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Capital Budgeting Technique Used in Nepalese Manufacturing Small and Medium Sized Enterprises

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ABSTRACT

This paper examines the extent of usage of capital budgeting techniques in small and medium sized enterprises (SMEs) and factors influencing on the choice of capital budgeting techniques adopted by SMEs. A self-administered structured questionnaire survey was conducted with 48 small and medium sized manufacturing enterprises operated in Banke district and information has been gathered through questionnaires and personal interviews. The respondents were chief financial officer and concerned authorities of the firm responsible for long term investment decision. Results of the study reveal that payback period is the dominant capital budgeting technique used in SMEs. The results found that net present value was also the most prevalent capital budgeting method. Net present value as the capital budgeting technique is higher in SMEs who operate in the industry for more than 10 years. Easy to explain to top management, obsolescence due to technological developments and simplicity leading to less time and cost involved revealed the main reasons for using the payback period method. Some of the firms are using discounted cash flow methods of capital budgeting and preferring net present value over internal rate of return.

Keywords: Capital budgeting, capital budgeting technique, small and medium sized enterprises.

Introduction

Long-term investments are vital for profitability, the sustainability and growth of a firm. The profitability, the long term sustainability and growth of a firm depends upon its ability to regenerate returns from long-term assets/investments through the proper allotment of capital (Ryan and Ryan, 2002; Arnold and Hatzopoulos, 2000). To increase the wealth of its shareholders, a firm needs to continuously identify, analyze and choose long-term investment projects that could help achieving these goals, i.e., increase in wealth, survival and growth. This process of selecting, analyzing and investing capital in long-term assets/investments which provide returns for more than one year is known as capital budgeting (Fabozzi and Peterson, 2002). Investing in efficient investment projects is crucial because resources are limited and firms must grow their value (Klammer et al., 1991). Capital budgeting decisions play an important role in increasing the value of the firm (Slagmulder et al., 1995).

Gitman et al. (2015) define capital budgeting as the process of evaluating and selecting long term investment consistent with the firm owners' goal of wealth maximization. Leon et al. (2008) pointed out that capital budgeting is a process of evaluating and decision-making on investment projects. According to Baker and Powell (2009), the capital budgeting process involves six stages: identifying project proposals, estimating project cash flows, evaluating projects, selecting projects, implementing projects and performing a post-completion audit. The capital budgeting process is a multifaceted activity designed to help in the selection of investment projects that are viable and deals about planning, reviewing, analyzing, selecting, implementing and following up activities. Therefore it is considered as an important element in the firm managerial decisions (Garrison et al., 2018) and long-term financial performance (Emmanuel et al., 2010).

Capital budgeting method can be categorized into two groups: discounted cash flow method and non-discounted cash flow methods. Non-discounted cash flows include payback method and accounting rate of return. Discounted cash flows include net present value, internal rate of return, discounted payback method and profitability index. While DCFs take into account the time value of money, the non-discounted methods are not considered time value of money (Alleyne et al., 2018; Hermes et al., 2007). Haka et al. (1985) divided capital budgeting methods into two categories: sophisticated and naïve selection techniques. Sophisticated techniques consider risk adjusted net cash flows, time value of money and inflation. Sophisticated techniques are NPV, IRR and PI; on the other hand, naïve method does not consider risk adjusted factor and time value of money. Net present value, internal rate of return, modified internal rate of return and profitability index are considered as

sophisticated capital budgeting technique, whereas payback period and accounting rate of return are classified as naive capital budgeting technique (Brigham and Ehrhardt, 2002).

The selection of capital budgeting techniques can be influenced by both the financial and nonfinancial factors. Katabi and Dimoso (2016) conducted a study in Tanzania and found that business-related factors like industry of the business, sales growth, business establishment, number of employees and form of business play a vital role for selecting capital budgeting methods. Leon et al. (2008) found eight factors that motivate them to choose a capital budgeting method in Indonesian's firm. Factors are chief financial officers' education, size of the firm, total annual investment, industry type, ownership structure, multinational culture and financial leverage.

The success and survival of a firm ultimately depends on a right investment decision because a good investment decision remains good business even though bad finance taken; on the contrary, a bad investment decision will be a wrong decision even with best finance policy (Brealey et al., 2015). Daniel and Scott (2006) observed that small firms evaluate projects using payback period. Vos and Vos (2000) found that payback period and accounting based methods were mostly used. Graham and Harvey (2001) observed that small businesses are significantly less likely to use NPV method but they frequently use the payback period method. Daunfeldt and Hartwig (2012) their results show that recommended and non-recommended methods were used with large companies using capital budgeting method more frequently than small firms. Brijlal and Quesada (2009), found that payback period, followed by NPV appeared to be the most used methods across the different sizes of businesses. Olawale et al (2010) observed that small manufacturing firms do not use sophisticated investment appraisal techniques when evaluating their proposed projects and their study observed that there is a trend that payback period method has been prevalent in appraising capital budgeting decisions in various organizations. Khakasa (2009), in his study observed that the usage of simple ratio- based techniques such as cost benefit analysis, payback period and return on investment is very high compared to the use of discounted cash flow techniques. John (2007) the results of his study showed that most small businesses do not use capital budgeting techniques when making investment decisions. Kipesha (2009) observed that most of SMEs do not use the DCF methods; rather they select investments basing on their personal perception, market trends and external attractiveness of the investment. A sound capital budgeting decision is very critical for a firm because it is aligned with the firm's primary objective, and it requires a substantial amount of resource and long-term commitment. Once the decision has been made, the process cannot be manipulated without incurring losses (Hall and Millard, 2010). In this context this study aims:

(1) To examine the extent of usage of capital budgeting techniques in Nepalese small and medium sized enterprises (SMEs).
(2) To identify the factors influencing on the choice of capital budgeting techniques in SMEs.

Methodology and Results

The area of this study are the manufacturing small and medium sized enterprises operated in Banke district. Forty eight manufacturing small and medium sized enterprises has been taken as a sample of the study using purposive and convenience sampling technique. The respondents were the chief financial officer and the responsible authority for capital budgeting decision. Primary as well as secondary data has been used. The primary data were gathered through questionnaires and personal interviews.

Table 1 Educational qualification of chief financial officer/concerned authorities

Educational qualification	Frequency	(%)
Professional qualification	4	8
Bachelor degree	25	52
Master degree	17	36
Above Master's degree	2	4
Total	48	100

Source: Field Survey, 2021

Table 1 indicates that majority (52 percentage) of the respondents have gained bachelor degree education. Thirty six percentage have completed master degree. Above master's degree are only 4 percentage. Majority

(approximately 75 %) of the respondents found having management education in bachelor degree, master degree and professional qualification. Only 25 percentage were from non-management background.

Table 2 Experience status of the chief financial officers/concerned authorities

Experience (years)	Frequency	%
Less than 10 years	3	6
11–20 years	27	56
More than 20 years	18	38
Total	48	100

Source: Field Survey, 2021

Table 2 shows the experience of the chief financial officers. Out of the total respondents' majority (56 percentage) have gained moderate level (11–20 years) of the experiences. Low level (less than 10 years) experienced revealed only 6 percentage. Thirty eight percentage of the respondents have long experience of more than 20 years.

Table 3 Application of capital budgeting techniques for the project appraisal in SMEs

Capital budgeting methods	Mean	Rank
Personal judgment	4.27	2
Payback period	4.43	1
Discounted payback period	2.76	6
Accounting rate of return	2.84	4
Net present value (NPV)	3.46	3
Internal rate of return	2.35	7
Profitability index (PI)	3.43	5

Source: Field Survey, 2021

Table 3 highlights the application of capital budgeting techniques for the project appraisal in SMEs. It indicates that payback period and personal judgement are significantly (mean > 4) used in SMEs. The net present value technique (discounted approach) and profitability index (mean 3.46 4< 4, 3.43 < 4) have been moderately used. Net present value as the capital budgeting technique is higher in SMEs who operate in the industry for more than 10 years. Internal rate of return have not been used for the project appraisal in SMEs.

Table 4 Use and usefulness of capital budgeting decision techniques under risk and uncertainty in SMEs

	Usefulness	
Capital budgeting decision techniques under risk and uncertainty	Mean	Level
Risk adjusted discounted rate	3.26	Important
Certainty equivalence	3.76	Important
Scenario analysis –Sensitivity analysis	4.39	Most important
Simulation analysis	2.56	Low important
Decision tree analysis	3.83	Important

Source: Field Survey, 2021

The capital budgeting decision techniques under risk and uncertainty have not been used by Nepalese manufacturing SMEs but these techniques are considered usefulness for project appraisal. According to table 4, scenario analysis –sensitivity analysis have got most important (mean 4.39 >4) for its usefulness and simulation analysis the least important (mean 2.56 < 3) for its usefulness.

Table 5 Reasons for using the payback period method

Reasons	%
Easy to explain to top management	36
Simplicity leading to less time and cost involved	22
Shortage of liquid funds	13
Obsolescence due to technological developments	27
Any other	2
Total	100

Source: Field Survey, 2021

Table 5 shows that, easy to explain to top management, obsolescence due to technological developments and simplicity leading to less time and cost involved are the main reasons for using the payback period method.

Table 6 Factors influencing the choice of capital budgeting techniques in Nepalese SMEs

Factors influencing the choice of capital budgeting techniques	Mean	Rank
Informal rule of thumb	2.19	6
Easy understandability	3.95	4
Finance theory	2.98	5
Experience and competency	4.31	3
Top management familiarity	4.53	1
Importance of the project	4.37	2

Source: Field Survey, 2021

Table 6 highlights the factors influencing the choice of capital budgeting techniques in Nepalese SMEs. Top management familiarity about the project evaluation technique, importance of the project, experience and competency and easy understandability have been revealed the major influencing factors for the choice of capital budgeting techniques in Nepalese SMEs.

Conclusion and Discussion

The aim of this paper was to examine the extent of usage of capital budgeting techniques in Nepalese manufacturing small and medium sized enterprises (SMEs) and factors influencing on the choice of those techniques. The study revealed that payback period is the most dominant capital budgeting technique used in SMEs due to its easy for explain to top management, obsolescence due to technological developments and simplicity leading to less time and cost involved which lies in the line of Daniel and Scott (2006). Net present value as the capital budgeting technique have got importance in project appraisal in SMEs having more than 10 year's operational experience. The capital budgeting decision techniques under risk and uncertainty have not been used by Nepalese manufacturing SMEs due to its theoretical superiority. However the capital budgeting decision techniques under risk and uncertainty have been viewed usefulness.

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