal involves the determination of an appropriate price for or the worth of an existing or proposed investment in assets. The appraisal for a proposed investment is to enable the intending investor to take a decision to invest or not and if more than one investment opportunities exist to choose the better alternative. It is of utmost importance that a modern business manager should understand the issues involved before undertaking any investment appraisal especially in the changing world of business.

A large-scale business is capital intensive if it requires heavy capital investment relative to the level of sales or profits that those assets can generate. Large-scale businesses generally regarded as capital intensive include oil production and refining, telecommunication, transportation, multinational companies, banks, insurance companies and financial institutions among others. Timothy (2006), noted that "A large-scale business is a term used to describe large corporations, in either an individual or collective sense. A corporation is a legal business entity, created by law and managed through a board of directors who are responsible to shareholders for appointing and directing operating officer. A corporation has an indefinite life unhampered by succession issues that plague sole proprietors or termination clauses required in most partnership deed (Blocher *et al.*, 2005). A large-scale business is also defined as a commercial enterprise organized and financed on a scale large enough to influence social and political policies (www.wordnet, 2007).

1.1. Statement of the Problem

Nigeria's dynamic economic and business environments produce numerous investment opportunities, which pose challenges to potential investors and managers of banks and insurance companies. Therefore, a proper evaluation technique must be applied to these opportunities to determine their relative importance and worth. This valuation and their understanding help a lot in reducing the riskiness of these emerging opportunities. This is so because every investment involves risk. Risk, according to Egbo (2018), is defined as a chance of financial loss. Investors will not like to hear about financial loss and so managers must avoid this if they and the business they manage must survive and succeed. The key to success is a clear understanding and application of the techniques for investment appraisal.

Investment decisions are very critical to the success of any business organization, including banks and insurance companies (Pandy, 2002). Wrong investment decisions could have adverse effect on the viability of the business as it may lead to business failure. This is because, where management of a business fails to appraise an investment to assess the expected viability along resources committed to its operation, it stands the risk of folding-up due to risks that they are not properly managed for lack of knowledge of their existence. Business organizations often need to commit large sums to projects with expenditures and benefits expected to stretch well into the future. Such projects are known as capital investment. A good capital investment generates cash, decreases cash outlay, or both, over its projected lifetime to earn back the capital committed to the project and a desirable profit. No business firm can survive long without capital investment. A poorly executed capital investment plan can lead to financial hardship, tie up resources for extended periods of time, curtail employees, and disappoint suppliers and customers.

Eventually, the failure to make good capital investment can lead to the demise of a business firm. Successful capital investments often are results of project undertaken by capital budgeting or investment appraisal used of the visionary manager. Investment appraisal is the process of identifying, evaluating and selecting projects that require commitments of large sums of fund and generate benefits stretching well into the future. Sound capital investments are often a result of a careful capital budgeting or investment appraisal. This study was therefore designed to examine the extent of utilization of investment appraisal techniques by large-scale businesses in Lagos State.

1.2. Purpose of the Study

The major purpose of this study was to determine the extent of utilization of investment appraisal techniques by Large-scale businesses in Lagos State. Specifically, the study sought to:

1. Determine the extent of utilization of non-discounted cash flow techniques in appraising investment by large-scale businesses.
2. Find out the extent of utilization of discounted cash flow techniques in appraising investment by large-scale businesses.

1.3. Research Questions

The following research questions were formulated to guide the study:

1. To what extent are the non-discounted cash flow techniques utilized in appraising investment by large-scale businesses?

2. To what extent are the discounted cash flow techniques utilized in appraising investment by large-scale businesses?

1.4. Null Hypotheses

The following null hypotheses based on the research questions were formulated for the study and were tested at 0.05 level of significance:

1. Qualification is not a significant source of difference on the extent of utilization of non- discounted cash flow techniques by the portfolio managers of large-scale businesses in appraising investment.
2. Type of organization is not a significant source of difference on the extent of utilization of discounted cash flow techniques by the portfolio managers of large-scale businesses in appraising investment.

2. Methods

The study utilized a descriptive survey design. A survey of portfolio managers in large-scale businesses in Lagos State was carried out to collect data on their opinions on the use of investment appraisal techniques in appraising investment. The area of study is Lagos State. Lagos State is made up of three senatorial zones namely: Lagos Central, Lagos East and Lagos West. The people of Lagos State are actively involved in commerce and industries. In these senatorial zones, there are many large-scale business organizations located mostly at urban areas of the zones. The senatorial zones were therefore considered very suitable for conducting this study. The population for the study consists of 150 large-scale businesses from the three senatorial zones of Lagos State. One hundred and fifty (150) portfolio managers were drawn from the banking and insurance organizations that are registered with the Corporate Affairs Commission (CAC). The population distribution of these 150 portfolio managers in banking and insurance organizations, also known as investment managers in the case of bank organizations and investment analysts in the case of insurance organizations, are as follows: 80 investment managers and 70 investment analysts. The decision to use 150 large-scale businesses was influenced by the understanding that this will yield a more reliable and unbiased result.

Due to manageable size of the population for the study, the entire 150 population of the portfolio managers of large-scale businesses in Lagos State was involved in the study. Therefore, there will be no sampling. For this study, structured questionnaire based on the purpose of the study was used to collect data for the study from the respondents. The questionnaire was divided into two parts (1 and 2). Part 1 sought for information on personal data of the respondents, while Part 2 was divided into two sections (A – B) and contain items used for answering the research questions. The questionnaire items were developed through the review of literature for each section, Part 1 dealt with general information about the respondents. This part contains questionnaire items with options and blank spaces that enabled the respondent tick or fill as appropriate. Items (1- 15) in section A (Research Question 1) sought for information from portfolio managers on the extent of utilization of non-discounted cash flow techniques in appraising investment by large-scale businesses in Lagos state. Section B items (1-15) (Research Question 2) was used to obtain information on the extent of utilization of discounted cash flow techniques in appraising investment by large-scale businesses. Response options for all the sections (A – B) were structured on a five point Likert rating scale of Very High Extent Utilization (VHEU), High Extent Utilization (HEU), Moderate Extent Utilization (MEU), Low Extent Utilization (LEU) and Very Low Extent Utilization (VLEU). The respondents were requested to indicate the extent of their utilization of the appraisal techniques items in their investment with response options of 5, 4, 3, 2, and 1 respectively. The questionnaires were subjected to face validity by three experts. It involved two from the Department of Vocational Teacher Education, Business Education Unit, University of Nigeria, Nsukka and one practising portfolio manager and an accountant in the Bursary Department of Delta State University, Abraka. Each validate was given a copy of the questionnaire to validate. Based on their corrections, suggestions or amendments, a final copy was produced and used for data collection for the study. To obtain the reliability of the research instrument, the instrument was trial tested by administering 15 copies of the questionnaire to 10 portfolio managers of banks and five portfolio managers of notable insurance companies in Ogun State, Nigeria. The choice of Ogun State was informed by the fact that both states fall within the same geographical zone and as such share a common boundary and business characteristics. For the purpose of obtaining the internal consistency of the two clusters in the research instrument, Cronbach Alpha reliability method was used and Cronbach alpha coefficients of 0.80 was obtained for non-discounted cash flow technique and 0.77 for discounted cash flow technique. The researcher and his three trained research assistants, one in each senatorial zone, were involved in administering the questionnaire to portfolio managers of large-scale businesses operating in Lagos state. The questionnaires were collected within two weeks. This helped to avoid delays inherent in the completion as well as enhance the return rate of the questionnaire distributed. The data collected for the study was analyzed using mean and standard deviation for the research questions while t-test statistics and analysis of variance (ANOVA) were utilized for testing the hypothesis.

3. Results

Research Question 1

To what extent are the non-discounted cash flow techniques utilized in appraising investment by large-scale businesses in Lagos State?

Table-1. Mean Ratings of the Responses of Portfolio Managers of Large-scale businesses on their extent of utilization of Non-discounted Cash Flow Techniques in Appraising Investment in Lagos State. (N = 144)

S/N	Item Statements	X	SD	Remarks
1	Using payback appraising technique alone as for investment analysis.	4.26	1.07	HEU
2	Using future and past cash flows as the same with the present value of cash flows	2.61	1.36	LEU
3	Payback method as a capital investment appraisal technique by businesses.	3.22	1.01	HEU
4	Using payback appraising technique for investment analysis in conjunction with other methods.	3.03	0.86	HEU
5	The use of non-discounted method to reflect the time value of money	3.92	0.82	HEU
6	Using non-discounted method as a criterion in evaluating or comparing investments or purchases of capital assets.	4.26	0.75	HEU
7	The use of payback period as a non-discounted cash flow technique.	2.73	1.46	LEU
8	The utilization of accounting rate of return as a non-discounted cash flow technique.	2.76	1.47	LEU
9	Using discounted payback period as a non-discounted cash flow technique.	3.11	1.49	HEU
10	The use of non-discounted method of investment analysis to recover the initial invested amount	2.15	1.07	LEU
11	The use of shorter payback periods to reduce the risk of an unprofitable investment, over investing in the long run.	3.69	1.49	HEU
12	The use of acquisition of assets with short payback period reduces a company's risk from potentially inaccurate long-term predictions of future cash flows	2.87	1.42	LEU
13	The utilization of accounting information as revealed by the financial statements to measure the profitability of an investment.	4.41	0.63	HEU
14	Your outfit uses payback period because it costs less than the other techniques	3.84	1.14	HEU
15	The use of accounting rate of return as a rule to incorporates the entire stream of income in calculating the project's profitability.	3.94	1.16	HEU

Table 1 presents data on the extent of utilization of non-discounted cash flow techniques utilized in appraising investment by large-scale businesses in Lagos State. It was revealed that the mean ratings of the respondents on 10 out of the 15 items in the table had mean values that ranged between 3.03 and 4.41 which are greater than the cut-off point value of 3.00 on a 5-point rating scale. The findings showed that the respondents agreed that large-scale businesses in Lagos State utilized to a high extent the 10 identified items of non-discounted cash flow techniques for investment appraisal in the State.

The mean values of the respondents on the remaining five items in the table were between 1.92 and 2.87 which are lower than the cut-off point of 3.00 on a 5-point rating scale. The above findings showed that the five identified items of non-discounted cash flow techniques were low extent utilization by large-scale businesses for investment appraisal in Lagos State.

Research Question 2

To what extent are the discounted cash flow techniques utilized in appraising investment by large-scale businesses in Lagos State?

Table-2. Mean Ratings of the Responses of Portfolio Managers of Large-scale businesses on their extent of utilization of Discounted Cash Flow Techniques in Appraising Investment in Lagos State. (N = 144)

S/N	Item Statements	X	SD	Remarks
1	Using Discounted Cash Flow Techniques for maximizing a firm's value on correct investment choice.	4.40	0.69	HEU
2	The use of Discounted Cash flow technique at different time periods for investment analysis.	2.85	1.13	LEU
3	The use of Discounted Cash Flow Techniques in order to overcome some of the disadvantages of the non-discounted cash flow technique in investment.	4.10	0.78	HEU
4	The application of Net Present Value (NPV) as Discounted Cash flow technique for investment decision because it ascertains the time value of money invested in a business.	4.24	0.63	HEU
5	Using Net Present Value (NPV) as Discounted Cash flow technique by investors to compare the return on investment in capital projects with an alternative equal risk investment in traded securities in the financial market	2.25	1.21	LEU
6	The use of Internal Rate of Return IRR as Discounted Cash flow technique by investors to takes into account, the magnitude and	4.45	0.74	HEU

	timing of cash flows in investment.			
7	The application of Profitability Index (PI) or Benefit Cost Ratio (BCR) as Discounted Cash flow technique for investment analysis.	4.17	0.84	HEU
8	The utilization of Profitability index (PI) for capital rationing in your investment.	4.21	0.72	HEU
9	The application of Discounted payback rule is better as it does discount the cash flows until the outlay is recovered.	2.65	1.20	LEU
10	The use of NPV method for consistency with the objective of maximizing the shareholders' wealth in investments	3.24	1.08	HEU
11	Utilization of Net Present Value as a straightforward way of determining whether a project yields a return in excess of the alternative in traded securities.	4.17	0.72	HEU
12	The use of the Net Present Value method for measuring your investment profitability.	4.41	0.62	HEU
13	The use of Discounted Cash Flow Techniques for mutually exclusive projects.	3.89	1.17	HEU
14	The use of Profitability Index (PI) to rank investments according to their ratios in their businesses.	3.39	1.45	HEU
15	The use of Discounted Cash Flow Techniques for investment evaluation technique in which a future value of amount on investment is found today.	2.57	1.04	LEU

Table 2 presents data on the extent of utilization of discounted cash flow techniques utilized in appraising investment by large-scale businesses in Lagos State. It was showed that the mean ratings of the respondents on 11 out of the 15 items in the table had mean values that ranged between 3.24 and 4.45 which are greater than the cut-off point value of 3.00 on a 5-point rating scale. The findings showed that the respondents agreed that large-scale businesses in Lagos State utilized to a high extent the 11 identified items of discounted cash flow techniques for investment appraisal in the State.

The mean values of the respondents on the remaining four items in the table specifically, items 2, 5, 9 and 15 were 2.85, 2.25, 2.65 and 2.57 respectively which all less than the cut-off point value of 3.00 on a 5-point rating scale. The findings revealed that the four identified items of discounted cash flow techniques were utilized to a low extent by large-scale businesses for investment appraisal in Lagos State.

Hypothesis One:

Qualification is not a significant source of difference on the extent of utilization of non-discounted cash flow techniques by the portfolio managers of large-scale businesses in appraising investment in Lagos State.

Table-3. The Analysis of Variance (ANOVA) of the Mean Ratings of the Responses of Portfolio Managers of Large-scale businesses on the extent of utilization of Non-discounted Cash flow Techniques Based on their Qualification

Sources of Variance	Sum of Squares	DF	Mean Square	F-Cal	F-Tab	Level of Sig	Rmks
Between Groups	1.67	2	0.84	0.27	3.00	0.05	NS
Within Groups	22.40	141	0.16				
Total	24.07	143					

The analysis of variance (ANOVA) presented in Table 3 above showed that F- calculated (F-cal) value of 0.27 is less than the F-table (F-tab) value of 3.00 at $P \leq 0.05$ level of significance. This indicated that, qualification is not a significant source of difference on the extent of utilization of non-discounted cash flow techniques by the portfolio managers of large-scale businesses in appraising investment in Lagos State. Based on this finding therefore, the null hypothesis of no significant difference for hypothesis one is accepted.

Hypothesis Two:

Type of organization is not a significant source of difference on the extent of utilization of discounted cash flow techniques by the portfolio managers of large-scale businesses in appraising investment.

Table-4. The t-Test Statistics of the Mean Ratings of the Responses of Portfolio Managers of Large-scale businesses on the extent of utilization of Discounted Cash flow Techniques Based on their Types of Organizations

SN	Groups	X	SD	N	DF	Std. Error	t- Cal	t-Tab	Level of Sig.	Rmk
1.	Banks	3.42	0.42	91						
	Insurance				142	0.07	1.06	1.96	0.05	NS
2.	Companies	3.22	0.29	53						

The t-test analysis presented in Table 4 above revealed that the t-calculated (t-cal) value of 1.06 is less than the t-table (t-tab) value of 1.96 at $P \leq 0.05$ level of significance and at 142 degree of freedom. This finding showed that, type of organization is not a significant source of difference on the extent of utilization of discounted cash flow techniques utilized by the portfolio managers of large-scale businesses in appraising investment in Lagos State. Based on this finding therefore, the null hypothesis of no significant difference for hypothesis two is accepted.

4. Discussion of Findings

4.1. Non-discounted Cash flow Techniques Utilized in Appraising Investment

The findings of this study in respect to research question one showed that 10 out of the 15 items of non-discounted cash flow techniques were highly utilized for appraising investment by large-scale businesses in Lagos State. Some of the identified items include: the use of payback appraising technique alone as for investment analysis, payback method as a capital investment appraisal technique by businesses, using payback appraising technique for investment analysis in conjunction with other methods, the use of non-discounted method to reflect the time value of money, using non-discounted method as a criterion in evaluating or comparing investments or purchases of capital assets, using discounted payback period as a non-discounted cash flow technique and the use of shorter payback periods to reduce the risk of an unprofitable investment among others.

The findings of this study on the extent of utilization of non-discounted cash flow techniques for investment appraisal by large-scale businesses is in agreement with the findings of [Howard \(2008\)](#) who reported that one of the most significant (and often the largest) decision made by management is that of selection of non-discounted cash flow of capital budgeting techniques such as accounting rate of return and payback period for investment analysis. Also in conformity with the findings of this study is the result of the study conducted by [Adelegan \(2010\)](#) on management accounting practices in Nigerian companies where the author found out that majority of respondents indicated that they appraised their capital investments with the use of a combination of investment appraisal techniques such as accounting rate of return and payback period in conjunction with others techniques to reflect the time value of money and criterion in evaluating or comparing investments or purchases of capital assets.

The findings of the study on research question one further showed that large-scale businesses are very less utilizing some of the identified non-discounted cash flow technique, these include: the using future and past cash flows as the same with the present value of cash flows, the use of payback period as a non-discounted cash flow technique, utilizing accounting rate of return as a non-discounted cash flow technique, the use of non-discounted method of investment analysis to recover the initial invested amount and the use of acquisition of assets with short payback period reduces a company's risk from potentially inaccurate long-term predictions of future cash flows. [Agboh \(2011\)](#), stated that companies face some challenges and difficulties in the application of budgeting techniques such as non-discounted cash flow method. This finding is in agreement with the findings of [Rao and Suryanarayana \(2010\)](#), who evaluated the problems and difficulties in the use of budgeting techniques and found out that; future uncertainty in capital budgeting, the use of future and past cash flows as the same with the present value of cash flows and the use of non-discounted method of investment analysis to recover the initial invested amount

4.2. Discounted Cash flow Techniques Utilized in Appraising Investment

The findings of this study on the extent of utilization of discounted cash flow techniques in appraising investment by large-scale businesses in Lagos State showed that 11 out of the 15 items of discounted cash flow techniques were highly utilized. Some of these include: using discounted cash flow techniques for maximizing a firm's value on correct investment choice, the use of discounted cash flow techniques in order to overcome some of the disadvantages of the non-discounted cash flow technique in investment, the application of net present value (NPV) as discounted cash flow technique for investment decision because it ascertains the time value of money invested in a business, the use of internal rate of return (IRR) as discounted cash flow technique by investors to takes into account, the magnitude and timing of cash flows in investment and the application of profitability index (PI) or benefit cost ratio (BCR) as discounted cash flow technique for investment analysis.

The finding of this study on the extent of utilization of discounted cash flow technique for investment appraisal is in agreement with that of [Enweluzor \(2016\)](#), who asserted among others that company's profitability is influenced by the capital budgeting techniques such as net present value, internal rate of return and profitability index utilized. [Kazeem \(2010\)](#), found out that the use of budgeting techniques help to enhance accountability for money, allocation of available resources and organization profitability.

The findings of the study on research question one further showed that large-scale businesses are very less utilizing some of the identified non-discounted cash flow technique for investment appraisal. This is inconformity with the findings of [Akintoye \(2008\)](#), who found out that budget and budgetary control technique of discounted cash flow for improved performance of companies in Nigeria are constrained by lack of dynamic structure within an organisation and poorly trained financial professionals constitute associated problems with budgeting and budgetary control.

5. Conclusion and Recommendations

Based on the findings of this study, it is concluded that the intense of the negative effect of the global economic meltdown on Nigeria economy is likely to be as a result of inadequate use of investment appraisal techniques in their day-to-day business activities and the following recommendations were made:

1. That adequate and effective utilization of investment appraisal techniques should be ensured by management of large-scale businesses such as banks and insurance companies for economic success of the sub-sector.
2. Those Portfolio managers of businesses should be continuously made to undergo in-service training in investment appraisal techniques for proficiency on their jobs.

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