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Effectiveness of loan schemes on small and medium enterprises: a Case study based on SMILE III Revolving Fund Loan Scheme in Sri Lanka

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Abstract
Background*: Small and Medium Scale Enterprises (SMEs) play a pivotal role in developing a country's economy. SMEs contribute to the GDP development, employment generation, poverty reduction, and also supports in promoting new business ideas and resolving balance of payment issues. However, in the Sri Lankan context, the SMEs face significant issue in obtaining necessary finance to develop their businesses and to expand the businesses. As a solution to this matter and to facilitate SME development in the country, the Sri Lankan government has introduced special low interest loan schemes known as SMILE III Revolving Fund loan scheme. Therefore, this research project has been carried out as a case study to evaluate the effectiveness of this loan scheme within the Sri Lankan context.*
Materials and Methods*: The SME loans obtained through SMILE III Revolving Fund loan scheme within the financial year 2014 has been considered as the population of this research. The loans obtained within the Western Province within the 2014 which amounts to 122 has been selected as the sample of this research. Multiple regression analysis technique has been used to analyze the collected data through primary data collection directly through the SME records and the secondary data collection through local government databases.*
Results*: The study depicts that majority of the loans were obtained for businesses situated within the Gampaha District in the Western province. Positive relationship could be observed on the impact of loan amount, project cost and the workforce generation on the profit increase. Further, the study reveals the positive relationship of purchase of equipment and the renewal of plants on the profit increase.*
Conclusion: *The SME performance could be improved via specialized loan schemes as indicated by the SMILE III Revolving Fund loan scheme within the Sri Lankan SME market.*
Key Word*: Small and Medium Scale Enterprises (SMEs); Loan Schemes; Financial Requirements*

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I. Introduction

The term SME could be applied to companies based on their staff count and the annual turnover. This measurement is applied at local country levels based on the earning potential of the businesses; hence no universally applicable definition could not be found for SMEs. In general, SMEs could be broadly defined as companies which are micro, small and medium scale companies. According to [1] the SMEs could be classified as shown under Table 1.

Table 1: SME Classification Criteria – Sri Lanka

Sector\Size	Criteria	Medium	Small	Micro
Manufacturing sector	Annual turnover	Rs. Mn. 251- 750	Rs. Mn. 16- 250	Less than Rs. Mn. 15
	Number of employees	51 to 300	11 to 50	Less than 10
Service sector	Annual turnover	Rs. Mn. 251- 750	Rs. Mn. 16- 250	Less than Rs. Mn. 15
	Number of employees	51 to 200	11 to 50	Less than 10

Source: Ministry of Industry and Commerce (2016)

As highlighted under Table 1 any business having an annual turnover less than Rs: 750 Mn and an employee base less than 300 could be classified as an SME. However as per Vijaykumar [2], the contribution from these SMEs to the economic development within Sri Lanka is less sufficient when compared to the SMEs

in other countries. Therefore, Vijayakumar [2] highlighted the necessity of having growing SME sector to uplift the economic conditions of the country. Wapshott and Mallett [3] further analyzed the reason for the lack of SME growth in Sri Lanka and pointed out the unavailability of the financial support as the main concern which prevents SME development. Further, Karunanda and Jayamaha [4] highlighted the necessity of SMEs to obtain financial assistance to increase the working capital requirements of the business and to facilitate asset acquisitions, debt settlement and procure raw materials in bulk. However, considering the size of the businesses and their initial growth potential, SMEs are not in a position to secure higher interest loans from banks and other private lenders. Thus, the channels open for SME's to secure necessary funds at affordable interest rates to ensure business growth is highly limited in Sri Lanka.

As a result of this requirement, the Sri Lankan government has introduced SMILE II Revolving Fund loan scheme in 2013 to aid SMEs with their financial requirements. The objective of this loan scheme is "to promote stable and balanced economic growth through growing capital to SME and institutional capabilities of intermediary financial institutions". These loan schemes are offered as 'General Loan Scheme (GLS)' and 'Technical Transfer Loan Scheme (TTLS)'. The GLS is offered at an interest rate of 8% for a maximum value of Rs: 25 million for a period of 10 years (inclusive of 2 years grace period). The TTLS is offered at an interest rate of 5% for a maximum value of Rs: 2.5 million for a period of 7 years (inclusive of 2 years grace period). This loan facility could be obtained from 10 state and licensed private banks within Sri Lanka and currently over 1,200 SMEs have taken the loan facility within the country [5].

Therefore, this research is formulated to measure the effectiveness of SMILE III Revolving Fund loan scheme for SMEs in Sri Lanka specifically targeting the Western province. The following research questions are addressed through the findings of the research

1. How SMILE III Revolving Fund loan scheme affect the increase of profits of SMEs in Western province?
2. How SMILE III Revolving Fund loan scheme contributes to the economy by creating new employment opportunities?

II. Material And Methods

This research has considered 122 SMEs who have taken SMILE II Revolving Fund loan scheme within the Western province of Sri Lanka during 2014. This amount is 32.3% of the total SMILE II Revolving Fund loans taken within the year by all the SMEs in the country. The primary data collection was facilitated via personal interviews and surveys obtained directly from the SMEs representatives of the 122 selected SMEs while the secondary data collection was facilitated via government databased held in the Ministry of Industry and Commerce of Sri Lanka.

The study is developed based on nine (9) predictor variables and one (1) defendant variable and those variables are illustrated under Table 2. 'Profit Increase' has been selected as the defendant variable where the remainder acts as predictor variables.

Table 2: Nature of Variables

Variable	Type of variable	Scales of measurements
Loan Amount	Quantitative (Continuous)	Ratio
Project Cost	Quantitative (Continuous)	Ratio
Grace Period	Quantitative (Continuous)	Ratio
Repayment Period	Quantitative (Continuous)	Ratio
Workforce Generation	Quantitative (Discrete)	Ratio
Registration status	Qualitative (2 levels)	Nominal
District	Qualitative (3 levels)	Nominal
Sector	Qualitative (8 levels)	Nominal
Purpose	Qualitative (4 levels)	Nominal
Profit Increase	Quantitative (Continuous)	Ratio

Data Analysis Methods: The study is based on both quantitative and qualitative evaluation of data. After the completion of secondary data, a detailed descriptive analysis has been carried out to understand the composition within the data set. Thereafter, the primary data collection was conducted focusing on five (5) quantitative variables and four (4) qualitative variables. The hypothesis was tested using t-test using a statistical significance level of 0.05. the Pearson's correlation coefficients and Variance Influential Factors (VIF) were calculated to

identify the relationship with the variables. Then, multiple regression method with 0.05 level of statistical significance was analyzed to examine the relationship between the selected principal components of the study. This statistical analysis has been carried out using SPSS and Minitab software packages.

Hypothesis: The following hypothesis has been evaluated through the data collection.

H_o: There is no significant increment in number of employees within one year after obtaining the loan.
H_1: There is a significant increment in number of employees within one year after obtaining the loan.

III. Results

As per the Table 3, the majority of the loan amount has been granted for SMEs based in Gampaha district within the Western province. This amounts to 47% of the total loan amount taken within the Western province for the financial year 2014.

Table 3: District wise loan distribution summary in Western province

District	No of Projects	Total Loan Amount (Rs.)	% (For Total Loan Amount)
Colombo	33	90,247,600	26.89
Gampaha	55	158,596,000	47.26
Kalutara	34	86,760,000	25.85
Total	122	335,603,600	100

Source: Ministry of Industry and Commerce (2016)

Out of the 122 secondary data collected SMEs, only 87 SMEs were chosen to collect data during the primary data collection period. However, out of those 87 SMEs, only 75 SMEs were used to analyze data since 4 SMEs were closed and 8 SMEs are newly established companies with less valid historical records.

Approximately 75% of the loans were obtained for purchasing new machineries while the other purposes, renewal of plants and purchase of equipment were only approximately 10% each. Further, when considering the sector wise loan distribution, the majority of the loan percentages were related to food processing related industries.

Hypothesis testing results: For workforce generation data, the recorded T value is 4.10 and the associated p-value is 0.000. Therefore, since the p-value which is 0.000 < 0.05, the null hypothesis could be rejected. Hence, the results of the survey data analysis indicated the existence of significant increment in the number of employees after one year's period of obtaining the SMILE III Revolving Fund loan scheme. This analysis has been conducted at an α-level of 0.05, thus a confidence interval of 0.95 is constructed.

Regression Analysis: The results of the multiple regression analysis indicate that except from the first and the fourth principal components, the other principal components are insignificant (Figure 1).

Figure 1: Regression Analysis Results

Regression Analysis: Profit Increase versus PC1, PC4

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The regression equation is
Profit Increase = 755003 + 272676 PC1 - 300603 PC4


Predictor      Coef  SE Coef      T      P    VIF
Constant     755003   127469   5.92  0.000
PC1          272676    80880   3.37  0.001  1.000
PC4         -300603   124092  -2.42  0.018  1.000


S = 1103917   R-Sq = 19.3%   R-Sq(adj) = 17.1%
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Since the results of the multiple regression analysis using all the five (5) independent variables show R^2 value of 19.3%, the model can be used to explain the profit increase of SMEs within the Western province with 19.3% variability. The regression model could be considered as significant at 0.05 significance level since p-value of 0.000 is less than the alpha value of 0.05.

Therefore, the regression equation could be derived as follows where D2 – Kalutara district, S2 - Wood and wood products, S6 – Plastic products, S7 – Miscellaneous, P1 – To purchase equipment, P2 – Renewal of plant;

$$\begin{aligned} \boldsymbol{Profit\ Increase} = {} & \mathbf{755,003} + \mathbf{189,469.095} * \boldsymbol{Loan\ Amount} + \mathbf{164,155.995} * \boldsymbol{Project\ Cost} - \mathbf{47,630.256} \\ & * \boldsymbol{Grace\ Period} - \mathbf{8,686.848} * \boldsymbol{Repayment\ Period} + \mathbf{156,248.780} \\ & * \boldsymbol{Workforce\ Generation} - \mathbf{91,222.344} * \boldsymbol{D2} - \mathbf{38,536.530} * \boldsymbol{S2} + \mathbf{184,114} * \boldsymbol{S6} + \mathbf{30,731} * \boldsymbol{S7} \\ & + \mathbf{116,768.946} * \boldsymbol{P1} + \mathbf{106,824.993} * \boldsymbol{P2} \end{aligned}$$

IV. Discussion

The estimate value of the constant variable is calculated as 755,003 which shows that the profit increase of SME is expected to stand at Rs: 755,003 when all the other independent variables are kept at constant value. The coefficient of variables for loan amount, project cost and the workforce generation have shown positive relationship with the profit increase. However, the repayment period and the grace period have shown negative relationship with the profit increasing of an SME based on the results obtained from the research findings. However, this contradicts with the research findings of Irene [6] who highlighted the positive impact of loan grace periods of overall SME performance using a research conducted on explanatory research design approach.

Based on the results of the research project it is evident that the SMILE III Revolving Fund loan scheme has shown positive impact on the SME development via increase in profits. This is in line with the research findings of Quainoo [7] where the SMEs in Ghana have benefited immensely from the facilitation of loans to increase the contribution towards the country's economy.

Moreover, the result findings show the positive influence on profit via purchase of equipment and the renewal of plants. Further, these positive influences ultimately result in the increase of number of employees within SMEs after obtaining loans. Hence, the loan scheme within Sri Lanka said to have positive impact on the overall economic development of the country.

V. Conclusion

Based on the above research findings, it could be concluded that the specialized loan schemes have positive impact on the SME development within Sri Lanka. Further, the purchase of equipment and renewal of plants have positive influence on the overall profit generation. These factors trigger significant increase to the number of employees within the SMEs and ultimately supports the economic development of the country.

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