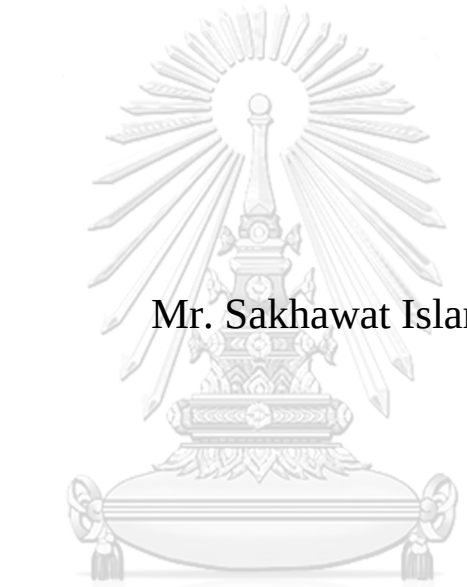
Factors Affecting Employment Generation Rate and Sales Growth Rate: a Case Study of Bangladeshi Firms

Mr. Sakhawat Islam



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นายซากาวัต อิสลาม

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วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาศิลปศาสตรมหาบัณฑิต
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บังกลาเทศได้พัฒนาอย่างยิ่งใหญ่ในช่วงหลายทศวรรษที่ผ่านมา บังกลาเทศเป็นประเทศหนึ่งที่กำลังพัฒนาประเทศตัวอย่างนึงที่เห็นได้ชัดคือ ผู้กำหนด โยบายและผู้เชี่ยวชาญในภาพพัฒนา มากไปกว่านี้การสนับสนุนหลักจากบริษัทได้ช่วยเร่งฐานธุรกิจในบังกลาเทศได้อย่างประสบความสำเร็จ ในการศึกษานี้ได้ตรวจสอบหลายปัจจัย อาทิ เช่น อายุของเจ้าของผู้ประกอบการ รูปแบบของบริษัท ความเป็นไปได้ของอุปสรรคที่จะเกิดขึ้นโดยแหล่งข้อมูลการทำธุรกิจในประเทศ พนักงานที่เข้าทำงานในช่วงปี 2002 และ 2005 และ ยอดขายทั้งปีในช่วงไม่กี่ปีที่ผ่านมา การศึกษานี้มุ่งหวังเพื่อวิเคราะห์หลายปัจจัยที่กล้าวข้างต้นและผลกระทบในการจ้างงานใหม่และยอดขายที่เพิ่มขึ้นหรือลดลงในบังกลาเทศจากปัจจัยต่างๆ ในช่วงหลายปีนี้ การศึกษานี้ได้ใช้ข้อมูลแบบสอบถามจากองค์กรในบังกลาเทศ ซึ่งจัดทำขึ้นโดย World Bank 2007 และ 2013 ผลที่ได้ คือ 29.2% และ 18.1% ของบริษัทมีเจ้าของที่เป็นผู้หญิงอย่างน้อย 1 คน ได้เข้าร่วมในการทำแบบสอบถามในปีค.ศ. 2007 และ 2013 ความไม่แต่นอนของรัฐบาลได้ถูกพิจารณาเป็นหนึ่งอุปสรรคใหญ่ รวมถึงการลงทุนในกองทุนเช่นกัน การรักษารายรับก็ถูกพิจารณาเป็นอย่างยิ่งของแหล่งข้อมูลของประเทศในการดำเนินธุรกิจของทั้งสองแบบสองถามในปีค.ศ.2007 และ 2013 การถดถอยเชิงเส้นถูกใช้เป็นสื่อนำในการสำรวจผลกระทบของการสร้างงานและอัตราการเจริญเติบโตของยอดขายจากปัจจัยต่างๆ ในปีค.ศ.2013 เผยข้อมูลว่าเจ้าของผู้หญิง กฎหมายศุลกากรและการค้า รวมถึงขนาดของธุรกิจส่งผลเชิงบวกต่อการสร้างงาน ส่วนกฎหมายแรงงานส่งผลกระทบเชิงลบและชาว Chittagong และ Rajshahi ก็เช่นกันเมื่อเทียบกับชาว Dhaka ผลการสำรวจเมื่อปีค.ศ. 2007 และ 2013 แสดงให้เห็นว่าเพศของเจ้าของธุรกิจ มี 3 อุปสรรคแยกออกมาจาก 6 อุปสรรคหลัก ๆ คือ แหล่งของเงินทุนในการทำธุรกิจ อาณาเขตที่ส่งผลต่อธุรกิจ ส่วนของธุรกิจและขนาดของบริษัทมีความสำคัญต่ออัตราการเจริญเติบโตของยอดขายระหว่างปีค.ศ.2003 และ 2006 และระหว่างปีค.ศ.2009 และ 2012 ตามลำดับ

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5885660329 : MASTER OF ARTS
Gender participation, political instability, access to finance, customs and trade regulations, business licensing and permits, source of capital, business sector, Bangladeshi firms

Sakhawat Islam : Factors Affecting Employment Generation Rate and Sales Growth Rate: a Case Study of Bangladeshi Firms. ADVISOR: Nuarpear Lekfuangfu, Ph.D.

Bangladesh has shown significant improvement to develop its economy over the past decades. It is one of the developing countries which is an excellent example to the policymakers and specialists working in development sectors. Moreover, the significant contribution was made by firms running the business in Bangladesh to gain this success. This study examines few factors which include the gender of the owner of the organizations, the characteristics of the organizations, possible obstacles faced by and the preferred sources of capital to run the business by the firms, employees employed in the year of 2002 and 2005, and their annual sales in few fiscal years. This study aims to analyze these factors and the impact on the employment generation and sales growth rate from these factors in the firms in Bangladesh in several years. This study uses the data from the enterprise survey conducted in Bangladesh by World Bank in 2007 and 2013. The descriptive analysis shows that 29.2% and 18.1% of the firms had at least one female owner, participated in the survey in 2007, 2013 respectively. Political instability was considered as one of the significant obstacles and finance from the internal funds/ retained earnings was considered as one of the significant sources of capital to run business in both surveys conducted in 2007 and 2013. Linear regression was conducted to find out the impact on the employment generation and sales growth rate from the factors. 2007 dataset shows that Female owners, customs and trade regulation, and company size have a positive impact on employment generation. Labor regulation has a negative impact and Chittagong and Rajshahi region have a negative impact on employment generation compare to the Dhaka region. Both 2007 and 2013 surveys show that gender of owners, three obstacles out of six (minor), the source of capital for business, the region for conducting business, business sector and company size have a significant impact on the sales growth rate between 2003 & 2006 and between 2009 & 2012 respectively.

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Chulalongkorn University

TABLE OF CONTENTS

Page

ABSTRACT (THAI) iii
ABSTRACT (ENGLISH) iv
ACKNOWLEDGEMENTS v
TABLE OF CONTENTS vi
Chapter 1 General Overview and purpose of the Study 1
1.1 Introduction 1
1.2 Background and Policies of Business in Bangladesh 2
1.3 Research Objectives 4
1.4 Research Questions 5
1.5 Scope of the study 5
Chapter 2 Literature Review 7
2.1 Factors influencing employment generation growth rate 7
2.2 Factors influencing annual sales growth rate 9
Chapter 3 Research Methodology 12
3.1 Conceptual Framework 12
3.2 Variables and Expected Outcome 14
Chapter 4 Data Analysis 16
4.1 Research design 16
4.2 Firms' characteristics of 2007 18
4.2.1 Firms' background in 2007 18
4.2.2 Obstacles faced by firms in 2007 19
4.2.3 Source of capital in 2007 19
4.2.4 Firms' performance in 2007 20
4.3 Firms' characteristics of 2013 21
4.3.1 Firms' Background 2013 21

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

4.3.2 Obstacles faced by firms in 2013 23
4.3.3 Sources of Capital in 2013 23
4.3.4 Firms' Performance in the Year 2013 24
4.4 Regression Analysis 25
4.4.1 The Impact of Factors Affecting on Company Employment Growth Rate in 2007 25
4.4.2 The Impact of Factors Affecting on Company Sale Growth in 2007 29
4.4.3 The Impact of Factors Affecting on Company Annual Sale in 2013 33
Chapter 5 Conclusion 39
5.1 Conclusion 39
5.2 Limitation of the study 40
5.3 Policy Recommendation 40
5.4 Scope of further research 41
REFERENCES 42
VITA 45

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

List of Tables

Table 4. 1 Before and after data cleaning 17

Table 4. 2 Proportion of female owned firms and size of firms from 2002 to 2005 & 2009 to 2012 17

Table 4. 3 Firms' background in 2007.....18

Table 4. 4 Major obstacles in 2007.....19

Table 4. 5 Sources of capital in 2007.....20

Table 4. 6 Firms' performance in 2007 20

Table 4. 7 Firms' background in 2013.....22

Table 4. 8 Major Obstacles in 2013.....23

Table 4. 9 Sources of capital in 2013.....24

Table 4. 10 Firms' performance in 2013 24

Table 4. 11 Factors influencing the employment generation growth rate of firms in 2007.....28

Table 4. 12 Factors influencing the sales growth rate of firms in 2007.....32

Table 4. 13 Factors influencing the sales growth rate of firms in 2013.....36

จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University

Chapter 1
General Overview and purpose of the Study

1.1 Introduction

The enterprising movement has been emerging progressively for the last two decades of the twentieth century. On a large root, the precipitate volume of the business endowment has grown tremendously.

Business can be described as the process of assessing and designing an idea then converting that idea into a profit making job. An individual who has gained the ability and readiness to expand, organize and manage a business enterprise along with taking risks can be named as an entrepreneur as well. The meaning of entrepreneurship has changed since its establishment. A lot equate it as commencing a new business.

Being a businessman, a person needs to execute every meaning in forming a business. These consist of idea inventing and screening, focusing goals, strategy research, scrutiny of products and determining methods of business, the accomplishment of profile-raising procedures, levitation of capital, acquiring workforce, mechanism and resources, and processes of business (Khanka, 2006). A business person can be termed as one who pledges and starts an industrial action or initiative. People in business, therefore, shows the general trend of establishing a new business in society.

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Chulalongkorn University

The demographic characteristics such as gender of owner, age and the size of the company can be influential factors of success for the company (Walker & Brown, 2004). Business success can be measured through financial and non-financial criteria. Employee number (non-financial) and financial success as in profit or higher sales growth or turnover are two traditional measure of business success (Barkham, Gudgin, & Hart, 1996). Sales equate to revenue and revenue covers expenses. The ability of a business to hide its expenses produce stable operations and therefore the chance for growth. Without sales, the organization will usually struggle and have a troublesome time attracting talent and truly growing the business.

Generating employment is a keystone of any economic recovery program. Moreover, business persons are creating employment opportunities for others which are being considered a significant contribution to the community. Employment generation persists achieving consideration because of its contribution to unemployment and poverty reduction in many parts of the world (Ugoani & Ibeenwo, 2015). Study reveals that 64% of industrial workers are employed by Vietnamese SMEs and Thai SMEs are found as successful employment opportunity creators (Swierczek & Ha, 2003). Marketing, technology and capital access have positive significant impact on business success (Indarti & Langenberg, 2004).

This study seeks to explore and provide information on the Bangladeshi firms which includes the gender of the owoner, backgrounds, obstacles and the types of personal business ventures created; the workforce and financial capital available to them; and their network affiliations and most importantly the effect of these factors to the employment generation and sales growth rate.

1.2 Background and Policies of Business in Bangladesh

Being a business owner is one of the essential methods of monetary independence. In the developing country like Bangladesh where rewarding hire is occasional, it may be the little way that most individuals can grow above the deficiency. For women, this process is most severe. Bangladeshi society proposes to allow women restricted access to substantial capitals, assets, and education. It ("Research and Publication,") is a fact that if half of the country's population is not participating them in formal or informal economic happenings, the country will not advance further. It is the high time to emphasize on generating self-employment prospects and on the extension of employment-generating small and medium enterprises and active participation of women in the economic development practice (MIDAS, 2009).

Even if the government of Bangladesh is aware of the importance and necessity of the development of business, evidence shows that there are very few policies and programs to boost and grow women-run business compare to men. The Government of Bangladesh first started working on the development of women business persons in the

second five-year plan (1980-1985), where women's participation in skill development, credit, and business person development got emphasized. Moreover, the policies and program remained quite the same in the third five-year plan (1985-1990) with the addition of reducing improvement inconsistency amid men and women. During the fourth five year plan (1990-1995) unprivileged women also started getting more attention from the development perspective along with the macro framework. The fifth five-year plan (1997-2002) is considered so far the most supportive initiatives taken for women business persons which started to be supervised under NAP (National Action Plan) and are as follows (Jahed, Kulsum, & Akhter, 2011) :

- Establishing market entree at ease
- Providing credit facilities
- Supporting in skill development and training
- Providing amenities for setting up the organization

Industrial policy (2005) introduced beneficial policies to extend the participation of women business persons at the micro level as follows (Jahed et al., 2011):

- Categorizing women business persons in different business sectors
- Providing pre-investment ideas and supports
- Ensuring various inducement supports
- Establishing rights to monetary and strategy development
- Confirming monetary support to start a business

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Chulalongkorn University

This is surprising that no credit policies exist for the development of the women business persons in Bangladesh compare to men. The central bank, Bangladesh Bank, provides the credit arrangements which do not specify anything about the credit facilities for the women business persons but many flexibilities are guaranteed under the present credit system which varies from bank to bank in both public and private sectors ("Research and Publication,").

It was not comfortable for the women to be in labor market because of male-dominating society, competitive and multifaceted commercial business environment,

but nowadays this state is changing a lot, and women's participation is noticeable in large number in almost every sectors. Now women are more careful about their rights and contribution in socio-economic sectors than before and putting themselves forward to find the opportunities to do something. They are able now to halt the barriers and establishing themselves as business persons in the off-house fields, and it is a development which was scarce to visualize before. Moreover, the result has turned out to be great so far since their contribution in self-dependence, creativity, economic growth, new business ventures, and the apparent employment generation are incredible and have taken them to a higher place in society and the country as well.

The kinds of operations today functioned by women may be positioned under the following categories: Domestic or family occupation (Lodging Enterprise or Industry), Small and Medium Enterprise or Industry. A significant element of Women SMEs is that the know-how or procedures used are often comparatively simple. These kinds of business include the processing of food, fashion designing, tailoring, restaurants, grocery stores, poultry or cattle farms, confectionary shops, etc. The instruction amenities offered both by the government, private organizations, NGOs, etc., can assist to develop their efficiencies and competencies in rural areas (MIDAS, 2009) .

1.3 Research Objectives

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This research will help people to know about Male and Female owned organization's activities in Bangladesh. This study aims to investigate two outcomes which are employment generation rate and annual sales growth rate in Bangladeshi organizations. This study is going to show the scenario of employment opportunities created by the businesses owners and their firms' performance in different regions of Bangladesh. Employment generation will be found by noticing the number of employees employed in two years and annual sales rate will be found by following the total amount of sales in two years. Characteristics of the organizations, obstacles faced while doing business and sources of capital can influence the outcome. From this study, the policymakers will get to know about the factors influencing the employment generation in different regions. They come up with necessary steps to be taken in the regions where employment generation rate is not up to the mark. This study will be

helpful to the businesspersons as well since it will be by notifying them about the factors influencing the organizational sales growth.

1.4 Research Questions

To achieve the objectives of the study stated above, different dimensions of Bangladeshi business owners were identified for investigation and exploration. These were the characteristics of the firms, the problems and sources of capital they encountered and used accordingly during the business process. Moreover, the successes they achieved in creating employment and enhancing company performance regarding sales are affected by the factors or not.

This study is therefore constructed some of the research questions:

- Do the female owners of the organizations influence the generation of sales growth rate and the employment generation?
- Do the obstacles faced by the female business owners influence the organization's sales growth rate and employment generation?
- Do the sources of capital to do business have any impact on sales growth rate and employment generation?

I would like to make a research proposal about the potential mechanism behind the business performance by noticing the change in annual sales growth rate and employment growth rate in Bangladeshi organizations. Those questions would let me know how they started their business, their constraint, how they collect the source of funding, finally how well they are creating employment & enhancing the sales growth. This study will show the scenario of female and male-owned organizations in Bangladesh as well.

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1.5 Scope of the study

Secondary data is used in conduct this research. World Bank published an enterprise survey in Bangladesh in 2007 ("Bangladesh - Enterprise Survey 2007," 2007) and 2013 ("Business Environment in Bangladesh - World Bank Enterprise Survey of Business Managers - World Bank Group," 2013). This data is used for this research. Nielsen

Company Limited of Bangladesh conducted the Enterprise Survey on behalf of the World Bank. A two-stage procedure was required to conduct this survey; first a questionnaire to regulate the suitability and to make appointments and next to a face to face interview take place.

This survey data includes the information of both female and male owned organizations in different regions in Bangladesh and stratified random sampling was used as the sampling method for Bangladesh Enterprise Survey 2007 and 2013. Industry, establishment size, and region were the three levels of stratification where industry stratification includes 7 manufacturing industries (food, apparel, leather, chemicals, transport, furniture, and other manufacturing) and 2 service industries (retail and another service); size stratification includes small size (5-19 employees), medium size (20-99 employees) and large size (more than 100 employees) and region stratification includes Dhaka, Chittagong, Khulna and Rajshahi.

Data collection for the enterprise survey 2007 was completed by 2006. This survey provides the number of employees employed by the firms in 2002 and 2005 only and it also provides the amount of total annual sales in 2002 and 2005("Bangladesh - Enterprise Survey 2007," 2007). the number of employees employed in 2002 and 2005 fiscal year in the firms. It took 6 months (April-September) to collect the data for the enterprise survey 2013 ("Business Environment in Bangladesh - World Bank Enterprise Survey of Business Managers - World Bank Group," 2013). This survey doesn't provide the information about the employees employed by firms in several years like enterprise survey 2007. But this provides the amount of the total annual sales of the firms in 2009 and 2012.

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Chapter 2
Literature Review

According to Cooper's (Cooper, 1993) framework which describes three groups of factors that affect the start-up and growth of business: ancestor influences, incubator experience, and environmental factors. Brush & Hisrich (Brush & Hisrich, 1991) explain the relationship between the Cooper's (1993) "ancestor influences" on business owners including educational and occupational experiences, background, motivations, knowledge and the growth of their venture (Kirzner, 1997).

A study shows that there are eight factors which influence business success in SME sectors and those factors are SMEs characteristic, management, and know-how, products and services, customer and market, the way of doing business and cooperation, resources and finance, strategy, and external environment (Chittithaworn, Islam, Keawchana, & Yusuf, 2011). To find out the factors affecting business sucess, eight hypotheses were tested using SPSS and among them only five were accepted. The result from this study showed that SMEs characteristics, customer and market, the way of doing business, resources and finance and external environment are the factors which are affecting the business success in Thailand (Chittithaworn et al., 2011).

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Another study based on SMEs from Bangladesh examines the consequence of business-owners and enterprise's characteristics on the business performance. Characteristics of business-owners were found as significant once for business success in Bangladesh and characteristics of enterprises were not and this study also showed that the organizations running for an extended period are more successful than the less aged organizations (A. Islam, Khan, Obaidullah, & Alam, 2011).

2.1 Factors influencing employment generation growth rate

The business owners should have the eagerness of compelling creativities, commencing trades for specific reasons and generating employment for others and employment generation keeps rising in the economy when there are more business

owners in the market (Fonseca, Lopez-Gracia, & Pissarides, 2001). Moreover, this process is influenced by the set-up cost for the business; if it is high, it will reduce the rate of starting new businesses and the overall employment generation as well. Jobs are created and managed by the business owners and to make it more productive they employ the employee (Fonseca et al., 2001).

Research based on Chinese firm showed that custom tariffs on both imported products and end output affect the firms (Yu, 2015). Another research on Indonesian firms shows that reducing the tariff on raw materials and the end product will bring more productivity for the firms (Amiti & Konings, 2007). Trade linearization shows a similar finding in India as well (Topalova & Khandelwal, 2011). According to a research in the USA, (Bernard, Jensen, Redding, & Schott, 2007)the firms with an export license show more productivity than the firms with a license for domestic market only. A study focused on 164 Japanese SMEs showed that internationalization enhances the productivity of a firm (Lu & Beamish, 2001).

Access to finance is considered a significant obstacle to all large types of firms and research shows expected it has a massive impact on all type firms where the incidence is higher for the small sized firm (Dabla-Norris, Gradstein, & Inchauste, 2008). Another research showed that access to finance and adequate labor are two of factors for success in manufacturing firms (Steiner & Olaf, 1988). A well-educated workforce and productivity are strongly correlated, and it has not only an impact on the firm's performance but also the country's economic growth, a research run in the USA shows (Berger & Fisher, 2013). If a country holds a higher efficiency index on the legal system, then most of the firms will be using the external funding to do business (Demirgüç-Kunt & Maksimovic, 1998). A study based on the listed firms on the Ghana Stock Exchange shows that there is a strong correlation between capital structure and profitability (Abor, 2005). Moreover, recent research shows that most of the Bangladeshi firms will borrow from the bank only if the profit rate is higher from this loan(R. Islam, 2016). Another research shows that small and medium-sized Bangladeshi firms tend not to be on debt in the short run which affects their profitability (Anowar, 2016).

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The remarkable potentiality of women-run business is in empowering women and transforming society. Moreover, this development remains largely untapped, with less than 10 percent of the business person in South Asian countries being women. In a study in India (Kaur & Bawa, 1999), almost 54 percent of women business persons had begun their business with their savings and rest 36 percent financial contribution they received from their spouses, parents, relatives, and friends and only 10 percent from nationalized banks and government agency.

It is not a surprising factor that spouses are not very involved in their wives' businesses, are not cooperative of them and expect them to continue with their household works even the demands are higher of their business (Goffee & Scase, 1985). These issues may create more conflicts for females rather than their spouses both in family and society (Bank, 2011). Many studies from western nations explore that although the primary purposes of establishing a business are similar to male and female, some differences have also been found. Some scholars have suggested that women are more likely to start an enterprise for control over the quantity and quality of the work and as a way of managing with the "glass ceiling" (Bjerke, 2007; Berard & Brown, 1994).

2.2 Factors influencing annual sales growth rate

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The research about the capability of business owners of Bangladesh in achieving economic sovereignty in the national economy and empowerment shows related issues regarding their socio-demographic profile and the primary focus of this study is to demonstrate the significant challenges that interrupt the development of women business persons in Bangladesh (Selim, Gazi, & Doula, 2014). This research tried to emphasize on constraints and position of business persons both in society and family; the situation of business persons and their overall participation in the economy are also briefly discussed in this study and this study is conducted to come up with some practical solutions and recommendations based on the economic condition of Bangladesh to overcome the existing problems to create a trouble-free business venture (Selim et al., 2014) .

Business owners are playing a significant role in the national economy. They often face many obstacles while doing business in Bangladesh and the most significant problems of businesswomen included proper skill training, lack of credit facilities, difficulties in the procurement of raw materials and transportation, low prices offering by intermediaries (Chowdhury, 2002). Services from the government as well as a nongovernment entity should be activated to increase the participation of women business persons in the national economy (Chowdhury, 2002).

Another study showed that business is one the most important sector for the improvement of the financial system of a country and it was mentioned that the development of the financial system is just the beginning and no proper steps have been taken yet. Although the situation has been changing, initiatives are being taken by the nationalized banks and non-government organizations to uplift business persons in the business ventures. Even though these endeavors are commendable, they are insufficient when compared to the requirements of the country (Khondkar, 1992).

Another paper focuses on the effect the business persons has on the healthy development of the society. It has brought drastic positive changes not only among the people of the society but also in the economic growth of the country. Although the government has taken many steps to uplift the women participation sometimes, these actions fall short of the requirement. This paper also focuses on these problems and gives solutions to those (Al-Hossienie, 2011).

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Bangladesh has noticed the success on the ground of the rural business persons working with the micro-enterprises. Whenever they have opportunities, they have shown their embellishment and contribution to the Bangladeshi society. At the same time, the study revealed that both the rural and urban business persons are in dire need of several types of assistance here in Bangladesh. The support should focus mainly on sales and marketing, training, human resources development, business and product development, etc. (MIDAS, 2009).

Recent research shows that women of Dhaka city now have more potentialities of taking commercial, managerial accountabilities, creating job opportunities for others successfully in different sectors of business where almost among 60 women business

persons 45% are engaged into manufacturing, and 33.33% are involved in service providing businesses. From this research, it has been also noticed that these small and medium enterprises run by the women business persons are successfully contributing in employment generation (Sultana, 2012).

This research is going to give an idea how business organization owners are creating employment opportunities and enhancing the performance of the organizations and their constraints of doing business. The objective of this study is to know both female and male business owners in Bangladesh. Employment generating is very necessary for the economic development of a country. This study will be focusing on generating employment through business activities in Bangladesh in several years by the business owners. The objective here is to find out how well business owners are generating employment and enhancing annual sales in Bangladesh and the factors influencing this performance of generating sales and employment for the organizations.

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Chapter 3
Research Methodology

3.1 Conceptual Framework

This study investigates to make an overview of businesses in Bangladesh and its constraints.

The idea is to notice the change in performance of the firm caused by the characteristics of the company, obstacles, and sources of funding and the conceptual framework is based on this idea. Company characteristics include region, gender, industry sector, size, and operation years; obstacles include Customs and Trade Regulation, business license and Permits, political instability, labor regulation, and inadequate workforce and source of capital includes % of working capital borrowed from bank, % of working capital financed from internal funding/ retailed earning, % of working capital borrowed from non-bank financial institutions, % of working capital purchased on credit/ advances from suppliers and % of working capital financed by other (money lender, relatives, friends etc). This study will show how all these factors influence the performance of the company meaning the change in annual sales and employment generation. The conceptual framework is as follows:

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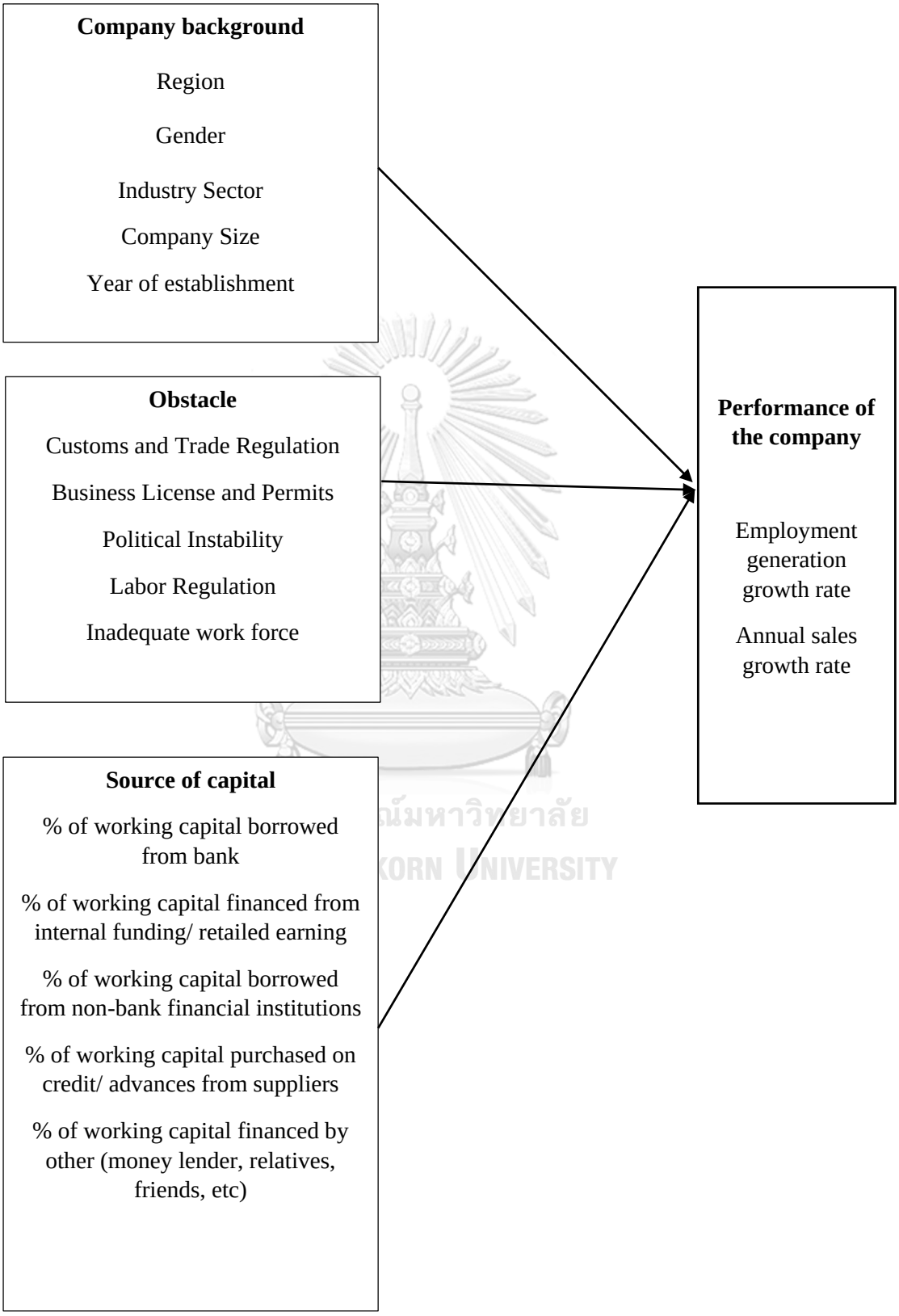

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3.2 Variables and Expected Outcome

The variables from the enterprise survey 2007 & 2013 will be analyzed for this research are as follows:

Table 3. 1 Variables to analyze

2007	**Independent Variables**	**2013**	**Measurement**
	Company Characteristics		
a2	Region	a2	Nominal
a4a	Industry sector	a4a	Nominal
a6a	Company size	a6a	Ordinal
b4	Gender	b4	Nominal
b5	Year of establishment	b5	Interval
	Obstacle		
d30b	Customs and trade regulation	d30b	Ordinal
k30	Access to finance	k30	Ordinal
j30c	Business license and permits	j30c	Ordinal
j30e	Political instability	j30e	Ordinal
l30a	Labor regulation	l30a	Ordinal
l30b	Inadequately educated work force	l30b	Ordinal
	Source of capital		
k3b1, k3b2, k3c	% Of Working Capital Borrowed From Banks	k3bc	Interval
k3a	% Of Working Capital Financed From Internal Funds/Retained Earnings	k3a	Interval
k3e	% Of Working Capital Borrowed From Non-Bank Financial Institutions	k3e	Interval
k3f	% Of Working Capital Purchased On Credit/Advances From Suppliers /Customers	k3f	Interval

k3d, k3g	% Of Working Capital Financed By Other (Money Lenders, Friends, Relatives, Etc)	k3hd	Interval
	Outcome		
l1	Number of employees employed in 2002		Interval
l2	Number of employees employed in 2005		Interval
n3	Total amount of annual sale in 2002		Interval
d2	Total amount of annual sale in 2005		Interval
	Total amount of annual sale in 2009	n3	Interval
	Total amount of annual sale in 2012	d2	Interval

And the outcomes of this study are as follows:

Table 3. 2 Expected Outcome

Dependent Variables	
Employment growth rate 2007	The change of number of employees from 2002 to 2005
Sales Growth Rate 2007	The change of annual sales amount from 2002 to 2005
Sales Growth Rate 2013	The change of annual sales amount from 2009-2012

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I would like to determine how the above stated variables influence the employment generation rate and annual sales growth rate. The changes in dependent variable will depend on the independent variables.

Chapter 4
Data Analysis

4.1 Research design

This chapter provides the result of the statistical analysis. In order to access secondary data for using in data analysis, all datasets from enterprise survey in Bangladesh was conducted by World Bank in the year 2007 and 2013 was derived in this research. All datasets were transformed and analyzed by using IBM SPSS v23.

In this chapter, both descriptive and inferential statistics were selected to investigate the change in performance of the firm via factors include company characteristics, obstacles, and source of capitals. Company characteristics consists of region, gender, industry sector, company size, and operation years; obstacles contains customs and trade regulation, business license and permits, political instability, labor regulation and inadequate work force; and source of capital includes the proportion of working capital borrowed from bank, internal funding/ retailed earning, non-bank financial institutions, suppliers and others (money lender, relatives, friends etc).

Descriptive analysis includes frequency, percent, mean, standard deviation, minimum and maximum were provided to explain the tendency and characteristics of datasets. Moreover, the the inferential analysis includes multiple linear regression was conducted to assess the impact of factors on change of company performance. The data analyses were demonstrated into two major sections about the company's performance from the year 2007 and 2013. Lastly, hypotheses testing and model summary was employed in the last section.

Data manipulation was completed by deleting any cases which have a missing value of company performance includes both the number of employed employees and the amount of annual sales.

For the year 2007, there are totally 1,504 companies have completed the survey. However, incomplete data were excluded, which accounted for 729 cases which have an incomplete response in either change of sales and employment generation. After revised, the validated of 775 cases were included in the data analysis.

For the year 2013 1,442 companies have completed the survey. However, incomplete data were excluded, which accounted for 124 cases which have an incomplete response in either change of sales and employment generation. After revised, the validated 1,318 cases were included in the data analysis.

Table 4. 1 Before and after data cleaning

	2007 Data Sheet		2013 Data Sheet	
	n	Percent	n	Percent
Actual data	1504	100	1442	100
Revised data	775	51.5	1318	91.4
Changed	729	48.5	124	8.6

From the year 2007, 29.2% have female as owners, while the year 2013 has less female owner accounted for 18.1%. Majority of the company in the year 2007 is a large size (51.7%), while a large company from a dataset of 2013 is 25.4%. It clearly explained the datasets of 2007 has more female owners and large size company than 2013.

Table 4. 2 Proportion of female owned firms and size of firms from 2002 to 2005 & 2009 to 2012

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	2002 to 2005		2009 to 2012	
	n	Percent	n	Percent
Female owners				
No	548	70.8	1079	81.9
Yes	226	29.2	239	18.1
Company size				
Small	284	36.6	529	40.1
Medium	90	11.6	454	34.4
Large	401	51.7	335	25.4

4.2 Firms' characteristics of 2007

4.2.1 Firms' background in 2007

From table 4.1, there are totally 1,504 companies were completed the survey in the year 2007. However, incomplete data were excluded, which accounted for 729 cases which have an incomplete response in either change of sales and employment generation. The validated of 775 cases were included in the data analysis. It shows most of the companies are from Dhaka, accounted for more than half of entire participants (68.4%). Then it followed by Chittagong-Sylhet (18.5%), Khulna (6.8%), Rajshahi (4.8%), and others (1.5%). Most of the surveyed companies are from the manufacturing industry (94.1%), followed by 4.4% and 1.6% of retails and service sector, respectively. It shows 51.7% of companies are considered as large size company, while 36.6% and 11.6% are small and medium firms, respectively. Only 29.2% have female as owners. In regards to the year of establishment, this study contains old and newly established firm, start from 4 to 132 years with an average of 19.01 years.

Table 4. 3 Firms' background in 2007

Company background	Raw data (n = 1504)		Missing Data (n = 729)		Revised Data (n = 775)	
	n	Percent	n	Percent	n	Percent
Region						
Dhaka	827	55.0	297	40.7	530	68.4
Chittagong	362	24.1	219	30.0	143	18.5
Rajshahi	125	8.3	88	12.1	37	4.8
Khulna	110	7.3	57	7.8	53	6.8
Others	80	5.3	68	9.3	12	1.5
Industry sector						
Manufacturing	1301	86.8	573	79.0	728	94.1
Retail	136	9.1	102	14.1	34	4.4
Services	62	4.1	50	6.9	12	1.6
Company size						
Small	759	50.5	475	65.2	284	36.6

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Medium	156	10.4	66	9.1	90	11.6
Large	589	39.2	188	25.8	401	51.7
Female owners						
No	1177	78.3	629	86.3	548	70.8
Yes	326	21.7	100	13.7	226	29.2
Year of establishment						
Mean ± S.D	17.81	13.58	16.54	14.13	19.01	12.93
Min - Max	1.00	143.00	1.00	143.00	4.00	132.00

4.2.2 Obstacles faced by firms in 2007

According to table 4.2, it shows political instability was considered as the major obstacles in the year 2007 ($\bar{x}$ = 2.94), followed by accessibility of finance ($\bar{x}$ = 1.69), inadequately educated work force ($\bar{x}$ = 1.66), business license and permits ($\bar{x}$ = 1.42), customs and trade regulation ($\bar{x}$ = 1.32), and labor regulation was found to become a least obstacle for the company of Bangladesh in the year 2007 ($\bar{x}$ = 0.74).

Table 4. 4 Major obstacles in 2007

Obstacle	N	Min	Max	Mean	S.D
Customs and trade regulation	769	0	4	1.32	1.01
Access to finance	772	0	4	1.69	1.15
Business license and permits	775	0	4	1.42	1.02
Political instability	775	0	4	2.94	0.93
Labor regulation	771	0	4	0.74	0.83
Inadequately educated work force	774	0	4	1.66	0.98

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4.2.3 Source of capital in 2007

As seen in table 4.3, the percentage proportion reveals the major source of capital source of Bangladesh firm in the year 2007 is working capital financed from internal funds/retained earnings, accounted for 63.89%. The second highest is working capital borrowed from banks (26.5%), followed by working capital purchased on

credit/advances from suppliers /customers (5.1%), others (2.94%), and the lowest proportion was found in working capital borrowed from non-bank financial institutions (0.73%).

Table 4. 5 Sources of capital in 2007

Source of capital (%)	N	Min	Max	Mean	S.D
Working Capital Borrowed From Banks	772	0	100	26.50	31.28
Working Capital Financed From Internal Funds/Retained Earnings	772	0	100	63.89	32.82
Working Capital Borrowed From Non-Bank Financial Institutions	772	0	80	0.73	5.12
Working Capital Purchased On Credit/Advances From Suppliers /Customers	772	0	100	5.10	13.68
Working Capital Financed By Other (Money Lenders, Friends, Relatives, Etc)	772	0	100	2.94	11.13

4.2.4 Firms' performance in 2007

The performance of the company in the year 2007 was divided into two aspects; include employment generation and annual sales. The result shows the positive change of employment generation from 2002 to 2005. As the size of the full-time employee was averagely increased from 262.93 to 308.44, accounted for the change in employment is 45.51. Also, the finding reveals the positive change in annual sale. It shows the volume of sale was increased from 141,679.37 to 178,485.01 billion, as the change in growth is equal to 36,805.64 billion.

Table 4. 6 Firms' performance in 2007

Performance	N	Min	Max	Mean	S.D
Employment generation					

Full-time employees employed in 2005	775	2.00	11,000.00	308.44	621.47
Full-time employees employed in 2002	775	2.00	10,600.00	262.93	559.82
The change of employment generation from 2002 to 2005	775	-420.00	1,607.00	45.51	137.95
<u>Annual sale from years</u>					
Total annual sales (2005/6) (Billions)	775	133.00	7,085,553.15	178,485.01	435,579.81
Total annual sales (2002/3) (Billions)	775	126.35	5,814,504.94	141,679.37	350,560.65
The change of annual sale from 2002 to 2005 (Billions)	775	-238,923.97	1,479,705.00	36,805.64	123,374.78

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4.3 Firms' characteristics of 2013

4.3.1 Firms' Background 2013

From table 4.7, there are totally 1,442 companies were completed the survey in the year 2013. However, incomplete data were excluded, which accounted for 124 cases which have an incomplete response in either change of sales. The validated 1,318 cases were included in the data analysis. It shows most of the companies are from Dhaka, accounted for more than half of entire participants (61.4%). Then it followed by Chittagong-Sylhet (23.2%), Khulna (8%) and Rajshahi (7.4%). Most of the surveyed companies are from the manufacturing industry (82.5%), followed by 9.7% and 7.8%

of service and retail sector, respectively. It shows 40.1% of companies are considered as small size company, while 34.4% and 25.4% are medium and large firms, respectively. Only 18.1% have female as owners. Additionally, the year of establishment shows the study contains old and new established firm, start from 1 to 124 years with an average of 20.99 years.

Table 4. 7 Firms' background in 2013

Company background	Raw data (n = 1442)		Missing data (n = 124)		Revised data (n = 1318)	
	n	Percent	n	Percent	n	Percent
Region						
Dhaka	899	62.3	90	72.6	809	61.4
Chittagong	320	22.2	14	11.3	306	23.2
Rajshahi	110	7.6	12	9.7	98	7.4
Khulna	113	7.8	8	6.5	105	8.0
Industry sector						
Manufacturing	1178	81.9	92	74.8	1086	82.5
Retail	118	8.2	15	12.2	103	7.8
Services	143	9.9	16	13.0	127	9.7
Company size						
Small	573	39.7	44	35.5	529	40.1
Medium	492	34.1	38	30.6	454	34.4
Large	377	26.1	42	33.9	335	25.4
Female owners						
No	1176	81.6	97	78.2	1079	81.9
Yes	265	18.4	26	21.0	239	18.1
Year of establishment						
Mean ± S.D	20.98	13.69	20.87	16.65	20.99	13.39
Min - Max	1.00	124.00	1.00	88.00	1.00	124.00

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4.3.2 Obstacles faced by firms in 2013

According to table 4.8, it shows political instability was considered as the major obstacles in the year 2013 ($\bar{x}$ = 2.95), followed by accessibility of finance ($\bar{x}$ = 1.79), inadequately educated work force ($\bar{x}$ = 1.38), customs and trade regulation ($\bar{x}$ = 1.13), business license and permits ($\bar{x}$ = 0.95), and labor regulation was found to become a least obstacle for the company of Bangladesh in the year 2013 ($\bar{x}$ = 0.81). This finding reveals the major obstacles faced by Bangladesh firms are not much change from year 2the 007.

Table 4. 8 Major Obstacles in 2013

Obstacle	N	Min	Max	Mean	S.D
Customs and trade regulation	1309	0	4	1.13	0.95
Access to finance	1316	0	4	1.79	1.14
Business license and permits	1309	0	4	0.95	0.99
Political instability	1317	0	4	2.95	0.97
Labor regulation	1307	0	4	0.81	0.89
Inadequately educated work force	1313	0	4	1.38	1.06

4.3.3 Sources of Capital in 2013

As seen in table 4.9, the percentage proportion reveals the major source of capital source of Bangladesh firm in the year 2013 is working capital financed from internal funds/retained earnings, accounted for 75.18%. The second highest is working capital borrowed from banks (18.81%), followed by working capital purchased on credit/advances from suppliers /customers (2.60%), non-bank financial institutions (1.66%), and the lowest proportion was found in working capital borrowed from others (1.51%). This finding addressed on the result is not the difference from the year 2007.

Table 4. 9 Sources of capital in 2013

Source of capital (%)	N	Min	Max	Mean	S.D
Working Capital Borrowed From Banks	1314	0	100	18.81	28.89
Working Capital Financed From Internal Funds/Retained Earnings	1313	0	100	75.18	31.61
Working Capital Borrowed From Non-Bank Financial Institutions	1314	0	100	1.66	9.99
Working Capital Purchased On Credit/Advances From Suppliers /Customers	1314	0	100	2.60	10.46
Working Capital Financed By Other (Money Lenders, Friends, Relatives, Etc)	1314	0	80	1.51	6.60

4.3.4 Firms' Performance in the Year 2013

The performance of the company in the year 2013 includes only annual sales. The result shows the positive change of employment generation from 2009 to 2012. It shows the volume of sale had decreased from 381,572.13 to 185,614.83 billion, and the average change was 195,103.93 billion.

Table 4. 10 Firms' performance in 2013

Performance	N	Min	Max	Mean	S.D
Annual sale from years					
Total annual sales 2012	1318	35.00	6,000,000.00	185,614.83	558,316.83

Total annual sales 2009	1318	150.00	200,000,000.00	381,572.13	5,549,956.16
The change of annual sale from 2009 to 2013	1318	-2,603,351.25	198,300,000.00	195,103.93	5,455,806.63

4.4 Regression Analysis

In this section, multiple linear regression analysis was performed in order to discover how employment growth and sale growth owned by both female and male in the year 2007 and 2013 was affected by various three major determinants, including five company backgrounds, six obstacles, five sources of capitals. Additionally, three dummy variables were assigned for the region and another two dummy variables were defined for industry section. The reference variable for region and industry is Dhaka and manufacturing industry, respectively.

4.4.1 The Impact of Factors Affecting on Company Employment Growth Rate in 2007

Equation of Employment growth rate can be described as:

Without control variables:

$$\%EmploymentGowth_{2007} = \alpha + \beta_1 Female \quad (1)$$

$$\%EmploymentGrowth_{2007} = \alpha + \beta_2 Custom\ and\ Trade\ Regulation + \beta_3 Access\ to\ Finance + \beta_4 Business\ License\ Permits + \beta_5 Political\ Instabilities + \beta_6 Labor\ Regulation + \beta_7 Inadequately\ Educated\ Workforce \quad (2)$$

$$\%EmploymentGrowth_{2007} = \alpha + \beta_8 Capital\ From\ Bank + \beta_9 Internal\ Funds + \beta_{10} Capital\ from\ Non-Banking\ Institute + \beta_{11} Advance\ from\ supplier + \beta_{12} Others \quad (3)$$

Here, α is the constant of employment growth rate in every models. β_1 is the coefficient vector which shows the effect of having a female as an owner on the employment growth of an organization. $\beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7,$ are the coefficient vectors

which represent the effect on employment generation growth rate from custom and trade regulation, access to finance, business license permits, political instabilities, labor regulation and inadequately educated work force respectively. $\beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$ are the coefficient vectors which represent the impact on employment generation growth rate from capital borrowed from bank, taken from internal funds, non-bank financial institute, advance from supplier and others respectively.

From model 1 (R^2 = 0.108), the result shows that employment growth is significant impacted by female owner (β_1 = 0.590) ($p < 0.05$).

From model 2 (R^2 = 0.060), the result shows that employment growth is significant impacted by customs and trade regulations (β_2 = 0.156), access to finance (β_3 = -0.072), and political instability (β_5 = 0.109) ($p < 0.05$).

From model 3 (R^2 = 0.144), the result shows that employment growth is significant impacted by capital financed from internal funds (β_9 = -0.009), capital purchased on advances from suppliers (β_{11} = -0.008), and others (β_{12} = -0.015) ($p < 0.05$).

With control variables:

$$\%EmploymentGrowth_{2007} = \alpha + \beta_1 Female + \beta_{13} Region + \beta_{14} Business\ Sector + \beta_{15} Company\ Size + \beta_{16} Age\ of\ company \quad (4)$$

$$\%EmploymentGrowth_{2007} = \alpha + \beta_2 Custom\ and\ Trade\ Regulation + \beta_3 Access\ to\ Finance + \beta_4 Business\ License\ Permits + \beta_5 Political\ Instabilities + \beta_6 Labor\ Regulation + \beta_7 Inadequately\ Educated\ Workforce + \beta_{13} Region + \beta_{14} Business\ Sector + \beta_{15} Company\ Size + \beta_{16} Age\ of\ company \quad (5)$$

$$\%EmploymentGrowth_{2007} = \alpha + \beta_8 Capital\ From\ Bank + \beta_9 Internal\ Funds + \beta_{10} Capital\ from\ Non-Banking\ Institute + \beta_{11} Advance\ from\ supplier + \beta_{12} Others + \beta_{13} Region + \beta_{14} Business\ Sector + \beta_{15} Company\ Size + \beta_{16} Age\ of\ company \quad (6)$$

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Regression analysis for equation (4) to (6) were run after including the control variable with the key variables. $\beta_{13}, \beta_{14}, \beta_{16}, \beta_{16}$ are the coefficient vectors which show us the impact on employment generation growth rate from region, business sector, size of the firm and age of the firm respectively.

From model 4 (R^2 = 0.558), the result shows that employment growth is significantly impacted by female owner (β_1 = 0.154) ($p < 0.05$). Chittagong region (β_{13} = -0.203) and Rajshahi region (β_{13} = -0.384) compare to Dhaka and company size (β_{15} = 0.507) have negative impacts on employment generation growth rate.

From model 5 (R^2 = 0.563), the result shows that employment generation growth rate is significantly impacted by customs and trade regulations (β = 0.097), labor regulations (β = -0.073) ($p < 0.05$), and other controls variables including Chittagong region (β_{13} = -0.201), Khulna region (β_{13} = -0.246), and company size (β_{15} = 0.527) ($p < 0.05$).

From model 6 (R^2 = 0.574), the result shows that employment growth is not impacted by any source of capitals, while Chittagong region (β_{13} = -0.169), and Rajshahi region (β_{13} = -0.361), and company size (β_{15} = 0.498) ($p < 0.05$) have impact significant impact on employment generation growth rate.

Including all variables:

$$\%EmploymnetGrowth_{2007} = \alpha + \beta_1\, Female + \beta_2\, Custom\ and\ Trade\ Regulation + \beta_3\, Access\ to\ Finance + \beta_4\, Business\ License\ Permits + \beta_5\, Political\ Instabilities + \beta_6\, Labor\ Regulation + \beta_7\, Inadequately\ Educated\ Workforce + \beta_8\, Capital\ From\ Bank + \beta_9\, Internal\ Funds + \beta_{10}\, Capital\ from\ Non-Banking\ Institute + \beta_{11}\, Advance\ from\ supplier + \beta_{12}\, Others + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (7)$$

Regression analysis was run for equation (7) after including all variables.

And from model 7 (R^2 = 0.586), the result shows that employment growth rate is significantly impacted by female owner (β_1 = 0.097), customs and trade regulations (β_2 = 0.078), labor regulations (β_6 = -0.061). Controls variable including Chittagong

region (β_{13} = -0.141), Khulna region (β_{13} = -0.233), Rajshahi region (β_{13} = -0.319) have negative impact compare to Dhaka region, and company size (β_{16} = 0.487) ($p < 0.05$) has a positive impact on employment generation growth rate.

Table 4. 11 Factors influencing the employment generation growth rate of firms in 2007

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Female Owner	0.509**	0.157**					0.097*
	(.000)	(.000)					(.033)
Customs And Trade Regulations			0.156**	0.097**			0.078**
			(.000)	(.000)			(.000)
Access To Finance			-0.072*	-0.017			-0.024
			(.013)	(.411)			(.253)
Business Licensing And Permits			0.002	0.008			0.002
			(.949)	(.720)			(.934)
Political Instability			0.109**	0.018			0.014
			(.001)	(.450)			(.560)
Labor Regulations			-0.011	-0.073**			-0.061*
			(.780)	(.006)			(.020)
Inadequately Educated Workforce			0.008	-0.030			-0.019
			(.820)	(.231)			(.442)
% Of Capital Borrowed From Banks					0.000	0.000	0.000
					(.883)	(.943)	(.940)
% Of Capital Financed From Internal Funds/Retained Earnings					-0.009**	-0.004	-0.003
					(.005)	(.072)	(.126)
% Of Capital Borrowed From Non-Bank Financial Institutions					-0.003	0.000	0.000
					(.688)	(.926)	(.993)
% Of Capital Purchased On Credit/Advances					-0.008*	-0.005	-0.004
					(.035)	(.069)	(.079)

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From Suppliers /Customers							
% Of Capital Financed By Other (Money Lenders, Friends, Relatives, Etc) (calculated)					-0.015**	-0.005	-0.004
					(.000)	(.098)	(.133)
Chittagong		-0.203**		-0.201**		-0.169**	-0.141**
		(.000)		(.000)		(.001)	(.007)
Khulna		-0.194		-0.246*		-0.221	-0.233
		(.089)		(.040)		(.055)	(.053)
Rajshahi		-0.384**		-0.367**		-0.361**	-0.319**
		(.000)		(.000)		(.000)	(.000)
Retail		-0.029		-0.028		-0.055	-0.089
		(.799)		(.815)		(.627)	(.465)
Service		0.098		0.048		0.148	0.060
		(.528)		(.756)		(.334)	(.694)
Company Size		0.507**		0.527**		0.498**	0.487**
		(.000)		(.000)		(.000)	(.000)
Age Of Firm		0.001		0.001		-0.001	-0.001
		(.553)		(.660)		(.637)	(.661)
(Constant)	1.108	0.136	0.839	0.078	1.895	0.506	0.421
	(.000)	(.045)					(.070)
R^2	.108	.558	.060	.563	.144	.574	.586

Dependent Variable: Employment Growth Rate, **p<0.01, *p<0.05

The Impact of Factors Affecting on Company Sale Growth in 2007 - 2013

4.4.2 The Impact of Factors Affecting on Company Sale Growth in 2007

Equation of sales growth rate can be described as:

Without control variables:

$$\%SalesGowth_{2007} = \alpha + \beta_1 Female \quad (8)$$

$$\%SalesGrowth_{2007} = \alpha + \beta_2 Custom\ and\ Trade\ Regulation + \beta_3 Access\ to\ Finance + \beta_4 Business\ License\ Permits + \beta_5 Political\ Instabilities + \beta_6 Labor\ Regulation + \beta_7 Inadequately\ Educated\ Workforce \quad (9)$$

$$\%SalesGrowth_{2007} = \alpha + \beta_8\, Capital\ From\ Bank + \beta_9\, Internal\ Funds + \beta_{10}\, Capital\ from\ Non-Banking\ Institute + \beta_{11}\, Advance\ from\ supplier + \beta_{12}\, Others \quad (10)$$

Here, α is the constant of sale growth rate in every models. β_1 is the coefficient vector which shows the effect of having a female as an owner on the sales growth rate of an organization. $\beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7,$ are the coefficient vectors which represent the effect on sales growth rate from custom and trade regulation, access to finance, business license permits, political instabilities, labor regulation and inadequately educated work force respectively. $\beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$ are the coefficient vectors which represent the impact on sales growth rate from capital borrowed from bank, taken from internal funds, non-bank financial institute, advance from supplier and others respectively.

From model 8 (R^2 = 0.125), the result shows that sale growth is significantly impacted by female owner (β_1 = 0.930) ($p < 0.05$).

From model 9 (R^2 = 0.087), the result shows that sale growth rate is significantly impacted by customs and trade regulations (β_2 = 0.208), business licensing permits (β_4 = 0.146), and political instability (β_5 = 0.139). And access to finance has a negative impact on sales growth rate (β_3 = -0.099), ($p < 0.05$).

From model 10 (R^2 = 0.176), the result shows that sale growth rate is significantly influenced by capital financed from internal funds (β_9 = -0.016), and others (Moneylenders, friends, relatives, etc.) (β_{12} = -0.023) ($p < 0.05$).

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With control variables:

$$\%SalesGrowth_{2007} = \alpha + \beta_1\, Female + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (11)$$

$$\%SalesGrowth_{2007} = \alpha + \beta_2\, Custom\ and\ Trade\ Regulation + \beta_3\, Access\ to\ Finance + \beta_4\, Business\ License\ Permits + \beta_5\, Political\ Instabilities + \beta_6\, Labor\ Regulation + \beta_7\, Inadequately\ Educated\ Workforce + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (12)$$

$$\%SalesGrowth_{2007} = \alpha + \beta_8\, Capital\ From\ Bank + \beta_9\, Internal\ Funds + \beta_{10}\, Capital\ from\ Non-Banking\ Institute + \beta_{11}\, Advance\ from\ supplier + \beta_{12}\, Others + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (13)$$

Regression analysis for equation (11) to (13) were run after including the control variable with the key variables. $\beta_{13}, \beta_{14}, \beta_{16}, \beta_{16}$ are the coefficient vectors which show us the impact on sales growth rate from region, business sector, size of the firm and age of the firm respectively.

From model 11 (R^2 = 0.428), the result shows that sale growth is significantly impacted by female owner (β_1 = 0.394) ($p < 0.05$). Control variables including Chittagong region (β_{13} = -0.752), Khulna region (β_{13} = -0.563) have negative impact compare to Dhaka region and company size (β_{15} = 0.648), and age of firm (β_{16} = 0.007) have positive impact on sales growth rate ($p < 0.05$).

From model 12 (R^2 = 0.445), the result shows that sale growth is significantly impacted by customs and trade regulations (β_2 = 0.122), business licensing permits (β_4 = 0.159), and labor regulations (β_6 = -0.187) ($p < 0.05$), and other controls including Chittagong region (β_{13} = -0.716), Khulna region (β_{13} = -0.457), company size (β_{15} = 0.696), and age of firm (β_{16} = 0.007) ($p < 0.05$).

From model 13 (R^2 = 0.447), the result shows sale growth is not impacted by any source of capitals ($p > 0.05$). But other control variables including Chittagong region (β_{13} = -0.682) and Khulna region (β_{13} = -0.599) have negative impact and company size (β_{15} = 0.629) and age of firm (β_{16} = 0.003) have positive impact on sales growth rate ($p < 0.05$).

Including all variables:

$$\%SalesGrowth_{2007} = \alpha + \beta_1\, Female + \beta_2\, Custom\ and\ Trade\ Regulation + \beta_3\, Access\ to\ Finance + \beta_4\, Business\ License\ Permits + \beta_5\, Political\ Instabilities + \beta_6\, Labor\ Regulation + \beta_7\, Inadequately\ Educated\ Workforce + \beta_8\, Capital\ From\ Bank + \beta_9\, Internal\ Funds + \beta_{10}\, Capital\ from\ Non-Banking\ Institute +$$

$$\beta_{11}\, Advance\ from\ supplier\ +\ \beta_{12}\, Others\ +\ \beta_{13}\, Region\ +$$
$$\beta_{14}\, Business\ Sector\ +\ \beta_{15}\, Company\ Size\ +\ \beta_{16}\, Age\ of\ company \quad (14)$$

Regression for equation 14 was run after including all variables.

From the model 14 (R^2 = 0.487), the result shows that sale growth is significantly impacted by female owner (β_1 = 0.281), customs and trade regulations (β_2 = 0.089), business licensing permits (β_4 = 0.145), and labor regulations (β_6 = -0.164). And control variables including Chittagong region (β_{13} = -0.573), Khulna region (β_{13} = -0.412), have negative impact growth rate but company size (β_{15} = 0.590) ($p < 0.05$) shows a positive impact on sales growth rate.

Table 4. 12 Factors influencing the sales growth rate of firms in 2007

	Model 8	**Model 9**	**Model 10**	**Model 11**	**Model 12**	**Model 13**	**Model 14**
Female Owner	0.930**	0.394**					0.281**
	(.000)	(.000)					(.001)
Customs And Trade Regulations			0.208**	0.122**			0.089*
			(.000)	(.003)			(.024)
Access To Finance			-0.099*	-0.008			-0.023
			(.022)	(.820)			(.522)
Business Licensing And Permits			0.146**	0.159**			0.145**
			(.005)	(.000)			(.000)
Political Instability			0.139**	0.058			0.055
			(.007)	(.161)			(.168)
Labor Regulations			-0.084	-0.187**			-0.164**
			(.168)	(.000)			(.000)
Inadequately Educated Workforce			0.108	0.043			0.066
			(.050)	(.326)			(.124)
% Of Capital Borrowed From Banks					0.000	0.002	0.001
					(.965)	(.743)	(.845)
% Of Capital Financed From Internal Funds/Retained Earnings					-0.016**	-0.007	-0.006
					(.003)	(.118)	(.163)

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% Of Capital Borrowed From Non-Bank Financial Institutions					-0.010	-0.001	0.000
					(.301)	(.889)	(.977)
% Of Capital Purchased On Credit/Advances From Suppliers /Customers					-0.010	-0.004	-0.003
					(.117)	(.423)	(.519)
% Of Capital Financed By Other (Money Lenders, Friends, Relatives, Etc) (calculated)					-0.023**	-0.008	-0.006
					(.001)	(.171)	(.281)
Chittagong-Sylhet		-0.752**		-0.716**		-0.682**	-0.573**
		(.000)		(.000)		(.000)	(.000)
Khulna		-0.563**		-0.457*		-0.599**	-0.412*
		(.002)		(.016)		(.001)	(.027)
Rajshahi		-0.215		-0.071		-0.201	0.003
		(.164)		(.662)		(.190)	(.985)
Retail		0.005		-0.049		-0.005	-0.098
		(.982)		(.811)		(.981)	(.629)
Service		-0.517		-0.566		-0.394	-0.507
		(.133)		(.098)		(.246)	(.125)
Company Size		0.648**		0.696**		0.629**	0.590**
		(.000)		(.000)		(.000)	(.000)
Age Of Firm		0.007*		0.007*		0.003	0.004
		(.015)		(.013)		(.198)	(.163)
(Constant)	6.362	5.169	5.798	4.693	7.822	5.828	5.310
	(.000)	(.000)					(.000)
R^2	.125	.428	.087	.445	.176	.447	.487

Dependent Variable: Sales Growth Rate, **p<0.01, *p<0.05

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4.4.3 The Impact of Factors Affecting on Company Annual Sale in 2013

Equation for sales grow rate in 2013 can be described as:

Without control variables:

$$\%SalesGowth_{2013} = \alpha + \beta_1 Female \quad (15)$$

$$\%SalesGrowth_{2013} = \alpha + \beta_2\, Custom\ and\ Trade\ Regulation + \beta_3\, Access\ to\ Finance + \beta_4\, Business\ License\ Permits + \beta_5\, Political\ Instabilities + \beta_6\, Labor\ Regulation + \beta_7\, Inadequately\ Educated\ Workforce \quad (16)$$

$$\%SalesGrowth_{2013} = \alpha + \beta_8\, Capital\ From\ Bank + \beta_9\, Internal\ Funds + \beta_{10}\, Capital\ from\ Non-Banking\ Institute + \beta_{11}\, Advance\ from\ supplier + \beta_{12}\, Others \quad (17)$$

Here, α is the constant of sale growth rate in every models. β_1 is the coefficient vector which shows the effect of having a female as an owner on the sales growth rate of an organization. $\beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7,$ are the coefficient vectors which represent the effect on sales growth rate from custom and trade regulation, access to finance, business license permits, political instabilities, labor regulation and inadequately educated work force respectively. $\beta_8, \beta_9, \beta_{10}, \beta_{11}, \beta_{12}$ are the coefficient vectors which represent the impact on sales growth rate from capital borrowed from bank, taken from internal funds, non-bank financial institute, advance from supplier and others respectively.

From model 15 (R^2 = 0.167), the result shows that sale growth rate is significantly impacted by female owner (β_1 = 1.069) ($p < 0.05$).

From model 16 (R^2 = 0.074), the result shows that sale growth rate is significantly impacted by customs and trade regulations (β_2 = 0.168), access to finance (β_3 = -0.206), business licensing permits (β_4 = 0.088), labor regulation (β_6 = -0.087) and inadequately educated workforce (β_7 = 0.103) ($p < 0.05$).

From the source of the capital model (R^2 = 0.057), the result shows that sale growth rate is significantly impacted by capital financed by others (β_{12} = -0.020) ($p < 0.05$).

With control variables:

$$\%SalesGrowth_{2013} = \alpha + \beta_1\, Female + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (18)$$

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Chulalongkorn University

$$\%SalesGrowth_{2013} = \alpha + \beta_2\, Custom\ and\ Trade\ Regulation + \beta_3\, Access\ to\ Finance + \beta_4\, Business\ License\ Permits + \beta_5\, Political\ Instabilities + \beta_6\, Labor\ Regulation + \beta_7\, Inadequately\ Educated\ Workforce + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (19)$$

$$\%SalesGrowth_{2013} = \alpha + \beta_8\, Capital\ From\ Bank + \beta_9\, Internal\ Funds + \beta_{10}\, Capital\ from\ Non-Banking\ Institute + \beta_{11}\, Advance\ from\ supplier + \beta_{12}\, Others + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (20)$$

Regression analysis for equation (18) to (20) were run after including the control variables along with the key variables. $\beta_{13}, \beta_{14}, \beta_{16}, \beta_{16}$ are the coefficient vectors which show us the impact on sales growth rate from region, business sector, size of the firm and age of the firm accordingly.

From model 18 (R^2 = 0.457), the result shows that sale growth is significantly impacted by female owner (β_1 = 0.579) ($p < 0.05$), and other control variables including Khulna region (β_{13} = 0.20), Rajshahi region (β_{13} = -0.251), retail sector (β_{14} = 0.303), service sector (β_{14} = -0.354), and company size (β_{15} = 0.700) ($p < 0.05$).

From model 19 (R^2 = 0.420), the result shows that sale growth rate is significantly influenced by customs and trade regulations (β_2 = 0.092), access to finance (β_3 = -0.064), business licensing permits (β_4 = 0.159) ($p < 0.05$). And control variables including Khulna region (β_{13} = 0.228), Rajshahi region (β_{13} = -0.254), retail sector (β_{14} = 0.286), service sector (β_{14} = -0.386), and company size (β_{15} = 0.752) ($p < 0.05$) have an impact on sales growth rate as well.

From model 20 (R^2 = 0.447), the result shows that sale growth rate is significantly impacted by capital taken as advances from suppliers (β_{11} = -0.011), and capital from others (β_{12} = -0.014). And other control variables including Rajshahi region (β_{13} = -0.338), retail sector (β = 0.339), service sector (β = -0.328), and company size (β = 0.774) ($p < 0.05$) have an impact on sales growth rate also.

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Including all variables:

$$\%SalesGrowth_{2013} = \alpha + \beta_1\, Female + \beta_2\, Custom\ and\ Trade\ Regulation + \beta_3\, Access\ to\ Finance + \beta_4\, Business\ License\ Permits + \beta_5\, Political\ Instabilities + \beta_6\, Labor\ Regulation + \beta_7\, Inadequately\ Educated\ Workforce + \beta_8\, Capital\ From\ Bank + \beta_9\, Internal\ Funds + \beta_{10}\, Capital\ from\ Non-Banking\ Institute + \beta_{11}\, Advance\ from\ supplier + \beta_{12}\, Others + \beta_{13}\, Region + \beta_{14}\, Business\ Sector + \beta_{15}\, Company\ Size + \beta_{16}\, Age\ of\ company \quad (21)$$

Regression for equation 21 was run after including all variables.

From the model 21 (R^2 = 0.478), the result shows that sale growth is significantly impacted by female owner (β_1 = 0.58), customs and trade regulations (β_2 = 0.072), access to finance (β_3 = -0.068), business licensing permits (β_4 = 0.074), capital financed by other (β_{12} = -0.013). Among control variables Khulna region (β_{13} = 0.140) has positive impact, Rajshahi region (β_{13} = -0.257), has negative impact on sales growth rate. Both retail sector business (β_{14}= 0.290) and company size (β_{15} = 0.645) have positive impact on sales growth rate but service sector business has a negative influence on sales growth rate (β_{14}= -0.333) ($p < 0.05$).

Table 4. 13 Factors influencing the sales growth rate of firms in 2013

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	Model 15	Model 16	Model 17	Model 18	Model 19	Model 20	Model 21
Female Owner	1.069**	0.579**					0.526**
	(.000)	(.000)					(.000)
Customs And Trade Regulations			0.168**	0.092**			0.072*
			(.000)	(.004)			(.017)
Access To Finance			-0.206**	-0.064*			-0.068**
			(.000)	(.015)			(.007)
Business Licensing And Permits			0.088*	0.059			0.074*
			(.023)	(.062)			(.014)
Political Instability			0.018	0.009			0.009
			(.630)	(.766)			(.742)
Labor Regulations			-0.087*	-0.037			-0.026
			(.040)	(.278)			(.431)

Inadequately Educated Workforce			0.103**	-0.005			0.002
			(.003)	(.877)			(.935)
% Of Capital Borrowed From Banks					0.006	-0.003	-0.001
					(.334)	(.479)	(.844)
% Of Capital Financed From Internal Funds/Retained Earnings					-0.002	-0.008	-0.006
					(.737)	(.091)	(.214)
% Of Capital Borrowed From Non-Bank Financial Institutions					-0.007	-0.007	-0.003
					(.313)	(.206)	(.531)
% Of Capital Purchased On Credit/Advances From Suppliers /Customers					0.001	-0.011*	-0.007
					(.857)	(.039)	(.152)
% Of Capital Financed By Other (Money Lenders, Friends, Relatives, Etc) (calculated)					-0.020**	-0.014*	-0.013*
					(.009)	(.020)	(.035)
Chittagong-Sylhet		0.014		0.040		-0.019	0.047
		(.824)		(.559)		(.765)	(.471)
Khulna		0.200*		0.228*		0.022	0.140
		(.049)		(.042)		(.841)	(.204)
Rajshahi		-0.251**		-0.254*		-0.338**	-0.257**
		(.006)		(.011)		(.001)	(.009)
Retail		0.303**		0.286**		0.339**	0.290**
		(.002)		(.005)		(.001)	(.003)
Service		-0.354**		-0.386**		-0.328**	-0.333**
		(.000)		(.000)		(.001)	(.000)
Company Size		0.700**		0.752**		0.774**	0.645**
		(.000)		(.000)		(.000)	(.000)
Age Of Firm		-0.003		-0.003		-0.002	-0.004
		(.122)		(.152)		(.229)	(.059)
(Constant)	6.532	5.376	6.707	5.347	6.820	6.065	5.927
	(.000)	(.000)					(.000)

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R^2	.167	.457	.074	.420	.057	.431	.478

Dependent Variable: Sales Growth Rate, **p<0.01, *p<0.05.

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Chapter 5
Conclusion

5.1 Conclusion

This study analyzes the factors which influence the firms' employment generation and sale growth rate where gender, obstacles, and sources of capital were the key variables and regions of firms, business sector, firms' size and age were treated as control variables. After analyzing it was found out that the female ownership, custom and trade regulations, political instability, labor regulations, the source of capital from internal funds/ retained earnings, and others (moneylenders, friends, relatives, etc.) have a significant impact on sales growth rate out of those key variables. After including the control variables, it was found that two regions and firms' size and age could influence the sale growth rates well. R^2 shows the reliability of the regression result. This research can be helpful to the policymakers to come up with more or better policies which will encourage more female to be a part of the labor market. Moreover, the growth of the firms will eventually benefit the country's economy. The government should focus on promoting more female participation in labor force, coming up with policies for the firms to have easier access to finance, the reduction of customs tariffs which will benefit the firms, and ensuring licenses and permits for business without any informal cost which will benefit the firms to grow better.

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This study shows that company background, obstacles and source of capital could influence sales performance of the firms in Bangladesh. The data set from 2007 shows that most of the surveyed firms (55%) are from Dhaka region and 86.8% belongs to manufacturing industries and the average age of firms since its' establishment is 17.81 years. According to this data set, political instability was considered the major obstacle and labor regulation was found to be a minor obstacle. It was also noticed from this data set that internal funds/retained earnings were the primary source of capital while starting a business. Regression analysis from 2007 data set shows that female owners, customs and trade regulation, labor regulations, Chittagong and Rajshahi region and company size influence the employment generating rate. Another regression analysis show that 2007 data shows that female owners, customs and trade regulations,

business licensing and permits, labor regulations, Chittagong Sylhet and Khulna region influence the sales growth rate.

The dataset of 2013 indicates most of the participated firms in the survey are from Dhaka region (62.3%) which was even more than the firms participated in the 2007 survey. 82% of the firms belong to the manufacturing industry. Political instability was considered one of the significant obstacles and most preferred source of capital was considered the capital from internal funds/ retained earning according to this data set. Regression analysis shows that female owner, custom and trade regulations, access to finance, business licensing and permits and capital financed others, Rajshahi region, both service and retail sector and company size can influence the sales growth rate of the organizations.

5.2 Limitation of the study

One of the limitations of the study is the missing data. From 2007 data set, we can see that 729 organizations failed to provide the information about of number of employees employed in 2002 and 2005 and the sales volume as well. Since, the regression analysis was run excluding all this 729 organization for the data taken from 2007 data sheet. The number of employees employed in 2009 and 2012 is also missing from 2013 data sheet. This is another limitation of the study. This is why the study fails to compare the employment growth rate between the surveys.

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5.3 Policy Recommendation

The research can be helpful to the policymakers to come up with more or better policies which will encourage more female to be a part of the labor market. Female owners are significantly contributing in increasing sales growth rate and employment generation rate. Labor regulation has negative impact on both employment and sale growth rate. Chittagong and Rajshahi region have negative impact on generating employment compare to Dhaka region. The policymakers may come up with ideas which will be helpful to generate employment in those regions.

If the business person could have an easier access to finance to do business, they would be able to generate more sales growth rate. Their firms would face better growth

which will at the end benefit the country's economy, and government support will be essential here.

5.4 Scope of further research

This study creates scope to study more about employment opportunity created by male and female owners, factors affecting the employment opportunity, resources available to conduct business and obstacles to focus before conducting business in Bangladesh.

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