Project Financing, Implementation and Control Practice: A Study on Selected Business Organizations in Ethiopia

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Abstract- Once a project is selected after going through rigorous appraisal process, promoters must also decide the way in which the capital projects will be financed. Project delay is common problem especially in developing countries like Ethiopia mainly because of problems in the implementation and control. The main objective of this study is to examine how capital projects in Ethiopia are financed, implemented and monitored. 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 survey indicated that most projects are financed using either internal sources or borrowing from banks. The use of stock and bond to finance capital projects is very much limited because of absence of capital market. Further, the main reason for project delay includes lack of foreign exchange and not properly making project design at the beginning. Most firms use traditional methods to schedule, monitor and control capital projects. Modern project scheduling and monitoring techniques such as CPM and PERT are rarely used in Ethiopian firms.

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1. INTRODUCTION

Identifying and selecting viable project is not the end by itself. Once a project is selected after going through rigorous appraisal process, promoters must also decide the way in which the capital projects will be financed. Projects can be financed using either owner's equity or debt. After securing the finance, the implementation plan should be prepared and the implementation of the project should be undertaken. During implementations, continuous monitoring and evaluation should start side by side and post implementation audit should be undertaken at the end.

Given the capital budgeting decision of firms, they must also decide the way in which the capital projects will be financed. When a firm makes an investment decision, it is concurrently making a financing decision also. For instance, a decision to build a new plant, to buy new equipment or new machine requires specific way of financing that project. Therefore, capital budgeting and financing decisions are very much related and they can be said “different faces of the same coin”.

UNIDO (1991) advises that detail feasibility study should be carried out only if the necessary financing facilities can be identified with a fair degree of accuracy. The feasibility study will be useless if adequate source of finance is not available for its implementation. For that reason, possible project financing must be considered at early stage of investment, because financing alternatives have a direct effect on total costs and thus on the financial feasibility of the project.

Project implementation and monitoring are the next jobs after projects passed the selection stage. If the project is accepted and endorsed, its implementation can start. But this is not the end of the capital budgeting process. The project should be monitored with periodic reviews to ensure that it is performing as expected. Monitoring of both cash inflows and outflows is very important because, in the most difficult situation, even possibility of terminating the projects can be considered.

Project delay is one of the basic problems in developing countries like Ethiopia. Most of the causes for not completing projects on time are associated to financing, implementation and controlling issues. Therefore, the purpose of this study is to investigate problems associated to financing, implementation and controlling of capital projects taking evidence from Ethiopia.

II. RESEARCH PROBLEM AND OBJECTIVES

Chandra (2009) 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 to make proper
capital budgeting analysis and project management techniques before committing their cash to capital investments.

Capital budgeting is the process of planning, forecasting cash flow, appraisal, selecting, implementing and controlling of capital investment (Dayananda, et al, 2002). Although all these stages are important for achieving firms' goals through capital investment, most previous studies highly emphasize on the appraisal and selection stages of capital budgeting phases. To the researcher's knowledge, there are very few studies that studied particularly the financing, implementation and controlling aspects of capital projects taking evidence from least developed country like Ethiopia. Therefore, the main objective of this study is to investigate the financing, implementation and controlling aspects of capital projects taking evidence from Ethiopia. Specifically, this study is aimed at answering the following basic questions:

- How do firms in Ethiopia finance their capital projects?
- What are the problems associated to implementing capital projects in Ethiopia?
- Do firms in Ethiopia undertake continuous monitoring and evaluation of capital projects?

III. Literature Review

a) Project Financing

The two main source of finance available to a firm are shareholders fund and loan funds. Stockholders fund come mainly in the form of equity capital and retained earnings and in the form of preference capital. Loan funds come in a variety of forms like debenture capital, term loan, deferred credit, fixed deposit and working advance. When should a project use more equity and when should a project use more debt?

Chandra (2009) recommends that a firm should use more equity under each of the following conditions; the tax rate applicable is negative, business risk exposure is higher, dilution of control is not an important issue, the assets of the project are mostly intangible and the projects have many valuable growth options. He further recommends that a firm should use more debt under the following condition; the tax rate applicable is high, business risk exposure is low, dilution of control is an issue, the assets of the projects are mostly tangible and the project has few growth options.

In addition to the above standard source of finance, leasing, venture capitalist, international market, international organization, local government and other miscellaneous sources can be used.

b) Implementation

The implementation phase for industrial projects which involves setting up of manufacturing facilities consists of several stages. These include establishing the financial, organizational and legal basis for the implementation of the project, technology acquisition and transfer, including basic engineering, detailed engineering design and contracting, including tendering, appraisal of bids & negotiations and Acquisition of land (UNIDO, 1991).

Then construction, personnel recruitment, promotion and starting operation should be undertaken. The construction stage involves site preparation, construction of buildings and other civil works, together with the erection and installation of equipment in accordance with proper programming and scheduling. The personnel recruitment and training stage, which should proceed side by side with the construction stage, may prove very crucial for the expected growth of productivity and efficiency in plant operations. Of particular relevance is the timely initiation of promotion to prepare the market for the new products and secure critical supplies. Plant commissioning and start-up is usually a short but technically important span in project implementation. It links the preceding construction phase and the following operational phase. The success achieved at this point demonstrates the effectiveness of implementation planning and the execution of the project (UNIDO, 1991).

Translating an investment proposal into a project is complex, time consuming and risk taking activity. Delays in implementation can lead to substantial cost and time overrun. For speedy implementation at a reasonable cost, the following are helpful. First, the major reasons for the delay of projects are insufficient formulation of projects. If the necessary home work in terms of preliminary studies and comprehensive and detailed formulation of the project is not done in advance, many surprise and shocks are likely to spring on the way. The second solution is assigning specific responsibility to project managers for completing the project within the defined time frame and cost limit and finally use of network technique like PERT and CPM will enhance the monitoring and follow up easier (Chandra, 2009).

c) Tools for Project Scheduling

The necessary activities for establishing a factory, including: construction, delivery and assembly of the equipment, recruitment and training of the operating personnel and the delivery of all production inputs, should be undertaken timely before operation start-up by making good project planning at the beginning and efficient project implementation. Any delay on one of the above mentioned stages would have a negative effect on the successful completion of the project, especially during the start-up phase. In order to avoid this, effective planning and balanced organization of the various activities are necessary, and can be achieved only by careful planning and scheduling.
The viability, quality and dependability of the project are more important than the time factor during pre implementation phase. However, while in the implementation phase, the time and cost factors is more critical in order to keep the project within the estimate made in the feasibility study. Project implementation schedule play a great role in avoiding time and cost overrun during implementation phase. Project implementation schedule requires the following activities to be done in advance. List of all possible activities from project planning to commencement of production, the time required for performing various activities, the sequence in which various activities are performed, the resources required for performing various activities, the implication of putting more resource or less resources than are normally required on time.

There are several tools used to plan and schedule activities in a project. For small projects with few activities, a bar chart showing when a particular activity would begin and when it would end is fairly simple tool for drawing up the implementation schedule. For most complex projects which consist of numerous activities and are fairly large, networking techniques are required. Networking techniques are the most sophisticated than the traditional Gantt charts. In these techniques, the activities, events and their interrelationship are represented by a network diagram also called arrow diagram. There are two basic networking techniques. The first one is program evaluation and review technique (PERT). This is usually suitable for projects under risk and uncertainty such as research and development, projects involving new technology, aerospace etc. Hence, the orientation of PERT is probabilistic. The second one is Critical Path Method (CPM). This was developed by Du pont Company in USA to solve scheduling problems in industrial setting. CPM is primarily concerned with the trade off between cost and time. It has been applied mostly to projects that employee fairly stable technology and are relatively risk free. Hence its orientation is deterministic (Chandra, 2009).

In line with project implementation scheduling techniques discussed above, it is important to make periodic review of the original timetable in the course of project implementation. This will help to identify any discrepancies that may have occurred during construction work and to take into account their effects on time and costs. That means, the feasibility study prepared at the beginning should describe all the critical activities that can serve as valuable guidelines in revising the timetable. A continuous comparison of the forecasts made in the feasibility study with the actual investment and production cost data accruing during the implementation phase is required in order to monitor and control the resultant changes in the overall profitability of the project, which may in turn require adjustments in the short-term loan and equity financing of the project.

d) Monitoring and Control

Making careful evaluation before selecting an investment is only the first step. As situations change, new variables come out and fresh opportunities may arise. The organization need to modify its original plan and incorporate new development, and alter the course of action necessary to attain the best result. Therefore, as soon as implementation begins; control should become the dominant concern of the project manager. Project control involves a regular comparison of performance against targets, a search for the cause of deviation and a commitment to check adverse variances. It serves two major purposes. First it ensures regular monitoring of performance and second it motivates project personnel to strive for achieving project objective on time using the allocated resource (Chandra, 2009).

Monitoring of projects is done at the implementation stage as well as at the operation stage. There are numerous monitoring and control techniques each having their own merits and demerit. Therefore the choice of these techniques should be based on the balance between the advantages and disadvantages of having a given project control system.

In practice, Azzone & Maccarrone (2001) found out that shareholders value performance is greatly affected by frequency of project monitoring and evaluation. According to their finding, projects which will be evaluated on weekly and monthly basis are less vulnerable than those that are evaluated annually. The same finding was also obtained by Akalu (2002a) in his study in UK and Netherland. In this connection, it was found that the higher the frequency of monitoring, the narrower will be the expected discrepancy. That means, by making frequent monitoring, the project manager can quickly correct problems that could increase the likelihood of discrepancy. Akalu adopted multinomial logit regression model and found out that discrepancies ranging from 0% to 10% are mostly associated with weekly or quarterly project assessments. On the other hand, those infrequent evaluation experiences are associated with higher discrepancy rate ranging from 11 – 20%. From this, he concluded that value discrepancy follows the frequency of project evaluation. He also found that projects are monitored more frequently in high performing than in low performing companies. This implies frequent monitoring enhances shareholders value performance.

e) Post Implementation Audit

Post implementation audit is the control process aimed at making an overall revision of all those activities concerning the management of an investment proposal, from its initial stage, to its implementation up to the end of its life. Post audit is different from a simple project.
monitoring in terms of scope and degree of completeness. Its main objective is to learn what worked and did not work in a project and more importantly, transfer this knowledge to future projects. Post project audit should be viewed as proactive events that can both improve future project management endeavours as well as help to identify new opportunity and markets (Azzone & Maccarrone, 2001).

IV. Research Methodology

As the objective of the study is to investigate the financing, implementation and control practice in Ethiopia, the research design adopted in this study was descriptive in nature. Data were collected mainly from primary sources. Survey questionnaire were developed and distributed to sample firms in Addis Ababa, Ethiopia. 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 survey. Questionnaires were distributed to finance managers or planning officers of 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 Statistical Package for Social Science (SPSS 20) and MS excel. Descriptive statistical tools and tables were used in the analysis and presentation. In order to support the result obtained using survey, interviews were conducted with six key informants from different organizations.

V. Result and Discussion

a) Financing Projects in Ethiopia

The survey result and experts interviewed indicated that the followings are main sources of financing capital projects in Ethiopia; internal source, borrowing from banks, industry development fund, and initial public offering. In addition, as a strategy to encourage investment, Ethiopian government also gives incentives in the form of tax exemption and provide land and industry zone for free or at a lower lease price.

Since most firms in Ethiopia are small in size, they do not qualify for bank borrowing. Therefore, they try to finance their project from their own internal sources including; portion of net income from operation, sale of another non usable property, using traditional saving called “iqb” or contribution from families and relatives. Kidane (2010) in his research on Ethiopian firms found that firms in Ethiopia prefer to use internal source than going to bank as banks are expensive. In addition, State owned enterprises are permitted to finance replacement and purchase of ordinary fixed assets using their own internal cash flow which they deducted in the form of depreciation from their income statement. With the poor performance of the firms which results in insufficient internally generated cash, searching other source of finance is a must.

Therefore, if the amount required is significant and the organization qualifies the requirement, capital investments can be financed by borrowing from banks as there is no alternative formal capital market in the country. Especially development bank of Ethiopia specializes in the provision of capital for big industrial and agriculture projects. Commercial bank of Ethiopia provides all kinds of loan including long term loan to finance projects. In addition to the government owned banks, private banks also give loan for capital projects. The use of bank financing is similar with the finding in Kuwait firms. In Kuwait, Al Mutairi et.al. (2008) reported the fact that there are underdeveloped and inactive bond and mutual funds markets leaves room for banks to play an important role in financing firms listed on Kuwait Stock Exchange.

However, the process of securing bank loan is procedural and officious. Most of the banks have very strict requirement which seeks elaborate details of the various aspects of the borrowing company and about the project. For instance, development bank of Ethiopia will finance only 70% of a given project if and only if the borrower has 30% of the total required amount and the firm has adequate collateral. Bank loan are hard to get as banks require strong collateral ranging from 125% to 400% of the amount of loan requested. Currently, the only acceptable collateral properties are buildings under municipalities and vehicles registered by Road and Transport Authority of Ethiopia. So, any investor who wants to get bank loan should have such properties. There is a problem of underestimation of collaterals by banks. This makes it difficult for those firms which are young and have no asset in place to be used as collateral for the bank loan. There is also a problem of elongating medium to long-term loans; banks are very unwilling to extend loans for long and medium term capital investments and they tend to eliminate small borrowers and concentrate on their well-to-do clients that are creditworthy. The high interest rate charged by banks is another discouraging factor.

Some of the problems of banks are attributed to external factors. The different regulatory and administrative controls limit capacity of banks to provide financial service to investors. One of the notable factors that the currently existing banks are complaining is the 27% mandatory bond purchase regulation set by national bank of Ethiopia. The dominance of state
owned banks and the strict supervision of NBE are often cited as causes for the inability of firms to have access to bank loan. However, if the current trend in bank branch expansion and the increase in private banks persist in the years ahead, it is hoped that firms will have access to cheaper and attractive bank loan.

Another source of finance especially for state owned firms is Industry development Fund (IDF) which is part of net income of every government enterprise. Every government enterprise will contribute 40% of its annual net income to IDF and the remaining will be paid in the form of dividend to the state. When a specific government enterprise plans to undertake expansion or new project, the project may be financed form IDF given that it satisfies certain formalities and obtained approval of ministry of public enterprise and other higher government bodies such as ministry of trade, ministry of industry and ministry of finance and economic cooperation.

Another recently introduced form of financing by Proclamation No 103/1998 (as amended by Pro. 807/2013) was Capital Goods Leasing. This form of financing was introduced for those investors who have the desire, knowledge and profession to participate in various investment activities but could not act due to lack of capital. The objective is to create enabling environment for the establishment of alternative source of finance believing that lessors of capital goods can fill existing gap which is not addressed by the existing financial institution. Accordingly, companies have entered in to the business and they are leasing long term equipments, machines and construction materials to investors.

In addition, to the above direct financial sources, the government of Ethiopia will give other incentives so as to encourage investment in the country. These incentives include exemption from income tax and custom duty and provision of industry zone & land at a lesser lease price. These are indirect form of financing from the investors’ point of view.

b) Implementation of Projects

The implementation of capital projects starts with timely accept reject decision by the concerned authority. After accept reject decision, implementation and control schedule should be prepared and project managers should be assigned for the capital investment. Of course these activities may not be necessary for all projects. Respondents were asked to what extent these pre- implementation activities are undertaken in their organization and the result indicates that, above 74% of the firms make timely accept reject decision, prepare implementation plan and assign project manager on time.

Respondents were asked to indicate who is responsible to implement the project after approval is obtained. Although the implementation will depend on the size and nature of the capital investment, respondents have indicated that above 92% of the capital investments are implemented by the firm itself or both the firm and external contractor. Very small portion of the capital investments are totally left to external contractor alone. The proportion is almost the same under both private and state owned firms. But most firms in the industry sector implement capital investment projects by themselves as compared to Service giving firms.

c) Monitoring and Control

Monitoring and control of capital investments is an important step in capital budgeting. Respondents were asked the extent of undertaking regular monitoring and control. The result of the survey indicated that above 78% of the respondents undertake monitoring and control either most of the times or always. This percentage will increase significantly when those who responded sometimes is added to it. In addition, respondents were again asked as to who is responsible for monitoring and control of capital investment projects in their firms and the result indicates that in most of the firms, managers at different level are responsible for monitoring and control of investment projects. Board of directors, concerned employee and external consultants are also involved moderately. In addition, per the interview with an expert from Ethiopian investment commission, the commission is responsible to provide, support and monitoring service to those that obtained investment permit from its office. Specifically, the commission is responsible for pre implementation and implementation stage of the investment projects. After operation was started, the responsibility of follow-up and control would be transferred to ministry of trade and ministry of industry whichever is appropriate. If the firms are unable to start operation, the commission recollects their investment permit.

With respect to ownership, government will closely monitor and control state owned enterprises more closely as compared to private firms. In addition, board of directors make monitoring and control in state owned enterprises more as compared to the private once. With respect to sector wise classification, managers at different level are more involved in monitoring and control in industry as compared to service sector. Question was posed to respondents about the tools used in project scheduling, monitoring and control and their response is summarized in table 1 as follows.
Table 1: Tools for Project Scheduling and Monitoring

<table>
<thead>
<tr>
<th>Tools</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>Gant Chart</td>
<td>38</td>
</tr>
<tr>
<td>Critical Path Model (CPM)</td>
<td>8</td>
</tr>
<tr>
<td>PERT Model</td>
<td>8</td>
</tr>
<tr>
<td>Variance Analysis</td>
<td>1</td>
</tr>
<tr>
<td>Progress Reporting</td>
<td>65</td>
</tr>
<tr>
<td>Field Visit</td>
<td>20</td>
</tr>
<tr>
<td>Missing Items</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>109</strong></td>
</tr>
</tbody>
</table>

Source: Survey Data Analysis

It is apparent from table 1 that Progress reporting is the main tool of controlling projects in Ethiopia. Gant chart is also used moderately. Field visit is the third popular means of project monitoring and evaluation. Modern management science techniques such as critical path method (CPM) and Project Evaluation and Review techniques (PERT) are not widely used. In addition, the more complex mathematical models, such as linear programming and option models receive no corporate acceptance.

d) Causes for Project Delay

Respondents were also asked whether there is project delay in their organization and the reasons behind if there is any. The result indicated that almost all organizations encounter project delay at least some times. An expert from ministry of Public Enterprises also confirmed that delay of projects in government owned firms is common. According to him, it is great achievement if 50% of a project is completed within the scheduled time. The reasons for the delay were summarized in table 2 as follows.

Table 2: Reasons for Project Delay

<table>
<thead>
<tr>
<th>The reasons for delay?</th>
<th>Frequency</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of foreign currency</td>
<td>55</td>
<td>50.5</td>
</tr>
<tr>
<td>Lack of finance</td>
<td>43</td>
<td>39.4</td>
</tr>
<tr>
<td>Lack of raw material</td>
<td>26</td>
<td>23.9</td>
</tr>
<tr>
<td>Lack of skilled man power</td>
<td>23</td>
<td>21.1</td>
</tr>
<tr>
<td>Government decision</td>
<td>20</td>
<td>18.3</td>
</tr>
<tr>
<td>Inflation</td>
<td>11</td>
<td>10.1</td>
</tr>
<tr>
<td>Legal causes</td>
<td>8</td>
<td>7.3</td>
</tr>
<tr>
<td>Contractors problem</td>
<td>6</td>
<td>5.5</td>
</tr>
<tr>
<td>Missing</td>
<td>9</td>
<td>8.3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>109</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

Source: Survey Data Analysis

The two dominant reasons for project delay are lack of foreign currency and lack of finance. Especially lack of foreign currency seems logical in Ethiopia where getting foreign currency is very difficult. If the capital investment involves the purchase of machinery or other assets from overseas, National bank of Ethiopia plays a key role in sanctioning any such investment by controlling the availability of foreign currency. Table 2 also indicated that Lack of raw material, lack of skilled man power, government decision has also moderate contribution. Inflation, legal causes and contractor’s capacity problems are also other reasons for project delay although their contribution is minimal. The causes for project delay are almost uniform among the different classification of business organizations under study.

e) Post Implementation Audit

After capital investments have been implemented, it is desirable to examine periodically how closely projects’ actual initial investments and subsequent cash flows correspond to their previously estimated amounts. The objective of doing this is to
identify any inefficiency in the past and taking care not to make the same error in the future. In this regard respondents were requested to indicate the practice of undertaking post implementation audit and the extent of use of the feedback from post implementation audit.

The result indicated that about 50% of the respondents undertake regular post implementation audit and use the feedback for future capital budgeting process either most of the times or always. When some times is added, the percentages goes up to 80%. This result coincides with the finding in Jordanian companies by Khamees et al. (2010) which showed 84 % carry out post-audit procedures. The finding by Dangol et al. (2010) in Nepal firms and Arnold & Hatzopoulos (2000) in UK firms also showed that majority of the firms under study conduct post implementation audit at least some times.

In addition, the respondents were asked to give opinion on the extent of use of information technology in project analysis, implementation and control process and the result of the survey showed that only about one-third of them replied that they will use information technology either most of the times or always. The use of computer is better in state owned enterprises as compared to private business and in Industry sector as compared to Service giving organizations.

VI. Conclusion

In Ethiopia, firms heavily depend on internal source and borrowing from banks to finance capital project. Tax exemption and provision of some facilities by the government can also be taken as source of finance. The use of bond and stock market except some initial public offering is not known in Ethiopia as there is no organized capital market. This implies that Ethiopian firms have limited menu to finance their capital project which in turn lead to high cost of financing.

Most projects in the selected firms are implemented by the firms themselves or in collaboration with external contractor. Almost all firms confessed that, project delay is common in their company. The major reasons for the delay are lack of foreign currency and lack of finance. This might be because firms are not doing their homework like planning the financial schema and scheduling their activity using modern management science models such as CPM and PERT before entering in to implementation phase.

Ethiopian firms use traditional control tools mainly periodic report and the use of ICT in capital budgeting is limited. The study showed that, the majority of the firms carry out monitoring, control and post-implementation audit for capital budgeting decisions. The most popular controlling techniques in the selected firms include traditional methods like progress report, Gant Chart and field visit. Although significant number of firms use ICT in project analysis phase, its application in implementation and control phase is rare.

References
