



## Impact of Some Selected Determinants on SMEs Performance: A Study on Jhenaidah District of Bangladesh

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### Abstract

*Small and Medium Enterprises (SMEs) play vital role in any emerging economy. The main objective of this study is to measure and compare the impact of some determinants that affect the performance of SMEs in Bangladesh. The study employed qualitative interview with the owners/employees of SMEs dealing with 1. Tailoring, 2. Flower cultivation, 3. Restaurant, 4. Auto rice mill, 5. Jewellery, 6. Nursery, 7. Hospital and clinic, 8. Handicrafts, 9. Rice farming and 10. Dairy farm at Jhenaidah district of Bangladesh. This is a survey based study and the data for it were collected from 101 respondents using a structured questionnaire. The data collected for the study have been processed using MS Excel (2007). This study examined six determinants such as: entrepreneurial competency, marketing capability, financial resources, modern technology, product quality, and investment capacity to determine the SMEs performance in terms of profit. The theoretical framework has been drawn out and structured questionnaire was designed based on the determinants chosen. Seven hypotheses were developed to achieve the objectives of the study. Collected data were analyzed and the hypotheses were tested applying ANOVA single factor, multiple regression analysis and other statistical tools. The results of the study revealed that the most significant determinants affecting the performance of SMEs in Bangladesh were entrepreneurial competency, financial resources and investment capacity. Policy makers should take steps in the light of the findings of the study to improve the performance and ensure growth of SMEs in Bangladesh.*

**Key Words:** SME, Performance, Determinants, Profits, Competency, influencing, survival, SDG, Impact.

### 1. Introduction

The origin of SMEs was traced at the time of barter systems when money was not the media of trade. The term first used by the British and the European nations then it was found in the USA and now it operates its journey to the globe. After the liberation of Bangladesh the SMEs formally launched its business in small scale. Now it plays an enormous role to boost our economy. Bangladesh is an agriculture based country, where around 85% people are living at village with activities of agriculture, in this perspective Bangladesh can achieve industrialization through agriculture based small and cottage industry. Small and medium enterprises (SMEs) make up the largest portion of the employment base in many developing countries and, indeed, are often the foundation of the local private sector. In fact, the SMEs are recognized as engines of economic growth worldwide. To achieve high and sustained economic growth, a triggering force is mandatory to exit from endemic poverty and socio economic deprivation. Prior research demanded that SMEs play a pivotal role in the economy of a country. Consequently, the performance of the SME sectors is closely associated with the



performance of the nation. In Bangladesh the total numbers of SMEs are estimated 79,754 establishments of which 93.6% are small and 6.4% are medium which contributed around 25% of GDP (Bangladesh Bank Annual Report 2014). The international monetary fund (IMF) country report 2012 indicated that SMEs in Bangladesh accounted for more than 99% of private sector industrial establishments and created job opportunities for 70%-80% of the nonagricultural labor force. Most of the previous studies dealing with the conditions of successful business have focused on large companies rather than SMEs (Ghosh and Kwan, 1996). Performance of SMEs measured by employee turnover rate, quality assurance, allocation of funds of Bangladesh is below international standard (Ahmed and Chowdhury, 2009). Access to finance has been identified as a dominant constraint facing SMEs (Lader, 1996). Literature revealed six determinants that may impact on SMEs performance i.e. entrepreneurial competency, modern technology, financial resources, marketing capability, product quality, and investment capacity. The present study was designed to explore the impact of those six determinants on SMEs performance (profit) in Bangladesh.

## **2. Statement of the Problem**

In recent years, SMEs have received attention of the government and policy makers in different developed and developing countries. The impact of determinants on SMEs performance differs from study to study. Recently many factors have been found related to firm performance. Wengel and Rodriguez's (2006) conducted a study on the export performance of Indonesian SMEs among others, included firm size and age as well as foreign share in the capital structure of the firm as their explanatory variables. Impact of determinants on SMEs Performance in Bangladesh may be an important topic for research and many research works could have been done based on it. A recent study (Papanack, Financial express, April 19, 2010) has found that the decline in China's ability to compete opened up a once-in-a-lifetime opportunity for 10% growth, economic transformation and dramatic cut in poverty. This can be accomplished by establishing labor intensive SMEs in rural areas of the country where cheap labor should be key competitive advantage. But what are the different problems being faced by SME sectors in starting a business and doing business perfectly is not analyzed to a great extent. The business success factors that influence business performance are not analyzed in detail. The operation related challenges (i.e. low level of productivity, lack of skilled techniques, lack of skilled workers, lack of research, lack of development facilities, etc.) faced by SME sectors for survival in the market is not mentioned in the prior research. It seems that there is a lack of sufficient theories and past researches on impact of determinants on SMEs performance which could guide the current research and could help the stakeholders of these sectors. There is a necessity to conduct research to correct this deficiency. The current research will help the stakeholders to take right decision properly. In this case, the pivotal question is: what factors are responsible for the performance of SME sectors in Bangladesh? This research seeks to investigate whether entrepreneurial competency, marketing capability, financial resources modern technology, product quality and investment capacity affect the SMEs performance. Therefore, the present study has been undertaken to explore the impact of determinants on SMEs performance (profit) in Jhenaidah district of Bangladesh.

## **3. Objectives of the Study**

The main objective of the study is to identify the impact of some selected determinants on SMEs performance (profit) with special focus on selected region.

The specific objectives of the study are:



- i. to measure and compare the impact of the selected determinants on the performances of SMEs in terms of profit, and
- ii. to suggest some ways to enhance the performance of SMEs in Bangladesh.

#### **4. Significance of the Study**

SMEs are now considered as the main engine of the economy in Bangladesh. The manufacturing SMEs' contribution in national GDP of our country is almost 25%. This amount could be much higher if the contribution of service sector SMEs could be calculated (Asian Development Bank, 2016). Now-a-days, it is well acknowledged among researchers and economic policy makers that SME sectors play vital role in the overall economic development and production network; hence they remain core to the economic growth of developing nations. A sustainable financial sector is purely dependent on its key deliverer, and SMEs are the originators of future entrepreneurs who will eventually create and accumulate the positive figures of Bangladesh economy at large. Recently, a workshop titled "Role of SMEs in achieving Sustainable Development Goals (SDGs)" arranged by SME foundation mentioned six SDGs can be achieved by ensuring finance, expanding SME product markets, increasing skill, developing technology, developing renewable energy and using online platform. The six SDGs are: i) poverty alleviation, ii) Quality education, iii) Women empowerment, iv) Access to clean energy in affordable cost, v) Creating employment, and vi) Sustainable industrialization. For achieving them a SWOT analysis should be conducted and business performance of this sector should be measured. SME sectors have been considered as the thrust sector in the economic development of the country with growing importance from all walks of life. In Bangladesh this sector is actually changing the face of the country. Moreover, sustainable development of SMEs of Bangladesh can also play an important role to achieve vision 2021. The findings of the present study will be helpful for the policy makers to initiate pragmatic steps to develop the performance of the SMEs in Bangladesh.

#### **5. Literature Review and Hypotheses of the Study**

Firm performance can be characterized as the firm's ability to create acceptable outcomes and actions. Some research work has been conducted on SMEs in Bangladesh and abroad. But it is still not of the proportions required for estimating and gauging the emerging market for SMEs. Review of some previous studies is presented below.

##### **Studies Conducted in Bangladesh:**

In Bangladesh there are 31 million people employed in the micro, small and medium enterprises and more than three quarters of the household income are provided by the SMEs. Although SMEs in Bangladesh represents 99% of industrial units contributing over 85% of industrial employment (Zaman and Islam, 2011). Raihan (2001) observed that the 50.53 percent of SMEs have no access to formal source of finance. Only 35.79 percent of SMEs enjoy unrestricted access to the formal credit. The rest (13.68 percent) of them have restricted access to the formal credit. Bank credit is used by small percentage of entrepreneurs and provides financing of generally less than 20 percent of their total outlay. Majority of the SMEs (59 percent) seek finance for their working capital needs from banks, although only a half-of them get loan from banks. Ahmed (1999) pointed out that due to the lack of national quality policy and adequate support system, and also due to the lack of credibility of the quality certification authority, SMEs of Bangladesh have failed to ensure the quality of



products and services both in domestic and international markets. He also argues that access to finance possess as one of the most important problems of the SMEs in Bangladesh. Lack of investment or operating funds remains as one of the most prominent complains of the SMEs in Bangladesh. Uddin (2008) has stated that the economic efficiency and overall performance of the SMEs especially in the developing countries are considerably dependent upon macroeconomic policy environment and specific promotion policies pursued for their benefit. Chowdhury (2007) highlighted that in the context of Bangladesh SME is characterized by low capitalization and limited assets, geographical diversity and high mortality, poor credit knowledge, very limited access to formal source of credit, cash intensity in transactions, very limited record keeping habit, poor financial disclosure on account of tax issues, high risk perception has led to high borrowing cost. Miah (2007) found that major constraints for SMEs are lack of adequate investment, lack of modern technology, high rate of interest on bank loans, irregular supply of power, poor physical infrastructure and high transportation cost, poor information about market opportunities and requirements, inadequate availability of raw materials, lack of skilled technicians and workers, lack of research and development facilities, fierce competition, absence of effective and transparent legal system, difficulties in accessing technology, credit constraints, low access to business services, constraints of quality human resources, low awareness, low lobbying capacity, and rapid change in policy environment. Ahmed (2006) observed that availability of finance is a major constraint to formation and growth of SMEs in Bangladesh. Banks are reluctant to expand their SME credit portfolio because they do not consider SME lending an attractive and profitable undertaken. This is so because SMEs are regarded as high risk borrowers because of their low capitalization, insufficient assets and their inability to comply with collateral requirements of the banks. Administrative costs are also higher because close monitoring and supervision the SME operation becomes necessary. According to Hallberg (2002) a stable macro-economy, an open trade and investment regime, and a competitive financial sector are argued to be most essential ingredients for a vibrant private sector. But with a law and order situation below the optimum level, corruption well above the level of acceptance and unstable political situation, the domestic environment of Bangladesh does not come to any help, rather hinders the prosperity of SME in the country.

#### **Research Works Done in Other Countries:**

In Osun state Nigeria, Remi et al (2010) studied factors that influence small scale enterprises performance and they included: gender, age, educational background and occupation as independent variables. Elvis Munyaradzi Ganyaupfu (2013) found that managerial competence, educational qualifications, work experience, location, size of the firm, period the enterprise has operated – all have statistically significant positive effects on the success of SMEs. The main factors associated with SMEs growth are SMEs operational capital, number of owners, staff size, rate of profit, annual level of products, access to basic market information, linkage to supportive bodies, business improvement services, distances to input-sources and marketplaces, and manager-owner's age as well as experience in business activities (Hussein Mashimba and Rainer Huhl, 2014). Msoka Elizabeth M., (2013) found that there is a relationship between entrepreneurship knowledge and the performance of small scale business. Alkali, M. (2012) observed that capital access and government support were significantly related to business performance of the enterprises. SME performance (profit) denotes financial performance. It comprises measures of financial efficiency such as ROI, ROE, ROS (return on sales) and net profit margin (Li, Huang and Tsai, 2009).

#### **Research Gap**



A number of researches have been conducted on SMEs and performance. Some of those are conducted abroad and some are conducted in Bangladesh but those are on some different context. Some studies covered only small size business performance and some covered different aspects other than determinants that could not express the real picture of total SME sectors. It seems that no in-depth study has been conducted specifically to measure and compare the impact of selected determinants on SMEs performance. So the present situation demands a comprehensive study which will reflect a total scenario of impact of determinants on SMEs performance in Bangladesh.

### Hypotheses of the Study

Based on the literature review and to achieve the objectives of the present study the following hypotheses were formulated and tested:

Hypothesis 1 (H1): All the selected determinants have impact on SMEs performance (profit).

Hypothesis 2: Entrepreneurial competency has significant positive impact on the performance of SMEs.

Hypothesis 3: Marketing capability has significant positive impact on the performance of SMEs.

Hypothesis 4: Financial resources have significant positive impact on the performance of SMEs.

Hypothesis 5: Modern technology has significant positive impact on the performance of SMEs.

Hypothesis 6: There is a significant positive relation between product quality and SMEs performance.

Hypothesis 7: There is a significant positive relation between investment capacity and SMEs performance.

## 6. Research Methodology:

### 6.1 Concepts Used in the Study:

**SMEs:** SME can be defined in a simple sentence “Small business with big opportunities” **Small enterprise** refers to those enterprises where goods are produced, recycled, repaired or traded in traditional way where bank investments total is limited to Tk. 15 crore, where 120 or fewer workers are engaged on wages or commission basis. **Medium enterprise** refers to those organizations where goods are produced, recycled, repaired or traded applying some capital machinery: where bank investments total is limited to Tk. 50 crore; where 300 or fewer workers are engaged on wages or commission basis. Enterprise may be segmented based on its capital investment, size, and production volume and so on. The World Bank defines SMEs as those enterprises with a maximum of 300 employees, \$15 million in annual revenue, and \$15 million in assets.

Features of SMEs and Large Industries in Bangladesh

Table - 1: Important features of SMEs and Large Industries in Bangladesh:

SL	Type of Industry	Amount of Investment	No. of employed Workers
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1.	Cottage Industry		Below 10 lakh	No. of Workers ≤ 15
2.	Micro Industry		10 lakh to 75 lakh	16 to 30
3.	Small Industry	Manufacturing	75 lakh to 15 crore	31 to 120
		Service	10 lakh to 2 crore	16 to 50
4.	Medium Industry	Manufacturing	15 crore to 50 crore	121 to 300
		Service	2 crore to 30 crore	51 to 120
5.	Large Industry	Manufacturing	More than 50 crore	More than 300
		Service	More than 30 crore	More than 120

Source: National Industrial policy (2016), SME foundation website

### **Sectors of SMEs in the Jhenaidah District Considered for the Study:**

To collect data, the study considered the owners/employees of SMEs dealing with i. Tailoring, ii. Flower cultivation, iii. Restaurant, iv. Auto rice mill, v. Jewellery, vi. Nursery, vii. Hospital and clinic, viii. Handicrafts, ix. Rice farming and x. Dairy farm at Jhenaidah district of Bangladesh.

### **6. 2 Data Collection (primary and secondary data):**

a) The **primary data** were collected for the study through personal interview of SME entrepreneurs and employees using a questionnaire. The questionnaire was divided into three sections: Section A contained demographic variable of the respondents such as: Name, age, sex, educational qualification, experience, average monthly income, turnover of the respondents, etc.; Section B concentrated on various questions related to the objectives of the study and Section C included statements on contextual condition related to each success factor faced by the respondents. This part consists of 20 questions which were intended to measure factors of business success, using 5 points scale (Likert, 1932) anchored by strongly agree to strongly disagree. Total 130 questionnaires were distributed (hard copy) among the respondents in the selected area and finally 101 sets of completed questionnaire were received.

b) The **secondary data** obtained from reviewing journals and literature relevant to the subject matter of this research. Newspaper source and official policy documents of government of Bangladesh with relevance to the subject were also consulted. The secondary data were also collected from published economic review of Bangladesh, related books, articles, seminar papers publications from national and international research institutions, report of different financial institutions, different research reports, etc.

### **6.3 Determinants Considered for the Study**

From the literature review (e.g. Indarti, N. and Langenberg, M., 2005, Islam, Mian and Ali, 2008, Storey, 1994, Asma, et al. (2015) and others) it was found that around twenty determinants influence the performance of SMEs. On the basis of consultation with supervisor and other experts only six determinants were considered for the study in the following meaning:

**i) Entrepreneurial Competency:** Entrepreneurial competencies are defined as underlying characteristics possessed by a person which result in new venture creation. These



characteristics include generic and specific knowledge, motives, traits, self-images, social roles and skills that may or may not be known to the person. Green, et al (1996) stated that individual characteristics i.e. motivation, optimism, self-efficiency, and self- management can determine the performance of an entrepreneur in management.

**ii) Marketing Capability: Marketing** is getting the right goods and services to the right people at the right place at the right time at the right price with the right communication and promotion. Marketing capability helps to create potential customer which affects performance of SMEs.

**iii) Financial Resources:** Finance consists of providing and utilizing of money, capital rights, credit and funds of any kind which are employed in the operations of an enterprise. Financial resources are one of the major challenges pointed out as hindering the growth and survival of start-up SMEs in Bangladesh.

**iv) Modern Technology:** Modern technology is the advancement of the old technology with new additions and modifications. SMEs are still hindered by the lacking of modern technology.

**v) Product Quality:** Product quality means to incorporate features that have a capacity to meet consumer needs and gives customer satisfaction by altering products to make them free from deficiencies or defects.

**vi) Investment Capacity:** An investment is an asset intended to produce income or capital gains. Ability of allocating money to productive employment of resources (Capital) or the transformation of savings into active wealth is investment capacity.

#### 6.4 Sampling and Sample Size

For the convenience of data collection Jhenaidah district (four upazilas out of six) was selected purposively.

The following formula was used in determining the minimum sample size.

$$n = \frac{z^2pq}{d^2} = \frac{(1.96)^2(0.5)(1-0.5)}{(0.10)^2} = 96.04$$

Where, n=estimated size of sample. When population is greater than 10,000.

z=the standard normal deviate using set at 1.96 which correspond to the 95% confidence level.

P=the population estimated to have a particular characteristics if there is no reasonable estimate then use 50% (.50).

q=1-p the probability of failure.

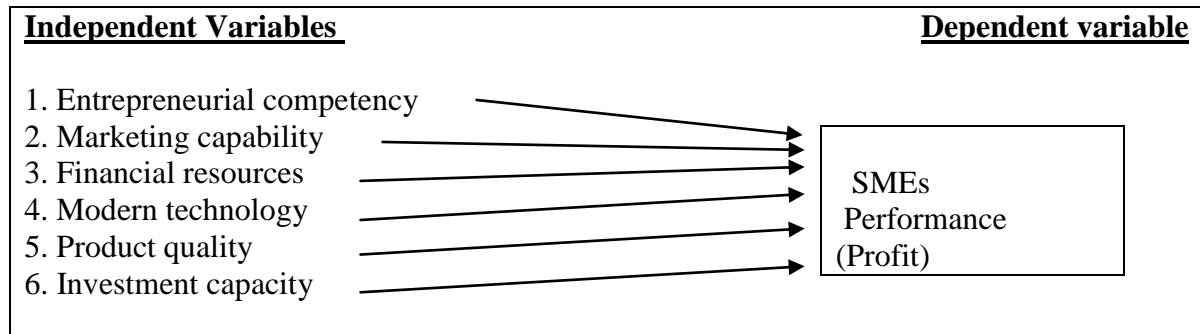
d=degree of accuracy, usually set at 0.10 (Allowable maximum error in estimating population proportion).

In place of 96.04 a number of 101 respondents were taken for this research.

Source: Kotheri (2007)

#### 6.5 Variable Studied

This study proposed the following interface between SMEs performance (dependent variable) on the one hand with the factors entrepreneurial competency, marketing capability, financial resources, modern technology, product quality and investment capacity (independent variable) on the other hand.



Source: Indarti & Landenberg (2008) and Erdil & Ayse (2010)

### 6.6 Empirical model

To fulfill the objective of the study multiple regression model was used to measure the level of performance of SME business.

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \mu_i$$

Where, Y=SMEs performance (profit),  $\alpha$ =intercept, X1= i) Entrepreneurial competency, X2= ii) Marketing capability, X3= iii) Financial resources, X4= iv) Modern Technology, X5= v) Product quality, X6= vi) Investment Capacity,  $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6$  =Regression coefficient, and  $\mu_i$ =Error term

### 6.7 Demographic Analysis

Table-2: Demographic Profile of the Respondents

Category	Number	Percentage (%)
<b><u>Gender:</u></b>		
Male	89	88.11
Female	12	11.88
<b><u>Age Group:</u></b>		
a) 20-29 years	10	9.90
b) 30-39 years	21	20.79
c) 40-49 years	37	36.63
d) 50-59 years	24	23.76
e) 60-69 years	9	8.91
<b><u>Level of Education:</u></b>		
a) Below SSC	16	15.84
b) SSC	30	29.70
c) HSC	26	25.74
d) BBA/BA/Honors/Pass	13	12.87
e) MBA/Masters	16	15.84
<b><u>Length of time with organization:</u></b>		
a) Less than one year	2	1.98
b) 1-5 years	17	16.83
c) 5-10 years	30	29.70
d) 10 15 years	13	12.87
e) 15-20 years	19	18.81
f) 20 years and above	20	19.80
<b><u>Monthly Income:</u></b>		
a) Tk. 10000 or less	55	54.45
b) Tk. 20000 or less	38	37.62





c) Tk. 20000 or above	8	7.92
<b>Job Position:</b>		
a) Management/HRM	53	52.47
b) Cash	41	40.59
c) Marketing	1	0.99
d) Accounting	1	0.99
e) Others	5	4.95
<b>Daily working hour:</b>		
a) 6 hours	1	0.99
b) 7 hours	1	0.99
c) 8 hours	15	14.85
d) More than 8 hours	83	82.17
<b>Total Respondents</b>	<b>101</b>	<b>100</b>

Source: Developed for the research

It is evident from Table-2 that most of the respondents (88.11%) are male. Majority of them (36.63%) are in the age group of (40-49) years. As regards their education, the vast majority of the respondents (29.70%) are SSC passed. A large percentage (29.70%) of the respondents has five to ten years of working experience with their current organization. Most of the respondents (54.45%) have an income of below 10,000 taka per month. A total of (52.47%) of the respondents are holding Management/HRM positions in the current organization. Lastly, a majority of the respondents (82.17%) are working more than 8 hours a day.

## 7. Data Analysis and Results:

To measure the impact of each of the six determinants on performance, respondents were asked to rank the statement on contextual condition related to each success factor. In this part questions were set to measure factors of business success, using 5 points scale (Likert, 1932) anchored by strongly agree to strongly disagree. Data collected from 101 respondents. Data related to impact of independent variable on dependent variable (performance) are analyzed and is presented below according to determinants and hypotheses:

Table-3: Impact of determinants on SMEs performance according to the Likert scale.

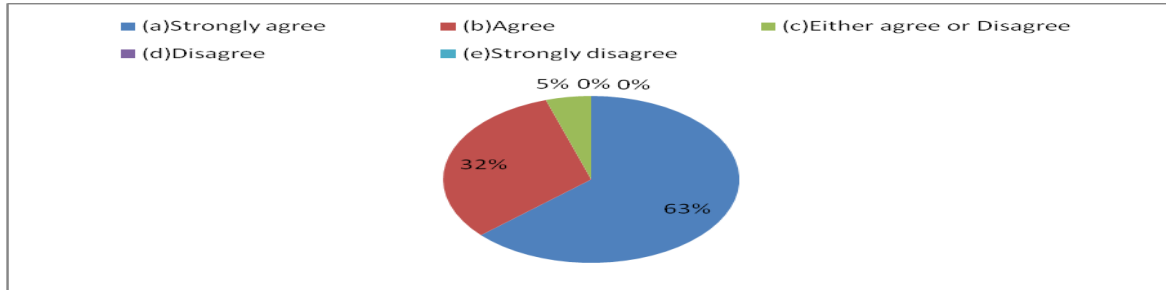
SL	Criteria	Sum	Min	Max	Mean	S.D	C V	Res.	Rank
1	Entrepreneurial Competency (EC)	463	3	5	4.58	.58	12.66%	101	1
2	Marketing Capability(MC)	399	2	5	3.95	.62	15.69%	101	2
3	Financial Resources (FR)	372	2	5	3.68	.67	18.20%	101	6
4	Modern Technology (MT)	412	2	5	4.07	.73	17.93%	101	5
5	Product Quality (PQ)	422	3	5	4.17	.68	16.30%	101	3
6	Investment Capacity (IC)	297	1	4	2.94	.50	17.00%	101	4

Table-3 shows that entrepreneurial competency (Rank 1) has the highest impact on SME performance. So SMEs should give more emphasize chronologically on entrepreneurial competency (EC), marketing capability (MC), product quality (PQ), investment capacity (IC), modern technology (MT), and financial resources (FR) respectively. Here ranks are determined on the basis of coefficient of variation (CV). (The lower the value of the **coefficient of variation**, the more precise the estimate.).



## Results Relating to Impact According to Individual Determinants:

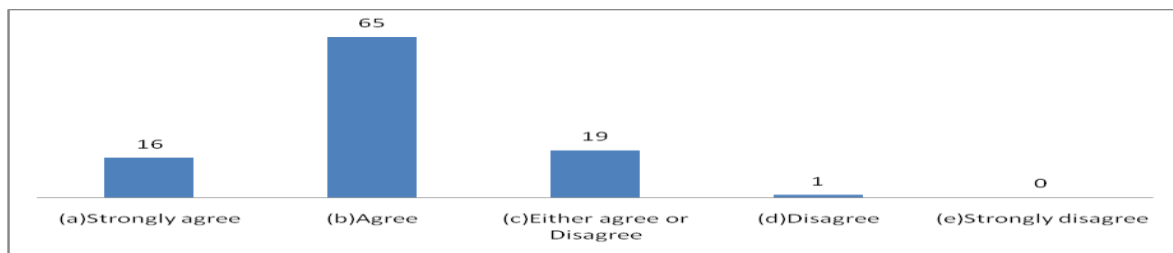
### (1) Entrepreneurial Competency



Graph-1: Entrepreneurial Competency

Graph–1 shows the impact of Entrepreneurial Competency on SME performance (profits) in Bangladesh. Out of 101 respondents 63% strongly agreed, 32% respondents agreed, and 5% respondents either agreed or disagreed. There is none who disagreed and strongly disagreed. It is evident that most of the owners/employees strongly agreed on the stated factor.

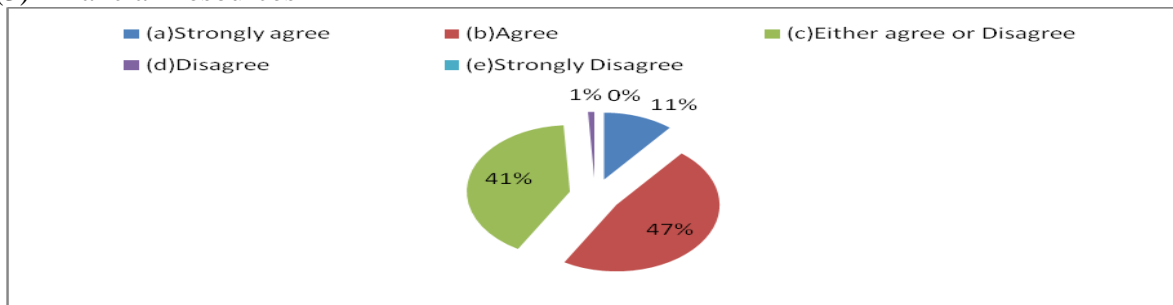
### (2) Marketing Capability



Graph – 2: Marketing Capabilities

Graph–2 shows the impact of Marketing Capability on SME performance (profits) in Bangladesh. Out of 101 respondents’ 16 respondents strongly agreed, 65 respondents agreed, 19 respondents either agreed or disagreed and 1 respondent disagreed. But no one strongly disagreed. It is evident that most of the owners/employees agreed on the stated determinant.

### (3) Financial Resources

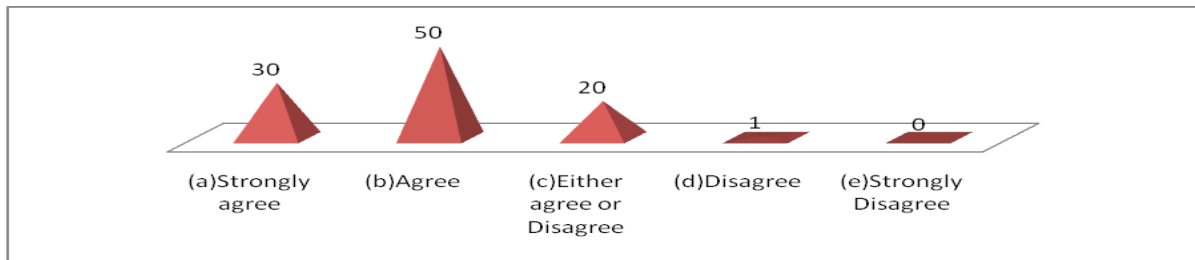


Graph-3: Financial Resources

Graph-3 shows the impact of Financial Resources on SME performance (profits) in Bangladesh. Out of 101 respondents’ 11% respondents strongly agreed, 47% respondents agreed, 41% respondents either agreed or disagreed and 1% respondent disagreed. But no one strongly disagreed. It is evident that most of the owners/employees agreed on the stated determinant.



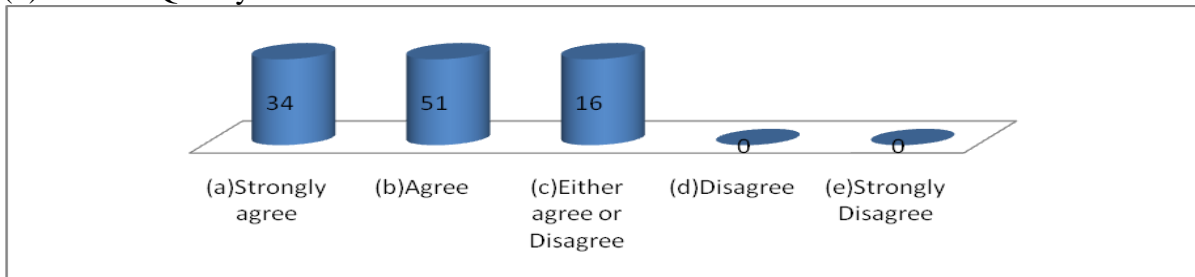
(4)Modern Technology



Graph - 4: Modern Technologies

Graph-4 shows the impact of Modern Technology on SME performance (profits) in Bangladesh. Out of 101 respondents’ 30 respondents strongly agreed, 50 respondents agreed, 20 respondents either agreed or disagreed and 1 respondent disagreed. But no one strongly disagreed. It is evident that most of the owners/employees agreed on the stated determinant.

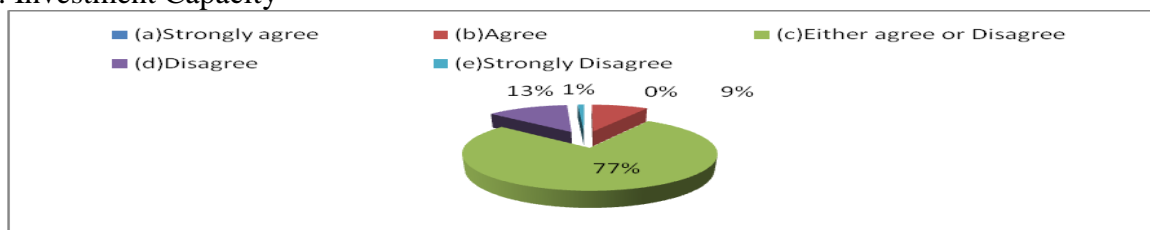
(5) Product Quality



Graph – 5: Product Qualities

Graph-5 shows the impact of Product Quality on SME performance (profits) in Bangladesh. Out of 101 respondents’ 34 respondents strongly agreed, 51 respondents agreed, 16 respondents either agreed or disagreed. But no one disagreed and strongly disagreed. It is evident that most of the owners/employees agreed on the stated determinant.

6. Investment Capacity



Graph – 6: Investment Capacity

Graph–6 shows the impact of Investment Capacity on SME performance (profits) in Bangladesh. Out of 101 respondents’ 9% respondents agreed, 77% respondents either agreed or disagreed, 13% respondents disagreed, and 1% respondents strongly disagreed. But no one strongly agreed. It is evident that most of the owners/employees either agreed or disagreed on the stated determinant.

8. Test of Hypotheses

Hypothesis – 1:

Table–4: Results From Analysis of Variance (ANOVA) (Six independent and one dependent variable)

Source of Variation	SS	df	MS	F	F crit
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<b>Between Groups</b>	631.2257	19	33.2224	92.5058	1.5917
<b>Within Groups</b>	718.2772	2000	0.3591		
<b>Total</b>	1349.5029	2019			

Table-4 shows that calculated F value is 92.5058 which are greater than the F-critical value of 1.5917 as well as the p-value of 0.0000 at 5% level of significance. Therefore, based on the above ANOVA Hypothesis-1 is accepted. It can be concluded that there is a statistically significant relationship between the set of six variables. The findings also show that all the independent variables are significantly related to the dependent variable.

**Hypothesis–2, 3, 4, 5, 6 and 7:**

**Results Relating to Multiple Linear Regression Analysis**

Multiple regression equation considering six independent variables and dependent variable was run by using the MS Excel (2007). The multiple linear regression analysis reported that the coefficient of determination  $R^2 = 0.1869$  which indicates that 18.69% of the variation in the dependent variable can be explained by all the independent variables in this research.

**Table–5: Results of Multiple Regression Analysis**

Item	Propose d Effect	Path Coefficient $\beta$	Standar d Error	t-value	Significance level/p value
Constant = 4.1025					
H2=EC	+	0.1597	0.094	1.69	0.0932***
H3= MC	+	0.0655	0.098	.66	0.5065
H4= FR	-	-0.1721	0.086	-1.99	0.04**
H5=MT	+	0.1045	0.082	1.26	0.2109
H6=PQ	+	0.0037	0.076	0.076	0.96
H7=IC	+	-0.2202	0.1199	-1.8354	0.0698***
$R^2 = 0.1869$ F = 1.68614684 Significance=0.00 N = 101	Adjusted $R^2 = 0.0761$ Significance at 1% level of significance* Significant at 5% level of significant** Significant at 10% level of significance***				

$R^2$  is the coefficient of determination adjusted for degrees of freedom.

Table-5 shows that overall F statistic is statistically significant at the 0.000 level. The regression equation with  $R^2$  (0.1869) explains 18.69% variance in SME performance with the adjusted  $R^2$  (7.61%). The result of the table also shows that there is a positive and significant relationship between entrepreneurial competency and SME performance (profit) (Beta=0.1597, t-value=1.69, p=0.0932) at 0.10 level of significance. So, H2 is accepted. The results also show that there is negative and insignificant relationship between marketing capability and SME performance (profit). So, H3 is rejected. It is evident that there is positive and significant relationship between financial resources and SME performance (Beta=-0.1721, t-value=-1.99, p=0.04) significant at 0.05 level of significance. Therefore, H4 is accepted. It is also evident from the result that there is negative relationship between modern technology and SME performance and not significant at the 0.05 level (Beta=0.1045, t-value=1.26, p=0.2109). So, H5 is rejected. Result of the tables states that there is negative



relationship between product quality and SME performance and not significant at the 0.05 level. (Beta=0.0037, t-value=0.076, p=0.96). Therefore, H6 is rejected. The result of multiple regression in the table 5 shows that there is positive and significant relationship between investment capacity and SME performance (profit) (Beta=-0.2202, t-value=-1.8354, p=0.0698\*\*\*) and significant at 0.10 level of significance. Therefore, H7 is accepted. This result indicates that entrepreneurial competency, financial resources and investment capacity have the positive and significant impact on the SMEs performance (Profit).

Table-5 also shows that all the independent variables are significantly related to the dependent variable as all the six independent variables meet the rule of thumb where the P value is less than 0.05. Then an unstandardized coefficient of linear equation is formulated:

$$\text{Performance of SMEs} = 4.1025 + 0.1597\text{EC} + 0.0655\text{MC} - 0.1721\text{FR} + 0.1045\text{MT} + 0.0037\text{PQ} - 0.2202\text{IC}$$

Where,  $R^2 = 0.1869$ , N=101, EC=Entrepreneurial Competency, MC=Marketing Capability, FR=Financial Resources, MT=Modern Technology, PQ=Product Quality, IC=Investment Capacity.

By evaluating the unstandardized coefficients of linear equation formed above, it is found that each independent variable has varied relative association with the dependent variable.

Accordingly, Entrepreneurial competency has the most impact with the coefficients of correlation (beta) of 0.1597. It is followed by modern technology with beta of 0.1045, marketing capability with beta of 0.0655, product quality with beta of 0.0037, financial resources with beta of -0.1721 and lastly investment capacity with beta of -0.2202. In short, the value of coefficient of correlation shows that the performance of SMEs can be improved by maximizing the entrepreneurial competency.

## **9. Findings and Recommendations**

### **9.1 Findings of the Study:**

From the analysis of data and results the following important findings are identified:

- i) There is a statistically significant relationship between the set of six variables and all the independent variables are significantly related to the dependent variable.
- ii) Entrepreneurial Competency is the most important determinant that influences SMEs performance. Out of total respondents, 63% strongly agreed on the determinant.
- iii) Marketing Capability is the second most important determinant compared with other determinants that influence SMEs performance. Out of 101 respondents 65 agreed on the determinant.
- iv) Product Quality is the third most important determinant compared with other determinants that influence SMEs performance. Out of 101 respondents 51 agreed on the determinant.
- v) Investment Capacity is the fourth important determinant compared with other determinants that influence SMEs performance. Seventy seven percent respondents either agreed on this issue.
- vi) Modern Technology is the fifth important determinant compared with other determinants that influence SMEs performance. Out of 101 respondents 50 agreed on the matter.
- vii) Financial Resource is the sixth important determinant compared with other determinants that influence SMEs performance. Forty seven percent respondents agreed on the issue.



## **9.2 Recommendations**

On the basis of the findings of the study, expert opinion, and observations and judgments of the researchers the following recommendations are forwarded:

- i) Most of the entrepreneurs took loan from banks with high interest rate. So interest rate on SME loan should be reduced to single digit. Government may establish separate SME banks or separate SME division in the ministry of industry.
- ii) Impact of Entrepreneurial Competency on SMEs performance (profits) of Bangladesh is the highest as it occupied rank 1 (table-3). So entrepreneurs should give more importance on entrepreneurial competency. Then they should give importance on product quality, modern technology, marketing capability, investment capacity and financial resources respectively.
- iii) Government agencies (i.e. SME foundation, BSCIC, BCSIR, Department of youth development, Technical training centers of govt.) and SME owners should be proactive rather than reactive.
- iv) The government should play a leading role in favor of SMEs development. To help SME sectors special SME friendly rules and pragmatic policies should be formulated. Tax incentives, business subsidies, provisions for start-up funds, water, gas, export benefits etc. should be provided as SME is a thrust sector.
- v) Separate laboratories and research centers should be established (700 in Japan) for quality products using modern technology.
- vi) Government agencies should provide training facilities for the SME entrepreneurs in both home and abroad.
- vii) Necessary showrooms and display centers should be established in different important places which will help economic zones.
- viii) Government should take initiative to provide facilities for raising funds from capital market.
- ix) Government should promote PPP (public private partnership) to attract venture capital (VC) funds and create investor friendly environment.
- x) Government should procure more goods and services for the public sectors from SMEs. i.e, meals for hospitals, cleaning of public buildings etc.
- xi) Government should increase vocational training for capacity building to provide skilled manpower for the SMEs.
- xii) SMEs in Bangladesh should be made self-reliant by providing supports and imposing restrictions on imports.

## **10. Limitations and Scope for Future Research**

The present study has some limitations: i. primary data was collected only from Jhenaidah district of Bangladesh. ii. Only six determinants are considered that influence SMEs performance. There are some other determinants that can also contribute to SMEs performance including internal and external factors. iii. Lack of enough time and financial resources. iv. This is a cross-sectional study based on one period data, a longitudinal study would provide more insights and deeper understanding of the investigated issue.

Thus, the study unlocks many opportunities for future studies to investigate about the SME sectors, considering the factors that may affect SMEs performance in Bangladesh and other developing countries including some intangible determinants such as customer satisfaction, competitive position, management know-how, innovativeness, etc. Further study may also cover the other regions of Bangladesh.



## **11. Conclusion and Implication**

The role of SMEs is indispensable for overall economic development of a country particularly for developing country like Bangladesh. SMEs are recognized as a ‘thrust sector’ by the ministry of industries because of the contribution of this sector. SMEs play a catalytic role in the national economy of Bangladesh. This study tried to explore the determinants that affect SMEs performance operating in Bangladesh using data from a survey of 101 respondents of SMEs located in Jhenaidah district of Bangladesh. Since this sector is labor intensive with short gestation period, it is capable of increasing national income as well as rapid employment generation. From the foregoing discussion it can be concluded that entrepreneurial competency has the highest affect on SMEs performance (profit) then marketing capability, product quality, investment capacity, modern technology and financial resources respectively. A major implication of the findings is that these results will able to provide better understanding for the SME owners, new entrepreneurs, academician, policymakers etc. in addressing the determinants which will significantly affect the performance of SMEs. The whole world is running on the wheel of business. The SME is the key to all business. The main slogan in the business is competition. So SMEs must compete with other business. In this regard some influential factors should be considered to face the challenges and sustain in the market. The entrepreneurs should continuously upgrade themselves with a view to make SMES competitive and sustainable. For the sustainable development and measuring performance (Profit) of SMEs, the findings of the present study would be helpful. Therefore, if steps are taken in the light of the recommendations of the study, performance of SMEs will contribute more to the performance of the national economy.

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