

SME Financing for Entrepreneurship Development: Evidence from Bangladesh

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Abstract: This study attempts to evaluate the contribution of SME financing for entrepreneurship development in Bangladesh. The study was mainly based on primary sources of data collected through administering semi-structured questionnaire at different upazila under Mymensingh district. Some secondary sources of data also used in the study. Dichotomous variable was used to ascertain the contribution. Descriptive statistics like frequency, percentile, and inferential statistics like likelihood-ratio chi-square, Fisher's exact test, and Binary logistic regression was used. Nagelkerke R Square (0.814) indicates that the model is good but not great. The classification result testimony the goodness of the model because the model is able to classify almost 95.2% result correctly. Age of the respondents, business age, number of employees, initial capital, share of loan, training on SME, and livelihood status contribute to the model where as sex of the respondents, education level, ownership type does not contribute to the model. Some valuable suggestions came from the respondents to accelerate the scenario of entrepreneurship development through SME financing. The suggestion includes make loan available, reduce the interest rate, reduce complexity of getting loan, relax the terms of loan, increase training for the entrepreneur, increase training and loan facilities for educated people, expand the scope of SME financing organization, and need to be more cooperative of the employees of the SME financing organizations.

Key Words: SME Financing, Entrepreneurship Development, Bangladesh.

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1. Introduction

Small and medium enterprise (SME) has been played a vital role in the establishment and development of new industries, business, and direct services. There is a common believed that SME financing has been contributing in creation of entrepreneur. It provides low cost employment opportunities and expands the scope of employment through establishing new enterprise under SME financing. But financing is bottleneck to develop entrepreneur. SMEs have drawn a lot of interest among policy planners, academicians, businessmen and public in general. Therefore, policies and initiatives to develop SMEs and to increase their competitiveness are a priority for Bangladesh. Liberalization of the economy along with rapid globalization has posed severe challenges to SMEs not only in international market but also in the domestic economy. Since SMEs are based on relatively small investment, their survival depends on well regulated market with easy access. In this context, it is necessary to find out whether there any role of SME financing in the entrepreneurship development of Bangladesh.

2. Background Of The Study

Small and medium enterprises (SMEs) have been playing a crucial role in promoting economic development through upholding industries, business and direct services all over the world (Qamruzzaman, 2015). Financing is the bottleneck that restricting the development of small and medium enterprises (Huang, When, & Liu, 2014). Entrepreneurship is defined as the identification of a new business opportunities and the

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mobilization of economic resources to initiate a new business or regenerate an existing business, under the conditions of risks and uncertainties, for the purpose of making profits under private ownership (Adenutsi, 2009 cited in Bhuiyan & Bakar, 2014). In simple, entrepreneurship is a process which may develop a single entrepreneur or enterprise with the main objective is to making profit by using of scarce resources most likely under private ownership (Adenutsi, 2009 cited in Bhuiyan & Bakar, 2014). In 2003 there was about 6-million micro, small and medium enterprises (MSMEs) in Bangladesh. It was adopted only 28 percent labor force. Besides, 4.2 million SMEs in Japan are employed 70 percent of Japan's labor force by invested vigorously in innovation and human resources. SMEs are the single largest industrial sector in Bangladesh economy (Rashid, 2012). Country Report (2012) of International Monetary Fund (IMF) indicated that SMEs in Bangladesh accounted for more than 99 percent of private sector industrial establishments and created job opportunities for 70 to 80 percent of the nonagricultural labor force (Alauddin & Chowdhury, 2015). In the above circumstances it is a time demand to get answer of the following question through methodical process.

- What is the role of SME financing for entrepreneurship development in Bangladesh?
- What are the ways to accelerate entrepreneurship development in Bangladesh through SME financing?

The study is an attempt to find out the answer of the above question.

3. Small And Medium Enterprises In Bangladesh

Government of the Peoples' Republic of Bangladesh in its Industrial Policy 2010 gave definition of SME in terms of size of capital and employment of labor. In case of manufacturing, small industries/ enterprises are those that have assets worth Tk.5.0 million to Tk.100 million and/or employed 25 to 99 workers where as medium size enterprise is defined as have assets worth Tk.100 million to Tk.300 million (excluding land and factory building, but including replacement value) or employed 100 to 250 workers. In services industry and business, small enterprises are defined as those that employ 10 to 25 workers and have assets worth Tk.0.5 million to Tk.10 million and the medium enterprises are those that employ 50 to 100 workers and have assets worth Tk.10 million to Tk.150 million (excluding land and factory building).

About 6.0 million SMEs are actively performing in Bangladesh which was contributing 25 percent of the total GDP, employing about 31 million people and providing 75 percent of household income. Various categories of SMEs together contribute between 80 to 85 percent of industrial employment and 23 percent of total employment in Bangladesh (Chowdhury, 2008 cited in Qamruzzaman, 2015). About 60 to 65 percent of SMEs are located outside the metropolitan areas of Dhaka and Chittagong. SMEs are providing job opportunities to about 70 to 80 percent of the non-agricultural labor force (Ahmed, 2009 cited in Qamruzzaman, 2015).

4. Justification Of The Study

The study has both theoretical and practical values and it is important for several reasons. First, the study will add value to the existing stock of knowledge in the field of SME financing in Bangladesh especially for entrepreneurship development. Second, the findings of the study would help the policy planners as well as the implementation level authorities to make suitable policy measures to get benefits from entrepreneurship development through SME financing.

5. Review Of Literature

This section presents review of related and relevant available literature at home and in abroad to find out the research gap, formulating research questions and to limit the scope of the present research. The outcome of the review of literature is summarized beneath keeping an eye on the above needs.

All countries are trying hard to develop entrepreneurs, promote SMEs and facilitating their commencement into large industries for rapid industrialization (Abdin, 2015). SMEs act as catalysts in the economic development of the developed and developing countries. Developing countries like Nigeria is identified the requirement to pay attention to the SME sector due to its great potential to generate employment, improvement of local technology, output diversification, development of indigenous entrepreneurship and forward integration with large-scale industries that can be provided by the sector (Gbandi & Amisah, 2014). The normalized long-run co-integrating equation supported by the short-run dynamics indicates that finance, interest rate, real gross domestic product, unemployment and industrial productivity are significant to entrepreneurship development in Nigeria (Somoye, 2013). SMEs contribute to employment growth at a higher rate than larger firms (Farouk & Saleh, 2011 cited in Eniola & Abiodun, 2014). SMEs sector occupy 97.5 percent of the total number of enterprises in 2011 of which 76 percent were micro-enterprises hiring almost 59 percent of the working force in Moldova (National Bureau of Statistics of Moldova cited in Apostol & Jatuliavičienė, n.d). Entrepreneurship development contributes to poverty reduction. It creates employment through the startup of new entrepreneurship or the expansion of existing ones (Ali & Ali 2013 cited in Bhuiyan & Bakar, 2014). For a developing nation like India, where the labor is abundant and capital is scarce, the small

sector is a major source of employment for millions of people (Venkatesh & Muthiah, 2012). Innovation, entrepreneurship training and education, family background, government support program, social entrepreneurship, women participation, individual entrepreneurial characteristics, participation of micro, small and medium enterprises, youth empowerment, and collaboration of government-university-industry are the key tool for entrepreneurship development which is stimulating employment are eventually alleviating poverty (Bhuiyan & Bakar, 2014). SMEs have assumed special significance for poverty reduction programs and potential contribution to the overall industrial and economic growth in Bangladesh (Chowdhury, Azam, & Islam, 2013). In USA from 1999 to 2007 the creation of job through the SME sector was larger than the large enterprise sector. After world economic meltdown in 2008 this position has slightly changed (OCDE, 2010). SME has played a vital role to the development of the women entrepreneurship in Bangladesh because the extended SME program can facilitate them by providing collateral free and easy access of financing their business. The inconsistent use of SMEs and entrepreneurship in the field of entrepreneurial business management has some discrepancy between SMEs and entrepreneurship studies (Lucky & Olusegun, 2012). Both entrepreneurship development and SMEs have been globally acknowledged as instruments for achieving economic growth and development as well as employment creation (Rebecca & Benjamin, 2009 cited in Lucky & Olusegun 2012).

From the above reviewed literature it is found that some research works have been conducted in the field of SME financing, entrepreneurship development, SME financing for economic development, SMEs development, role of SMEs in economic development, etc. But no in-depth study has yet been conducted emphasizing on SME financing for entrepreneurship development in Bangladesh. So there is enough scope to study in the said area. That's why the present study is an attempt to fill up this gap.

6. Methodology Of The Study

The research was an empirical research based on primary and secondary sources of data. This was also a mixed method research based on both qualitative and quantitative data.

6.1 Sampling

The sample size of the study was 115 entrepreneurs who obtain loan from SME financing institutions like NGOs, private commercial banks, and state owned commercial banks of Bangladesh located at different upazila under Mymensingh District.

6.2 The Dependent Variable and Explanatory Variables

To find out the contribution of SME financing in entrepreneurship development, the study was considered 10 independent variables and one dependent variable based on the review of related literature. The study was considered 'SME Financing is helpful to developing new entrepreneur' as dependent variable. The following items were considered as independent variable.

No.	Independent Variables
1.	Taking SME finance from any organization
2.	Ability of entrepreneur to use SME finance in the business
3.	Training on use of SME finance
4.	Inspired by SME financing organization for starting business
5.	Advised by the SME financing organization for starting business
6.	Starting business through SME financing
7.	SME finance to change the livelihood status
8.	Employees cooperativeness of SME financing organizations
9.	Terms of loan of SME finance
10.	Availability of SME finance facilities

6.3 Collection of Data

Data for the study was collected from both primary and secondary sources. The primary source of data was collected from the respondents through administrating semi-structured questionnaire. The questionnaire was a set of the combination of both open ended and close ended questions related to the opinion about SME financing and entrepreneurship development. Some secondary data was also collected from review of related literature such as journal article, report of different agencies, etc.

6.4 Data Analysis Techniques

To ascertain the contribution of SME financing in entrepreneurship development, a dichotomous procedure has been followed where each of the variable is awarded a score of '1' if the condition is 'yes' and '0' otherwise.

Data was inputted in SPSS (Statistical Packages for Social Science) version 24 to reveal the results. To get the effective and easily understandable result, descriptive statistics like frequency, percentile, and inferential statistics like likelihood-ratio chi-square, Fisher's exact test, Binary logistic regression was used.

6.5 Hypothesis

To test the result, 11 hypotheses was developed which is mentioned in the analysis and findings section.

7. Analysis And Findings

In the section data was analyzed and discussed the results. The section was divided into five parts. In the first part, basic characteristics of the respondents, business nature, capital, loan, etc. were presented in table with brief interpretation. In the second part, test the hypothesis and interpreted the results. In the third part, a model was developed for the study problem. In the fourth part, interpretation of the model was presented, and in the last part suggestions from respondents for entrepreneurship development through SME financing was presented.

7.1 BASIC CHARACTERISTICS OF THE RESPONDENTS, BUSINESS NATURE, CAPITAL, ETC.

In this section some descriptive analysis was shown considered respondents and their characteristics, nature of business, capital, loan, etc.

7.1.1 Sex of the Respondents

Table-1 indicates that most of the respondents of the study were male (79.1 percent). But the male and female ratio in Bangladesh is about equal.

Table-1: Sex of the Respondents

Sex	Frequency	Percent
Male	91	79.1
Female	24	20.9
Total	115	100.0

Source: Analysis of Primary Data.

7.1.2 Age (in group) of the Respondents

From the table-2 it is apparent that most of the respondents were up to 45 years old. More than 50 years old respondents were only 7 percent.

Table-2: The age distribution of the Respondents

Age (in group)	Frequency	Percent
< 35	31	27.0
35 - 40	28	24.3
40 - 45	31	27.0
45 - 50	17	14.8
50 +	8	7.0
Total	115	100.0

Source: Analysis of Primary Data.

7.1.3 Education Level of the Respondents

Table-3 testimony that majority of the respondents of the study were below SSC (60%). Only 7 percent of the respondents were graduates.

Table-3: Education Level

Education Level	Frequency	Percent
Below SSC	60	52.2
SSC	26	22.6
HSC	19	16.5
Graduate	8	7.0
Master	1	0.9
Others	1	0.9
Total	115	100.0

Source: Analysis of Primary Data.

7.1.4 Marital Status of the Respondents

Table-4 indicates that most of the respondents (98.2%) of the study were married.

Table-4: Marital Status

Marital Status	Frequency	Percent
Married	112	98.2
Unmarried	2	1.8
Total	114	100.0

Source: Analysis of Primary Data.

7.1.5 Nature of Business of the Respondents

Table-5 indicates that among them mentionable business were agro-based (17.4%), production oriented (10.4%), food and beverage (10.4%), and service (10.4%). Most of the respondents (41.7%) of the study choose others business which includes education, marketing, pharmacy, hardware, fertilizer, etc.

Table-5: Nature of Business

Nature of Business	Frequency	Percent
Production Oriented	12	10.4
Agro-based	20	17.4
Food and Beverage	12	10.4
Weave	3	2.6
Handloom	7	6.1
Service	12	10.4
Cottage Industry	1	0.9
Others	48	41.7
Total	115	100.0

Source: Analysis of Primary Data.

7.1.6 Duration of Business of the Respondents

Table-6 indicates that most (66.1 percent) of the entrepreneurs' business age was up to 10 years of which 37.4 percent was up to 5 years and 28.7 percent was 6-10 years.

Table-6: Duration of Business

Duration of Business	Frequency	Percent
0-5 Year	43	37.4
6-10 Year	33	28.7
11-15 Year	22	19.1
More than 15 Years	17	14.8
Total	115	100.0

Source: Analysis of Primary Data.

7.1.7 Ownership Type of the Enterprise

Table-7 indicates that most of the enterprises (95.7 percent) were sole proprietorship. Historically it is recognized that the sole proprietorship business is the oldest form of business and till the date it is large number business enterprise in the world.

Table-7: Ownership Type

Ownership Type	Frequency	Percent
Sole Proprietorship	110	95.7
Partnership	3	2.6
Others	2	1.7
Total	115	100.0

Source: Analysis of Primary Data.

7.1.8 Number of Employees

Table-8 implies that most of the organizations' (92.2 percent) size under the study was small. The number of employees of those enterprises was 0 to 10 persons.

Table-8: Number of Employees

Number of Employees	Frequency	Percent
0-10	106	92.2
11-20	8	7.0
21-30	1	0.9
Total	115	100.0

Source: Analysis of Primary Data.

7.1.9 Capital Structure

Table-9 testimony that most of the enterprises (74.8 percent) was started their business with capital up to Tk. 5,00,000 and a few number of enterprises (21.7 percent) was started their business with the capital of Tk. 5,00,000 to Tk.10,00,000.

Table-9: Initial Capital

Initial Capital	Frequency	Percent
Up to 5,00,000	86	74.8
5,00,001 to 10,00,000	25	21.7
10,00,001 to 15,00,000	1	0.9
15,00,001 to 20,00,000	1	0.9
20,00,001 to 25,00,000	2	1.7
Total	115	100.0

Source: Analysis of Primary Data.

7.1.10 SME Financing Organization

Table-10 indicates that government owned and private owned commercial banks were equally financed for the development of the SME entrepreneur. NGOs were also financed for the development of SME entrepreneur, but in the study the rate was comparatively inferior to the commercial banks.

Table-10: Type of SME Financing Organization

SME Financing Organization	Frequency	Percent
Govt. Commercial Bank	41	36.0
Private Commercial Bank	40	35.1
NGO	24	21.1
Others	9	7.9
Total	114	100.0

Source: Analysis of Primary Data.

7.1.11 Share of Loan Capital

Most of the entrepreneurs (46.2 percent) of the study limit their loan capital was below 25 percent of their total capital. On the other hand a mentionable part (25 percent) of the enterprise was used 25 percent to 50 percent loan capital.

Table-11: Share of Loan in Capital

Share of Loan	Frequency	Percent
Below 25%	48	46.2
25 to less than 50%	26	25.0
50% to Less than 75%	26	25.0
75% to less than 100%	4	3.8
Total	104	100.0

Source: Analysis of Primary Data.

7.1.12 Alternative source of Finance

Most of the respondents (48.7 percent) opted that in the absence of SME finance facilities they would bind to make their business size small. On the other hand one fourth of the respondents opted that in the absence

of SME finance facilities they would try to finance through sale of land and another 22 percent would try to get loan from relatives.

Table-12: Alternative source of Finance

Alternative source of Finance	Frequency	Percent
Sale of land	28	24.8
Loan from relatives	25	22.1
Bound to make business size small	55	48.7
Others	5	4.4
Total	113	100.0

Source: Analysis of Primary Data.

7.2 RESULT OF HYPOTHESIS AND DISCUSSION

In the section some hypothesis were developed and test the same to find out result. Discussion and clarification was made for better understanding the result in the section.

7.2.1 SME Financing is helpful to developing new entrepreneur by age group

H₀: ‘SME Financing is helpful to developing new entrepreneur’ does not depend on age.

H₁: ‘SME Financing is helpful to developing new entrepreneur’ depends on age.

Let us consider a 2 × 2 cross table

	True	False	Total
Positive	a	b	a + b
Negative	c	d	c + d
Total	a + c	b + d	N = a+b+c+d

The test statistic is

$$LR = \frac{a(c + d)}{c(a + b)} \dots \dots \dots (1)$$

and

$$\chi^2 = \sum_{i=1}^r \sum_{c=1}^c \frac{(O_{ij} - E_{ij})^2}{E_{ij}} \sim \chi^2_{(r-1)(c-1)}$$

Table-13: The distribution of SME Financing was helpful to developing new entrepreneur by age group

Age (in group)	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
< 35	30.2	11.1	27.2
35 - 40	21.9	38.9	24.6
40 - 45	29.2	11.1	26.3
45 - 50	11.5	33.3	14.9
50 +	7.3	5.6	7.0
Total	100.0	100.0	100.0
LR = 10.324, p-value=0.035			

Source: Analysis of Primary Data.

Table-13 showed the distribution of SME Financing was helpful to developing new entrepreneur by age. From this table, we see 38.9 percent at 35-40 age group’s respondent opted that SME Financing is not helpful to developing new entrepreneur that is highest and 30.2 percent at <35 age group’s respondent opted that SME Financing is helpful to developing new entrepreneur that is highest. Here, likelihood-ratio value is 10.324 and the p-value is 0.035. This result implies that the SME Financing was helpful to developing new entrepreneur depends on age at 5 percent level of significance.

7.2.2 SME Financing is helpful to developing new entrepreneur with Education Level

H₀: ‘SME Financing is helpful to developing new entrepreneur’ does not depend on education level.

H₁: ‘SME Financing is helpful to developing new entrepreneur’ depend on education level.

Table-14: The distribution of SME Financing was helpful to developing new entrepreneur with education level

Education Level	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
Below SSC	54.0	6.0	60.0
SSC	21.0	4.0	25.0
HSC	15.0	4.0	19.0
Graduate	4.0	4.0	8.0
Master	1.0	0.0	1.0
Others	1.0	0.0	1.0
Total	96.0	18.0	114.0
LR = 7.804, p-value = 0.167			

Source: Analysis of Primary Data.

Table-14 showed the distribution of ‘SME Financing is helpful to developing new entrepreneur’ with education level. From the table-18 we get 54opinions on ‘SME Financing is helpful to developing new entrepreneur’ was ‘Yes’, whose education level was below SSC. Here, likelihood-ratio value is 7.804 and the p-value is 0.167. This result implies that the ‘SME Financing is helpful to developing new entrepreneur’ depends with education level at 16.7 percent level of significance.

7.2.3 SME Financing is helpful to developing new entrepreneur by Business nature

H₀: ‘SME Financing is helpful to developing new entrepreneur’ does not depend on Business nature.

H₁: ‘SME Financing is helpful to developing new entrepreneur’ depend on Business nature.

Table-15: ‘SME Financing is helpful to developing new entrepreneur’ by Business nature

Business nature	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
Production Oriented	12.5	0.0	10.5
Agro-based	16.7	22.2	17.5
Food and Beverage	12.5	0.0	10.5
Weave	3.1	0.0	2.6
Handloom	7.3	0.0	6.1
Service	8.3	22.2	10.5
Cottage Industry	1.0	0.0	0.9
Others	38.5	55.6	41.2
Total	100.0	100.0	100.0
LR =15.498, p-value = 0.030			

Source: Analysis of Primary Data.

Table-15showed the distribution of SME Financing is helpful to developing new entrepreneur by Business nature. From the table, we get 55.6 percent respondent’s reply that SME Financing is not helpful to developing new entrepreneur whose business nature was others type. Here, likelihood-ratio value is 15.498 and the p-value is 0.030. This result implies that the SME Financing is helpful to developing new entrepreneur depends on business nature at 3.0 percent level of significance.

7.2.4SME Financing is helpful to developing new entrepreneur by Duration of Business

H₀: ‘SME Financing is helpful to developing new entrepreneur’ does not depend on duration of business.

H₁: ‘SME Financing is helpful to developing new entrepreneur’ depend on duration of business.

Table-16: Distribution of SME Financing is helpful to developing new entrepreneur depends on experiance of business

Duration of business	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
0-5 Year	40.6	22.2	37.7
6-10 Year	25.0	50.0	28.9
11-15 Year	19.8	16.7	19.3
More than 15 Year	14.6	11.1	14.0
Total	100.0	100.0	100.0
LR = 4.575, p-value = 0.406			

Source: Analysis of Primary Data.

Table-16 showed the distribution of business experience and ‘SME Financing is helpful to developing new entrepreneur’. The study result indicates that 40.6 percent respondent’s opinion ‘Yes’ whose business experience was 0-5 years. The opinion implies that SME Financing is helpful to developing new entrepreneur.

Here, likelihood-ratio value is 4.575 and the p-value is 0.406. This result implies that the SME Financing is not helpful to developing new entrepreneur depends on business experience at 5.0 percent level of significance.

7.2.5 Initial capital and ‘SME Financing is helpful to developing new entrepreneur’

H₀: Initial capital and ‘SME Financing is helpful to developing new entrepreneur’ is independent.

H₁: Initial capital and ‘SME Financing is helpful to developing new entrepreneur’ is dependent.

Table-17: Distribution of Initial capital and ‘SME Financing is helpful to developing new entrepreneur’

Initial capital	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
Up to 5,00,000	81.3	44.4	75.4
5,00,001 to 10,00,000	17.7	44.4	21.9
10,00,001 to 15,00,000	0.0	5.6	0.9
20,00,001 to 25,00,000	1.0	5.6	1.8
Total	100.0	100.0	100.0

LR = 12.099, p-value = 0.007

Source: Analysis of Primary Data.

Table-17 describes the pattern of Initial capital and ‘SME Financing is helpful to developing new entrepreneur’. 81.3 percent respondent’s initial capital was up to 5 lakh and that was the highest share. Here, likelihood-ratio value is 12.099 and the p-value is 0.007. This result suggests that the initial capital is related to SME Financing is helpful to developing new entrepreneur at 1.0% level of significance.

7.2.6 ‘SME Financing is helpful to developing new entrepreneur’ and Training on SME Financing

H₀: Training on SME Financing is not helpful to developing new entrepreneur.

H₁: Training on SME Financing is helpful to developing new entrepreneur.

Table-18: Distribution of Training on SME Financing and ‘SME Financing is helpful to developing new entrepreneur’

Training on SME	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
No	74.0	100.0	78.1
Yes	26.0	0.0	21.9
Total	100.0	100.0	100.0

Fisher's Exact Test = 0.011, p-value = 0.008

Source: Analysis of Primary Data.

Table-18 showed the distribution of Training on SME Financing and ‘SME Financing is helpful to developing new entrepreneur’. From this table, we get 74.0 percent respondent’s opinion on ‘SME Financing is helpful to developing new entrepreneur’ through training was No. Here, Fisher's Exact Test value is 0.011 and the p-value is 0.008. This result implies that the Training on SME Financing is helpful to developing new entrepreneur at 1.0 percent level of significance.

7.2.7 Start business by SME Financing is helpful to developing new entrepreneur

H₀: Start business by SME Financing is helpful to developing new entrepreneur is independent.

H₁: Start business by SME Financing is helpful to developing new entrepreneur is dependent.

Table-19: Distribution of Start business by SME Financing and ‘SME Financing is helpful to developing new entrepreneur’

Start business by SME Finance	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
No	60.4	66.7	61.4
Yes	39.6	33.3	38.6
Total	100.0	100.0	100.0

Fisher's Exact Test = 0.793, p-value = 0.412

Source: Analysis of Primary Data.

Table-19 showed the distribution of start business by SME Financing was helpful to developing new entrepreneur. From this table, we get 60.4 percent respondents does not start business by SME Financing and 39.6percent respondents start business by SME Financing. Here, Fisher's Exact Test value is 0.793 and the p-

value is 0.412. This result implies that the Start business by SME Financing is helpful to developing new entrepreneur is independent at 5 percent level of significance. So start business by SME financing is not helpful to develop new entrepreneur.

7.2.8 Ownership and SME Financing is helpful to developing new entrepreneur

H₀: Ownership and ‘SME Financing is helpful to developing new entrepreneur’ is independent.

H₁: Ownership and ‘SME Financing is helpful to developing new entrepreneur’ is dependent.

Table-20: Distribution of ownership type and ‘SME Financing is helpful to developing new entrepreneur’

Ownership type	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
Sole Proprietorship	95.8	94.4	95.6
Partnership	3.1	0.0	2.6
Others	1.0	5.6	1.8
Total	100.0	100.0	100.0

LR = 2.297, p-value = 0.317

Source: Analysis of Primary Data.

Table-20 showed the distribution of Ownership type and ‘SME Financing is helpful to developing new entrepreneur’. 95.8 percent Sole Proprietors described that SME Financing is helpful to developing new entrepreneur. Here, likelihood-ratio value is 2.297 and the p-value is 0.317. This result implies that ownership type and ‘SME Financing is helpful to developing new entrepreneur’ is independent at 5.0 percent level of significance.

7.2.9 Number of Employees and ‘SME Financing is helpful to developing new entrepreneur’

H₀: Number of employees does not depend on ‘SME Financing is helpful to developing new entrepreneur’.

H₁: Number of employees depends on ‘SME Financing is helpful to developing new entrepreneur’.

Table-21: Distribution of Number of employees and ‘SME Financing is helpful to developing new entrepreneur’

Number of Employees	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
0-10	93.8	83.3	92.1
11-20	6.3	11.1	7.0
21-30	0.0	5.6	0.9
Total	100.0	100.0	100.0

LR = 4.323, p-value = 0.115

Source: Analysis of Primary Data.

Table-21 presented the distribution of number of workers and ‘SME Financing is helpful to developing new entrepreneur’. This table revealed that maximum 93.8 percent respondents opted ‘Yes’ on ‘SME Financing is helpful to developing new entrepreneur’, whose size of workers is 0-10. Here, likelihood-ratio value is 4.323 and the p-value is 0.115. This result implies that the Number of employees and ‘SME Financing is helpful to developing new entrepreneur’ does not depend on each other at 5.0 percent level of significance.

7.2.10 Share of loan and ‘SME Financing is helpful to developing new entrepreneur’

H₀: There is no relationship between shares of loan and ‘SME Financing is helpful to developing new entrepreneur’.

H₁: There is a relationship between shares of loan and ‘SME Financing is helpful to developing new entrepreneur’.

Table-22: Distribution of Share of loan and ‘SME Financing is helpful to developing new entrepreneur’

Share of Loan	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
Below 25%	48.8	33.3	46.2
25 to less than 50%	23.3	33.3	25.0
50% to Less than 75%	24.4	27.8	25.0
75% to less than 100%	3.5	5.6	3.8
Total	100.0	100.0	100.0

LR = 1.616, p-value = 0.656

Source: Analysis of Primary Data.

Table-22 showed the distribution of share of loan and ‘SME Financing is helpful to developing new entrepreneur’. From this table, we get 48.8 percent respondents opted that ‘SME Financing is helpful to developing new entrepreneur’ whose share of loan was less than 25 percent. Here, likelihood-ratio value is 1.616 and the p-value is 0.656. This result implies that there is no relationship between share of loan and ‘SME Financing is helpful to developing new entrepreneur’ at 5.0 percent level of significance.

7.2.11 ‘SME Financing is helpful to developing new entrepreneur’ and livelihood status

H₀: SME financing for the development of new entrepreneur does not change the livelihood status.

H₁: SME financing for the development of new entrepreneur does changes the livelihood status.

Table-23: Distribution of ‘SME Financing is helpful to developing new entrepreneur’ and livelihood status

Livelihood Status	SME Financing is helpful to developing new entrepreneur		Total
	Yes	No	
No	1.0	11.1	2.6
Yes	99.0	88.9	97.4
Total	100.0	100.0	100.0
Fisher's Exact Test = 0.056, p-value = 0.064			

Source: Analysis of Primary Data.

Table-23 showed the distribution of livelihood status and ‘SME Financing is helpful to developing new entrepreneur’. From this table, we get 99.0 percent respondents seems that enhance livelihood status by SME Financing. Here, Fisher's Exact Test value is 0.056 and the p-value is 0.064. This result implies that SME Financing is helpful to changes the livelihood status through developing new entrepreneur at 6.4 percent level of significance.

7.3 LOGISTIC REGRESSION

The regression process finds the coefficients which minimize the squared differences between the observed and expected values of y (the residuals). As the outcome of logistic regression is binary, y needs to be transformed so that the regression process can be used. The logit transformation gives the following:

$$\ln\left(\frac{p}{1-p}\right) = \beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_kx_k$$

Where p = probability of SME Financing is helpful to developing new entrepreneur

$\frac{p}{1-p}$ = odds ratio

If probabilities of the event of interest happening for individuals are needed, the logistic regression equation can be written as:

$$p = \frac{\exp(\beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_kx_k)}{1 + \exp(\beta_0 + \beta_1x_1 + \beta_2x_2 + \dots + \beta_kx_k)}, \quad 0 < p < 1$$

The key variables of interest are:

Dependent variable: Whether SME Financing is helpful to developing new entrepreneur (helpful to developing new entrepreneur = 1).

Possible explanatory variables: Age, gender (recode as sex = 1 for males and 2 for females), Education Level {edulevel = 1 (below SSC), 2 (SSC), 3 (HSC), 4 (graduate), 5(master) or6 (others)}, business nature (1 for Production Oriented, 2 for agro-based, 3 for food and beverages, 4 for weave, 5 for handloom, 6 for service, 7 for cottage industry and 8 for others), duration of business (1 for 0-5, 2 for 6-10, 3 for 11-15 and 4 for 15+), ownership type (1 for sole proprietorship, 2 for partnership, 3 for others), number of workers, initial capital (1 for <5 lakh, 2 for 5-10 lakh, 3 for 10-15 lakh, 4 for 15-20 lakh, 5 for 20-25 lakh, 6 for 25-50 lakh, 7 for more than 50 lakh), SME loan (1 for Yes, 0 for No), share of loan (1 for <25%, 2 for 25-50%, 3 for 50-75%, 4 for 75%+, 5 for others), SME training (1 for Yes, 0 for No), livelihood status (1 for update, 0 for not update).

Step -- tests the contribution of the specific variable(s) entered on this step

Block -- tests the contribution of all the variables entered with this block

Model -- tests the fit of the whole model

These are all the same for a model with a single set of predictors that are entered simultaneously.

	Chi-square	df	Sig.
Step	70.072	28	0.000
Block	70.072	28	0.000
Model	70.072	28	0.000

The “Step” and “Block” χ^2 tests tell us that the model was improved by the inclusion of these terms. Remember that tests the “average contribution” of the included terms and so one or more of multiple included terms can be significant without a significant improvement to the model. As would be expected, the fit of the model improved, according to both of the R² calculations.

R² values are presented to estimate the fit of the data -- both are transformations of the -2log likelihood values.

The next table includes the Pseudo R², the -2log likelihood is the minimization criteria used by SPSS. We see that Nagelkerke's R² is 0.814 which indicates that the model is good but not great. Cox & Snell's R² is the nth root (-2log likelihood) improvement.

Table-24: Model Summary

-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
25.760 ^a	0.490	0.814

a. Estimation terminated at iteration number 20 because maximum iterations have been reached. Final solution cannot be found.

Under Model Summary (table-24) we see that the -2 Log Likelihood statistic is 25.76. This statistic measures how poorly the model predicts the decisions - the smaller the statistic the better the model.

The classification table shows the accuracy of the model. Table-25 contains the classification results, with almost 95.2 percent correct classification the model is good – generally a discriminate analysis is better in classifying data correctly.

Table-25: Classification Table^a

SME Finance is helpful for developing new entrepreneur			
Observed	Predicted		Percentage Correct
	Yes	No	
Yes	84	2	97.7
No	3	15	83.3
Overall Percentage			95.2

a. The cut value is 0.500

Given the base rates of the two decision options (95.2 percent) is correctly decided the stop the research of SME Finance is helpful for developing new entrepreneur, 4.8 percent is not properly decided, the analysis suggests to allow it to Yes for SME Finance is helpful for developing new entrepreneur, and more information, the best strategy is to predict, for every case, that the subject will decide to No for SME Finance is helpful for developing new entrepreneur. Using this strategy, the overall acceptance level is 95.2 percent of the time.

The Classification Table (table-25) shows that this rule allows us to correctly classify 97.7 percent of the subjects where the predicted event (deciding to continue the research) was observed. This is known as the sensitivity of prediction, the P (Yes | No), that is, the percentage of occurrences correctly predicted. We also see that this rule allows us to correctly classify 83.3 percent of the subjects where the predicted event was not observed. This is known as the specificity of prediction, the P (correct | event did not occur), that is, the percentage of non-occurrences correctly predicted. Overall our predictions were correct, for an overall success rate of 95.2 percent.

The Variables in the Equation output also gives us the Exp(B). This is better known as the odds ratio predicted by the model. This odds ratio can be computed by raising the base of the natural log to the bth power, where b is the slope from our logistic regression equation. For our model, $e^{0.488} = 1.629$. That tells us that the model predicts that the odds of deciding to continue the research are 1.629 times higher for 1 (Yes) than they are for 0 (No).

Table-26: Results of logistic regressions

	B	S.E.	Wald	df	Sig.	Exp(B)
Age	0.488	0.234	4.359	1	0.037	1.629
Sex	5.838	2.634	4.912	1	0.027	342.952
Education Level			0.693	4	0.952	
Edu. Level(1): SSC	-19.037	40193.084	0.000	1	1.000	0.000
Edu. Level(2): HSC	-18.086	40193.084	0.000	1	1.000	0.000
Edu. Level(3): graduate	-17.862	40193.084	0.000	1	1.000	0.000
Edu. Level(4):others	-19.896	40193.084	0.000	1	1.000	0.000
Business nature			4.549	7	0.715	
B nature (1): Agro-based	28.399	7500.796	0.000	1	0.997	2.16E+12
B nature (2): Food and Beverage	3.302	1.808	3.334	1	0.068	27.162
B nature (3): Weave	24.418	9251.236	0.000	1	0.998	4.02E+10
B nature (4): Handloom	17.176	14833.295	0.000	1	0.999	2.88E+07
B nature (5): Service	22.880	12413.280	0.000	1	0.999	8.65E+09
B nature (6): Cottage Industry	4.764	2.714	3.082	1	0.079	117.211
B nature (7): Others	-13.434	41280.312	0.000	1	1.000	0.000
Duration of Business			3.849	3	0.278	
Duration of business (1): 6-10 Year	4.310	2.940	2.150	1	0.143	74.465
Duration of business (2): 11-15 Year	0.554	2.391	0.054	1	0.817	1.739
Duration of business (3): 15 + Year	1.150	2.861	0.161	1	0.688	3.158
Ownership Type			0.115	2	0.944	
Ownership type (1): Partnership	-1.205	3.547	0.115	1	0.734	0.300
Ownership type (2): Others	21.495	40192.970	0.000	1	1.000	2.16E+09
Number of Employees			0.039	2	0.981	
Number of employees (1): 11-20	28.606	40192.985	0.000	1	0.999	2.65E+12
Number of employees (2): 21 +	28.055	40192.985	0.000	1	0.999	1.53E+12
Initial capital			5.514	3	0.138	
Initial capital (1): 5-10 lakh	27.520	6655.426	0.000	1	0.997	8.95E+11
Initial capital (2): 10-15 lakh	20.373	6655.425	0.000	1	0.998	7.05E+08
Initial capital (3): 15 + lakh	-1.898	40740.270	0.000	1	1.000	0.150
Share of Loan			1.060	3	0.787	
Share of loan (1): 25% - 50%	3.715	3.882	0.916	1	0.339	41.060
Share of loan (2): 50% - 75%	3.032	3.533	0.736	1	0.391	20.729
Share of loan (3): others	2.818	2.974	0.898	1	0.343	16.739
Training on SME	-36.650	9412.192	0.000	1	0.997	0.000
Livelihood Status	-28.908	23932.475	0.000	1	0.999	0.000
Constant	-26.351	57229.891	0.000	1	1.000	0.000

a. Variable(s) entered on step 1: Age, Sex, Education Level, Business nature, Duration of Business, Ownership Type, Number of Employees, Initial capital, Share of Loan, Training on SME, Livelihood Status.

7.4 INTERPRETATION OF THE MODEL

Now here revisit the issue of the decision rule used to determine into which group to classify a subject given that subject's estimated probability of group membership. While the most obvious decision rule would be to classify the subject into the target group if $p > 0.05$ and into the other group if $p < 0.05$, you may well want to choose a different decision rule given the relative seriousness of making one sort of error (for example, declaring Yes SME Finance is helpful for developing new entrepreneur) or the other sort of error (declaring No SME Finance is helpful for developing new entrepreneur).

statistically insignificant. SE of the coefficient of partnership is very large, designates it is less stable than sole proprietorship and the odds ratio is also large, make sense partnership as less impact than sole proprietorship of SME Finance for developing new entrepreneur. But it is statistically insignificant.

Number of employees: Number of employees does contribute to the model of SME Finance is helpful for developing new entrepreneur. All the coefficients are positive which indicates that number of employees positively enhance SME Finance for developing new entrepreneur, but the number of employees is positively motivate SME Finance for developing new entrepreneur, that are statistically insignificant. All the odds ratio is very large meaning that number of employees does causes SME Finance is helpful for developing new entrepreneur, but all are statistically insignificant. Number of employees of 0-10 is more effective than the other two groups. So we may conclude that the number of employees is play positive role for SME Finance for developing new entrepreneur. The SE value is very large. The result indicates that higher number of employees is instable the institute of SME Finance is helpful for developing new entrepreneur.

Initial capital does contribute to the models; with higher average initial capital for SME Finance is helpful for developing new entrepreneur. All the coefficients are positive which indicates that initial capital positively enhance SME Finance for developing new entrepreneur, and the coefficient of big initial capital is negative, so we may conclude that big initial capital is not a matter of SME Finance for developing new entrepreneur, that are statistically insignificant. First two odds ratio is very large which implies that initial capital less than 5 lakh is more effective than all other groups. So initial capital is the causes of SME Finance are helpful for developing new entrepreneur, but all are statistically insignificant. The value of odds ratio of initial capital is more than 15 lakh is less than one, it suggests that initial capital is less than 5 lakh is more stable than big (more than 15 lakh) initial capital. The SE value of the entire coefficient is large which indicate that big initial capital is not the cause of SME Finance is helpful for developing new entrepreneur.

Share of loan: Share of loan is contributed to the model of SME Finance is helpful for developing new entrepreneur. All the coefficients are positive which indicates that share of loan is positive on SME Finance is helpful for developing new entrepreneur, so we may conclude that less share of loan is a matter of SME Finance for developing new entrepreneur, that are statistically insignificant. The entire odds ratio is greater than one which implies that share of loan is less than 25 percent is more effective than other two groups for SME Finance for developing new entrepreneur, but all are statistically insignificant. The SE value of the entire coefficient is poor which indicates that low share of loan is influential for SME Finance for developing new entrepreneur.

Training on SME: Training on SME does contribute to the model of SME Finance is helpful for developing new entrepreneur. The coefficient is negative which indicates that the SME Finance is helpful for developing new entrepreneur tends to have more effective of those coded "1" (Yes) than of these coded "2" (No). It is statistically significant at 1 percent level of significance. The value of odds is 0.0, indicates that SME trained and non-trained is equally likely. SE is large which implies that SME training is not difficult for SME Finance for developing new entrepreneur

Livelihood status: Livelihood status does contribute to the model of SME Finance is helpful for developing new entrepreneur. Negative value of the coefficient advocates that the livelihood status is not enhancing factor of SME Finance is helpful for developing new entrepreneur. The odds ratio is 0.0 refers that then livelihood status Yes and No are equally likely. The result is statistically significant at 1 percent level of significance. SE is large which implies that livelihood status is not influential causes for SME Finance for developing new entrepreneur.

We are also given a statistic, I have ignored so far, the **Wald Chi-Square statistic**, which tests the unique contribution of each predictor, in the context of the other predictors - that is, holding constant the other predictors -- that is, eliminating any overlap between predictors. Notice that each predictor meets the conventional 0.05 standard for statistical significance, except for the dummy variable for our research. I should note that the Wald χ^2 has been criticized for being too conservative, that is, lacking adequate power. An alternative would be to test the significance of each predictor by eliminating it from the full model and testing the significance of the increase in the -2log likelihood statistic for the reduced model. That would, of course, require that you construct p+1 models, where p (11) is the number of predictor variables.

7.5 SUGGESTIONS OF PARTICIPANTS FOR ENTREPRENEURSHIP DEVELOPMENT THROUGH SME FINANCE

There was an option to give suggestion for the development of entrepreneurship through SME finance in the questionnaire. In this question some options were given for choose one or more option. On the other hand option was open for write down the opinion.

From the table-27 it is found that a lot of opinion came from the respondents as suggestion to develop the entrepreneurship through SME financing. First priority was given by the respondents (57.4 percent of the respondents) on need to make loan available. The second emphasis was given on (47.8 percent of the respondents) reduce the interest rate, followed by reduce complexity of getting loan (47 percent of the

respondents), relax the terms of loan (46.1 percent of the respondents), increase the training for the entrepreneur (38.3 percent of the respondents), increase training and loan facilities for educated (33.9 percent of the respondents) people. Another some suggestions came from the respondents as, need to expand the scope of SME financing organization (14.8 percent of the respondents), Need to be more cooperative of the employees of SME financing organization (10.4 percent of the respondents), Need to increase the loan facilities for contemporary business (14.8 percent of the respondents).

Table-27: Respondents' Opinion for the Development of Entrepreneurship through SME Financing

Sl. No.	Suggestion	Frequency	Percentage
01.	Need to make loan available	66	57.4
02.	Need to relax the terms of loan	53	46.1
03.	Need to expand the scope of SME Financing organization	17	14.8
04.	Need to reduce the interest rate	55	47.8
05.	Need to increase the training for the entrepreneur	44	38.3
06.	Need to increase the loan facilities for contemporary business	10	8.7
07.	Need to increase training and loan facilities for educated	39	33.9
08.	Need to be more cooperative of the employees of SME Financing organization	12	10.4
09.	Need to reduce complexity of getting loan	54	47
10.	Others	1	.9

Source: Analysis of Primary Data.

8. Conclusion

SME financing is an engine of the development of new business all over the world. It facilitates new entrepreneur as well as existing entrepreneur to establish and develop their business. Bangladesh is at the developing stage of establishment and maintains small and medium size enterprises financing through SME where as some country already got fruitful result from the sector. The study was an attempt to discover the contribution of SME financing for new entrepreneur in Bangladesh. Based on primary and secondary sources of data the study identified that the contribution of SME financing for the development of new entrepreneur was satisfactory but not outstanding. The study also documented that new enterprises are developing through SME finance. The study results indicate that most of the business enterprises established and maintained under SME finance is small. This small size enterprise is contributed to reduce some unemployment problem but not able to reduce the unemployment problem rapidly. The logistic regression model is a good fitted model to measure the contribution of SME finance for entrepreneurship development because the model is able to measure almost 95.2 percent correct classification. Age of the respondents, business age, number of employees, initial capital, share of loan, training on SME, and livelihood status contribute to the model where as sex of the respondents, education level, ownership type does not contribute the model to explain 'SME Finance is helpful for developing new entrepreneur'. A lot of suggestions come into point from the survey opinion to the development of new entrepreneur through SME financing. Mentionable suggestions are need to make loan available, reduce interest rate, reduce complexity of loan, relax the terms of loan, increase the training for the entrepreneur, increase training and loan facilities for the educated people.

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