

**Identifying the Factors Affecting the Growth of Small Scale Manufacturing Industries in Sri Lanka: A Case Study in Kuliypitiya DS division**

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**Introduction**

At the economic development, process economist has commonly considered that industrial sector has been a leading sector in the economy. Because industrial sector provides the main contribution to economic development process through produces goods and services, value addition for agriculture products, foreign exchange earnings by export, increase in employment, etc. Sri Lanka as a low middle-income country, the manufacturing sector is a primary component within the industrial sector. According to the Central Bank report in 2016 manufacturing sector contributed 15.2 % of GDP in Sri Lanka. At the same time, many official economic and social reports provide evidence that small and medium scale industries have been providing major proportion from above contribution. Therefore it is important to keep considerable attention on small and medium scale industry in Sri Lanka to achieve economic development goal.

There are many academic works which examine about the growth of SMEs internationally. Afande (2015) identified that access to credit, firm age and level of education of firm's owner effect positively and significantly on the growth of small-scale manufacturing industry. According to the Yasuda (2005) investigates the relationship between firm's growth and size of the firm, firm's age and firm's behavior in Japanese manufacturing firms. And also Pherson (1994) identified the

negative relationship between firm's growth and firm's age. Heshmati (2001) examined the relationship between the size, age and growth rate of firms is for a large sample of micro and small firms in Sweden. However, while concentrating on local studies, Dayarathna-Banda and Sri-Ranjith (2014) examined the relationship between characteristics of entrepreneur and success of small business. Varothayan (2013) examined six factors namely financial, management, marketing, technology, infrastructure and government regulation that influence the performance of SMEs. Lingsiya (2012) studied the factors which to indicate the business performance of small-scale industries. In this study he identified that customer satisfaction with managing change, growth at business and income level, growth in profitability, growth in turnover, growth in a number of employees are the main indicators of the business's growth.

Performance of small-scale industries, the growth of industry and performance of industry are completely different concepts. When we referred Sri Lanka's research works on small-scale manufacturing industry, there is a lack of studies in the area growth of small-scale manufacturing industry. Therefore, the purpose of this study is to examine the growth of small-scale manufacturing industries.

### **Objectives**

The objectives of this study are to identify the growth of small-scale manufacturing industry in Sri Lanka and to examine impact of access to credit, firm's age, level of education of firm's owner, gender of firm's owner, vocational training of firm's owner and technology applied in firm on growth of small-scale manufacturing industry.

### **Methodology**

According to the research objectives, we used both primary and secondary data for the analysis of this study. The primary data were collected through questionnaire. The primary data was gathered in this study using a sample of 60 small-scale manufacturing firms selected

through random sampling method in kuliypitiya DS division. The secondary data was extracted from annual reports of the Central Bank of Sri Lanka and registries in kuliypitiya DS division office. The study applied a multiple regression model using OLS techniques. I have developed my model based on Afande (2015). The model is given below.

$$Y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 D_{1i} + \beta_5 D_{2i} + \beta_6 D_{3i} + u_i$$

Where  $u$  is the random error term.

We considered firm growth ( $Y$ ), access to credit ( $X_1$ ), firm's age ( $X_2$ ), level of education of firm's owner ( $X_3$ ), dummy variables were used for gender of firm's owner ( $D_1$ ), vocational training of firm's owner ( $D_2$ ), technology applied in firm ( $D_3$ ) there,  $D_1$  takes the value 1 if firm's owner is male, 0 if firm's owner is female, and  $D_2$  takes the value 1 if firm's owner received vocational training, 0 otherwise and  $D_3$  takes the value 1 if firm used new technology, 0 otherwise.

## **Results and Discussion**

According to the survey, the firm profit was used to measure the growth of small-scale manufacturing industry. In order to measure the growth rate, we used firm profit both of 2014 and 2015 years. We categorized them according to the growth rate. That results are depicted in Figure 1.

According to the result in Figure 1, all firms have maintained considerable growth rate. Most of the firms in the sample obtained between 10 %-15 % growth rate at considering the time period. However, some firms obtained 35 % level growth rate but some firms obtained 5 % growth rate.

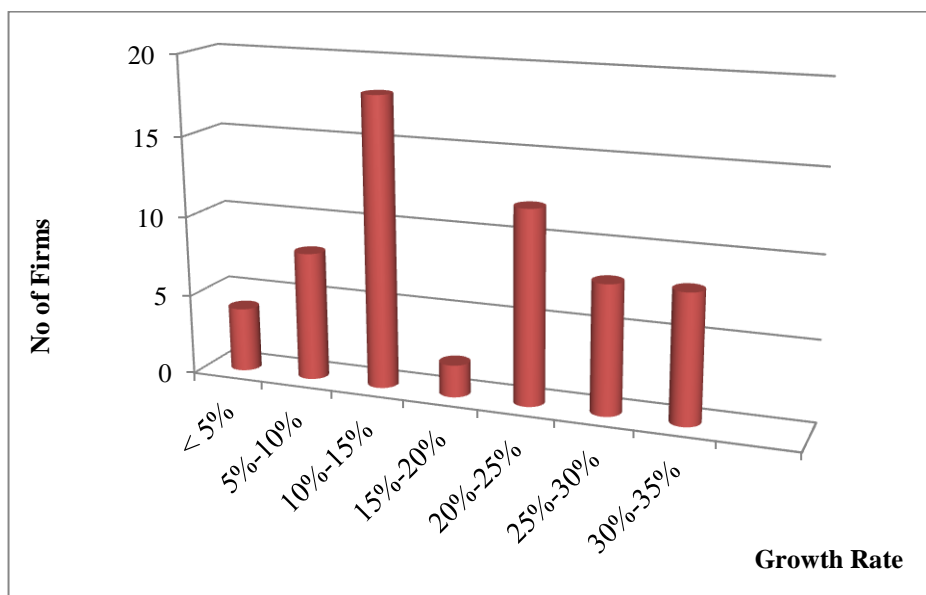


Figure 1: Results of Growth of Firms

To estimate above-mentioned multiple regression 60 observations were employed. The estimates show that overall multiple regression model is significant at 5 % confidence level and the overall fitness as the  $R^2$  value is equal to 0.7279, It indicates that the independent variables used to explain about 73 % variation in growth of the small-scale manufacturing industries in the sample. The results show that there is a significant positive relationship between access to credit and growth of Small scale industries. It implies that provision of credit facilities effect to increase the growth of these firms. However, evidence showed that 50 % of small-scale industries did not use credit due to many reasons such as ignorance, dislike, institutional problems and so on. It was also identified short-term (2 or 3 days) repayments loans between some small-scale businessmen and suppliers of inputs and purchases. This has been a powerful factor for each of them.

Table 1: Results of Multiple Regression Model

Variable	Coefficients
Credit	0.00002*** (2.90)
Firm age	0.2889 (1.26)
Edu. year	0.0408 (0.10)
Gender	5.3658** (2.01)
Training	5.1458** (2.56)
Technology	7.4214** (1.09)
cons	3.0416 (1.09)
R-squared	0.7279
Adj R-squared	0.6971

Note : \*\*\* is 1 % and \*\* is 5 % significant level

According to results, it shows that gender of firm's owner positively significant at 5 % level. Further evidence shows that male-owned 80 % of Small scale industries in the sample. It may happen due to nature of small-scale industries in this area. The vocational training of firm's owner is positively significant at 5 % level. According to farm's owners, few of them received specific training from government and non-government organizations. It helps them to improve both quality and quantity of particular products. Especially it improved their compatibility with homogeneity products. According to the literature review, it shows that adoption of new technology helps to increase labor productivity of small-scale industries. Further increase of labor productivity makes surplus which helps to the capital accumulation of this sector. the results of this study show that the technology applied in the firm is positively significant at 5 % level. Even though modern technology improves productivity and increased the profit of small-scale industries in the area, more than 57 % of firms have used

traditional technology for their production activities. It was also found that firm age and level of education of firm's owner displayed positive relationship but not significantly. Majority of firm's owners passed GCE (O/L) or (A/L) level but it does not help them to increase the growth of firms. These kinds of education systems will not provide vocational training, which will help to improve the productivity of a firm.

### **Conclusion and Policy Implications**

Small-scale manufacturing industries face working capital difficulties to conduct their business. They seek to obtain loans as a solution to the capital shortfall. But only 50 percent of the sample has obtained credit from the formal sector. They obtain a short-term loan from private sector especially input suppliers and businessmen. This situation may affect negatively to their profit and growth of small-scale industries. Therefore, credit facilities under a low-interest rate from the formal sector could make a positive impact on the growth of small-scale industries. Therefore, government and formal private sector credit institutions have a significant role to develop small-scale industries in the rural areas.

According to the study results, male-owned small-scale industries have relatively higher growth rate compared to female-owned ones. Further small-scale industries that were included in this sample characteristically non-female owned industries. It implies that unutilized female entrepreneurs in the rural sector and need to introduce suitable industries with necessary guidelines and training.

The study was revealed that the owners of small-scale manufacturing industries were given vocational training in their business activities and these training programs positively effect on the growth of the industry. The study is recognized that most of the small-scale entrepreneurs who included in the sample have been conducting their production activities using their own experiences, which they learned from parents or their inborn abilities. It is important government and non-government

agencies intervention to facilitate formal training and consultancy programmers for small-scale producers, which is positively impact on the growth of these industries.

According to the result, most of the small-scale industries in the sample use traditional technology. That technology is a labor-intensive manufacturing process. Further, it was observed that according to the nature of these industries they compel to use conventional technology. However, in comparison with conventional technology, the industries which use modern technology have been able to produce higher amount within the particular time period and higher quality products. Therefore, the introduction of suitable and practical new technology related with these small-scale industries will help to improve productivity and increased the profit of small-scale industries in the area.

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