

Planning and Forecasting in Capital Budgeting: The Practice of Business Organizations in Ethiopia

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Abstract- Capital investment decisions play vital role for the achievement of strategic plan of organizations. The main objective of this study is to investigate the capital budgeting practice of business organizations in Ethiopia with especial reference to strategic planning, project idea generation and cash forecasting. To achieve this objective, primary data was collected using self administered questionnaire from 109 large private and public owned business organizations found in Addis Ababa, Ethiopia. The finding of the study showed that the majority of the firms try to link capital investment projects to their strategic plan. Top managers and board of directors are the main sources of project idea and most organizations do not make cash forecasting properly. For instance, they will not incorporate working capital, inflation and tax effect of depreciation in to account while forecasting cash flows.

Index Terms- Cash Forecasting, Capital Investment, Project Identification, Strategic Planning

I. INTRODUCTION

The planning phase of a firm's capital budgeting process is concerned with the articulation of broad investment strategy and the generation and preliminary screening of project proposals. The investment strategy of the firm delineates the broad areas or types of investment that a firm plans to undertake. This provides the framework which shapes, guides and circumscribes the identification of project opportunity. Once a project proposal is identified, it needs to be examined. To begin with, a preliminary analysis is done to justify a feasibility study and what aspects of the project are critical to its viability and hence warrant an in-depth investigation. This is followed by detail feasibility study which is meant to assess whether the project is promising and worthwhile. In short, Klastorin (2004, P.13) described the planning phase as the most critical phase defined by the "six Ps" rule of project management that are read as "Prior Planning Precludes Poor Project Performance".

The author has undertaken a survey that assesses the practice of capital budgeting starting from initial strategic planning to post implementation audit. The goal is to perform an in-depth analysis on the current practices of capital budgeting in least developed country, Ethiopia. In particular, in this article the researcher is interested as to how companies in least developed country perform planning and forecasting for investment projects. This research will reveal the gap, if any, between theory and practice of developed and least developed countries with respect to capital budgeting practice. The study focuses on large business organization by Ethiopian standard, which are selected

from industry and service sectors as well as from private and state owned firms. This will enable to analyze the practice across sectors and ownerships. The remaining part of this paper is structured as follows. Section two explains the research problem, section three reviews related literature. Section four presents the research design and methodology adopted in the study. Section five presents the result, analysis and discussion and finally section six concludes the paper.

II. RESEARCH PROBLEM AND OBJECTIVES

Capital budgeting is the process of planning, analyzing, selecting, implementing and controlling of capital investment (Dayananda, et al, 2002). Boersama (1978) argued that capital budgeting is a crucial decision for the firm's success for the following reasons. First, capital investment typically account for large amount of funds of the organization. Second, capital investments normally have a fundamental effect on the future cash flows of the organization once an investment decision has been taken. Third, it is often not possible to reverse it, or it is very costly to do so, once the funds have been committed and funds are normally tied up for a considerable period of time. Fourth, since capital budgeting decisions are long term and infrequent, it does not give chance to CFO's to learn from experience and finally, capital investments affect the profitability and long-term strategy of the organizations. These reasons call for management to do their home work before committing their cash to capital investments.

Different researchers have given different number of phases in capital budgeting process. Despite the difference in the number of phases, the underlying concept is almost similar in all the classifications. Hence the main phases of capital budgeting in most of the studies include; planning, Forecasting cash flow, appraisal of investment projects, selecting the best investment projects, Implementation, Monitoring and control and last but not least, post implementation audits.

Although all the phases are very important to identify and undertake viable capital investment projects, the academia and practitioners most of the time give high emphasis only to appraisal and selection stage of capital budgeting process. These can be evidenced by the too much studies conducted and the increase in sophistication of appraisal techniques from time to time. Theoretically, although it is believed that planning and forecasting are crucial starting steps in capital budgeting, there are few empirical evidences that show the actual practice particularly in least developed country like Ethiopia. Especially, empirical evidence on strategic planning, investment idea generation, preliminary screening and cash forecasting are

missing. Therefore, the main objective of this study is to investigate the capital budgeting practice with special reference to planning and forecasting stage using evidence from Ethiopian firms. Specifically, the study tries

1. to examine the link between strategic planning and capital investment decision
2. to assess the capital project identification and screening process followed by firms.
3. to identify problems of forecasting cash inflow and outflow related to capital projects

III. LITRATURE REVEIW

a) Strategic Planning

The planning process should start with higher level management setting the firm's corporate goals. Management then develops a strategy by which the firm plans to achieve its goals in a risky environment. A firm's business strategy gives the framework within which it seeks capital investment opportunity and from which major capital budgeting decisions logically come out. Companies should reject projects offering high returns but fall outside strategic thinking. That means, ultimately, the capital investment must tie up with corporate strategy so that each project contributes to an element of that strategy (Pike & Neale, 2006).

Strategic planning is the first stage in capital budgeting which convert the firm's corporate goal into specific policies and directions. A strategic plan is the grand design of the firm and clearly indicates the business the firm is in and where it intends to go in the future. A firm's vision and mission is encapsulated in its strategic planning framework and any Capital investment should originate from the strategic plan of the firm. The strategic planning stage takes the firm's goal and converts it into specific objectives; business development areas are identified, priorities are set, specifies the structure, and guides the overall planning process in the quest of achieving objectives (Dayananda et al., 2002).

Chandra (2009) stated that there are different levels of strategic planning based on the different levels of management. Corporate strategy is concerned with where resources should be invested which further breeds the following two key corporate level resource allocation questions including; which business should the firm invest in? and what should be the allocation of the firm's resources across various businesses in a portfolio? Business strategy by contrast is concerned with how the firm should compete in its chosen product market. A firm may choose to follow a strategy of cost leadership or product differentiation or both. Strategic formulation should be hierarchical in which business strategies should emanate from corporate strategy and individual projects should be in line with business unit strategy. Therefore, when seen from the whole organization point of view, projects that support the business or corporate strategy should be undertaken. Individually, a project may not be viable but it may be essential for implementing the chosen strategy. This is because, what matters more is the achievement of the investment strategy as a whole not the attractiveness of individual projects. Therefore, Capital projects should be viewed not simply in isolation, but within the context of the business, its goals and strategic direction (Pike & Neale, 2006).

While well managed firms align capital budgeting to strategy, in many firms the tie in between strategy and capital budgeting is somewhat loose in actual practice. According to Chandra (2009), the followings are some of the reasons. First, operating units view the investment proposals from their limited perspective and impact of the capital project on the overall corporate goal is none of their business. Second, capital budgeting proposals are often considered as self contained project and viewed as more or less in isolation. The logic for this is that, if each proposal is sound, a collection of such proposals together should be sound and finally since many project proposals prepared at the bottom having good viability may be rejected by top managers as a result of their negative impact on the overall strategy, those who make the feasibility at the bottom level will be frustrated.

In general, a company's ability to succeed in highly competitive market depends to a great extent on its ability to regenerate itself through wealth-creating capital investment decisions compatible with business strategy. In order to ensure that strategy and long range plans tightly undergird with the capital budgeting process, the following ought to be done. Long range planning should precedes capital budgeting, long range plans should be communicated to all persons involved in the process of capital budgeting and finally, during the capital budgeting exercise, investment proposals should be viewed in the context of long range plans not in isolation.

b) Identification and Initial Screening of Project Proposals

In the current globalization epoch where dramatic changes are day to day phenomenon, survival and success in the business world rests more than ever on making the right decisions at the right time. Capital budgeting is one of the most critical business decisions to be undertaken by business owners or managers since capital investments tie financial resources for a relatively long period of time. But how can the right capital investment are identified? Where do positive NPV projects come from? These are kinds of questions asked at the identification stage of capital budgeting process?

The identification of investment opportunities and generation of investment project proposals is an important step in the capital budgeting process. The search for promising investment idea is the first step towards creating a successful business. The key to success lies in getting in to the right investment idea at the right time. While this advice seems simple, its execution is difficult because good investment idea tend to be hard to pin down. Identification of such investment opportunity requires imagination, sensitivity to environmental change and assessment of the strength, weakness, opportunity and threat. The task is partly formal and partly informal, partly requiring objective analysis of quantitative factors, partly requiring subjective evaluation of qualitative factors, partly open to control, partly dependent on fortuitous circumstance. Especially, in highly competitive market, selecting wealth-creating capital projects is extremely difficult. It is easier to evaluate profitable projects than it is to find them (Scott et al., 1999; Pike & Neale, 2006; Chandara, 2009).

A profitable investment proposal is not just born; someone has to suggest it. Investment proposals can originate from levels ranging from the employee on the shop floor to top-level

management. A capital budgeting system in which proposals originate at the department and division level is referred to as a bottom up system and one in which proposals originate with top management is referred to as a top down system. In practice, projects generated from lower levels of the firm take longer to pass through and are subject to more qualitative and quantitative scrutiny. However, projects that are generated from top levels of management generally do not have to be justified financially and accepted immediately (Hatfield et al., 2007).

At department level, depending on the nature of the firm, investment proposals can originate from the different departments. For new product or service, proposals usually come from individual with technical experts or marketing experts. These people may feel that they can give a product or service which can cater to a presently unmet need or serve a market where demand exceeds supply or effectively compete with similar products or service because of certain favourable features like better quality or lower price. This idea if supported by finance can become a promising capital investment and these is how expansion of existing business will be undertaken (Chandra, 2009). In addition, a proposal to replace a piece of equipment usually originates from the specific departments or functions and sometimes, excellent investment suggestions may come through informal processes such as employee chats in a staff lounge.

On the other hand strategic decision such as idea for new business or idea for reaching a new territory can come from top level managers or board of directors. This people are endowed with overall strategic issue and can see the different opportunity because of their strategic position and the power they have. For the identification phase of such non-routine capital budgeting decisions, especially those of a more strategic nature, managers need to conduct environmental scanning, gathering information that is largely externally oriented. Managers should not expect the formal information system within the organisations, which is set up to help manage day to day operation be helpful in identifying such non routine investment ideas (Pike & Neale, 2006).

In addition, firms have research and development (R&D) divisions constantly searching for and researching into new goods, services and processes and identifying attractive investment opportunities. Research and development department of firms can also come up with modification of the existing goods and service. In addition, some investments are mandatory and should be undertaken (Dayananda et al., 2002). Therefore, firms should ensure that they have searched and identified potentially attractive investment opportunities and proposals, because the remainder of the Investment analysis process can only assure that the best of the proposed capital projects are appraised, selected and implemented.

Chandra (2009) advice that the following are helpful steps in generating investment idea. First the firm should Undertake SWOT analysis. Periodic SWOT analysis facilitates the generation of ideas. The second is clear preparation and prioritization of objectives which helps in channelling the effort of employees and encourages them think more strategically. The final strategy is creating conducive climate since creativity of people and their entrepreneurial urges requires favourable organizational climate. Generating investment ideas involves

considerable effort, time and risk. Hence Chandra (2009) further suggests that good investment idea can be obtained by doing the following: analyzing the performance of existing industries, examining the inputs and outputs of various industries, reviewing imports and exports, studying plan and government guideline, looking at the suggestions of financial institutions, investigating local material and resources, analyzing economic and social trends and finally studying new technological developments. He also stated that porters model, lifecycle approach and experience curve are the most popular tools of identifying promising investment opportunity.

In addition, there should be a mechanism such that investment suggestions coming from inside the firm, such as from its employees, or from outside the firm, such as from advisors to the firm, are listened to by management. The process of getting investment idea from all levels of the organization must be a formal continuous effort and institutionalized by an incentive system that rewards individuals that generate good investment idea. Any manager who has experienced the frustration of having an investment proposal dismissed, or an accepted proposal fail, is likely to develop an inbuilt resistance to creating further proposals unless the organisation's culture and rewards are conducive to such activity.

Specifically Pike & Neal (2006) advises that top management should seek to ensure that the most suitable projects are submitted by managers through establishing mechanisms that induce behaviour congruence. The accounting information system, reward system and capital budgeting procedures should all encourage managers to put forward the proposals that top management is looking for. However, in practice, the accounting information system and reward mechanism encourage divisional managers to promote their own interests at the expense of those of the organisation, and to emphasise short-term profit performance at the expense of the longer term. Capital budgeting then becomes a game, with the accounting and reward systems as its rules. Cash flow estimates are biased to maximise the gains to individuals within such rules.

In practice, investment opportunity originates from a variety of sources. According to the study by Hatfield et al. (2007) project proposals can arise from customers, suppliers, competitive forces, trade magazines and capital equipment shows. Many projects, such as replacement, capacity, quality and safety tend to originate from the lower-level managers. Larger, strategic type projects can originate from both upper-level and lower-level management. Pandey (1989) found out that more than 50% of the investment ideas in Indian companies were generated at the lower operational level. The contribution of higher management body is minimal. In line with this, Mukherjee and Henderson (1987) also argued that idea for new projects should come from lower level of an organization. They further concluded that finance executives are not project originators; rather they are receivers of packed investment plan for further evaluation. But the finding of Singh et al. (2012) is opposite in which most companies in India have the origination of new investment proposal at the top management level.

c) Forecasting Cash Flow Related to Capital Projects

Managers in business usually view profit as the best measure of performance. It might, therefore, be assumed that

capital project appraisal should seek to assess whether the investment is expected to be 'profitable'. Indeed, many firms do use such an approach. However, most financial management books advocate that investment appraisal should be based on cash flow not accounting profit. Cash flow is not the same thing as profit for two reasons. First, profit as measured by an accountant is based on the accrual concept in which revenue is recognized when it is earned, rather than when cash is collected and expense is acknowledged when it is incurred rather than when cash is paid. In other words, profits include cash revenue as well as receivables and exclude cash expense as well as payables. Second, in computing profit, expenditures are arbitrarily divided in to revenue and capital expenditures (Pandey, 2005).

A project successfully passing a preliminary screening stage usually requires further analysis. Such analysis involves identifying and estimating the projects' incremental cash flow. Incremental cash flows are inflows and outflows of cash associated to a given project, which would disappear if the project is not accepted. It should be measured by comparing the cash flows of the firm 'with' the project and the cash flows of the firm 'without' the project. Such cash flow estimation is the most crucial step in investment analysis since sophisticated technique applied to incorrect cash flow would produce wrong result. Therefore, financial managers should make sure that the cash flow estimates are on the basis of the information supplied by experts (Danadayanda et al., 2002). Such incremental cash estimation should be preceded with market analysis and technical analysis. Because the output of these two are the base for accurate forecasting of cash flow.

Forecasting cash flow involves numerous variables and many participants. Depending on the type of investment proposals, various departments within an organization such as engineering, marketing, accounting and production are responsible to provide the required information for such cash flow estimation. Capital outlay are estimated by engineering and product development department based on the outputs of technical analysis, revenue projections are provided by marketing department and operating costs are estimated by production people, cost accountants, purchasing managers, personnel managers, tax experts based on market analysis. The role of financial managers is to coordinate the effort of various departments and obtain information from them, ensure that the forecast are based on a set of consistent economic assumptions, keep the forecast focused on relevant variables and minimize the biases in cash flow forecasting. Smaller companies which do not have expertise in all these areas may rely on outside consultant, at least for large or important capital investments (Chandera, 2009).

For analytical purpose, project cash flows may be separated into three categories (Dayananda et al., 2002). Initial investment is the net cash expenditure in the period for acquiring the capital project. It includes the cost of any land, building, machinery, equipment etc incurred to undertake the project. This cost also includes freight, setup and testing expense, and initial increase in working capital associated with the new capital asset. Thus initial investment will be equal to gross investment plus increase in networking capital. Further, for replacement investment decisions, the existing asset should be sold if the new asset is to be acquired. The sale of the existing asset generates additional

cash inflow. The cash proceeds from the sale of the existing old assets should be deducted to arrive at the initial net investment. This may also include additional 'middle-way' investments such as upgrades and increases in working capital investments. Operating cash flow over the project involves the incremental after tax cash flow resulting from the increased revenue plus saving in labour cost, material cost or reduction in selling expense. Increase in interest paid as a result of issuing bonds to finance the project should not be incorporated as the cost of fund needed to finance the project are implicitly accounted for by discounting the project back to present value using the required rate of return. Terminal cash inflow is due to disposal of capital assets acquired at the beginning. Cash flow associated with the project termination generally includes the residual value of the project plus or minus any taxable gains or losses associated with its sales.

The project planning horizon of a decision maker may be defined as the period of time over which formulation of investment proposal is required. As net cash flows of an investment project are a function of the time period covered in the feasibility study, the planning horizon have a considerable impact on the result of the financial analysis. In addition, since the values obtained for the discounted cash flows and the various profitability and efficiency ratios vary sometimes considerably with the length of the planning period, the determination of the planning horizon of a feasibility study is often a very critical task. The relationship between the planning horizon and project life should therefore be considered when appraising an investment project. The planning period determined by the promoter must consider the economic lifetime of a project. The economic life of a project should not be longer than its technical life or its legal life; in other words, it must be less than or equal to the shorter of the two. For project planning purpose only the economic life is relevant. The economic life is the period over which the project would generate net gains and depends basically on the technical or technological life cycle of the main plant items, the life cycle of the product and of the industry involved, and the flexibility of a firm in adapting its business activities to changes in the business environment. When determining the economic life span of the project, various factors have to be assessed, some of which includes: duration of demand, duration of the raw material deposits and supply, rate of technical progress, life cycle of the industry, duration of building and equipment, opportunities for alternative investment, administrative constraints etc (Dayananda et al., 2002). Although theory advice to use the economic life of the project in forecasting cash flow, Pandey's (1989) finding showed that most Indian companies chose a period of five to ten years for forecasting cash flow as most financing institutions requires 5 to 10 years forecast of the project cash flow in order to grant credit.

After determining the economic life as discussed above, there are two categories of forecasting techniques used for cash estimation. These are qualitative and quantitative techniques. Project analyst chooses either of these two methods for forecasting the cash flow for their project. The forecasting technique to be used rests up on each of the following factors: whether the project is new or old, whether data is sufficiently available and the skill and availability of technology (Dayananda et al., 2002). Quantitative forecasting techniques are techniques

that use numerical analysis in the estimation of the future cash flow generated by the project. These techniques include simple and multiple regression, time series analysis and smoothing techniques. These techniques are relatively objective methods and are based on historical data. The limitation of these techniques is that, they are not flexible and do not consider the judgment and experience of the forecaster (Chandra,2009). The other group includes qualitative techniques such as Delphi techniques, expert opinion, sales personnel estimate etc. These techniques are flexible and accommodate judgment and experience. The main limitation of these techniques is the subjectivity of the estimate (Chandra,2009). Baker & Powell (2005) stated that in practice firms use several methods to estimate cash flow. Some firms rely on sophisticated mathematical models and computer simulation. Others use more qualitative methods to forecast cash flow including management subjective estimates and a survey of expert's opinions. Large corporations often combine quantitative and judgment forecast to improve their estimates.

IV. RESEARCH DESIGN AND METHODOLOGY

As the objective of the study is to investigate the capital budgeting practice in Ethiopia, the research design adopted in this study was descriptive in nature. Survey questionnaire were developed and distributed to sample firms in Addis Ababa, Ethiopia in the year 2014. Stratified random sampling method was used in selecting the sample firms. First, about 900 large firms were identified from the data base of ministry of trade of Ethiopia, then using statistical model, 180 firms were selected for

the study. Questionnaires were distributed to these 180 sampled business organizations out of which 109 usable questionnaires were collected back. These 109 samples firms were categorized in two ways for analysis purpose. 55 of these firms are engaged in industry sector such as manufacturing, construction, mining, agribusiness etc and the remaining 54 firms are engaged in service sector including finance, hotel and catering, education, transport and communication, etc. Based on ownership, again the organizations are categorized as private which includes 71 firms and state owned which include 38 firms. The data gathered were processed using the Statistical Package for Social Science (SPSS 20) and MS excel. Descriptive statistical tools, tables, and graphs were used in the analysis and presentation. In order to support the result obtained using survey, interview was conducted with six key informants from different organizations.

V. RESULT AND DISCUSSION

a) Link between Strategic Plan and Projects

In theory, setting corporate goal and preparing strategic plan to achieve the corporate goal is the starting point in capital budgeting. In line with this, firms under study were requested to indicate the practice of setting corporate goal & strategic plan and the establishment of capital budget in line with it. The question is in the form of likert scale, zero representing never at all and four representing always practiced. Taking the rate for most of the times or always together, the response from the survey is summarized in table 1 as follows.

Table 1: Corporate Goal, Strategic Planning and Capital Budgeting

| Items | Total | | Ownership | | Sector | |
|---|--------|------|-----------|-------|----------|---------|
| | Median | % | Private | State | Industry | Service |
| Setting corporate goal | 3.00 | 77.1 | 70.4 | 86.8 | 89.3 | 96.2 |
| Preparing strategic plan to achieve corporate goal | 3.00 | 82.6 | 77.5 | 92.1 | 98.2 | 96.2 |
| Establishing capital budget in line with strategic plan | 3.00 | 85.3 | 81.7 | 92.1 | 98.2 | 96.2 |

Source: Survey data analysis

As one can see from table 1 above, in general, the majority of the firms set corporate goal, strategic plan and establish capital budget in line with the strategic plan most of the times or always. It is apparent that state owned firms are better in all aspect as compared to private firms. This is because state owned enterprises are required by ministry of public enterprises to prepare their vision, mission and five years strategic plan periodically and operational plan annually. It is also common to see the vision, mission, objectives and values posted on a billboard inside the compound of most state owned enterprises. However for private companies especially, small PLCs, such practices are not commonly observed. In addition, table 1

compares the practice in industry and service sector. From the result, firms in service sector seems better in setting corporate goal as compared to those in industrial sector. On the other hand firms in the industry sector seems better in the preparation of strategic plan and establishing capital budget in line with the strategic plan as compared to those in service sector. To identify the main objective of undertaking capital investment by the sample firms, respondents were requested to state the objective of capital budgeting in their firms. Figure 1 below reports the results of the survey for the firms under study.

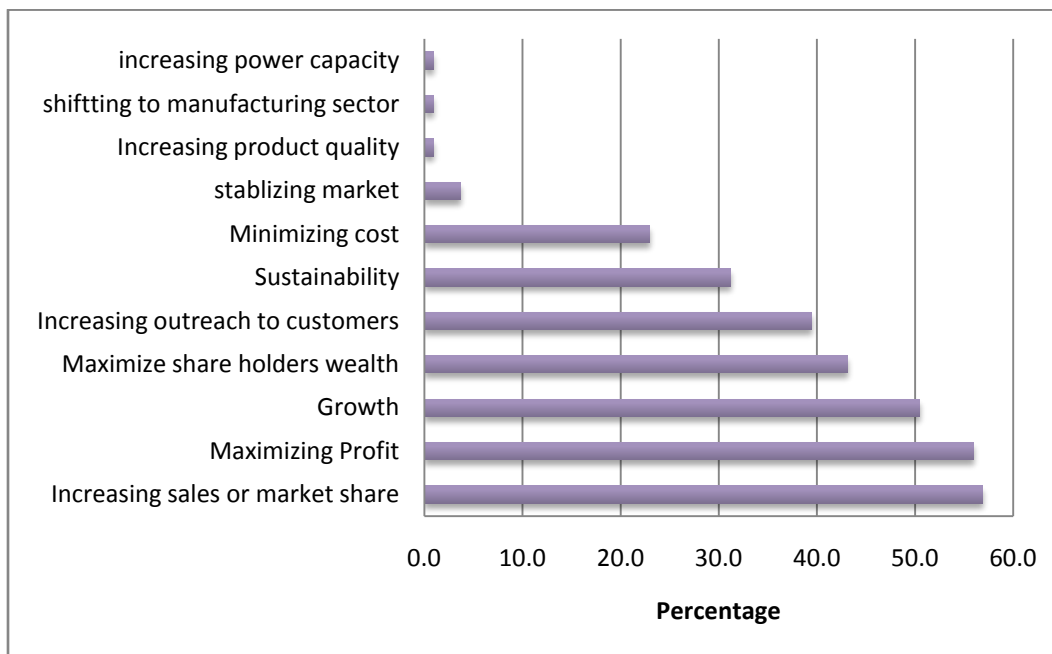


Figure 1: Objectives of Capital Budgeting

As shown in figure 1 above, it is clear that most firms in Ethiopia pursue multiple objectives. Although financial management books advocate the principal goal of financial management should be to maximize shareholders wealth, Chandara (2009) argued that in practice managers may pursue multiple objectives. This coincides with the reality in Ethiopian firms. Business organizations in Ethiopia pursue multiple objectives in the investment appraisal process. The finding of Anand (2003) on Indian firms and the finding of Almutairi et al. (2008) in Kuwaiti firms also found that firms in general pursue multiple objectives.

The bar chart in figure 1 further vivid that, increasing market size or market share (56.9 percent), maximizing profit (56.0 percent) and growth (50.5 percent) are the three top preferred objectives. Maximizing shareholders wealth (43.1 percent), increasing outreach to customers (39.4 percent), and sustainability (31.2 percent) are the moderately preferred objectives. The detail analysis with respect to objectives shows a difference based on ownership type. For private firms, profit maximization, wealth maximization and increasing market share are the three major objectives in respective order. This is the natural characteristics of private business organizations and in agreement with corporate finance theory which advocates that the objective of corporate business organizations should be profit and wealth maximization. On the other hand, the result also reports that the three major objectives for state owned enterprises include growth, increasing market share and increasing outreach. This is in agreement with Raj (1977) argument in which public enterprises in least developed countries have other purposes to serve via their capital investments such as: development of an industry in a backward area, introducing a new technology or saving foreign currency. The theory of market liberalization and privatization also states that management of private firms usually focus on wealth maximization and state owned enterprises on the other hand will consider social consequences of their decision and profit maximization may not necessarily their grand

objectives. With respect to sector wise classification, profit maximization is the dominant objectives of Industry sector business organizations but for Service giving businesses, increasing market share is their main objective.

b) Identification and Preliminary Screening

After setting corporate goal, strategic plan and objectives, the next step is investment idea generation in line with the objectives. A likert type question was presented to respondents to rate the existence of formal procedure for originating investment opportunity and the practice of screening viable projects. The result of analysis showed that, there is a formal process of identifying and screening investment ideas in the majority of the firms under study. The practice is better in private than in state owned firms and better in service giving than in industrial sector. Ofcourse, such formal procedure depends on the nature of capital investment. For instance, such strict procedures may not be followed for replacement and purchase of fixed assets. The acquisition will be undertaken at any time if the need arise and the concerned manager is convinced

A study by Hatfield et al. (2007) indicated that the source of project origination depends on the type of project. Project proposals can originate from managers, employees, customers, suppliers, competitive forces, trade magazines and bazaars. Many projects, such as replacement, capacity, quality and safety tend to come from the lower-level managers. Larger, strategic type projects originate from both upper-level and lower-level management. Since idea generation is the first and crucial step in the capital budgeting process, the study sought the answer as to who generates ideas for new capital investments. The result of the survey was summarized and presented in table 2 below.

Table 2: Source of Investment Idea

| Source of investment Idea | Total | | Ownership | | Sector | |
|--|------------|------|-----------|---------|------------|-----------|
| | No | % | Private % | State % | Industry % | Service % |
| Share Holders/Owners | 32 | 29.4 | 40.8 | 7.9 | 30.9 | 27.8 |
| Board of Directors | 46 | 42.2 | 39.4 | 47.4 | 34.5 | 50.0 |
| Top Managers | 79 | 72.5 | 64.8 | 86.8 | 78.2 | 66.7 |
| Lower Managers | 25 | 22.9 | 14.1 | 39.5 | 29.1 | 16.7 |
| Employees | 20 | 18.3 | 15.5 | 23.7 | 14.5 | 22.2 |
| Consultant Firms | 5 | 4.6 | 5.6 | 2.6 | 7.3 | 1.9 |
| Research and Business Development unit | 25 | 22.9 | 25.4 | 18.4 | 14.5 | 31.5 |
| Government body | 3 | 2.8 | 0.0 | 7.9 | 3.6 | 1.9 |
| Customers | 1 | 0.9 | 1.4 | 0.0 | 1.8 | 0.0 |
| Competitors | 1 | 0.9 | 1.4 | 0.0 | 0.0 | 1.9 |
| Total | 109 | | | | | |

Table 2 above indicates that in majority of the total firms, top managers are the main source of investment idea for capital investment followed by Board of directors, shareholders or owners, lower level managers and research and business development unit in the respective order. Although some respondents stated that investment idea can come from employee, project owners, responsible government bodies and customers as well, the percentage is very low. This result makes it clear that investment idea generation in Ethiopia is top down, which means viable opportunity originate from the top management level and implementation will be undertaken by lower level managers and employees. This might in turn imply the extent of participation of the lower level managers and employee in the organizations' matter is very low. This result is in agreement with the practice in Kenya, India, Jordan and Nepal. A study conducted in Kenya by Nyaga & Ambrose (2013) found out that board of governance and managers are major sources of investment proposal. The finding by Singh et al. (2012) showed that the majorities of the sample companies (72.41 per cent) in India have the origination of new investment proposals at central/head office level indicating control by the top management on such decisions. Further the result of a study in Jordanian companies by Khamees, et al. (2010) and the study by Dangol et al. (2010) in Nepal Company also showed top managements are the main source of investment idea.

In addition to individual effort to identify viable investment opportunity, different development agencies and organizations of the government will play great role in idea generation. According to an expert at ministry of public enterprises of Ethiopia, the ministry office may give investment idea to the public enterprises based on the government's priority area and five year strategic plans such as the currently undergoing growth and transformation plan. In addition, the ministry office will prepare profile of public enterprise to be privatized in the near future and

disseminate the information to potential investors through its quarterly news letter and annual magazine. According to the information obtained from Ethiopian investment commission, it makes survey of investment opportunities available in the country and disseminates investment profiles in its three publications which include a quarterly newsletter, named "investment review", a biannually magazine and annual investment guide. The investment opportunities can also be released through the commission's websites and investors, especially foreign investor will make use of this for their investment decision. In a bid to promote development of industries and attract customers, government owned financial institutions like construction and business bank and development bank of Ethiopia conduct studies, prepare feasibility reports and offer suggestions to potential entrepreneurs. The suggestions of these institutions are helpful in identifying promising projects.

In an attempt to cut costs and improve product quality, firms usually seek inputs of employee at all levels for new ideas. Many firms provide bonus to workers for their cost cutting suggestions and innovation. To assess the practice in Ethiopia, respondents were requested to rate about the existence of incentive system for investment idea generation in their firm. Taking a response rate of most of the times and always together as existence of incentive system, only about one-third of the firms under the study have the culture of giving incentives for new investment idea. The culture of giving incentive system is relatively better in industrial sector (38.2%) than in Service giving enterprises (25.9%). From ownership point of view, it is relatively better in private firms (38%) than in state owned firms (21%).

Business organizations undertake different kinds of capital investment. The survey sought the dominant type of capital investment undertaken by the respondent firms and it is presented in figure 2 as shown below.

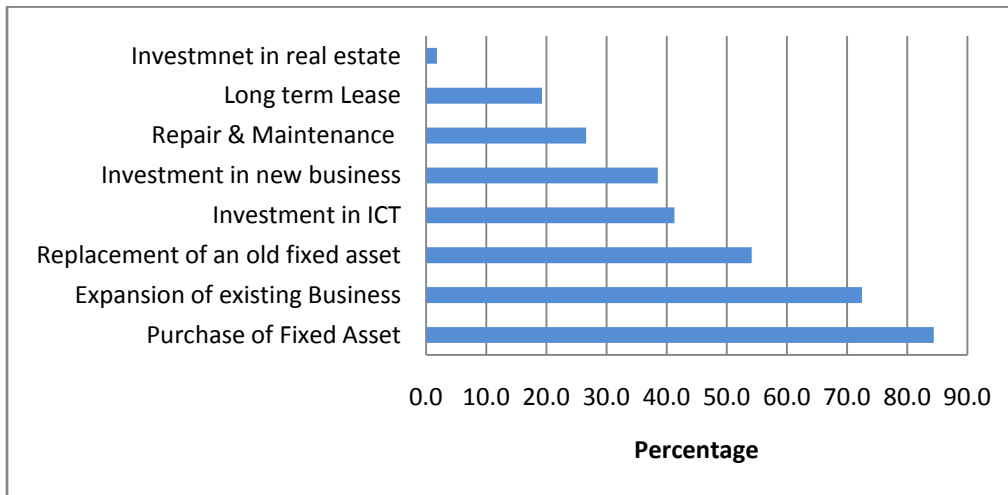


Figure 2: Type of Capital Investment

Out of the different types of capital investment, most firms (84.4, 70.6 and 54.1 percent) indicated that purchase of fixed assets, expansion in new business and replacement of old fixed assets are the dominant capital investments under taken respectively. In addition, other significant percentage of respondents (41.3, 38.5, 26.6 and 19.3 percent) also indicated that investment in ICT, investment in new business, repair and maintenance and leasing are types of investment moderately undertaken in their firm respectively. Few firms have also indicated that investment in building and real estates, expansion of electric power projects and construction of warehouse and depot are the capital investment types undertaken in their firm widely. Figure 2 also indicates that firms undertake multiple capital investments at the same time.

Disregarding purchase of fixed asset which is common to all firms, this result mirrors the finding of Dangol et al. (2010) in Nepal firms in which expansion of existing project is ranked first. It is also in agreement with Danielson and Scott (2006) who found out that Projects to extend existing product lines are shown as the primary investment activity for most small firms in USA. Further, they have also found that the most important class of

investments is ‘replacement’ for almost 50 percent of the firms. In Portuguese, Moutinho & Lopes (2011) reported that the three major types of investments are expansion of existing business (50%), modernization (39.6%) and substitutions (16.7%) projects which is similar with the practice in Ethiopia.

Once promising investment idea is generated, the next step is to undertake sound investment appraisal. The respondents were asked to identify which division or department has the responsibility for analyzing capital expenditure proposals. The responses to this question are summarized in table 3 below.

Table 3: Responsibility for Capital Budgeting

| Responsibility for capital budgeting | Total | | Ownership | | Sector | |
|--------------------------------------|------------|------|-----------|---------|------------|-----------|
| | No | % | Private % | State % | Industry % | Service % |
| Finance department | 64 | 58.7 | 59.2 | 57.9 | 67.3 | 51.9 |
| Engineering department | 15 | 13.8 | 8.5 | 23.7 | 20.0 | 7.4 |
| Business dev't unit | 33 | 30.3 | 32.4 | 26.3 | 16.4 | 44.4 |
| Separate Committee | 15 | 13.8 | 14.1 | 13.2 | 14.5 | 13.0 |
| External Consultant | 11 | 10.1 | 14.1 | 2.6 | 16.4 | 3.7 |
| Top managers | 5 | 4.6 | 4.2 | 5.3 | 5.5 | 3.7 |
| Planning Department | 30 | 27.5 | 16.9 | 47.4 | 10.9 | 9.3 |
| The concerned department | 20 | 18.3 | 15.5 | 23.7 | 29.1 | 25.9 |
| Total | 109 | | | | | |

Total responses exceed the total number of samples, because some respondents selected more than one alternative,

since the responsibility for capital budgeting analysis in their firm was shared among two or more departments. The

involvement of many departments in capital budgeting process is due to the fact that capital budgeting is not the exclusive duty of financial officers and accountants. Rather, it is a multifunctional task linked to a firms' overall strategy and other management functional area. However, the involvement of engineering department especially in the technical aspect of the capital projects is not as expected; which have an impact on the reliability and accuracy of the analysis made. In table 3 above, it is also apparent that in the majority of the firms, the responsibility for analyzing capital projects is that of the Finance Departments followed by business development and planning. This is in line with the finding by Mukerjee & Henderson (1987) in which 50% of capital budgets were prepared by accounting and finance department. Others such as, engineering department, the concerned specific department, separate committee, external consultant, top managers are also involved in the process to some extent.

From table 3, one can see that the involvement of external consultants is very limited. Information obtained from ministry of public enterprises also confirms that external consultants will be involved in feasibility study in government enterprise only if the cost of the capital investment is greater than 10 million birr. This might be because, there are already few state and private consulting firms that have for a considerable time been able to make pre-investment studies of all kinds and that participate actively in investment consultancy in the widest sense, rendering

services in project management, engineering, construction supervision etc. The few existing consulting firms are also owing to the lack of suitable management and other staff, as well as because of inadequate experience, they are not yet able to provide internationally acceptable investment consultancy services. The limited involvement of external consultants in Ethiopia is also similar to the situation in Jordan. Khamees et al. (2010) found that above 71.2 % of the respondents do not seek help from external parties to analyze their capital budgeting decisions. These results indicate that the planning for capital expenditures depends to a large extent on the organization itself.

Detail analysis of the result revealed there are some variations among the different forms of business organization. The involvement of planning and engineering department is relatively more in state owned firms than private firms. This might be because; state owned firms are relatively well structured and have these specific departments. Based on sector wise classification, the involvement of external consultant is relatively better in industry sector where as the involvement of business development is relatively better in service sector.

In addition, respondents were also asked what motivates them to use sound capital budgeting analysis and what factors hinder them from making sound investment appraisal. The result is summarized in table 4 as follows.

Table 4: Motivating and Discouraging Factors

| | | Frequency | Percent | Valid percent |
|----------------------|-------------------------------|-----------|---------|---------------|
| Motivating Factors | Firm's own policy | 65 | 59.6 | 61.9 |
| | Competitors action | 38 | 34.9 | 36.2 |
| | Government policy | 33 | 30.3 | 31.4 |
| | Creditors such as Banks | 24 | 22.0 | 22.9 |
| | Effectiveness of the process | 21 | 19.3 | 20.0 |
| | Availability of technology | 15 | 13.8 | 14.3 |
| | Availability of professionals | 6 | 5.5 | 5.7 |
| | Missing system | 4 | 3.7 | |
| Discouraging Factors | Lack of skilled professional | 48 | 44.0 | 52.2 |
| | High cost of the process | 30 | 27.5 | 32.6 |
| | Lack of technology | 15 | 13.8 | 16.3 |
| | Difficulty of the process | 11 | 10.1 | 12.0 |
| | Lack of information | 10 | 9.2 | 10.9 |
| | Market price variability | 2 | 1.8 | 2.2 |
| | Missing system | 17 | 15.6 | |
| Total | | | | |

Table 4 shows that firms own policy (61.9 percent) is the dominant motivating factor. Competitor's action (36.2 percent), government policy (31.4 Percent), creditors requirement (22.9 percent), effectiveness of the process (20.0 percent) are other factors that motivate to undertake investment appraisal.

Availability of technology and qualified staffs have minor role in undertaking capital budgeting analysis. Especially, with regard to creditors' requirement, some commercial banks like the stated owned commercial bank of Ethiopia has a guideline for loan application. One of the requirement for loan application in this

bank states that applicants should submit detailed feasibility study including financial appraisal made using discounted cash flow techniques such as NPV and IRR.

Furthermore, respondents were also asked to state principal reasons or problems that discourage them from undertaking detailed capital budgeting analysis. The most discouraging factor mentioned by respondents is lack of qualified staff which accounts 44.0 percent. Other factors mentioned includes; high cost of the process (27.5 percent), lack of technology (13.8 percent), difficulty of the process (10.1 percent), and lack of information for analysis (9.2 percent). Out of the hindering factors ranked above, Lack of timely, reliable and relevant information is a serious problem mentioned by an expert from banking sector. Lack of up to date Information useful for project appraisal and data uncertainties were also indicated by pinches (1982) as serious problem. One interesting result that emerges from table 4 is that availability of qualified staffs is last under motivating factors and it is the first under discouraging factors which shows that respondents are consistent in answering the two opposite questions.

c) Forecasting Cash Inflow and Outflow

Cash flow forecasting is an important stage in the capital budgeting decisions. With this regard, respondents were asked to mention methods used to analyze the viability of capital projects. Close to 71 % of the respondents’ use both project cash flow and accounting return in assessing the viability of projects. Opinion on cash flow forecasting practice in Ethiopia was also obtained from an expert from banking industry. The expert stated that if the project is to be partly or wholly financed by banks, cash flow analysis should be used to test the viability of the project and cash flow should be forecasted for a period of at least the number of loan repayment period. If the cash flow forecasted has an error in it, the final decision will be wrong whatever investment appraisal tools are applied. To assess the practice of cash flow forecasting, the study went on looking into the items included in the cash flow forecast and the methods being adopted in forecasting each of the cash flow components in Ethiopian firms.

Table 5: Components of Cash Flow

| | | Frequency | Percent | Valid percent |
|---------------------|-------------------------|------------|---------|---------------|
| Items Included | Initial cash outflow | 53 | 48.6 | 63.1 |
| | Periodic cash flow | 52 | 47.7 | 61.9 |
| | Working capital | 43 | 39.4 | 51.2 |
| | Terminal cash flow | 24 | 22.0 | 28.6 |
| | Inflation | 17 | 15.6 | 20.2 |
| | Missing | 25 | 22.9 | |
| Total | | 109 | | |
| Forecasting Methods | Past performance | 69 | 63.3 | 73.4 |
| | Quantitative techniques | 56 | 51.4 | 59.6 |
| | Qualitative techniques | 19 | 17.4 | 20.2 |
| | Missing | 15 | 13.8 | |
| | Total | 109 | | |

As can be observed from table 5 above, only moderate numbers of firms properly incorporate the different cash flows in the cash flow estimation. Although the detail of cash flow was not asked, this result suggests that firms omit some important cash flow components or unnecessarily incorporate irrelevant costs. This is in line with the finding in India. Pandey (1989) also found that Indian firms did not always have clarity about estimating cash flows. Half of his sample companies did not include additional working capital while estimating the investment project cash flows. A number of companies also mix up financial cash flows with operating cash flows.

In addition, table 5 above shows that the majority of the respondent companies apply past performance and quantitative techniques to forecast cash-flows. Very small portion of the respondents also apply qualitative techniques such as expert opinion. This result coincides with the finding by Jog and

Srivastava (1995) where most of the Canadian firms used quantitative methods for cash flow forecasting, it was then followed by the methods of management’s subjective estimates and consensus of expert’s opinions. However, the result in this study contradicts with the finding in Nepal where most manufacturing firms used qualitative techniques such as management judgment (Dangol et al., 2010). Interview with an expert in consultancy firms also revealed that they will use quantitative statistical techniques such as double exponential smoothing and trend extrapolation techniques in forecasting cash flow of project for the preparation very big project feasibility study.

In theory, the time horizon for cash flow analysis should be the minimum of the physical life of the plant asset, technological life of the plant asset, product market life of the plant asset or investment planning horizon of the firm. However, banks in

Ethiopia require cash forecast at least for the number of years of loan repayment period. According to Chandera (2009), the requirement for Indian banks is cash forecast for a minimum of 10 years. In Australia, Truong et al. (2006) found that the length of the cash flow forecast period varies from less than three years to more than ten years, but 5 to 10 years is the most common forecast interval (43%).

The sample firms are requested to respond on the practice of their firm with respect to adjustment for inflation and incorporation of depreciation tax advantage in cash flow forecasting. The result of the study indicates that only 10.1% of the respondents incorporate inflation “always” when forecasting cash flow and this becomes about 41% when “most of the times” is added to it. With regard to depreciation, only about 25.5% incorporate depreciation tax shield “always” in forecasting cash flow and this grows to 50% when “most of the times” is added. Similar to this result, Coline and Mike (1997) also found that significant number of firms incorrectly treat inflation as a result of which many profitable projects are being rejected. However, the practice in south Africa is better as compared to Ethiopia where about only one quarter of the firms were not making adjustment for inflation in their capital budgeting analysis (Hall, 2009).

VI. CONCLUSION & IMPLICATION

Most firms formulate their corporate goal & strategic plan and establish capital budget in line with it. Further, business organizations pursue multiple goals and there is a variation in goals between private and state owned firms. The goal of most private firms revolve around profit and wealth maximization where as the goal of state owned firms focus on growth, increasing market share and increasing outreach to customers. This is in line with the natural behaviour of private and state owned firms indicated in theory. However, most of them do not have capital budgeting manual specifically prepared for their company. They use the one developed by EIC, Ministry of public enterprises or UNIDO.

Most capital budgeting related decisions are made by top managers and board of directors. Top managers and board of directors are the main source of investment idea in the selected firms also. There is no significant variation among the different types of business organizations in terms of origination of investment opportunity. Only one-third of the firms have an incentive system for generating profitable investment idea. In addition, most strategic decisions such as approval and post audit are made by board of directors and top managers of the firms. This indicates that, origination of idea is top down and participation of common employees in critical decisions is very less in the majority of firms. The implication of this is that, the majority of Ethiopian companies are treated as business units instead of standalone firms and critical decision falls in the hand of high ranking authority. This has significant corporate accountability, resulting in formal and lengthy decision-making procedures.

The majority of the firms undertake different kinds of investment and feasibility study is mainly a group work. The most common types of investment in the sample firms include purchase of fixed asset, expansion of existing business,

replacement projects, investment in ICT and investment in new business. Although the majority of them do not have minimum cut-off amount above which formal capital budgeting analysis is required, rigorous appraisal is not needed for purchase of ordinary fixed asset and replacement activities. Further, capital budgeting is not only the duty of the finance manager. Business development and planning departments are also involved in capital budgeting analysis. However, the participation of engineering department and use of external consultant is limited which obviously have negative implication on the reliability of the analysis made.

Firms have also indicated motivating and hindering factors in making investment appraisal. Firms’ policy, competitors’ actions, and banks requirements are the main pushing factors for making sound capital budgeting analysis. Lack of skilled professional, high cost of the process and lack of technology are the most serious hindering factors in making capital budgeting analysis. It seems that, there are two main reasons behind the pitfalls in evaluating the capital projects of the firms. The first reason is the unfamiliarity with the different techniques used to evaluate those projects. The second is the lack in staff, time, and experience to formally deal with capital budgeting expenditures.

The majority of the respondents use both project cash flow and accounting return in assessing the viability of their project and most of them use both quantitative techniques and past performance in forecasting cash flow. On the other hand, it appears that there are some misapplications. The different components of cash flow are not included properly and the period of forecasting mainly depends on period of loan repayment instead of economic life. There are significant numbers of firms that do not consider impact of inflation and tax properly when forecasting cash flow. On the one hand, firms do not totally abandon accounting measures and on the other hand, they are not properly calculating the cash inflow and outflow which implies that firms might not be properly applying cash flow concept in capital budgeting analysis.

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