Capital Budgeting Techniques Adopted by Small and Medium Enterprises in the Colombo District.

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Abstract

This article investigates the capital budgeting techniques adopted by small and medium enterprises in the Colombo district. Capital budgeting is one of the most important area of corporate finance. The main motive of this paper is: firstly, to find out the extent of using capital budgeting techniques in SMEs, Secondly, to find out the effect of non-financial factors (age of the company, form of ownership, level of education and years of business experience of the decision maker) on choice of investments evaluation techniques and finally, to find out reasons for not adopting capital budgeting techniques in SMEs. For the purpose of the study, divisional councils of Colombo District; Mulleriyawa, Seethawaka, Homagama were selected as the sample units. For the above objectives stratified random sampling was used to collect sample of 60 SMEs drawn from above divisional councils. Data that were collected through questionnaire analyzed using the STATA statistical package and word cloud analysis. Descriptive data shows that 56 of SMEs in Colombo district tend to use payback period, NPV and IRR as capital budgeting techniques. Other SMEs do not use any capital budgeting techniques. Cost and the time were found to be main reasons for the abandon capital budgeting techniques. The Chi- square test for independence indicated a significant association between age of the company, form of ownership and years of business experience on choice of capital budgeting techniques. The independent variable of level of education of the decision maker has dropped from the Chi square test. Multinomial logistic regression model was utilized to investigate the relationship between the choice of capital budgeting techniques and non-financial factors which accepted by chi square test. In relation to the IRR method probability of choosing payback and NPV increases with the Age of the company and decreases with the local ownership. Furthermore, in relation to IRR probability of choosing payback decrease with the increase of the years of experience of the decision maker. The results of this study suggest that non-financial factors affect the choice of capital budgeting techniques.

Keywords: Capital Budgeting, Small and Medium Enterprises (SMEs), Sri Lanka, NPV, IRR, Payback

1. Introduction

Small and Medium Enterprises play a paramount role and it is considered as driving engines of a country's economy. Growth dynamic is coming from SMEs as 98% of enterprises in Sri Lanka are micro, small and medium enterprises (Central Bank Annual Report, 2014). The SME sector is highly an essential sector in job creation and production of goods and services in China which is the second largest economy of on earth (Wambua & Koori, 2018). In the US, the small business administration estimates that small businesses produce 50% of private GDP and employ 60% of the private sector labor force (Danielson and Scott, 2006). In Tanzania "SMEs contribute significantly to employment creation, income generation and stimulation of growth in both urban and rural areas" (Katabi & Dimoso, 2016, pp. 11-12). Study conducted in Sri Lanka reveals that development of SMEs can be assist to upgrade balanced regional development (Rathnasiri, 2015). Hence the development of SME sector is dominant for any country regardless of their level of development. The SME sector would become an important aspect for developing countries as they are generally burdened by poverty and unemployment problems and promoting the growth of gross domestic product and embarking on innovations. It can be argued that Sri Lanka can gain economic benefits by developing the SME sector.

Sri Lankan government recognize SMEs as the backbone of the economy where it consists of more than 75% of the total number of enterprises and provide 45% of the employment and 52% to the GDP (Ministry of Industry and Commerce, 2015) . One of the most strategic decisions that SME must make is how to allocate scare resources amongst its projects. The tools that help the owners or decision makers in SMEs when making investment decisions are the investment evaluation techniques which is mainly considered as capital budgeting practices. In consonance with Solomon (1963) as cited by (Lima, et al., 2017) capital budgeting is defined as a process by which resources are allocated in the firm; it involves not only objective and quantitative approaches and subjective and intuitive methods. SMEs must be able to strategically poised to take advantage constantly by making correct investment decisions. "The successes of the SMEs depend on the optimal capital budgeting decision" (Uddin & Chowdhury, 2009, pp. 113-114). Thus, choosing best capital budgeting techniques is one of the emerging key decisions in the SME sector in Sri Lanka.

Hence, the aims of this research are to,

1. Find out the extent of using capital budgeting techniques in SMEs
2. Find out the effect of the non-financial factors of SMEs (financial education, age of the company, years of experience and ownership) on choice of capital budgeting techniques.
3. Find out the reasons for not adopting the capital budgeting techniques in SMEs

In agreement with Pandey (1976) as cited by (Katabi & Dimoso, 2016) there are several reasons which make investment decisions to be critical where those may influence the firm's growth in the long run, they affect the risk of the firm, they involve commitment of large amount of funds, they are irreversible, or reversible at substantial loss, they are among the difficult decisions to make. There is a dearth of studies focused on the adoption of capital budgeting practices of SMEs in developing economies like Sri Lanka. Every country is focusing their attention into developing SMEs. However, the Sri Lankan government effort is comparatively low when compared with the other developed and developing countries. Therefore, there is an urgent need to uplift this sector to promote the national policy on SMEs in Sri Lanka. It is important to study about SMEs since it provides insights to the policy makers of the SMEs regarding the capital budgeting techniques. Thereby, this study has taken steps to in depth study about capital budgeting practices and attempt to add value to the pool of existing knowledge of SMEs. The study was able to bridge the gaps that were not covered by the previous studies in relation to the Sri Lankan SMEs.

2. Statement of Problem

Despite the fact that SMEs contribute to the greater part of the economy in the country, evidence has been found that there are many failures of SMEs in Sri Lanka. The central bank of Sri Lanka (1998) stated that Inadequate capital, inadequate institutional credit facilities use of outdated technology, improper accounting techniques, inadequate sales, promotion competencies and unattractiveness of SMEs are the main problems faced by Sri Lankan SME sector. These obstacles occurred as a result of inefficient business administration, lack of experiences in important business functions mainly in accounting and finance. The previous empirical studies implied that poor accounting and financial management practices as one of the factors contributing to massive failure of SMEs. In consonance with Hashim & Wafa (2002) as cited by (Rathnasiri, 2015) even though the SMEs are playing a crucial role in the economy, many of them are plague by some

management problems. Further study conducted in Kenya disclosed that "Poor investment decisions have been blamed for high rate of failure and closure of SMEs" (Wambua & Koori, 2018, pp. 89-90).

As a developing country Sri Lankan firm faces the problem of resource scarcity and it is vital to utilize the limited resources efficiently in order to reach their ultimate goal. Even if the owners of the SMEs are provided with sufficient capital, business may continue to decline due to the reason of lesser knowledge about selection of the right investment evaluation technique and the factors that influence the investment choices. Since the SMEs composite of larger part of the economy in Sri Lanka, it will lead to many problems when SMEs tend make wrong investment decisions. With reference to the above problems, researcher arrive at a research problem which is to be further investigated.

3. Literature Review

Capital budgeting techniques are occasionally researched in corporate finance. Aforementioned studies have been conducted in this particular area of capital budgeting in different countries around the world. Over the past decades many academics around the world have been discovered various results in relation to the capital budgeting in SMEs. Research in the field of capital budgeting has been done predominantly in developed nations and developing nations. Developed nations like United nations (USA), United Kingdom (UK) and New Zealand have explored ideas regarding the capital budgeting in SMEs. Similarly developing nations like Tanzania, Uganda, Kenya and India have enumerated capital budgeting in SMEs in their studies.

3.1 Capital Budgeting in SMEs

Capital budgeting practitioners have discovered that payback was the most dominant technique adopted by SMEs. Study conducted in university of Cardiff investigated the capital budgeting techniques used by the Japanese, German, domestic independent and domestic subsidiary SMEs in UK manufacturing sector. The study has found out "for all SMEs participating in the survey, the payback method is by far the most popular capital budgeting technique." (Peel & Bridge, 1999, pp. 360-362) Moreover, it asserted the predominant use of payback method and fewer use of sophisticated capital budgeting techniques. Similar outcomes were established by study conducted in UK. (Block, 1997) has found out payback is the governing technique adopted by SMEs. The

major reason that drive the use of payback period was financial tension made by financial associations. Further the study conducted in the Delhi found out Payback period is the most massively utilized technique of appraising projects (Yadave, 2017). Based on the evidence from the above literature it is obvious that payback was the most preferred capital budgeting method used by SMEs. It was evident from studies carried out in UK, USA and on the other hand countries like India. It indicates that regardless of the country's status the results obtained are similar to each other.

A number of descriptive studies specifically addressing alternative approach utilized by the SMEs are discussed in the following lines. Study conducted in New Zealand revealed "67% of firms always or usually, using 'intuition / gut feel" (Vos & Vos, 2000, pp. 44-55) . (Katabi & Dimoso, 2016) Surveyed a sample of 301 SMEs obtained from SIDO in Dar es Salaam and Dodoma areas. Study concluded that 60.3% of SMEs always use subjective estimates rather than capital budgeting techniques. As stated in the findings obtained in the recent years from the countries like Tanzania is somewhat consistent with the findings of the research conducted in the 2000 in New Zealand. The economic status of New Zealand and Tanzania are in contradictory to each other. The scenario must have changed in the above mentioned empirical results if look at the case of the New Zealand in recent years. Unfortunately, there are no empirical proof to arrive at a debate.

Based on the findings of the past literature it experienced heavy use of un sophisticated capital budgeting techniques. In spite of the previous results , study conducted in south Africa contribute to the debate that the fundamental capital budgeting practices adopted by SMEs are IRR and NPV, which is identical to the practices used by larger enterprises (Sibanda & Hall, 2016). Authors argues that the use of discounted cash flow techniques amongst SMEs had raised over the last decade. (Olawale, et al., 2010) Analyzed data in South Africa and found out 39% of the survey audience make use of sophisticated capital budgeting techniques. The results of these studies are in contrast with the studies that highlighted heavy use of less sophisticated capital budgeting techniques. There empirical studies have proved the use of sophisticated capital budgeting techniques as well.

3.2 Factors Influence the Choice of Capital Budgeting Practices

In exploring multidimensional determinants of capital budgeting in corporate finance literature, financial and non-financial factors have played major roles. Non-financial factors have obtained

increasing attention over the last decades. One of the studies conducted in Tanzania have investigated the effect of the business characteristics on the choice of capital budgeting techniques Using multinomial logistic regression (Katabi & Dimoso, 2016). Following section provides a brief overview of prominent studies that highlight linkage between the non-financial factors and choice of capital budgeting practices.

3.21 Level of Education

Number of empirical studies have been carried out to test link between level of education and choice of capital budgeting techniques. In a study conducted in Serbia reveals that "limited education background of some owners contributed to inefficient use of sophisticated project evaluation techniques in SMEs" (Barjaktarovic, et al., 2015, pp. 4-8). The findings of this study emphasized that decision makers in SMEs reluctant to utilize complex techniques due to the lessor education bag round. These results are further supported by the study conducted in the Western Cape province of South Africa. "Post graduates who had some accounting and finance background and who would have received formal training in financial techniques including capital budgeting use NPV and DCF where as those decision makers that did not receive formal education mainly used their gut feel'' (Brijlal & Quesada, 2009, pp. 37-46). Similarly, it breaks the negative judgements on the inefficiencies in theory and practice. In view of the multiple and dynamic contexts discussed in this literature review regardless of the economic position of the country there is a strong evidence to suggest that there is a relationship between the level of education and choice of capital budgeting techniques.

3.22 Years of Experience

Given the importance attached with the years of experience of the decision maker as stressed by literature, there is a need for review relationship between years of experience and choice of capital budgeting techniques. Confirming that (AlKulaib, et al., 2016) pointed out NPV techniques are mainly utilized by people who have more than 10 years' experience. Similar Study indicated that ''Simple capital budgeting practices PB, ARR were applied by financial officers with short tenure (less than 5 years) and financial officers with long tenure use advanced capital budgeting practices NPV, IRR'' (Yogendrarajah, et al., 2017, pp. 61-72).

3.23 Age of the Company

Furthermore, apart from the level of education, age of the company offers some explanation for the choice capital budgeting practices. In previous researches this particular variable has been vastly explored. For instance, (AlKulaib, et al., 2016) divulge "companies working for 20 years or more tended to use more IRR, NPV, and PI further new companies (5 years or less) found to have a strong relation with payback" (pp. 1273-1286) . In addition to that study conducted in India found out that older companies prefer NPV and IRR while the new companies averse to the methods like NPV and IRR (Sharma, 2017)

3.24 Form of Ownership

Couple of the studies stress out that choice of capital budgeting techniques varies from the form of ownership of the company .In a study conducted in the Poland found out "foreign ownership has a positive relationship on the use of NPV out of seven recommended techniques : NPV, WACC, Sensitivity analysis, scenario analysis, formalization of investment appraisal, monitoring investment during implementation and post investment audit" (Pela, 2014, pp. 612-616) . Sri Lankan foreign-owned companies are willing to use the IRR method (Pratheepkanth & Premkanth, 2018).

Based on the literature the following alternative hypotheses are proposed to be tested,

$H_{1.1}$: Financial education of decision maker influence the choice of capital budgeting techniques.

$H_{1.2}$: Years of experience of the decision maker influence the choice of capital budgeting techniques.

$H_{1.3}$: Age of the company influence the choice of capital budgeting techniques.

$H_{1.4}$: Form of ownership of the company influence the choice of capital budgeting techniques.

3.3 Challenges

With reference to the scenario of not adapting capital budgeting techniques, body of literature is relatively low in this particular area compared to other couple of objectives. The study conducted Singhania University found out the various reasons for not using this important technique for taking capital decisions. In small firms, "comparatively less amount is invested in fixed assets,

most of all the decisions in SME's are taken by the owners who do not have proper skills required for capital budgeting, these firms cannot hire the services of experts for capital budgeting, required funds are not easily available for capital investments" (Gupta & Jain, 2016, pp. 75-79).Recent empirical studies have highlighted word cloud as the qualitative data analysis techniques. Word clouds were created from the numerous responses in the form of text. Word clouds exhibit the size of each word as corresponding to its recurrence (Mcwhirter & Shealy, 2018) . Wordle was applied to the initial set of responses given by the survey audience to examine which keywords had highlighted out of all the original response (Bhanot, et al., 2016).

In general, beyond survey approaches, in-depth assessments of capital budgeting in SMSs contributed to a better understanding of the investment decision making. In summery many academics around the world have looked into the capital budgeting techniques in small and medium enterprises. Furthermore, in Sri Lankan context studies have been carried out in relation to the capital budgeting practices. However, the main focus of the Sri Lankan academics was the large firms. This study is going to accommodate all three objectives simultaneously where the previous academics carried out separately.

4. Data and Methodology

The population of SMEs in Sri Lanka is uncertain. A persistent issue faced by researchers of the SME sector is to arrive at most appropriate size definitions to employ. In agreement with World Bank as cited by (Rathnasiri, 2015) there are three bases to classify SMEs into categories of micro, small and medium. It defines micro-up to 10 employees, small-up to 10 to 50 employees and medium-up to 50 to 300 employees. In order to accomplish the research objectives by taking a representative sample, the western province was selected as a greater number of establishments and employment base were adopted to define the SMEs. In consonance with McMahon (1993) as reported by (Rathnasiri, 2015) employment base is the most widely used measure of size in quantitative definition around the world.

Despite the fact that large sample enables the researcher to draw more precise conclusions, most of the studies limit the sample size because of some circumstances. The study conducted in India highlighted that total sample size for the study was restricted to 60 SMEs (Sharma, 2017). Furthermore, recent study conducted in Sri Lanka highlighted that due to time constraints they have limited their sample size to 60 SMEs. The researcher emphasize that sample consist of 60

firms from the SMEs operating their business in Jaffna district through a stratified random procedure from different sectors for the year ended 2016 (Nurullah & Kengatharan, 2015). Thus, the indication of the literature enabled determination of the sample in this study as 60 SMEs operating business in Colombo district from different sectors. Together with it enables the deciding sample approach as stratified random sampling by segregating Colombo district into 3 different strata namely 3 councils of Homagama, Mulleriyawa and Seethawka. Stratification was achieved at this by grouping the heterogeneous population into homogenous subsets (10 to 300 employees employees) to ensure representativeness. Random sampling technique was used to sample individual SMEs within the stratum as it eliminated bias since each member of the target population has an equal chance or probability of being selected (Wambua & Koori, 2018).

Table 1: Selected sample of the study

	Homagama	***Seethawaka***	***Mulleriyawa***	***Total***
Population	210	185	158	553
Targeted population	60	48	82	190
Selected sample	23	18	19	60

Source: Author Compiled

The principal objective outlined for this study is to test the stated hypothesis, the questionnaire deemed to be most suitable for the study where it used to understand the nature of the capital budgeting practices by asking the respondents on how they make capital budgeting decision and their experience on capital budgeting. Data analysis involved two phases namely; descriptive analysis using Excel and inferential analysis using STATA software. Descriptive analysis involved simple measures like averages and percentages for describing the features of the research aggregate. "Since the human being's mind cannot remove the complete significance of a large mass of raw data, descriptive data are very important in reducing the data to controllable form" (Haji, et al., 2013, pp. 5-6). On the other hand, inferential analysis was done for making inferences and conclusions from the findings of the study.

Previous researches in capital budgeting have identified a lot of variables influence the choice of capital budgeting practices. Of these, the following four variables are selected for this study taking

in to account the measurement problem. These include: Level of education of decision maker, years of experience of decision maker, age of the company and form of ownership. The following table gives how these independent variables are measured in the study.

Table 2:Independent variables and Measurements

Variables	Variable	Measurement
1. Level of education	Nominal	The highest level of education attained by the respondent in categories: Ordinary level, Advance level, University degree, Professional qualification (Sharma, 2017)
2. Years of experience	Ordinal	Experience of decision maker in years according to categories: Less than 5 years, 6-10 years, 11-15 years, 16 – 20 years, more than 20 years (Sharma, 2017)
3. Age of the company	Ordinal	Number of years in business according to categories: Less than 5 years, 6-10-year, 11-15 year, 16 – 20 years, more than 20 years (Sharma, 2017)
4. Form of ownership	Nominal	Ownership of the business according to categories: Foreign, Local (Peel & Bridge, 1999)

Source: Author Complied

The study has merged categories of three independent variables (educational qualification, years of experience and age of the company), because zero values were recorded in the majority of the categories. The educational qualification has merged in to two categories of academic qualification (combining ordinary level, advance level and university degree) and professional qualification. Whereas the experience of the decision maker has designated in to three categories by combining: less than 5 years and 6-10 years as 1st category, 16-20 years and more than 20 as 3rd category and finally 11-15 years considered as 2nd category as it is. Finally, the age of the company also categorized on the same criteria as years of experience.

The Chi- square test of independence was used to investigate the association between non-financial factors and choice of capital budgeting techniques. The Pearson's chi square assists to test the

independence. The multinomial logit model was used to examine simultaneous influence of four predictor variables on choice of investment evaluation techniques. In consonance with Pallant, (2005) as cited by (Lakew & Rao, 2014) logistic regression is helpful when one wants to predict a categorical variable from a set of predictor variables. Logistic regression was conducted by Using investment evaluation techniques (NPV, IRR, Payback and ARR) as a dependent variable and the four independent variables. The equation for multinomial logistic regression were formulated as follows.

$$\left(P_{ij}\right) = \frac{\exp(X_i\beta_j)}{\sum_{K=1}^{J} exp\,(X_i\beta_k)}$$

$$\left(P_{ij}\right) = \frac{1}{\sum_{K=1}^{J} exp\,[\,X_i(\beta_k - \beta_i)]}$$

Where;

J = alternatives to choose (i.e. evaluation methods)

$\left(P_{ij}\right)$ = probability that a business *i* chooses evaluation method j

X_i = the characteristics of the business e.g. age of business

β = parameter vectors

This model can be estimated by the likelihood function

$$\text{Log L} = \sum_{i}\sum_{j} y_{ij} p_{ij}$$

Where y_{ij} is equal to 1 if a business chooses alternative *j* and y_{ij} equal to 0 otherwise.

The qualitative approach of this study (To find out the reasons for not adopting the capital budgeting techniques in SMEs) has accomplished by utilizing world cloud procedure. Recent empirical studies have highlighted word cloud as the qualitative data analysis techniques it was

created from the numerous responses in the form of text. Word clouds exhibit the size of each word as corresponding to its recurrence (Mcwhirter & Shealy, 2018) .

5.Results and Discussions

Descriptive statistics for capital budgeting techniques in SMEs

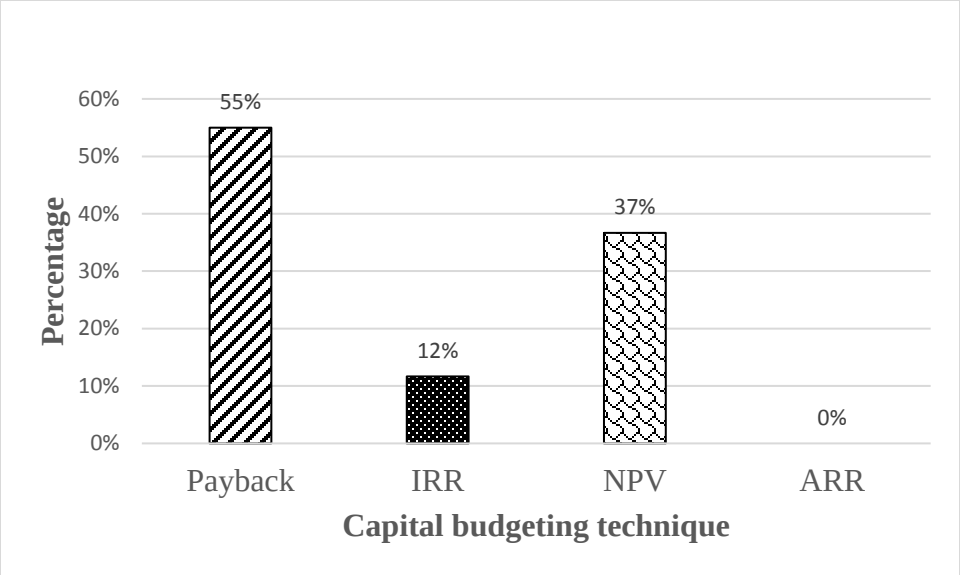
Capital budgeting techniques utilized to assess financial liability of major investment are presented in the table. Results of the present study indicate that most flavored capital budgeting method used was payback (55%), followed by the NPV (37%) and finally IRR technique (12%).None of the respondents recorded their response as ARR. Results of the usage of capital budgeting methods have been summarized in table. These studies are consistence with the results of previous empirical studies (Katabi & Dimoso, 2016), (Peel & Bridge, 1999) , (Block, 1997), (Yadave, 2017).

Table 3: Results of the usage of capital budgeting techniques

Capital budgeting techniques	*Quantity*	*Percentage*
Payback	33	55%
IRR	7	12%
NPV	22	37%
ARR	0	0%

Source: Author Complied

Figure 1:Capital budgeting techniques usage



Source: Author Complied

SMEs characteristics

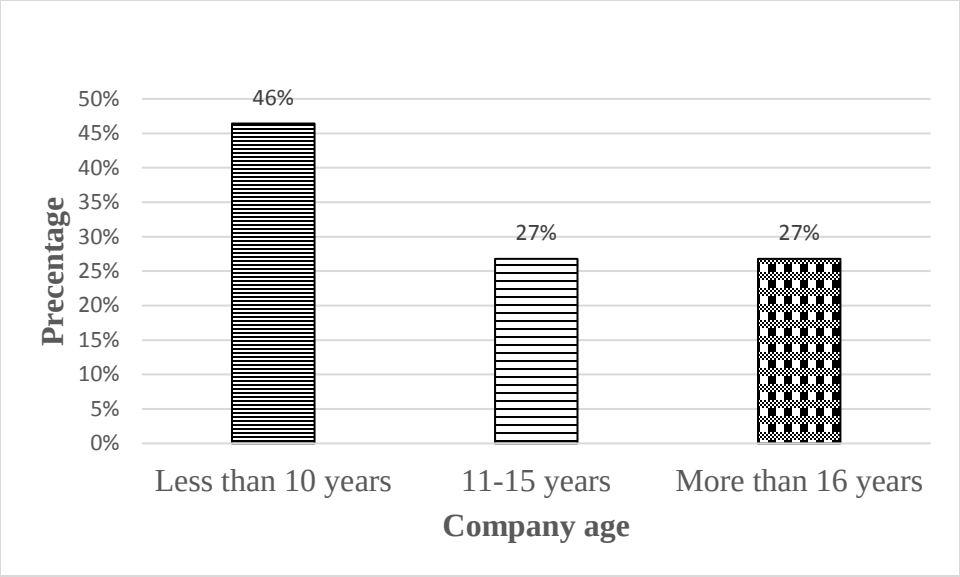
The following is a summary of the characteristics of the SMEs in the study include: age of the business and form of ownership. Companies have been categorized in terms of the number of years that they are in the business. Number of years have been classified into 3 sections which are presented in the table. 46% of the SMEs have been in business Less than 10 years. 27% of the SMEs have been in business between 11 to 15 years. Remaining SMEs 27% have reported that they are operating in the business more than 16 years.

Table 4: Company age

Company Age	***Frequency***	***Percentage***
Less than 10 years	26	46%
11-15 years	15	27%
More than 16 years	15	27%

Source: Author Complied

Figure 2:Company age



Source: Author Complied

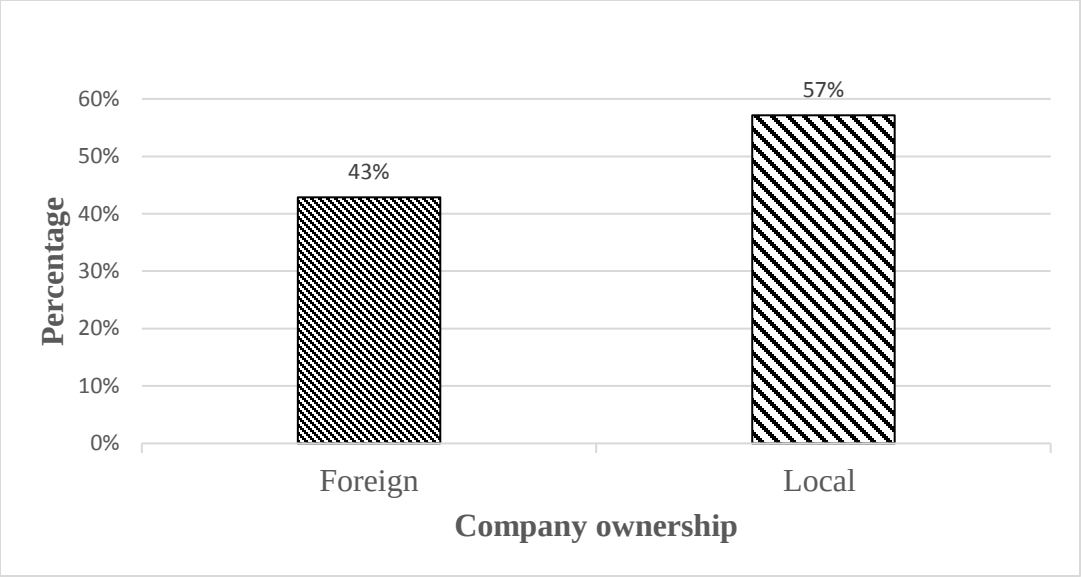
In relation to the forms of the ownership, out of 56 SMEs there was 57% local SMEs and 43% foreign SMEs with multinational exposure.

Table 5: Survey Data (Company ownership)

Company ownership	***Frequency***	***Percentage***
Foreign	24	43%
Local	32	57%

Source: Author Complied

Figure 3:Company ownership



Source: Author Complied

Characteristics of SME owner's/decision maker

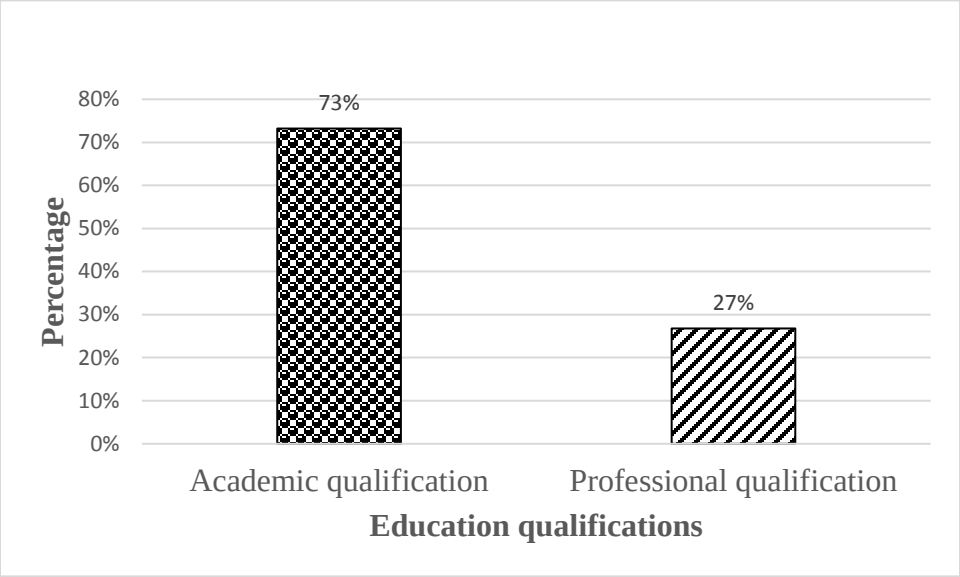
Characteristics of SME owners and decision makers include: years of experience of the decision maker and level of education of the decision maker are summarize as follows. Classification of educational qualifications of the decision maker presented in table. Largest number of respondents 73% had academic qualification. 27% of the SME decision makers had professional qualifications in terms of accounting, engineering and Technical.

Table 6: Education qualification

Education qualifications	***Frequency***	***Percentage***
Academic qualification	41	73%
Professional qualification	15	27%

Source: Author Complied

Figure 4:Education qualification



Source: Author Complied

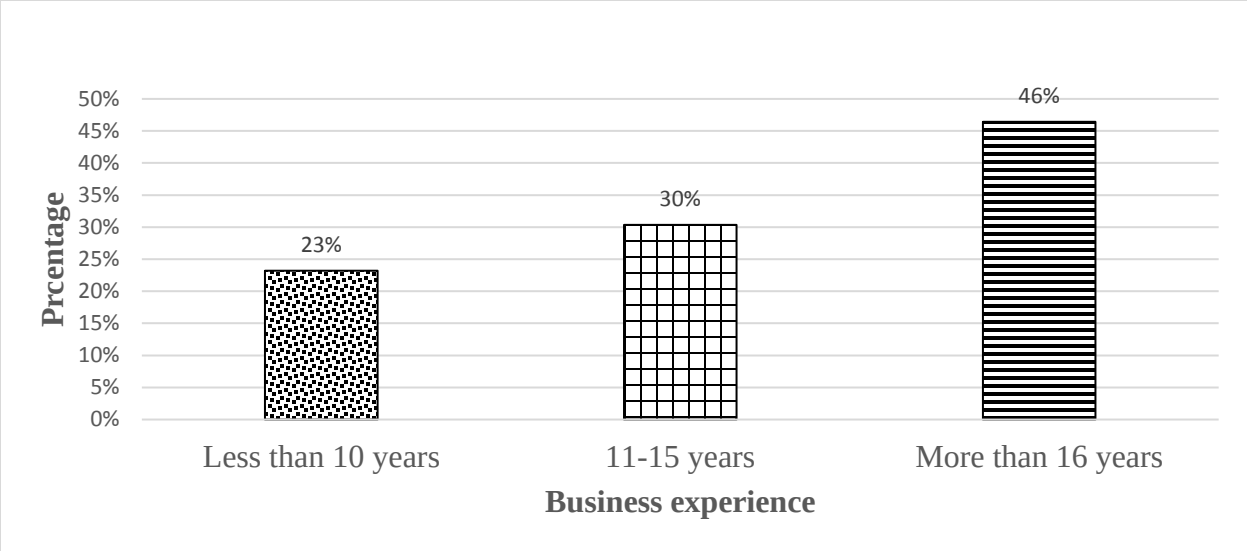
Experience of the decision maker has been classified into three sections in terms of number of years that they have worked. 46% of the respondents in the current study indicated that they had experience for period of more than 16 years, 30% of them 11 to 15 years while 23% in less than 10 years. Results are depicted in Table.

Table 7: Business experience

Business experience	***Frequency***	***Percentage***
Less than 10 years	13	23%
11-15 years	17	30%
More than 16 years	26	46%

Source: Author Complied

Figure 5:Business experience



Source: Based on the survey

Chi square test of independence

The results from the chi square test indicate that there is a significant association between variables (form of ownership of the company, Age of the company and years of business experience of the decision maker). There was no significant association between the level of education of the decision maker and the choice of capital budgeting techniques. (refer table 1 to table 4 in appendix)H1.1 was rejected based on the results of the Chi square of independence. whereas other three hypothesis have been accepted. the findings of this study contrary to the previous studies (Brijlal & Quesada, 2009) (Barjaktarovic, et al., 2015) that have been discovered education level is a strong predictor of capital budgeting techniques. The results for the chi square of independence are summarized below: -

Table 8: Result for the chi-square test of independence

S/N	Variable	Pearson Chi-square	Sig. value
1	*Company ownership*	18.3461	0.000
2	Company Age	11.5241	0.021
3	Education Qualification	2.4944	0.869
4	Business Experience	11.4888	0.022

Source: Based on the survey

Results from the Multinomial logistic regression

Payback period relative to IRR as indicated in the table, only two of the independent variables (form of ownership, age of the company) made a unique contribution to the model. The years of experience can be accepted in the confident level of 90%. The strongest predictor for making choice of payback period as capital techniques is the Age of the company with coefficient of 2.966416. This indicates that Age of the company whose more than 16 years were two times more likely to select payback period than Age of the company 11 -15 years controlling for other factors in the model.

Least predictor is the form of ownership (local) with the coefficient of -4. 088392.it indicate that local SMEs were over four time less likely to use payback period controlling for other factors in the model. if the model accepted in the 90% confident level years of years of experience more than 16 years were two time less likely to select payback than business experience 11 -15 years controlling for other factors in the model. NPV relative to IRR as indicated in the table, only two independent variables (form of ownership and Age of the company) made unique contribution to the model. The strongest predictor for making choice of NPV as capital techniques is the Age of the company with coefficient of 3.393661 This indicates that Age of the company whose more than 16 years were three times more likely to select NPV than Age of the company 11 -15 years controlling for other factors in the model. Least predictor is the form of ownership (local) with the coefficient of -5. 626028.it indicate that local SMEs were over five time less likely to use NPV controlling for other factors in the model.(Refer table 5 in appendix)

Payback period relative to the NPV none of the independent variables made a unique contribution to the model. IRR relative to NPV only two of the independent variables (form of ownership, Age of the company) made a unique contribution to the model. Strongest predictor for making choice IRR as capital budgeting technique is the company ownership (local) with coefficient of 5.626028 This indicates that companies with local ownership were over five time more likely to use IRR controlling for other factors in the model. Least predictor is the Age of the company more than 16 years with coefficient of -3.393661. it indicated that Age of the company more than 16 years were over three time less likely to use IRR than Age of the company 11 -15 years controlling for other factors in the model.(Refer to Table 6 in Appendix)

NPV relative to payback none of the independent variables made a unique contribution to the model. IRR relative to payback only two of the independent variables (form of ownership, Age of the company) made a unique contribution to the model. Strongest predictor for making choice IRR as capital budgeting technique is the company ownership (local) with coefficient of 4.088392 This indicates that companies with local ownership were over four time more likely to use IRR controlling for other factors in the model. Least predictor is the Age of the company more than 16 years with coefficient of -2.966416. it indicated that Age of the company more than 16 years were over two time less likely to use IRR than Age of the company 11 -15 years controlling for other factors in the model. (Refer the table 7 in Appendix) By considering all the three models the most appropriate base outcome is the IRR when compared to other two base outcomes.

The findings further show that in relation to IRR method, the probability of choosing payback and NPV increases with Age of the company. These findings are consistent with the findings of the studies by (AlKulaib, et al., 2016) who found out companies working more than 20 years tend to use NPV .In relation to IRR method Probability of choosing payback and NPV decreases in the local SMEs. These findings are consistence with the results of the study conducted by (Pela, 2014).the study have found foreign ownership have a positive relationship with NPV. If the model accepted in the 90% confident level years of experience more than 16 years were two time less likely to select payback than business experience 11 -15 years controlling for other factors in the model. These results implied the usage of traditional methods tend to decline with the increase of years of experience of the decision maker. This results are further confirmed by the (AlKulaib, et al., 2016). That study has found out NPV techniques are mainly utilized by people who have more

than 10 years' experience. Considering all the results obtained in the multinomial logistic regression in relation to the IRR method probability of choosing payback and NPV increases with the Age of the company and decreases with the local ownership. Furthermore, in relation to IRR probability of choosing payback decrease with the increase of the years of experience of the decision maker.

Data from each SME that abandon capital budgeting techniques noted. This study focusses on the reasons for not adapting capital budgeting techniques. All these issues have been identified based on the response that made by the SMEs. Qualitative data analysis techniques were performed. Wordle was applied to set of responses in order to observe which keywords had highlighted. Word cloud analysis were created based on word frequency analyses. In consonance with Cui (2018) as cited by (Bhanot, et al., 2016) word frequency analysis is a data exploration technique that can be classify research topics by analyzing the scientific content indicated by high frequency words. The most occurring words for reasons for not adapting capital budgeting techniques represented in the figure. Larger the font the more common the word represented.

Table 9: content frequency of abandonment of capital budgeting techniques

Word	***Frequency***
Cost	9
Time	8
Knowledge	4

Source: Author Complied

Figure 6:Word cloud

Source: Author Complied

From the frequency table above cost, time and the knowledge are the perceived barriers to using capital budgeting techniques, based on their relative size in the cloud and depending on their relative frequency. Thus, based on these keywords, it can be implied that the ultimate reasons for SMEs to abandon capital budgeting techniques are cost, time and knowledge. These reasons are consistence with the results of the study conducted by (Gupta & Jain, 2016) and (Silvola, 2006).

6. Conclusion

This study discovered remarkable evident relating to current capital budgeting practices of SMEs operating in the Colombo district. The main motive of this paper were: firstly, to find out the extent of using capital budgeting techniques in SMEs, secondly, to find out the effect of non-financial factors of on choice of investments evaluation techniques. and finally, to find out reasons for not adopting capital budgeting techniques in SMEs.

The results of the study indicated that the Payback is the most preferred capital budgeting technique in SMEs. The hypothesized relationship was tested and was supported. As a result of

testing the hypothesis, form of ownership, age of the company and years of business experience were found to be significant factors to the selection of capital budgeting techniques. However, level of education was found not to be significant factors to the selection of capital budgeting techniques, by rejecting the first hypothesis. In relation to the IRR method probability of choosing payback and NPV increases with the Age of the company and decreases with the local ownership. Furthermore, in relation to IRR probability of choosing payback decrease with the increase of the years of experience of the decision maker. Cost and the time were found to be main reasons for the abandon capital budgeting techniques. The findings in the present study strongly reinforce the conclusions of previous empirical studies.

The findings of this study exhibit that the choice of capital budgeting techniques depends on several non-financial factors. If that is the scenario, then SMEs needs to be aware of them. Although this study has endeavored to provide some unprecedented evidence relating to capital budgeting techniques in SMEs, it suffers from number of limitations. Small sample size could have had a pessimistic effect on the reliability of the results. Due to unavailability information relating to the financial factors of SMEs, study was unable to test relationship between the financial factors and choice of capital budgeting techniques in the process of the research. Some familiar issues have been neglected since those were beyond the scope of the study. Meanwhile those omitted issues may serve as stimulating areas for future research in the area of capital budgeting.

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Appendix

Questionnaire

Faculty of business-SLIIT

BBA (Hons) degree programme:2018 semester 2 – 4th year

Data collection for a Final Thesis

This is to seek your support to collect information for an independent student research project undertaken by our group. our study deals with the influence of the gender difference in student spending patterns.

We shall be thankful if you devote a couple of minutes of your valuable time to complete the questionnaire. please feel free to give your sincere opinions on the topics mentioned.

We assure you that the information gathered will be treated in strict confidence. please be informed that your identity will not be disclosed in reporting the findings of this study.

Thank you very much.

Yours sincerely,

T. Malalathunga, H.Obeyesekera, Sharmila S and M.G Nelum kumari

Section A

Company Name:

…….

Name of the respondent:

…….

Position of the respondent:

…….

1. Ownership of the Company

   Foreign ☐ Local ☐

2. Please specify nature of you company?

   Sole proprietorship ☐

   Partnership ☐

   Limited liability company ☐

3. How many employees are working in your company?

   10 - 50 ☐

   50 – 300 ☐

   More than 300 ☐

4. Years of operation of the company

   Less than 5 years ☐

   6-10 years ☐

   11-15 years ☐

   16 – 20 years ☐

   More than 20 year ☐

Section B

5. Who is taking investment decision in your company?

   Owner ☐ Accountant/financial officer ☐

6. What are your education qualifications?

a) Ordinary level ☐

b) Advance Level ☐

c) University degree ☐

d) Professional qualification

Accounting ☐ Engineeri ☐ Techn ☐

7. Years of business experience?

Less than 5 years ☐

6-10 years ☐

11-15 years ☐

16 – 20 years ☐

More than 20 years ☐

Section C

8. Please specify which capital budgeting technique do you use to evaluate the projects to be undertaken?

a. Traditional methods

	Always	Often	Sometimes	Rarely	Never
Payback	☐	☐	☐	☐	☐
IRR	☐	☐	☐	☐	☐

b. Discounted methods

	Always	Often	Sometimes	Rarely	Never
NPV	☐	☐	☐	☐	☐

ARR					
PI					

c. By using own experience

9. 9. If you are using own experience method for capital budgeting, please indicate the reasons

a) Fixed asset investment not relevant to our business
b) Do not have knowledge in capital budgeting techniques
c) Difficult in financing capital project
d) If not any, please indicate other reason

List of Tables

Table 3:Chi squared of independence between choice of capital budgeting and company age

```
. tabulate ComAge ETQ, cchi2 chi2 exact expected gamma
```

Key
frequency *expected frequency* *chi2 contribution*

```
Enumerating sample-space combinations:
stage 3:  enumerations = 1
stage 2:  enumerations = 15
stage 1:  enumerations = 0
```

ComAge	ETQ 1	2	3	Total
1	16	3	7	26
	13.5	2.8	9.8	26.0
	0.5	0.0	0.8	1.3
2	3	1	11	15
	7.8	1.6	5.6	15.0
	2.9	0.2	5.1	8.3
3	10	2	3	15
	7.8	1.6	5.6	15.0
	0.6	0.1	1.2	2.0
Total	29	6	21	56
	29.0	6.0	21.0	56.0
	4.0	0.3	7.1	11.5

```
          Pearson chi2(4) =  11.5241   Pr = 0.021
                    gamma =   0.0624  ASE = 0.185
             Fisher's exact =                 0.018
```

Table 4:Chi squared of independence between choice of capital budgeting and Education qualification

```
. tabulate EduQua ETQ, cchi2 chi2 exact expected gamma
```

Key
frequency *expected frequency* *chi2 contribution*

```
Enumerating sample-space combinations:
stage 3:  enumerations = 1
stage 2:  enumerations = 2
stage 1:  enumerations = 0
```

EduQua	ETQ 1	2	3	Total
1	20	5	16	41
	21.2	4.4	15.4	41.0
	0.1	0.1	0.0	0.2
2	9	1	5	15
	7.8	1.6	5.6	15.0
	0.2	0.2	0.1	0.5
Total	29	6	21	56
	29.0	6.0	21.0	56.0
	0.3	0.3	0.1	0.7

```
Pearson chi2(2) =   0.6751   Pr = 0.714
          gamma =  -0.1714  ASE = 0.274
 Fisher's exact =                 0.755
```

Table 5:Chi squared of independence between choice of capital budgeting Business experience

```
. tabulate BisExp ETQ, cchi2 chi2 exact expected gamma
```

Key
frequency *expected frequency* *chi2 contribution*

```
Enumerating sample-space combinations:
stage 3:  enumerations = 1
stage 2:  enumerations = 26
stage 1:  enumerations = 0
```

BisExp	ETQ 1	2	3	Total
1	11	1	1	13
	6.7	1.4	4.9	13.0
	2.7	0.1	3.1	5.9
2	9	3	5	17
	8.8	1.8	6.4	17.0
	0.0	0.8	0.3	1.1
3	9	2	15	26
	13.5	2.8	9.8	26.0
	1.5	0.2	2.8	4.5
Total	29	6	21	56
	29.0	6.0	21.0	56.0
	4.2	1.1	6.2	11.5

```
Pearson chi2(4) =  11.4888   Pr = 0.022
          gamma =   0.6006  ASE = 0.142
 Fisher's exact =                 0.014
```

Table 6:Chi squared of independence between choice of capital budgeting company ownership

	ETQ			
CmpOwn	1	2	3	Total
1	18	5	1	24
	12.4	2.6	9.0	24.0
	2.5	2.3	7.1	11.9
2	11	1	20	32
	16.6	3.4	12.0	32.0
	1.9	1.7	5.3	8.9
Total	29	6	21	56
	29.0	6.0	21.0	56.0
	4.4	4.0	12.4	20.8

Pearson chi2(2) = 20.8290 Pr = 0.000
gamma = 0.7541 ASE = 0.113
Fisher's exact = 0.000

.

Table 7:Multinomial logistic regression

Multinomial logistic regression

Number of obs	= 56
LR chi2(10)	= 40.76
Prob > chi2	= 0.0000
Pseudo R2	= 0.3839

Log likelihood = -32.702911

ETQ	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
1						
2.CmpOwn	-4.088392	1.393883	-2.93	0.003	-6.820352	-1.356431
ComAge						
2	-.5375259	1.153812	-0.47	0.641	-2.798955	1.723903
3	2.966416	1.414434	2.10	0.036	.194177	5.738655
BisExp						
2	-.5742367	1.500531	-0.38	0.702	-3.515224	2.36675
3	-2.746721	1.677691	-1.64	0.102	-6.034934	.5414923
_cons	4.335833	1.707347	2.54	0.011	.9894935	7.682172
2						
2.CmpOwn	-5.626028	1.792846	-3.14	0.002	-9.139942	-2.112114
ComAge						
2	-.2140728	1.663942	-0.13	0.898	-3.47534	3.047194
3	3.393661	1.743479	1.95	0.052	-.0234957	6.810818
BisExp						
2	.9032895	1.932799	0.47	0.640	-2.884927	4.691506
3	-1.536179	2.131859	-0.72	0.471	-5.714547	2.642189
_cons	1.990994	1.997942	1.00	0.319	-1.9249	5.906889
3	(base outcome)					

Table 8:Multinominal logistic regression

Multinomial logistic regression

Number of obs	= 56
LR chi2(10)	= 40.76
Prob > chi2	= 0.0000
Pseudo R2	= 0.3839

Log likelihood = -32.702911

ETQ	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
1						
2.CmpOwn	1.537636	1.268407	1.21	0.225	-.9483963	4.023669
ComAge						
2	-.3234531	1.417717	-0.23	0.820	-3.102127	2.455221
3	-.4272452	1.125544	-0.38	0.704	-2.633271	1.778781
BisExp						
2	-1.477526	1.28411	-1.15	0.250	-3.994335	1.039282
3	-1.210542	1.420832	-0.85	0.394	-3.995321	1.574238
_cons	2.344838	1.092875	2.15	0.032	.2028437	4.486833
2	(base outcome)					
3						
2.CmpOwn	5.626028	1.792846	3.14	0.002	2.112114	9.139942

ComAge						
2	.2140728	1.663942	0.13	0.898	-3.047194	3.47534
3	-3.393661	1.743479	-1.95	0.052	-6.810818	.0234957
BisExp						
2	-.9032895	1.932799	-0.47	0.640	-4.691506	2.884927
3	1.536179	2.131859	0.72	0.471	-2.642189	5.714547
_cons	-1.990994	1.997942	-1.00	0.319	-5.906889	1.9249

Table 9:Multinominal logistic regression

Multinomial logistic regression	Number of obs	= 56
	LR chi2(10)	= 40.76
	Prob > chi2	= 0.0000
Log likelihood = -32.702911	Pseudo R2	= 0.3839

ETQ	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
1	(base outcome)					
2						
2.CmpOwn	-1.537636	1.268407	-1.21	0.225	-4.023669	.9483963
ComAge						
2	.3234531	1.417717	0.23	0.820	-2.455221	3.102127
3	.4272452	1.125544	0.38	0.704	-1.778781	2.633271
BisExp						
2	1.477526	1.28411	1.15	0.250	-1.039282	3.994335
3	1.210542	1.420832	0.85	0.394	-1.574238	3.995321
_cons	-2.344838	1.092875	-2.15	0.032	-4.486833	-.2028437
3						
2.CmpOwn	4.088392	1.393883	2.93	0.003	1.356431	6.820352
ComAge						
2	.5375259	1.153812	0.47	0.641	-1.723903	2.798955
3	-2.966416	1.414434	-2.10	0.036	-5.738655	-.194177
BisExp						
2	.5742367	1.500531	0.38	0.702	-2.36675	3.515224
3	2.746721	1.677691	1.64	0.102	-.5414923	6.034934
_cons	-4.335833	1.707347	-2.54	0.011	-7.682172	-.9894935