Entrepreneurship Against The Tide
Business performance of women entrepreneurs in a constrained environment. A survey in Bangladesh

Lavlu Mozumdar

Thesis committee

Promotor
Prof. Dr S.W.F. Omta
Professor of Management Studies
Wageningen University & Research

Co-promotors
Dr G. Hagelaar
Assistant professor, Management Studies Group
Wageningen University & Research

Dr V.C. Materia
Assistant professor, Management Studies Group
Wageningen University & Research

Other members
Prof. Dr L.E. Visser, Wageningen University & Research
Prof. Dr P.J. den Brok, Wageningen University & Research
Prof. Dr Jan Degadt, Catholic University of Leuven, Belgium
Dr J. Pieters, Wageningen University & Research

This research was conducted under auspices of the Wageningen School of Social Sciences (WASS)

Entrepreneurship Against The Tide

Business performance of women entrepreneurs in a constrained environment. A survey in Bangladesh

Lavlu Mozumdar

Thesis

submitted in fulfilment of the requirements for the degree of doctor
at Wageningen University
by the authority of the Rector Magnificus
Prof. Dr A.P.J. Mol,
in the presence of the
Thesis Committee appointed by the Academic Board
to be defended in public
on Wednesday 2 May 2018
at 1.30 p.m. in the Aula.

Dedicated to my wife Sumi

Acknowledgements

While my name is alone on the front cover of this thesis, I am not at all its only contributor. Rather, there are a substantial number of people behind this piece of study who deserve to be acknowledged and thanked. At this point it is my immense pleasure to acknowledge and thank all those people who helped, encouraged and supported me during the last four years.

First of all, I want to express my heartfelt gratitude to my study supervisors, Prof. Dr. S.W.F. (Onno) Omta, Prof. Dr. Mohammad Amirul Islam, Dr. Geoffrey Hagelaar and Dr. Valentina Cristiana Materia. Onno: I am forever grateful to you for providing me with the opportunity to pursue my PhD at the Management Studies Group. Thank you very much for your relentless inspirations, valuable comments and for keeping a helicopter view on my research project. You and Frances went to see my paper presentation at the 2016 Academy of Management Meeting, California, USA and after the presentation both of you encouraged me a lot. Thank you for that and your accompany at that moment will remain in my memory for a long period. Amirul: As a local supervisor you have been an incredible mentor for me throughout my PhD trajectory. I would like to give my sincere appreciation and thanks to you for your unrelenting support, suggestion and motivation especially during the period of proposal re-submission and data collection. Geoffrey: I am really indebted to you for your scholastic guidance and well-organized supervision during my PhD journey. I truly do appreciate your theoretical insights, thought provoking discussions and constructive criticisms. As my daily supervisor you were always adjacent to me whenever I needed time to solve the problem. You of course know very well how to grow a PhD. Geoffrey, you are my academic idol and I want to say thank you so very much for everything. Valentina: I want to thank you for encouraging my research and for accepting me to grow as a researcher. I am also indebted to you as you spent lots of hour for reviewing, refining and polishing my manuscripts. You taught me enriched scientific writing and I was benefitted from your instruction, assistance and valued comments on my scripts.

A very special gratitude goes out to my statistical advisor Dr. Gerben van der Velde. Gerben: You taught me how to deal with statistical challenges. And many thanks to you for your time, assistance and encouragement in data analyses since December 2015.

I thankfully acknowledge the sponsorship of NUFFIC-NICHE/156 project coordinated by the Centre for Development Innovation (CDI), Wageningen, the Netherlands. My cordial thanks to the respective authorities of this project namely Dr. Ann Gordon, Dr. Roel Bosma, Prof. Dr. Harunur Rashid and Prof. Dr. Md. Ali Akbar (the existing vice-chancellor of Bangladesh Agriculture University (BAU) and the former director of Interdisciplinary Centre for Food Security (ICF) at BAU) for all the logistic support during my PhD training.

I would like to thank my thesis committee members, Prof. Dr. Leontine Visser, Prof. Dr. PJ (Perry) den Brok, Prof. Dr. Jan Degadt and Dr. Janneke Pieters, for the evaluation of my thesis and also for the participation of public defence. I do appreciate their valuable time and effort in this regard. I want to thank my paranymphs, Sophia and Francisco, for your time.

I am thankful to my colleagues and staffs of the Management Studies (MST) group for your helpful approach during my stay in Wageningen University. Thank you Jacques, Emiel, Jos, Vincent, Domenico, Maria, Herman, Kim, Thomas, Gea, Larissa, Edurne and Job for your friendly conversation. I want to thank Ina, Linette, Johnnatan, Liesbeth and Marloes for your nice cooperation on administrative and financial matters. I would also like to thank my PhD fellows, Sebastian, Delelegne, Silvia, Waliou, Rob, Lisa, Annemarie, Amin, Carlos, Franco, Mercy, Daniel, Eva, Mmapatla, August, Jack, Jilde, Teunis, Fanny, Vivi, Aglaia, Katty, Sophia and Francisco for your nice support and friendship.

Most importantly, I would like to acknowledge and thank all the women entrepreneurs who warmly shared their business stories and experiences with me. Without the willingness to share their business information, this research would not have even been possible for me. In the same way, I would like to extend my great thanks to the local experts (from government and non-government organizations and also from commercial banks) who offered their time, support and valuable information. Genuine thanks to Anis, Setu and Babu for assisting me to collect data even from the remote areas.

I would like to thank the Bangladeshi friends and community at Wageningen for your cordial help, care and friendship. My earnest thanks to Niche BGD colleagues, Kizar, Mousumi, Naznin, Sharmin, and Mukta: I and my wife relished your accompany especially at weekends' parties and Bengali occasions.

Finally, special thanks to my beloved wife Sumi who was my constant source of energy, and spent sleepless nights with me and was always my support at the moments when there was no one to reply my worries and queries in the last four years. I really appreciate your everlasting patience, support and love especially during my PhD research. Thank you a lot for making me more than I am. I am also grateful to my closest family, my parents, parents in law, my sisters and brothers in law for their encouragement, sacrifice and blessings during my long PhD journey.

Lavlu Mozumdar, May 2018

Table of Contents

Chapter 1
General introduction

1.1 Introduction

Entrepreneurship has become an important vehicle in the enhancement of a country's national economic growth (Acs et al. 2011; De Vita et al. 2014; Coduras et al. 2016; Welsh et al. 2016). The concept entrepreneurship has already been used in the literature for decades, however, there is still little consensus on its definition (Kraus et al. 2012). Although different views are found in the literature, the most common keywords include value creation, employment creation, wealth creation, creation of innovation, creation of change, creation of growth and business or enterprise creation (Morris et al. 2010). In fact, "entrepreneurship is more than business creation .... entrepreneurial management may be regarded as a 'mode of management' different from traditional management" (Stevenson and Jarillo 1990). Stevenson and Jarillo (1990) state that 'entrepreneurship is a process by which individuals - either on their own or inside organizations - pursue opportunities without regard to the resources they currently control' (p. 23).

In this research, the theoretical lenses of entrepreneurial orientation (EO) and social capital are deployed. This combination of lenses aligns with the combination of the entrepreneurial pursue of opportunities and generation of resources. EO shapes entrepreneurs' actions to exploit opportunities (Burgelman and Grove 2007). Capabilities originating from entrepreneurs' EO are manifested in the dimensions innovativeness, risk-taking and pro-activeness (Miller 1983), which can lead them to achieve competitive advantages in their businesses by exploiting opportunities (Atuahene-Gima and Ko 2001; Burgelman and Grove 2007). Social capital refers to the support of relationships with individuals and organisations to entrepreneurial actions (Lin 1999; Adler and Kwon 2002; Inkpen and Tsang 2005) by means of actual or virtual resources that can be developed through social relationships or ties (Bourdieu and Wacquant 1992; Adler and Kwon 2002). These theories are well established in their fields and at the same time we acknowledge the debate on the universal performance benefits of these theories (Stam and Elfring 2008).

Several studies suggest that business performance[1] implications of EO is context specific (Lumpkin and Dess 2001; Wiklund and Shepherd 2003; Rauch et al. 2009; Chaston and Sadler-Smith 2012; Fuentes-Fuentes et al. 2015). A context constrained by the social and business environment can inevitably shape managerial assumptions and decisions making process of entrepreneurs, including the decision of pursuing entrepreneurial opportunities and how customer value is created and delivered (Welter 2011; Boso et al. 2013; Kim and Li 2014). Value creation is thus an entrepreneurial process in creating new organizational forms and shaping market arrangements to the advantage of the entrepreneurs (Baker and Sinkula 2009). Variation in findings, their interpretation including the possible interpretation from a contingency perspective of these results, are elaborately discussed for EO (Stam and Elfring 2008; Boso et al. 2013).

Results of studies on social capital imply as well that context is of importance to explain the association between social capital and business performance. The dichotomy between the 'bright side' (social capital leads to economic benefits) and the 'dark side' (over-embeddedness

---

[1] Here defined as the business success assessed by using financial- and/or non-financial performance indicators (Venkatraman and Ramanujam 1986).

meaning more social relationships implying more coordination leading to more time consumption leading to deceasing economic benefits) of social capital (Welter 2011; Barnes et al. 2016) is an example of this. Results of studies done in developing countries[2] highlight as well the attention for contingency e.g. the (negative) influence of the social environment on social relations hampering business performance (Amine and Staub 2009; Jamali 2009; Roomi and Harrison 2010; De Vita et al. 2014; Mozumdar et al. 2016b). Granovetter's (1985) observation about the way in which economic activity is "embedded in concrete ongoing systems of social relations" (p. 490) can be extended to the shaping of EO and of social capital: the shaping of EO and social relations is embedded in already existing ongoing societal and environmental systems. This is in line with the theoretical gaps and questions which arise around the contingent approach to the relation between EO (see Wales et al. 2013), social capital (see Jack 2005) and business performance.

Relating explicitly EO and social capital to a company's environment emphasizes that EO and social capital do not just emerge and are enacted. In that sense 'black boxes', or at least inconclusive insights in EO and social capital in relation to their environment, will be attended to in this research. As EO consumes firm resources, EO can be enacted and profited from when companies can deploy their own resources and their social capital, as a resource collecting mechanism, to support their EO driven activities (Hughes et al. 2015). Maximising gains is a recurring problem in EO research (Hughes and Morgan 2007). Insights into contingencies can contribute to the insight in how in a particular situation companies via their EO try to maximise their gains and in the role of social capital to resourcefully support those EO driven activities. The assumption is that social and environmental systems influence the shape of entrepreneurs' EO and structure the possibility of engaging in certain social relations. Via this mechanism, social and environmental systems can have an influence on business performance and thus can enlighten our understanding of the height of entrepreneurs' business performance. The question from an entrepreneurial perspective is; what are the possibilities and hindrances for entrepreneurs in their environment to shape EO and social capital to benefit business performance?

1.1.1 Developing countries and women entrepreneurs

Theory suggests a positive influence of EO on business performance (Lumpkin and Dess 1996). For social capital the positive influence on business performance is suggested as well as the social ties are presented as supportive of entrepreneurs, because they facilitate access to valuable resources such as credit, information and business direction advice (Aldrich and Zimmer 1986; Aldrich et al. 1989; Roomi 2013). However, strategic actions and organizational processes differ for instance in developing economies from those in developed economies of the United States and Western Europe (Bruton et al. 2010; Bruton et al. 2013). The environment can influence people's activities (Amine and Staub 2009; De Vita et al. 2014). The social environment, characterised by social norms, values, customs, traditions, ideologies, beliefs and practices, might influence activities of individuals by creating a sense of social control (Glonti et al. 2016). This creates barriers for entrepreneurial activities (Amine and Staub 2009; Jamali 2009; De Vita et al. 2014). Similarly, the business environment, defined as the environment

---

[2] Generally identified as the low- and middle income economies (World-Bank 2014).

where business transactions take place (Ward et al. 1995), when being characterized by poverty, uncertain and changing conditions (Amine and Staub 2009; Jamali 2009; De Vita et al. 2014) can create barriers such as physical (environmental threats and infrastructural instability) and institutional barriers (governance and political problems) (Jamali 2009; Acs et al. 2011; Kim and Li 2014). Entrepreneurship, including resource consuming EO and resource collecting social capital, placed in such a resource-deprived environment opens the question on how entrepreneurs in such an environment shape and enact their EO and how social capital is supportive to that. Entrepreneurship located in such poverty stricken regions is labelled as a major challenge by Bruton et al. (2013) who critically observe that 'entrepreneurship literature has historically shied away from issues involving poverty' (p. 683). This present research responds to their call to entrepreneurship scholars to direct their attention to entrepreneurship research in developing countries (Bruton et al. 2013; Kim and Li 2014).

More particularly, this question, against the background of EO's resource consumption and social capital's resource collection, appeals even more to a particular group of entrepreneurs, i.e. women entrepreneurs[3] in developing countries. Women entrepreneurs in a developing country context are faced with multiple challenges. First, women entrepreneurs in such contexts have to deal with considerable resource scarcity (Vossenberg 2013; De Vita et al. 2014). Second, the socio-cultural barriers for women's businesses in developing countries are also more evident (Roomi and Parrott 2008; Jamali 2009; Vossenberg 2013). Third, the level of institutional risk and uncertainty due to the institutional voids or weak formal institutions (e.g. inadequate legal systems, limitations in contract law and corruptions) supporting business activities in developing countries seems higher than that in developed countries (Mair and Marti 2009; Zoogah et al. 2015). From this contingency perspective, these women entrepreneurs seem to be confronted with barriers to access basic agency elements of entrepreneurship i.e. 'a praxis of knowing and doing of anticipating and acting' (Fuller 2000).

1.1.2 Women entrepreneurs: star performer or underperformer?
Especially in developing countries where people live in poor circumstances, entrepreneurship is a vital driver to reduce poverty[4] (Acs et al. 2011; Moller 2012; Bruton et al. 2013; Ramswamy and Kumar 2013). Women represent about fifty percent of most developing countries' population (GEM 2010). In this sense, women can be a key working force for the economy of developing countries (Poon et al. 2012; Welsh et al. 2016). The Global Entrepreneurship Monitor (GEM) indicates that women entrepreneurs are one of the rapid growing entrepreneurial clusters in developing countries (GEM 2010). They are identified as the rising stars or the new vehicle for the economies of developing countries to bring income and well-being (Mboko and Smith-Hunter 2009; Acs et al. 2011; Vossenberg 2013). Researchers define them as a dynamic 'untapped source' of economic growth (Minniti and Naudé 2010; Vossenberg 2013). The World Economic Forum at their annual meeting of 2012 has pointed them out as 'the way forward' (Hausmann et al. 2012). Scholars of women entrepreneurs state that they are the new movement for women (De Bruin et al. 2006; Brush and Cooper 2012;

---

[3] Here women entrepreneurs are defined as the women who are the initiators, owners and managers of businesses run at least for one year (Moore and Buttner 1997).
[4] The World Bank defines the poverty level for developing countries as individuals living on less than $ 2 per day (Bruton et al. 2013).

Vossenberg 2013; Welsh et al. 2016). Moreover, women entrepreneurs can make a notable contribution to economic growth (Acs et al. 2011; Vossenberg 2013), women empowerment (Haugh and Talwar 2014) and poverty reduction in developing countries (De Vita et al. 2014). By means of their business performance, women entrepreneurs might be able to contribute to family livelihood[5] (Gibson et al. 2004; Shah and Saurabh 2015), trying to maximise their gains (see Hughes et al. 2007), which can be seen lying at the heart of their business activities.

However, literature shows that businesses managed by women are smaller in size and have less growth expectations (GEM 2010). Also, women entrepreneurs are more likely to underperform or make less revenues and profits in their businesses compared to men entrepreneurs (Du-Rietz and Henrekson 2000; Vossenberg 2013). Business performance, beyond bringing the venture into business, is therefore a severe challenge for all women entrepreneurs, particularly in developing countries (GEM 2010; Vossenberg 2013). Looking at the context they operate in, women's business goals may be hindered by their societal position. In many developing countries, their social position is confined by their social environment (Handy et al. 2007; Jamali 2009; Nagadevara 2009; De Vita et al. 2014). The social environment might constrain women's business activities as it controls most of their activities in society (Guérin 2006; Fletschner and Carter 2008; Roomi and Parrott 2008; Jamali 2009; De Vita et al. 2014). Social norms in fact prescribe that women are responsible for domestic activities, e.g. cooking and childcare, and these might restrict their activities outside home (Sekarun and Leong 1992; Ufuk and Özgen 2001; Amine and Staub 2009; Al-Haddad 2010; Singh et al. 2010; Belwal et al. 2012; Maas et al. 2014). Social attitudes based on religious beliefs in some developing countries do not support women's businesses, which in effect may undermine their business performance. Moreover, the business environment in developing countries might be hostile or unfriendly due to poor conditions such as environmental threats (e.g. floods), infrastructural uncertainty and risk (e.g. poor roads), organizational limitations and non-supportive business policies (Amine and Staub 2009; Acs et al. 2011; Vossenberg 2013; Al-zoubi and Al-Alak 2014). Both the business and social environment in developing countries can lead to major constraints to women's entrepreneurial activities and hamper their business performance (Acs et al. 2011; Vossenberg 2013; De Vita et al. 2014). Therefore, a home based, resource scarce, socially confining and business wise threat-to-disrupt environment where women entrepreneurs (in developing countries) execute their businesses can be defined a 'constrained context'. To be able to deal with these constraints, women entrepreneurs may implement personal strategies to improve their business performance without compromising their role in the household (Al-Dajani and Marlow 2010; Maas et al. 2014; Poggesi et al. 2015).

1.1.3 Women entrepreneurs' EO, social capital and business performance
In a constrained context women shape their entrepreneurship in such a manner that they are able to achieve their business performance (Fuentes-Fuentes et al. 2015). Scholars in the entrepreneurship domain have attempted to explain entrepreneurs' business performance by examining their entrepreneurial orientation (EO) (Dess and Lumpkin 2005). EO as strategic capabilities to exploit opportunities (Lumpkin and Dess 1996) may enhance business

---

[5] Defined as the ability of a family to uphold and improve its income, assets, and social well-being (for example, food, housing and health) over the years (Lindenberg 2002).

performance of entrepreneurs (Fuentes-Fuentes et al. 2015). Social capital is identified in literature as a means to boost business performance (Acquaah 2007; Sheng et al. 2011). Social capital, following the work of Granovetter (1985), is represented by social relations, expressed in strength of ties, and network structure, expressed in number of ties (Lin 1999; Adler and Kwon 2002; Inkpen and Tsang 2005). The strength of ties and the number of ties may serve as a protection not only when starting the business but also for leveraging the business performance (Acquaah 2007; Sheng et al. 2011). The strength of ties and number of ties enable entrepreneurs to gain information and resources from relations with governmental agencies, peers and family (Luo 2003; Boso et al. 2013).

However, in the environment of especially women entrepreneurs in developing countries for developing their business by means of EO and social capital a rivalrous nature of business and social conditions can exist. In developing countries where the social condition is seemingly not in favour of women's business, their social capital may have a negative effect on their business activities and performance (Mayoux 2001). Whilst, on the contrary, the disruptive character of the business environment assumes access to a number of ties to acquire information and resources to identify and exploit opportunities to be able to maintain and/or develop the business. The social environment can drive the bonding (family) ties whilst the woman's entrepreneurship would thrive by relations with other entrepreneurs and/or with governmental agencies. Is risk taking the dimension to develop business by these women or, looking at the aim of women entrepreneurs to contribute to family livelihood would another EO-dimension be more favourable?

Entrepreneurial behaviour by exploiting opportunities seems to be contradictory to the position women take in such constrained societies and the constraints in their business environment. Thus, gaining insight in the manner in which women cope with this context to exploit opportunities through their EO to reach business performance is necessary from a practical point of view and theoretically. Literature on EO and social capital and their relationship with business performance in developing countries, with this highlighting their constrained context to act as an entrepreneur and the family livelihood necessity to become an entrepreneur, is limited (Poggesi et al. 2015). The main objective of this thesis is therefore as follows.

To explore the influence of EO and social capital on business performance of women entrepreneurs in a constrained context and their contribution to family livelihoods.

1.2 Research context

In Bangladesh - a developing country - women are engaged, though not at a large scale, in entrepreneurial activities. Women entrepreneurs in Bangladesh represent 10% of the total number of its entrepreneurs (Rabbani and Chowdhury 2013; The-Daily-Star 2017). They mainly work in manufacturing (62%), trading (13%) and service (13%) sectors. The majority of Bangladeshi women entrepreneurs are engaged in handicraft business (70%). Home textile (16%) comes next, followed by parlour (5%), food processing (4%), agricultural products processing (3%) and printing (2%) businesses (BWCCI 2008). Among them, 97.6 % operate micro businesses (less than 10 employees) while only 2%, .24% and .16% respectively operate

small- (10 to 49 employees), medium- (50 to 99 employees) and large businesses (100 and above employees) (Zaman and Islam 2011).

Bangladeshi women's activities largely depend on the societal setting they live in (Drinkwater 2009; Kuada 2009; Haugh and Talwar 2014). Bangladesh is mostly confined to traditional societal setting where women are underprivileged; having a highly marginalized social position might create significant obstacles to develop their own business (Drinkwater 2009; Rabbani and Chowdhury 2013). The prevailing socio-cultural norms and traditions in this country might constrain women's mobility and thereby their participation to business activities (Kabir and Huo 2011; De Vita et al. 2014). In fact, Bangladeshi women's business operations largely depend on patriarchy and religion (Drinkwater 2009; Rabbani and Chowdhury 2013). The majority of the population (90%) are Muslims and the Islamic view prescribes that women must maintain *purdah*[6] (seclusion) that might hinder their business activities and performance as well (Islam et al. 2009; Rahmatullah and Zaman 2014). Women perceiving *purdah* often find it hard to visit financial institutes (e.g. banks), purchase their raw materials and sell their products in public settings in which they would need to deal with men (Nawaz 2009; Sultana 2012; Rabbani and Chowdhury 2013). The patriarchy in society relegates them to cooking, family care and all kinds of household activities and keeps them financially dependent on men (Drinkwater 2009): their economic capability and financial resources are capped at levels substantially lower than those needed to develop a business (Maas et al. 2014).

Equally, the business environment in Bangladesh for entrepreneurial activities of women (and men) is challenging due to different barriers (Chowdhury 2007). Literature finds that barriers are related to the physical and institutional environment (Parvin et al. 2012; Afroze et al. 2015). Physical barriers are represented by floods, poor- technology, infrastructure and utility services (Jahed et al. 2011; Sultana 2012; Afroze et al. 2015). Institutional barriers occur due to political unrest, corruption and bribery in administrative arrangements (Parvin et al. 2012; Afroze et al. 2015). Although women and men might face the same barriers in the business environment, Jahed et al. (2011) find that women entrepreneurs in Bangladesh are in a less favourable position compared to their male counterparts when it comes to overcome these barriers.

The barriers in the business and social environment in Bangladesh give reason to assume that this is a constrained context for entrepreneurial activities and business performance of women entrepreneurs.

1.3 Theoretical perspectives and research gap

The entrepreneurial orientation (EO) theory (Lumpkin and Dess 1996) and the organizational theory on social capital (Lin 1999; Adler and Kwon 2002; Inkpen and Tsang 2005; Lin 2008) provide the theoretical paradigms to study the multi-challenged processes of entrepreneurship for women. At the same time we acknowledge the debate on the business performance benefits of these theories from a constrained context perspective. This is applicable also to our specific context, Bangladesh, and helps in framing the context in which we set this study.

---

[6] The practice in Muslim societies of screening women from men or strangers, especially by means of a veil.

In entrepreneurship literature, EO has become an important idea in the last three decades (Miller 2011; Covin and Wales 2012; Wales et al. 2013; Wales 2016). Rauch et al. (2009) conclude in their article that EO represents a promising field for constructing a cumulative body of relevant knowledge on entrepreneurship. EO is defined as the strategic capabilities and attitudes of entrepreneurs that lead to entrepreneurial actions and decisions (Lumpkin and Dess 1996; Rodríguez Gutiérrez et al. 2014). Actions taken by entrepreneurs should be driven by perception of opportunities and targeted on the exploitation of these opportunities (Bradley et al. 2011). EO shapes the manner to exploit opportunities by infusing innovativeness, risk-taking and pro-activeness - three main dimensions of EO (Miller 1983) - of entrepreneurs' actions (Burgelman and Grove 2007). In this sense, EO can be viewed as the heart of entrepreneurship, the key for entrepreneurs to find new opportunities in the environments where they operate.

Theory suggests that EO enhances business performance (Lumpkin and Dess 1996). Empirical quantitative evidence is mixed and indecisive: some studies show a positive influence of EO (Wiklund and Shepherd 2003; Covin et al. 2006; Rodríguez Gutiérrez et al. 2014; Rodríguez-Gutiérrez et al. 2015), while others show a weak (Lee et al. 2001) and not significant influence on business performance (Slater and Narver 2000). This variation in findings can relate to the context specificity of business performance implications of EO and the EO dimensions themselves which are context specific and can vary according to entrepreneurs' internal-business characteristics (e.g. business size) and external environments (e.g. business and social environments) (Lumpkin and Dess 2001; Wiklund and Shepherd 2003; Rauch et al. 2009; Chaston and Sadler-Smith 2012; Fuentes-Fuentes et al. 2015). In addition, studies suggest that both the business and social environments may have an influence on business performance (Ward et al. 1995; Amine and Staub 2009). Although EO is viewed as an important personal trait of entrepreneurs conducing to business performance (Rauch et al. 2009; Wales et al. 2013; Wales 2016), still it is not clear what the influence of EO is on business performance of women entrepreneurs operating in a constrained context such as Bangladesh. This leads to the following research question.

Research question 1 (RQ1): What is the impact of entrepreneurial orientation (EO) and the social and business environment on business performance of women entrepreneurs in Bangladesh?

Next to EO theory, the social capital theory can explain business performance of entrepreneurs (Carter et al. 2003; Kuada 2009; Xie and Lv 2016). The social capital theory highlights the importance of relationships with individuals and organisations that can be used to support entrepreneurial actions (Lin 1999; Adler and Kwon 2002; Inkpen and Tsang 2005). Within social capital theory, social networking is viewed as an entrepreneurial strategy vital for identifying opportunities and for accessing resources (e.g. money, knowledge, guidance and information) needed to develop the business (Aldrich and Zimmer 1986; Bliemel and Maine 2008; Hoang and Yi 2015). The set of actual or virtual resources can be developed through social relationships or ties (Bourdieu and Wacquant 1992; Adler and Kwon 2002). The relations that entrepreneurs build and maintain with family, friends, governmental agencies, chain partners, such as other entrepreneurs (buyers or suppliers) can offer them information benefits. These can help them in (i) accessing resources; (ii) referrals; and (iii) identifying entrepreneurial

opportunities at the right time in the right place (Uzzi 1996; Burt 2000). Research on network structure has suggested two types of network embeddedness (Granovetter 1985): structural and relational embeddedness. When relational embeddedness highlights the quality of ties that are characterized as weak or strong (Granovetter 1973, 1985), structural embeddedness indicates the quantity (or number) of ties in the network (Granovetter 1992; Gulati 1998).

Structural embeddedness is related to the exchange of information and resources between members of that network (Granovetter 1985). A high degree of structural embeddedness refers here to the women entrepreneurs' maintenance of a large network. Network size implies in this study the number of direct ties a woman entrepreneur has. Via a direct tie exchange of resources and information is facilitated (Feld 1997). So women entrepreneurs with a larger number of ties can access potentially to more information and resources than those with a lesser number of direct ties. Introducing types of ties as bonding- (e.g. ties with family and friends), bridging- (e.g. ties with other entrepreneurs) and linking (e.g. ties with individuals of the organizations) (Hawkins and Maurer 2010; Maas et al. 2014) is relevant for the study of the size of the network of women entrepreneurs in their socially constrained context. Which number of ties outside of the family and friends network, can be developed by women entrepreneurs? Although prior studies have highlighted that the social networks play a vital role in enlightening the growth of new businesses (e.g. Greve and Salaff (2003); Light and Dana (2013); Boso et al. (2013)), a few studies have given attention to the influence of entrepreneurial network size and especially the combination of the number and type of ties on business performance in the case of women entrepreneurs working in a constrained context.

Research question 2 (RQ2): What impact does the size of the networks and the number and type of ties exert on the business performance of women entrepreneurs in Bangladesh?

Based on the strength (intensity) of the tie, Granovetter (1973) has classified ties into strong and weak. Weak ties are more casual and have a low emotional closeness, while strong ties have a frequent contact (at least twice a week), a high amount of emotional closeness and a long time of connection (Granovetter 1973). However, strong ties might have a constraining impact on entrepreneurs (Gargiulo and Benassi 1999; Omta and Rossum 1999; Portes 2000; Mayoux 2001). As well as in the case of number of ties, the level of strength of ties can be adopted to the different types of ties classified as bonding, bridging and linking ties. Especially for a study into women entrepreneurship in a socially constrained context, a distinction between bonding (within family and friends network) and bridging and linking (outside of family and friends network) ties, seems to be relevant. Although some studies have shown that strength of ties enhance entrepreneurial success (Adler and Kwon 2002; Batjargal 2003, 2007; Maas et al. 2014; Hoang and Yi 2015), literature on what strength of ties and combinations of strength and type of ties are beneficial or detrimental for business performance of women entrepreneurs operating in a constrained context is still scarce.

Research question 3 (RQ3): What strength of ties and combinations of strength and type of ties are beneficial or detrimental for business performance of women entrepreneurs in Bangladesh?

Women entrepreneurs' contribution to their families' livelihood in developing countries, more particularly in constrained contexts, is a basic need (Gibson et al. 2004; Block et al. 2015; Shah

and Saurabh 2015). The question rises how the entrepreneurship of women in that constrained context can and to which extent they can contribute to family livelihood. Entrepreneurship researchers often suggest that entrepreneurs can increase their level of EO to the benefit of their business performance (Covin and Lumpkin 2011) which enables them to contribute to family livelihood. Increasing the level of EO directs the research attention towards the antecedents of EO - factors that influence EO. Studies on antecedents of EO are gender neutral (male and female together) or male demarcated (Ireland et al. 2009; Wales et al. 2011; Wales et al. 2013). Insights on the antecedents of EO of women entrepreneurs - missing in literature - is crucial in order to increase their business performance and thereby enable their contribution to their family livelihood, even in a constrained context.

Research question 4 (RQ4): What are the antecedents of EO to leverage business performance of women entrepreneurs in Bangladesh (RQ4$_a$)? What is the impact of business performance of women entrepreneurs on their families' livelihood in Bangladesh (RQ4$_b$)?

1.4 Research design

To answer the above research questions, we used the survey data of women entrepreneurs in the Jamalpur and Mymensingh districts (the location of these districts is shown in Figure 1.1) collected in 2015 (February to June). We selected these districts because: i) a large number (though not quantifiable) of women entrepreneurs has been developing since long time in these districts (more than in others in Bangladesh) their own handicrafts business, which represents a profitable business in the area; ii) the business environment in these districts is challenging because of poor roads, bridges, electricity and communication technologies: Jamalpur, compared to Mymensingh, is particularly challenging due to the location of the river and consequential threat of flooding; finally iii) the social environment is dominated by patriarchy and Muslim's religion, which affects the societal position of women. Women entrepreneurs have shops where they sell different types of handicrafts products, for example, fabric, jute, cane, bamboo, leather and wooden products.

To access women entrepreneur respondents for the survey, the researcher contacted organizations supporting women entrepreneurs' handicraft businesses in the selected districts. The organizations contacted were: the government organizations BSCIC (Bangladesh Small and Cottage Industries Corporation), DWA (Directorate of Women Affairs), JMS (Jatiya Mahila Sangstha); non-government organizations WV (World Vision) and BRAC (Bangladesh Rural Advancement Committee); the commercial and specialised banks NB (National Bank) and GB (Grameen Bank); and other private organizations BWCCI (Bangladesh Women Chamber of Commerce and Industry), Trinamool Nari Unnayan Samity, Srijan Mohila Sangstha, Jamalpur Zilla Hasta Silpa Babsahi Samity, Jamalpur District Handicrafts Associations. These organizations provided us 789 women entrepreneurs' names. After eliminating overlapping names, finally 300 women entrepreneurs (180 from Jamalpur and 120 from Mymensingh) were selected as respondents for the survey.
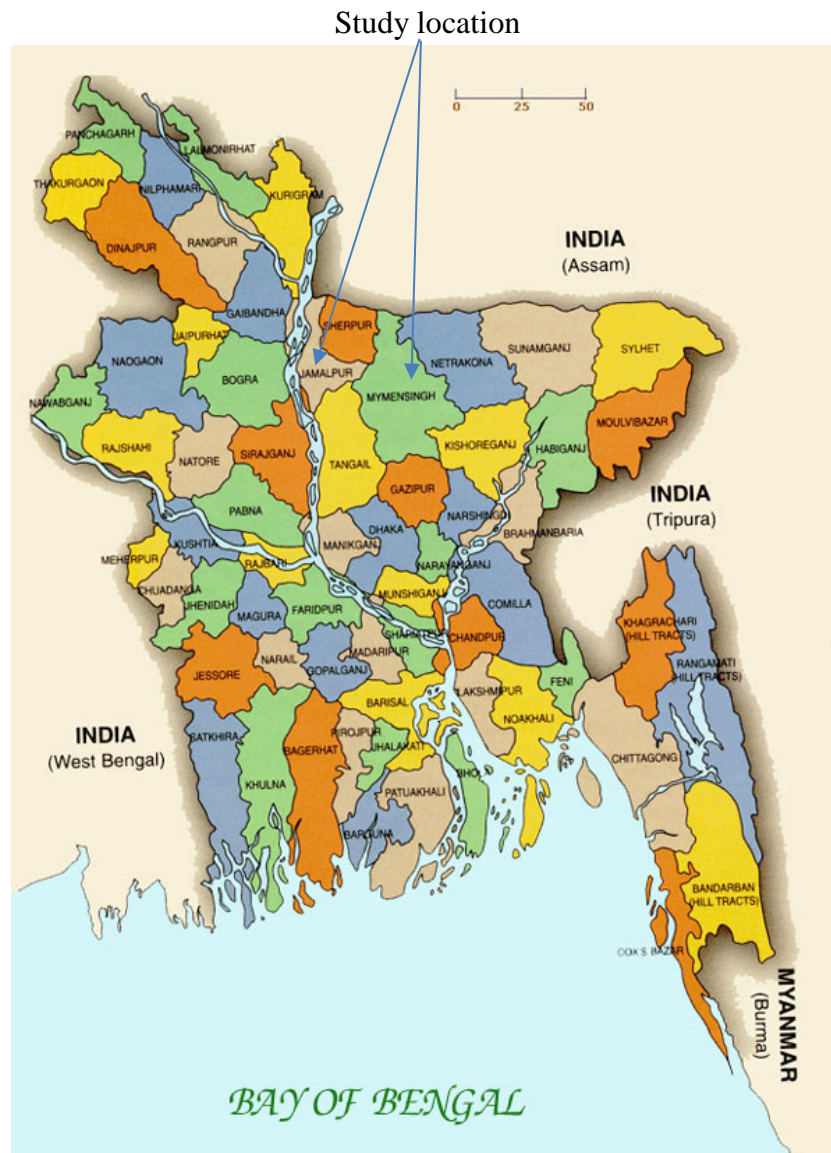
Figure 1.1 Map of Bangladesh

A structured questionnaire was used in the survey[7]. To create a valid and relevant questionnaire in this context, we discussed the structure and contents of the questionnaire with 12 local experts from BSCIC, DWA, JMS, WV, BRAC, NB, GB and BWCCI. After receiving suggestions from the local experts, we added, corrected and modified the questions in the draft questionnaire without endangering the theoretical relations between concepts and questions. To check the questionnaire in practice, we did a pilot survey of 20 respondents (ten from each district). Based on the feedbacks from respondents in the pilot survey, we rearranged questions and finalized the survey questionnaire.

Based on this questionnaire, the researcher with the help of three postgraduate students of Bangladesh Agricultural University conducted face-to-face interviews with 300 respondents (including the 20 respondents in the pilot survey). Each interview lasted for one and a half

---

[7] The survey questionnaire is added in the Appendix A1

hours. After that, data were registered and coded in SPSS (statistical package for social sciences) and analysed using SPSS and STATA software.

1.5 Thesis setup

This thesis is structured into six chapters. Chapter 1 presents the general introduction, while Chapter 6 contains the overall discussion and conclusion of the thesis. The remaining Chapters, from Chapter 2 to Chapter 5, comprise four distinct studies and each study answers one of the four research questions that are specified in this introduction chapter. The outline of the thesis is illustrated in Figure 1.2.

Chapter 2 examines the research question 1 providing insights on the relationship between entrepreneurial orientation (EO) and business performance of women entrepreneurs working in Bangladesh, a constrained context. This chapter particularly explains the influence of the EO dimensions and the influence of the social and business environment on business performance of women entrepreneurs in the two selected districts.

Chapter 3 analyses what influence the social networks of women entrepreneurs may exert on their business performance in a socially constrained context. As such, it identifies and describes the influence of network size (total number of ties), the so-called structural aspect of social capital, as well as the number in combination with different types of ties (bonding, bridging and linking ties) on women entrepreneurs' business performance in the stated context.

The goal of Chapter 4 is to explore women entrepreneurs' business performance in a socially constrained condition from a social capital theory perspective. This chapter especially tests and extends the Granovetter's (1973) theory of the strength of ties to the women entrepreneurial context, the so-called relationship aspect of social capital. In doing so, it explains what strength of ties and what strength and types of ties are advantageous or disadvantageous for business performance of women entrepreneurs in the context mentioned.

Chapter 5 explains in what way women entrepreneurs can enhance their family livelihood in a constrained context. In particular, this chapter examines antecedents of EO, key determinants of business performance and also analyse and reveal the influence of business performance on family livelihood of women entrepreneurs working in a constrained context.

Chapter 6 firstly synthesizes the main findings answering the four research questions. Next, it discusses the main findings and draws general conclusions. Furthermore, it discusses theoretical and methodological contribution and limitations of this research and suggests avenues of the future research. Finally, it explains the policy implications of this thesis.

Chapter 1

General introduction

Chapter 2

Entrepreneurial orientation and business performance of women entrepreneurs

Chapter 3

Women entrepreneurs' networks and business performance

Chapter 4

Social ties and business performance of women entrepreneurs

Chapter 5

EO and the contribution of women entrepreneurs to family livelihood

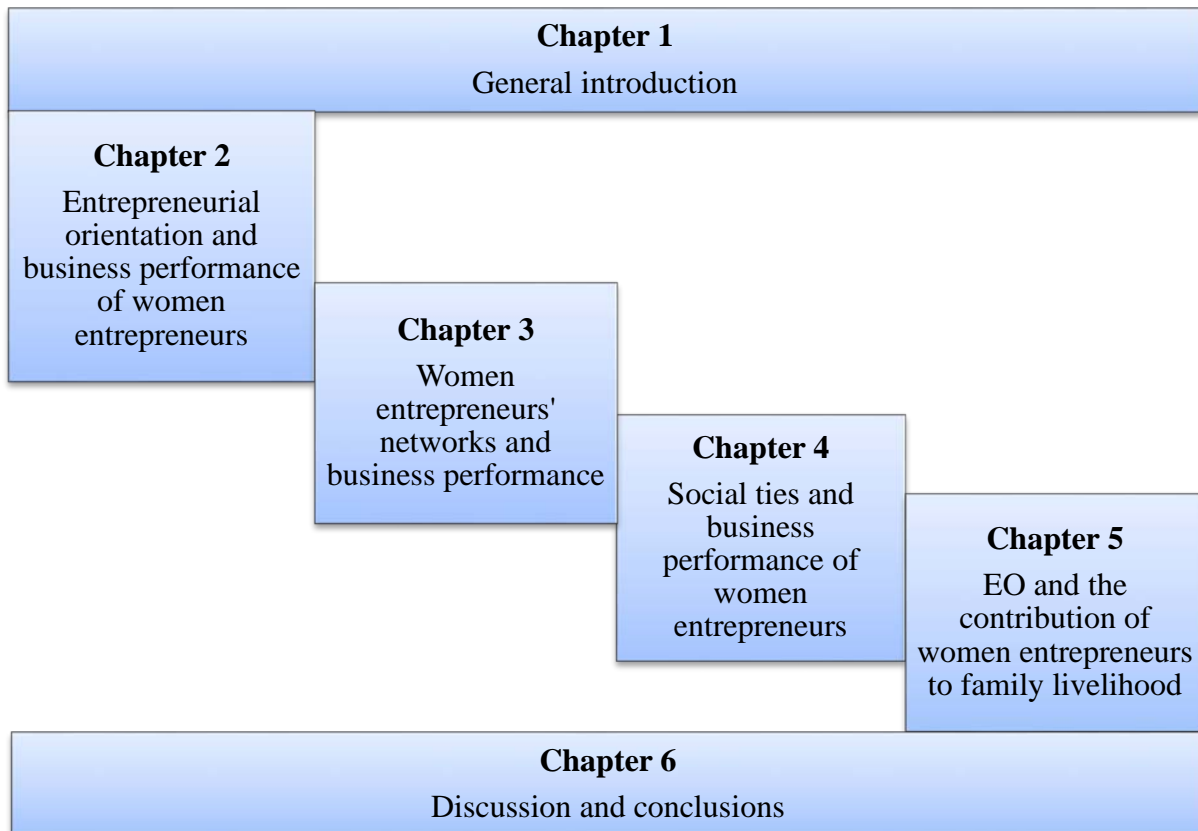**Chapter 6**

Discussion and conclusions

Figure 1.2 Thesis outline

Chapter 2
Entrepreneurial orientation and business performance of women entrepreneurs

2.1 Introduction

Entrepreneurial orientation (EO) is an important driver for business performance (Rauch et al. 2009; Fuentes-Fuentes et al. 2015), being this defined in terms of financial indicators, such as profitability, sales growth and market share, or in terms of non-financial indicators, such as economic growth and stakeholder satisfaction (Venkatraman and Ramanujam 1986). EO shapes the way in which entrepreneurs exploit opportunities by infusing innovativeness, pro-activeness and risk-taking into the firm's operations, the so called three EO dimensions (Burgelman and Grove 2007; Fuentes-Fuentes et al. 2015). Although the EO dimensions as defined by Miller (1983) are certainly central to understanding the entrepreneurial process, Lumpkin and Dess (1996) and later Wales et al. (2013) suggest that they may occur in different combinations, depending not only on the type of entrepreneurial opportunity a firm pursues, but especially on the given context or environment. From this we derive that each dimension in itself can influence the entrepreneurial process and in turn result in a higher or lower business performance (Wales 2016).

Whilst theory suggests a positive influence of EO on business performance (Lumpkin and Dess 1996), empirical evidence is still inconclusive (Rauch et al. 2009). The influence varies from being significantly positive (Wiklund and Shepherd 2003; Covin et al. 2006; Rodríguez-Gutiérrez et al. 2015) to weak in the case of new ventures (Lee et al. 2001) and not significant when analysed in relation with indicators of profitability (Slater and Narver 2000). Several studies suggest that the link between EO and business performance can vary according both to the context or environment in which firms act and to several firm-internal characteristics (Lumpkin and Dess 1996; Fuentes-Fuentes et al. 2015). Increasing globalization of business and development of entrepreneurship worldwide motivates research on the influence of EO on business performance in different countries. The extent to which EO and especially the dimensionality of EO (Miller 2011; Wales 2016) influences business performance is related to the influence of the environments in the different countries on business performance. Research has in fact shown that the social and business environments influence performance (Ward et al. 1995; Glonti et al. 2016). Environments can influence possibilities for entrepreneurial activities. Certainly countries in which social and business environments constrain entrepreneurship and entrepreneurship in itself is of importance to stimulate national economy, research into the relative contribution of EO to business is motivated (Wales et al. 2013).

This kind of a situation is particularly evident from studies on women entrepreneurs operating in developing countries (Amine and Staub 2009; De Vita et al. 2014). Women-owned firms constitute an especially interesting sampling for the study of the EO-performance relationship because of the unique set of characteristics that these firms possess, including their size, industry, and resource endowments (Fuentes-Fuentes et al. 2015). The social environment in the specific context of developing countries, moreover, controls and limits their business activities (Amine and Staub 2009; Jamali 2009; De Vita et al. 2014). Societal norms often relegate women to only indoor activities, like cooking and taking care of the family (Maas et al. 2014). At the same time, the business environment offers challenges to (men and) women entrepreneurs in the form of environmental threats, infrastructural instability and governance

limitation (Lerner et al. 1997; Amine and Staub 2009; Al-Dajani and Marlow 2010; Roomi 2013).

Research identifying the influence of EO dimensions relative to the impact of social and business environment on business performance of women entrepreneurs in developing countries is still limited (Roomi 2013; Wales et al. 2013; De Vita et al. 2014). Understanding the relative impact of EO on business performance, research can guide entrepreneurs and governments in their pursuit of stimulating entrepreneurship (Knight 1997). Such insight starts with getting insight into the relative impact EO has compared to contextual factors as social and business environments which are less sensitive for managerial impact (Wales et al. 2013). Research into such kind of socio-economic circumstances furthers the opportunity to compare EO research results globally (Wales et al. 2013). Our research answers the question: what is the impact of entrepreneurial orientation (EO) and the social and business environment on business performance of women entrepreneurs in Bangladesh? By presenting research on women entrepreneurs in Bangladesh, this paper contributes therefore to the literature on (1) separate EO dimensions and their individual contributions to business performance (Wales 2016) and (2) the role of EO compared to (less) manageable factors as the social and business environments in influencing business performance in the specific case of women entrepreneurs. This also offers insights on how the EO dimensions trigger the business performance of women entrepreneurs in a constrained environment.

2.2 Theory and hypotheses
Entrepreneurial orientation and business performance
Entrepreneurial orientation (EO) indicates the strategic capabilities and attitudes of entrepreneurs leading to entrepreneurial actions and decisions (Lumpkin and Dess 1996; Walter et al. 2006; Rodríguez Gutiérrez et al. 2014). According to Miller (1983), EO consists of three dimensions: innovativeness, risk-taking and pro-activeness, widely and consistently used in the entrepreneurship literature (Covin and Slevin 1989; Wiklund 2006; Rauch et al. 2009; Kraus et al. 2012; Fuentes-Fuentes et al. 2015).

Innovative EO (innovativeness) refers to the ability of engaging in new ideas and techniques in order to introduce new products and services in markets (Damanpour 1991; Lumpkin and Dess 1996; Hurley and Hult 1998; Zahra and Garvis 2000). Due to its decisive role in obtaining competitive advantages (Atalay et al. 2013), innovativeness is the dimension most largely studied in the literature. Empirical evidence on the relationship between innovativeness and business performance mostly comes from studies in developed countries. Studies show that - as it is conceived - innovativeness triggers profitability, which increases as a results of new products or technological processes (Kyrgidou and Spyropoulou 2013). Studies generally find a significant positive relationship between innovativeness and performances (Calantone et al. 2002; Hult et al. 2004; Hughes and Morgan 2007; Atalay et al. 2013), as also the meta-analysis of Rosenbusch et al. (2011) informs. This relation is confirmed also at small and medium enterprises level (Rodríguez-Gutiérrez et al. 2015). Studies conducted on women entrepreneurs suggest however that in general women have a lower level of innovativeness due to several reasons: their small business sizes, the involvement in traditional businesses (with low rates of innovation), a limited access to financial resources (Anna et al. 2000; Gundry and Welsch 2001;

Orser et al. 2006; Minniti 2009) and a lack of relevant human capital, such as education and previous experience as worker and as founder (Fuentes-Fuentes et al. 2015). In some cases however, women entrepreneur show higher commitment than men to product and service innovation, and by this their innovativeness seems to increase (Lerner and Almor 2002; Pablo-Martí et al. 2014). Clear evidence on the influence of innovativeness on business performance in the context of women entrepreneurs in developing countries is however still absent.

Risk-taking EO (risk-taking) refers to the ability to identify and take strategic (financial) risks for new products, services and markets (Covin and Slevin 1991; Willebrands et al. 2012). Exploiting new opportunities by means of taking planned and manageable risks (Begley and Boyd 1988) with an informed decision process (Eisenhardt 1989), entrepreneurs can improve their business performance (Lumpkin and Dess 1996). Risk averting entrepreneurs keep in fact themselves inactive, therefore unable to recognise and exploit new business opportunities in dynamic markets, with the consequence that their business performance does not improve (Miller and Friesen 1982). Studies suggest that women are more likely to take low-risk businesses (Anna et al. 2000; Kepler and Shane 2007; Lim and Envick 2013), they are more likely to seek security working in more traditional sectors than not venturing into industries which are less familiar to them; they start their businesses with a lower amount of capital (Verheul and Thurik 2001) and are less likely to take external capital (Carter 2002; Marlow and Patton 2005), preferring low risk - and low return - businesses. The literature suggests that risk-taking has in general a significant positive relationship with business performance in different industrial sectors (Swierczek and Ha 2003; Krauss et al. 2005; CEIRD 2013). Evidence from women entrepreneurs is still inconclusive though. Reasons for hypothesizing a negative influence of risk taking on performances of women-led businesses are advanced by studies showing that low risk behaviour produces low expectations, and this in turn has adverse effects on the success of a business (Carter 2002). However, other studies do not find differences in risk behaviour between women and men entrepreneurs. What is still inconclusive or missing is evidence on women entrepreneurs operating in developing countries. At our best knowledge, Garba (2011) is the only study suggesting (based on 30 samples/cases) that risk-taking positively impact on business expansion of Nigerian women entrepreneurs.

Pro-active EO (pro-activeness) creates forward-looking capabilities of entrepreneurs to forecast customers' needs and necessary changes in markets (Lumpkin and Dess 2001). Pro-active entrepreneurs are capable of introducing new products or services, or modifying existing ones in advance of competitors (Lumpkin and Dess 1996; Rauch et al. 2009). This capability helps entrepreneurs to exploit new business opportunities, and enhances advantages of the first mover such as high return, brand recognition and customer attraction, thereby improving their business performance (Lumpkin and Dess 2001; Wiklund and Shepherd 2005). Although scarce, literature suggests that women entrepreneurs have a lower level of pro-activeness (Gupta and Bhawe 2007; Lim and Envick 2013), since they seem less prone than men to a first mover strategy and in turn to take advantage of this strategy increasing their performance. Empirical evidence shows that pro-activeness has in general a positive relationship with business performance, both in the case of developed (Hughes and Morgan 2007; Kraus et al. 2012) and developing countries (Krauss et al. 2005; Le Roux and Bengesi 2014). Although some of the

dimensions of EO may be hampered by specific gender barriers to entrepreneurship, these dimensions can still have a positive effect on the performance of women-led firms (Lumpkin and Dess 1996). Fuentes-Fuentes et al. (2015) pose for example that even if the level of one dimension is not as high as that of the others, the influence EO has on business performances can still be positive. As Lumpkin and Dess (1996) show, the success of EO does not depend on all of its dimensions being present. Moreover, Uddin et al. (2014) suggest that entrepreneurial orientation may be a potential driver for business performance of (men and) women entrepreneurs in Khulna City of Bangladesh. Based on this assumption and considering that for the specific context of developing countries evidence on women entrepreneurs is still scarce, we hypothesize for the relation between the individual EO dimensions and business performance of women entrepreneurs operating in a developing country context as Bangladesh that:

Hypothesis H$_1$: Innovative EO shows a positive relationship with business performance of Bangladeshi women entrepreneurs;
Hypothesis H$_2$: Risk-taking EO shows a positive relationship with business performance of Bangladeshi women entrepreneurs;
Hypothesis H$_3$: Pro-active EO shows a positive relationship with business performance of Bangladeshi women entrepreneurs.

However, as Wiklund and Shepherd (2005) suggest, EO dimensions may provide a differentiation in mechanism for firms operating under less favourable conditions, such as women entrepreneurs in constrained environments, in comparison with firms in situations of resource abundance and market dynamism. This introduces to the argument - this paper proposes - that when checking the relation between EO and performance in constrained environments there is the need to consider also the social and business environment in which the business activity is run. These contexts might indeed exert an influence on the performance.

Social environment and business performance
The social environment influences the performance of individuals creating a sense of social control via a common culture including shared norms, values, customs, traditions, ideologies, beliefs and practices (Glonti et al. 2016). For women entrepreneurs in developing countries, local customs, religion, societal obligations, societal legitimacy and gender disparity represent often a barrier to the business performance (Amine and Staub 2009; Al-Dajani and Marlow 2010; Belwal et al. 2012; Roomi 2013; De Vita et al. 2014). When analysing barriers to women entrepreneurs developing their business in Sub-Saharan areas, for example, Aterido and Hallward-Driemeier (2011) find that traditional cultural practices (such as family responsibilities and social customs) inhibit business activities. Al-Dajani and Marlow (2010) and Al-Haddad (2010) find that male power or masculinity represent features or gender stereotypes preventing women operating their business in Jordan. In addition, some studies find that the perception of conflict between the entrepreneurial role and other roles such as mother, wife and housewife is not supportive of performances, as in the case of women entrepreneurs in Turkey presented by (Ufuk and Özgen 2001). Other barriers that the social environment poses to women entrepreneurs are represented by the caste system, as in India (Handy et al.

2007; Nagadevara 2009; Menon and Meulen Rodgers 2011), or by religious norms, as in the case of women operating in Pakistan (Guérin 2006; Fletschner and Carter 2008; Roomi and Parrott 2008). Evidence from the Bangladeshi context shows that the socio-cultural barrier proves to be the main obstacle for women to start business activities, though nowadays they are conscious about their potentials and capabilities (Kabir and Huo 2011; De Vita et al. 2014). Based on these arguments, we hypothesize that:

Hypothesis H4: The barriers in social environment show a negative relationship with business performance of Bangladeshi women entrepreneurs.

Business environment and business performance
The business environment refers to the environment in which business transactions take place. As such, it creates opportunities or barriers for businesses operating in different contexts and industries (Ward et al. 1995). The business environment in developing countries is often represented by poor, uncertain and changing conditions (Ward et al. 1995; Amine and Staub 2009): physical (such as environmental threats and infrastructural instability) and institutional (such as governance limitation and political instability) conditions are the two main sources of barriers in this context (Acs et al. 2011). Infrastructural instability (for example, poor electricity and communication technologies), environmental threats (for instance, floods and heavy rains), political instability (for example, strike) and governance limitations (for example, corruptions, briberies and non-supportive government gender policies) create challenges for (men and) women entrepreneurs (Jamali 2009; Acs et al. 2011). Empirical evidence suggests that a hostile business environment has a negative relationship with business performance of women entrepreneurs (Mboko and Smith-Hunter 2009). Based on these studies, we hypothesise therefore that:

Hypothesis H5: The barriers in business environment show a negative relationship with business performance of Bangladeshi women entrepreneurs.

2.3 The case study: Bangladesh
Women entrepreneurs represent in Bangladesh 10% of the total amount of entrepreneurs in the country (Rabbani and Chowdhury 2013). This percentage is quite low if compared to the average percentage of women entrepreneurs operating in advanced market economies, more than 25% of all businesses leaders (GEM 2010). The majority of Bangladeshi women entrepreneurs (97.6%) is involved in micro enterprises (less than 10 employees) and only 2%, .24% and .16% are respectively involved in small- (10 to 49 employees), medium- (50 to 99 employees) and large enterprises (100 and above employees) (Zaman and Islam 2011). Women entrepreneurs mainly operate their business in three sectors: manufacturing (62%), trading (13%) and service (13%). They are involved in handicrafts (70%), home textile (16%), parlour (5%), food processing (4%), agricultural products processing (3%) and printing (2%) businesses (BWCCI 2008).

According to the existing literature, the social environment represents the main barrier for women to start their business in Bangladesh: the prevailing societal norms, religious values, family expectations and traditions limit women's mobility and significantly influence their

participation to business activities (Kabir and Huo 2011; De Vita et al. 2014). Women's involvement in entrepreneurial activities in this country depends in fact on patriarchy and religion (Drinkwater 2009; Rabbani and Chowdhury 2013). Ninety percent of the population are Muslims, and the Islamic view on the role of the women prescribes societal norms which hamper their participation to business (Drinkwater 2009). In addition, the business environment in Bangladesh presents several barriers to women's involvement in business activities. Barriers are typically physical (for instance, poor infrastructure, technology and utility services) and institutional (for example, briberies and corruption in complex bureaucratic arrangements, as shown in (Parvin et al. 2012). All these barriers are expected to influence the business performance. When women are constrained to the role of only mother, wife or taking care of the household, their innovativeness or pro-activeness are in turn constrained, especially when also the business environment does not facilitate nor support or incentivize their entrepreneurial behaviour. Under constrained environments, the dimensions of EO may be hampered. The effect on the business performance can still be however positive (Lumpkin and Dess 1996; Fuentes-Fuentes et al. 2015). Bangladesh offers the perfect sampling to validate whether this is true when applied to the case of women entrepreneurs leading business in a social and business constrained environment.

2.4 Data and methods
Research setting, sample and data collection
The research takes place in two districts of Bangladesh, Jamalpur and Mymensingh, where the handicrafts sector is mainly based. The handicrafts sector represents a profit-oriented business, which has spread from local and regional levels to national and international levels. The majority of women entrepreneurs devote themselves to this sector more than to others. This gives us the opportunity to access more potential respondents to our survey.

Through the collaboration with organizations[8] supporting women entrepreneurs and their handicrafts business in the selected districts, we accessed a total of 789 women entrepreneurs' names. After crosschecking and deleting overlapping names, we had 440 names of women entrepreneurs. Finally, based on the definition of women entrepreneurs in our research (see footnote 3 in chapter 1), we selected 300 women entrepreneurs as respondents for the survey.

Data are collected through a survey (executed as site visits) based on a structured questionnaire elaborated in collaboration with local experts and officials from the organizations contacted. The questionnaire is divided into some main sections, aimed at (a) understanding socio-economic indicators; (b) building EO information; (c) understanding hindrances or barriers to business; (d) gathering business performance data. A pilot survey on 20 women entrepreneurs has served as test to refine questions and finalize the survey questionnaire: it was indeed crucial to guarantee that the description of the constructs was comprehensible. The questionnaire promised anonymity and instructions indicating that there were no correct or incorrect responses. This procedures aimed at reduce respondent's evaluation apprehension and make them less likely to edit their responses to be more socially desirable, lenient, acquiescent and consistent with how they believed the researcher wants them to respond (Fuentes-Fuentes et al.

---

[8] The contacted supporting organizations are elaborated in chapter 1.

2015). In order to provide theoretical backgrounds on the research and the methodology, a two days' long training has been given to the local interviewers: Three local enumerators indeed were involved in order to support the main researcher in processing the questionnaires also in the most remote areas of the districts. Each interview lasted one and half hours. Data were collected from February, 2015 to June, 2015.

Variables of the model

Dependent variable: business performance

Business performance can be measured via *perceived* and *objective* (or *archival*) financial or non-financial performance measures (Rauch et al. 2009). This study adopts perceived measures. *Perceived* measures use a rating scale to compare performance with competitors, whereas *objective* measures use actual financial data (Dess and Robinson 1984; Dawes 1999; Zulkiffli 2014). The validity and reliability of *perceived* measures is proved by several authors in different contexts (Dess and Robinson 1984; Sarkar et al. 2001; Wall et al. 2004), also in analysing the relationship between EO and business performance, as demonstrated by Rauch et al. (2009). This is particularly useful in the context of women entrepreneurs who are not able to correctly indicate the *objective* data about their business performance, as in our case.

Business performance of women entrepreneurs is therefore measured on five perceptual items referred to three specific dimensions, financial, economic and operational performance (Venkatraman and Ramanujam 1986). The financial dimension refers to the growth in profit (*My shop had a higher profit compared to other handicrafts shops*); the economic dimension is expressed by one item referring to the growth in production volumes (*The total volume of my firm's production has increased*); the operational performance is indicated by three items referring respectively to: price satisfaction (*I was satisfied with the price that I got from my customers*), customer satisfaction (*Customers were satisfied with my products and services*), quality of products (*My shop had better products on offer compared to other handicrafts shops*). These items are measured on a seven-point scale (1= completely disagree, 7= completely agree). The summated score (Hughes and Morgan 2007) of five items of the scale represents business performance of Bangladeshi women entrepreneurs.

Independent variables

Entrepreneurial orientation (EO) dimensions. To measure the EO dimensions of women entrepreneurs, we use an adapted version of the EO scale proposed by Verhees et al. (2012). EO includes twenty-two items of innovativeness, risk-taking and pro-activeness, measured on a seven-point scale (1= completely disagree, 7= completely agree)[9]. EO dimensions of Bangladeshi women entrepreneurs are the result of an exploratory factor analysis reported later on in the text (see Table 2.1).

Barriers in social environment. Barriers in social environment are measured with an item representing *hindrances due to family, norms, customs, traditions and religion*. This item is measured on a seven-point scale (1= completely disagree, 7= completely agree).

Barriers in business environment. Barriers in business environment are measured on four items reflecting infrastructural, environmental threats, political instability, finally government rules and regulations (items: *Hindrance due to infrastructural instability (electricity and information*

---

[9] They are shown in Appendix A1 (see questions 14-16).

technology); *Hindrance due to environmental threats (flood & heavy rains)*; *Hindrance due to political instability (strike, illegal tolls and briberies)*; *Hindrance due to government rules and regulations (license, tax and vat))*. These items have been adapted from Rodríguez-Gutiérrez et al. (2015) and are measured on a seven-point scale (1= completely disagree, 7= completely agree). The summated score (Hughes and Morgan 2007) of four items of the scale represents barriers in business environment.

Control variables

Financial capital. Financial capital is the basic resource for businesses (Cooper et al. 1994; Dollinger 2005). We measure it as the current investment in inventory and facilities used by women entrepreneurs.

Business experience. New women-led businesses might face challenges in exploring and exploiting business opportunities (because of their resource constraints) compared to old businesses (Lee et al. 2001; Stam and Elfring 2008). We measure experience as the number of years since women entrepreneurs have started their business.

Education level. Education is the vital element of human capital that leads to the explicit knowledge and skills of individuals (Becker 2009), useful for entrepreneurs to improve their business performance (Davidsson and Honig 2003). We measure the education level as the highest level of education of women entrepreneurs (0 = no formal education; 1 = primary school; 2 = secondary school; 3 = higher secondary school; 4 = vocational and university education).

Business training. Training is also an important element to invest in human capital (Becker 2009). By providing new techniques, business trainings may be helpful to improve business performance of entrepreneurs (Peng 2001). We measure business training as the average number of hours per year of business training received by women entrepreneurs.

An overview and operationalization of variables is shown in Appendix A2.

Strategy for the data analyses

Exploratory factor analysis

The exploratory factor analysis tests the multidimensionality of the EO concept (Kraus et al. 2012) and identifies the EO dimensions in the context of Bangladeshi women entrepreneurs. We follow the principal component analysis (PCA) as extraction method with Varimax rotation and Kaiser's criterion (eigenvalues >1). The Kaiser-Maeyer-Olkin (KMO) test and the Bartlett's test indicate the appropriateness of the data for the factor analysis procedure (Field 2013). The first analysis includes 22 items of innovativeness, risk-taking and pro-activeness as presented in the survey. Subsequently, we take out three items of pro-activeness[10] and one item of risk-taking[11], being they cross loaded in two components with a single loading higher than 0.40 and the difference between loadings lower than 0.10 (Costello 2009). Taking out four items, we redo the analysis with 18 items. After the second analysis, we take out one item of pro-activeness[12] for the same reason of the first take out. Taking out one item, we redo the analysis with 17 items and finally get a two components solution for EO that meets Kaiser's

---

[10] Items: *I plan ahead what I want to do*, *I always produce desirable products for clients*, and *I can easily predict the action of competitors and set my strategies accordingly*.
[11] Item: *I am good at managing financial risks*.
[12] Item: *I look for new connections to get access to raw materials, finance & new markets*.

criterion and explains 65.28 percent of total variance. We label the first component as Innovative- and pro-active EO, because items of innovativeness and pro-activeness dominate this component. The second component is labelled Risk-taking EO after the items of risk-taking mainly leading this component (although one item of pro-activeness and one item of innovativeness loaded on it). Therefore, Innovative- and pro-active EO and Risk-taking EO represents the two dimensions of EO for the analyses which follow (descriptive statistics and regression); each dimension is constructed on items loading higher than 0.60 (Table 2.1). Although not in line with the main studies analysing three dimensions for the EO, the specific context analysed in this paper might explain that a combination of dimensions can actually define EO. We adhere therefore to the argument of Lumpkin and Dess (1996) and Wales et al. (2013) that even though the three EO dimensions as defined by Miller (1983) are certainly central to understanding the entrepreneurial process, it is possible that in a specific constrained environment - like the two handicrafts districts in Bangldesh - they may occur in different combinations as the usual one. The given context or environment shapes this combination, showing that both the social and environmental context matter. From this, we derive that for the specific case study analysed, each dimension can influence the entrepreneurial process and in turn result in a higher or lower business performance depending on the external social and business conditions.

Table 2.1: Exploratory factor analysis for items of EO dimensions

Items	EO dimensions	
	Innovative- and pro-active EO (λ)	Risk-taking EO (λ)
I produce a variety of unique products	.81	
I use new techniques in production and marketing	.77	
I always look for new markets	.74	
I start production and marketing of new products faster than competitors	.73	
I always try out new products	.73	
I introduce new and uncommon products into the market	.73	
I always look for new ideas and techniques	.71	
I am able to predict future demands and the necessary changes of products	.68	
I usually initiate activities before other handicraft firms do	.65	
I always start new activities if I see an opportunity	.63	
I take financial risks for higher profit		.79
I invest extra time in products and services that yield a higher profit		.78
I always take risks if I see an opportunity		.75
I take financial risks by producing new products and to go to new markets		.74
I invest extra money in products and services that yield a higher profit		.69
I am always eager to find potential strategies for higher profit		.64
I use my own techniques to create new products		.61

Data fit statistics:
Bartlett's test: chi-square (df =136) = 3825.58, level of significance (p) = < .01
KMO: .95
Total variance explained: 65.28 %
Factor loading (λ) smaller than .52 is suppressed.

Reliability analysis. The reliability test indicated by Cronbach alpha (α) checks the internal consistency of items used in measuring latent variables: business performance (.73), barriers in business environment (.75), Innovative- and pro-active EO (.94) and Risk-taking EO (.91).

Hierarchical multiple regression analysis (HMRA). To test our hypotheses on the influence that the EO dimensions and the social and business environment exert on business performance of women entrepreneurs in Bangladesh, we run hierarchical multiple regression analysis (Ordinary Least Square). The choice for this method is motivated by the aim to examine the additive influence exerted by independent variables on dependent variable to the controls. Due to four missing values on financial capital and four outliers, the final sample is made of 292 respondents. We check for linearity (adding square variables), heteroskedasticity (Breusch-Pagan test), normality (Kolmogorov-Smirnov test) and multicollinearity (condition index, and VIF: Variance Inflation Factor).

Marker variable analysis. We use the marker variable analysis to assess the common method variance (CMV). We partial out the CMV from the uncorrected correlations (denoted r_u) to arrive at the CMV corrected correlation coefficients (denoted r_a). Testing for the significance of the CMV corrected correlations (r_a) provides an estimate of the magnitude and significance of common method variance in the data. Correlations that remain significant after having controlled for CMV are unlikely to be severely affected by method variance (Lindell and Whitney 2001). The CMV corrected r_a correlations are computed as follows:

$$r_a = (r_u - r_m)/(1 - r_m)$$

Where r_a is the CMV corrected correlation and r_u is the original uncorrected correlation. For r_u we select a correlation that is fundamental to our hypotheses (here: the correlation between business performance and I start production and marketing of new products faster than competitors; r_u=.42). For r_m, we select the smallest correlation between any pairs of variables that is theoretically unrelated. We use the bivariate correlation of both marker variables as an indicator of CMV (here: the correlation between business performance and I take financial risks for higher profit; r_m=.28). We arrive at r_a = (.42 - .28)/(1-.28) = .19

The t-statistic to assess the statistical significance of r_a is computed as follows:

$$t_{(\propto/_2, n-3)} = r_a/\sqrt{(1 - r_a^2)}/(n - 3) = 3.35$$

The test statistic (3.35) is higher than 1.96, indicating that common method variance is not a serious problem in our research.

2.5 Results

Table 2.2 provides the descriptive statistics and the correlations of variables used in the regression analyses. The correlation table shows substantial correlations between the variables. Descriptive statistics show that the average business performance score of the women entrepreneurs surveyed is quite high, namely about 29 out of 35. The financial capital (current investment) of women entrepreneurs in their business is on an average about US$ 5,357 (Taka 417,888.75). On average, women entrepreneurs operating in the handicraft industry in Bangladesh show nine years of experience in their business. When dealing with indicators of human capital, though, it emerges that the average education level of women entrepreneurs is low (secondary school) and they receive on average about 34 hours of business training per year. Looking at the EO dimensions, it emerges that the average scores of Innovative- and pro-active EO and Risk-taking EO are high, respectively 5.88 and 5.96 out of 7. The variable barriers in business environment reports an average score of about 20 out of 28, while for the

barriers in social environment the average is 4.82 out of 7, showing that women entrepreneurs perceive these barriers and quite high when dealing with their businesses.

Table 2.2: Descriptive statistics and correlations (N = 292)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Business performance	29.12	3.15	1.00								
2. Financial capital ($)	5,357.55	15,773.46	.28***	1.00							
3. Business experience	9.10	6.07	.11*	.13**	1.00						
4. Education level	2.19	1.08	.23***	.21***	-.05	1.00					
5. Business training	33.76	62.87	.06	-.01	-.22***	.25***	1.00				
6. Innovative- and pro-active EO	5.88	1.05	.41***	.16***	-.03	.31***	.07	1.00			
7. Risk-taking EO	5.96	1.04	.29***	.18***	.06	.09	-.02	-.03	1.00		
8. Barriers in social environment	4.82	1.73	-.04	-.05	-.02	-.13**	.08	.01	.10*	1.00	
9. Barriers in business environment	20.16	4.91	.10	.05	-06	-13**	-.04	-.01	.14**	.36***	1.00

* Significant at 10% level

** Significant at 5% level

*** Significant at 1% level

Table 2.3 contains the hierarchical multiple regression models. Model 1 contains only the control variables. Model 2 is the final model including also the independent variables. In the final model, the maximum VIF (1.27) indicates no serious multicollinearity as it is away from the threshold VIF of 10 (Hair 2010). The condition index (15.21) is within limits (30), which confirms no apparent multicollinearity (Greene 2003). The ZRE statistic (.02) indicates that the standardized residuals are normally distributed. Moreover, X^2 value (1.07) indicates the constant variance of residuals. Therefore, we can consider our final model robust. Model 1 explains the relations between control variables and business performance. Financial capital, business experience and education level all have a statistically significant positive relationship with business performance. Business training is not statistically significant. Model 1 explains only 11% variances on the total variances of business performance of women entrepreneurs (Adjusted R^2=.11). Hence, we run Model 2 adding the independent variables.

Table 2.3: Results of hierarchical multiple regression models[a]

Variables	Model 1 (base)		Model 2 (final)	
	Coefficient (β)	t value	β	t value
Step 1: control variables				
Financial capital	.23***	3.94	.14***	2.59
Business experience	.10*	1.73	.11**	2.12
Education level	.18***	3.05	.05	.94
Business training	.04	.61	.06	1.11
Step 2: control- and independent variables				
Innovative- and pro-active EO			.38***	7.21
Risk-taking EO			.26***	5.15
Barriers in social environment			-.10*	-1.78
Barriers in business environment			.11**	1.96
Adjusted R^2	.11		.29	
Δ in adjusted R^2			.18	
F	9.51***		15.92***	
Δ F			19.83***	
Maximum VIF for multicollinearity	1.12		1.27	
Condition index for multicollinearity	6.21		15.21	
X^2 for Breusch-Pagan test for heteroskedasticity	.01		1.07	
ZRE statistic for Kolmogorov-Smirnov test for normality	.04		.02	
Number of respondents (N)	292		292	

[a] Standardized regression coefficients

* Significant at 10% level

** Significant at 5% level

*** Significant at 1% level

Model 2 explains the relations between business performance and independent variables with control variables. The Innovative- and pro-active EO dimension has a positive significant relationship with business performance of women entrepreneurs (β=.38, t value=7.21). Since this dimension comprises the two dimensions generally discussed in the literature (innovativeness and pro-activeness), we cannot relate this result directly to hypotheses H_1 and H_3. It certainly gives anyway the signal that the *combination* of innovativeness and pro-activeness influences Bangladeshi women-lead-business performances in a positive way. The Risk-taking EO dimension shows also a positive significant relationship with business performance of women entrepreneurs (β=.26, t value=5.15), which supports our hypothesis H_2. The barriers in social environment show a negative significant relationship with business performance (β=-.10, t value=-1.78), supporting our hypothesis H_4. However, the barriers in

business environment show a surprising positive significant relationship with business performance, which does not support hypothesis H_5. Financial capital and business experience confirm a statistically significant positive relationship with business performance. Inclusion of independent variables significantly increases the explained variance (Δ in adjusted R^2 =.18): Model 2 explains 29% variances on the total variances of business performance of women entrepreneurs (Adjusted R^2=.29).

2.6 Discussion

The quest for how entrepreneurial processes influence performance in different contexts has motivated this study. In particular, we have analysed how the EO dimensions emerging in the context of Bangladeshi women entrepreneurs influence business performances under conditions of constrained social and the business environments.

The results of the exploratory factor analysis run on data collected on 300 women entrepreneurs through structured questionnaires show that for the handicraft industry concentrated in two districts of Bangladesh two are the main EO dimensions: Innovative- and pro-active EO and Risk-taking EO. This result is surprising if one considers that research has so far analysed EO as generally consisting of three separate dimensions, namely innovativeness, pro-activeness and risk-taking influencing the performance also independently from each other (Lumpkin and Dess 1996). In our study, the Innovative- and pro-active EO dimension contains in itself elements of both the dimensions identified in the literature, and we pose here that it reflects the context to which the analyses are applied. The role played by the specific context, the type of questions and how the respondents have processed them may have influenced our results. However, several authors have stressed that empirical research may reveal unique configurations of the dimensions of EO (Lumpkin and Dess 1996; Wales et al. 2013). Already Baumol (1986) suggested that entrepreneurial activities fall into two primary categories: *initiating* and *imitative*. As suggested by Lumpkin and Dess (1996), the dimensions of EO might fall into two broad categories that correspond to Baumol (1986)'s two types, where *initiating* entrepreneurship proceeds from high levels of innovativeness and pro-activeness, whereas *imitative* entrepreneurship emphasizes competitive aggressiveness[13], another dimension that, together with autonomy, reflects EO in several other studies (see for example Covin and Slevin, 1989), a part from the three dimensions identified starting from Miller (1983). At the same time, these dimensions may combine to form unique entrepreneurial types (Lumpkin and Dess 1996). Zahra and Covin (1993), for example, used the concept of *aggressive technological posture*, which combines notions of innovativeness and competitive aggressiveness. Furthermore, several researchers claim that the creation and the combination of EO dimensions and also their impacts on performance are related to the context (Miller 2011; Wales et al. 2013; Wales 2016). Based on this, we propose that in the specific context we analyse, innovativeness and pro-activeness are combined to reflect a specific feature of female entrepreneurship in this context.

When it comes to analyse the influence that these EO dimensions and the barriers from the social and business environment exert on business performance, the findings of our model support prior research: innovativeness and pro-activeness, although combined, enhance

---

[13] Competitive aggressiveness refer to a firm's propensity to directly and intensely challenge its competitors to achieve entry or improve position, that is, to outperform industry rivals in the marketplace (Lumpkin and Dess 1996).

business performance of women entrepreneurs in Bangladesh. This result contributes to the existing empirical evidence provided by several papers on the separate positive influence of innovativeness (Calantone et al. 2002; Hughes and Morgan 2007) and pro-activeness on business performance in developed countries (Hughes and Morgan 2007; Kraus et al. 2012) and introduces a new insight on the combination of the two dimensions in one. Although it is not possible in our context to separate the influence that innovativeness and pro-activeness individually have on the business performance, our results confirm that when Bangladeshi women entrepreneurs engage in new ideas and creative processes, and are capable to act in anticipation of future problems or changes in the market, their performance score higher than the competitors. At the same time, their capabilities and attitudes to commit resources to plans with a reasonable chance of risk is confirmed to have a positive influence on their business performance. We find indeed that the Risk-taking EO dimension positively influences business performance of Bangladeshi women entrepreneurs. This finding is supported by the research results so far produced in the general (men and women) entrepreneurship literature in the developing country context (Swierczek and Ha 2003; Krauss et al. 2005; CEIRD 2013).

In explaining business performance of women entrepreneurs in our context, the Innovative- and pro-active EO dimension seems to be more significant (β=.38) compared to the Risk taking EO dimension (β=.26). In addition, we find that the social environment influences negatively the business activities of women entrepreneurs in Bangladesh. Our findings indicate in fact that the social environment - in terms of family, norms, values, customs and religion - hampers their business performance. This is consistent with Roomi (2013), who finds that barriers on immediate family, mobility and meeting with external people negatively influence the sales- and employment growth of women entrepreneurs in the context of Pakistan. Thus, barriers on family, societal- and cultural norms are often counterproductive for the business performance of women entrepreneurs in the developing country context. Next to the social environment, we find an interesting result for the influence exerted by the business environment on business performance. Our analyses suggest that the higher the barrier in the business environment, the higher the business performance of women entrepreneurs. Although not shown here, the Independent Sample Test shows that entrepreneurs facing high barriers in business environments tend towards higher degrees of risk-taking behaviour, as also indicated by the significant positive coefficient for the correlation between the barriers in the business environment and the risk-taking behaviour (Table 2.2). Consequently, apparently risk-tolerant women come into businesses, appreciate the potential barriers in business environment and transform them into business opportunities to improve their business performance.

2.7 Conclusions

The results of this study contribute to the research efforts directed at understanding the dimensionality of the EO construct and the role that the EO dimensions together with the social and business environments have in explaining business performance in a constrained context such as developing countries. Hierarchical multiple regression analyses have found that the two EO dimensions identified in the handicraft industry in the districts of Jamalpur and Mymensingh in Bangladesh, namely Innovative- and pro-active EO and the Risk-taking EO, positively influence business performance of women entrepreneurs. Barriers posed by the social

environment show a negative influence on the business performance of women entrepreneurs. Interestingly, barriers in the business environment positively influence their business performance. This provides the opportunity to gain insights on what EO dimensions to stimulate to increase business performance of women entrepreneurs. Our results suggest in fact that as innovativeness and pro-activeness on the one hand, and risk-taking competences on the other hand, positively influence business performance of women entrepreneurs, a business culture should be created such that women's capabilities in creating, reacting to the changes in the market and risking are fostered. This would allow for a context within which these competences can successfully unfold and lead to performance which benefits not only the individual businesses, but also the development of the region in which the businesses are located. The Government at national and at local level could play a crucial role here, for example, by launching training courses together with education and training institutions and by stimulating electronic and print media to portray key examples of entrepreneurial traits that enhance performance even respecting societal norms. By means of this, the patriarchal society may then gradually build a more positive image towards women's participation in business.

Limitations and further research

This research presents a number of limitations. First, findings are based on cross sectional data and therefore reverse causality is possible between the dependent and independent variables. Further research on longitudinal data should verify our findings. Second, *perceived* measures for business performance of women entrepreneurs are used because of the difficulty of getting *objective* data. Further research could measure business performance with *objective data*. Third, measurement error or common method variance (CMV) are possible because all data are self-reported and are collected using the same questionnaire. However, our evidence from marker variable analysis shows that CMV is not a big problem in our research. Fourth, future research on a different sample can be used to compare the influence of EO dimensions and of the business and social environment on business performance between men- and women entrepreneurs in our context. This would allow suggesting which specific conditions empower in particular women entrepreneurship in constrained environments.

Chapter 3
Women entrepreneurs' networks and business performance

3.1 Introduction

The ties or relationships individuals build within their personal network, defined in the literature as network embeddedness, are crucial for resource assimilation (Inkpen and Tsang 2005). In fact, entrepreneurs hardly have all the resources and the capabilities needed to develop and establish their business (Granovetter 1995), such as human and financial capital, information and knowledge. To access them, entrepreneurs rely on building personal (social) networks, which in turn enable them to develop business activities (Granovetter 1985; Jack and Anderson 2002; Greve and Salaff 2003). As such, network embeddedness influences the entrepreneurs' economic decisions (Granovetter 1985).

Studying the influence of network embeddedness and especially structural embeddedness, i.e. the number of ties in the network (Granovetter 1992; Uzzi 1996; Gulati 1998), Uzzi (1996) states that the positive effect of embeddedness reaches a threshold (namely, a definite number of ties). Beyond this threshold the set of ties may only offer redundant information that might constrain entrepreneurs' abilities to take entrepreneurial decisions (Uzzi 1996). These constraints can create negative effects on entrepreneurial outcomes, for example on economic performance (Uzzi 1996), financial sustainability (Mayoux 2001) and business performance. In such a situation, embeddedness becomes over-embeddedness as suggested by Uzzi (1996). Not only the number of ties can influence entrepreneurial outcomes but also the type of ties (Jack and Anderson 2002). Maas et al. (2014) stress the differentiation between bonding, bridging and linking ties as influencing performances: these ties create in fact both opportunities and constraints which depend also on the position of entrepreneurs in their environment (Aldrich and Zimmer 1986; Jack 2005). Distinguishing between the different types of ties that compose a network is especially relevant in contexts where the entrepreneurs' position is culturally or socially constrained (Putzel 1997; Klyver and Foley 2012; Poon et al. 2012; Maas et al. 2014).

This study on structural embeddedness and its influence on business performance is located in a resource scarce environment and for entrepreneurs a socially restraint position to access social ties. This position of entrepreneurs from the perspective of social capital can be seen as a means to collect resources (see chapter 1, section 1.1) in an ambiguous situation. In developing countries, where social conditions can be particularly hard, network embeddedness can have constraining effects on the business activities and performances (Mayoux 2001). This is the case especially for women entrepreneurs (Mayoux 2001; Drinkwater 2009; Mair and Marti 2009). A social environment is defined as the social norms, values and customs that regulate all the aspects of the everyday life (Glonti et al. 2016). In many developing countries, the social environment constrains the position of women in society (Amine and Staub 2009; Jamali 2009; Roomi and Harrison 2010; De Vita et al. 2014; Mozumdar et al. 2016a). Women are confined to their homestead activities and are discouraged to engage in networks outside the family (Mayoux 2001). When involved in business activities, they need to balance their time between business and domestic work (Mair and Marti 2009). This positions women in a 'socially constrained' context that ultimately impedes their possibility to exploit resources and business opportunities through network embeddedness: a negative influence of social network on women's business performance can be expected (Mayoux 2001).

While generally the bright side of the influence of social network on business performance is advocated, the negative effects of that are neglected in literature (Eklinder-Frick et al. 2011). Bringing social context into research could also shed light on the equivocal evidence of the effect of network embeddedness on entrepreneurial outcomes. Although numerous studies researched the influence of network embeddedness especially on entrepreneurial outcomes, like business growth and performance, results so far are mixed: for some studies the influence is positive (Granovetter 1985; Woolcock 1998; Hoang and Antoncic 2003; Raz and Gloor 2007; Slotte-Kock and Coviello 2010; Hoang and Yi 2015), for other negative (Gargiulo and Benassi 1999; Portes 2000; Mayoux 2001). Moreover, studies on network embeddedness in developing countries context are limited and results not unequivocal (Poon et al. 2012; Maas et al. 2014; Poggesi et al. 2015).

This study therefore addresses the following questions: (1) what impact does the size of the networks exert on the business performance of women entrepreneurs in a socially constrained context? (2) what impact does the number and type of ties exert on their business performance?

For this research, Bangladesh is selected as case study. In Bangladesh, the social environment in which women entrepreneurs operate represents a significant constraint to the formation of networks outside the family (Maas et al. 2014) and thereby to their business (Drinkwater 2009; Kabir and Huo 2011; Rabbani and Chowdhury 2013; Mozumdar et al. 2016a). This study therefore explicitly contributes to the network (over) embeddedness and performance literature by providing insights on the impact of network size and of the type of network ties on business performance of women entrepreneurs working in socially constrained environments in a developing country.

3.2 Theory and propositions
The bright side of network embeddedness
A network is defined as a set of interactive relationships (ties) that individuals have and can benefit from in pursuing their interests (Hampton et al. 2009). The personal network of entrepreneurs includes all the people with whom they have direct relationships encompassing family, friends, business partners, bankers and so on (Dubini and Aldrich 2002). The structure of the network the entrepreneurs create explains how they are embedded in the network and how the network embeddedness influences their performance (Granovetter 1985). Network size, defined as the number of ties, is the most usual measure of network embeddedness (Dollinger 1985; Hsueh et al. 2010; Hoang and Yi 2015). The benefits entrepreneurs can achieve through network embeddedness are evident in the identification and exploitation of business opportunities: network relations provide access to valuable resources such as capital (e.g. money and materials), symbolic support (e.g. certification, approval and legitimacy) and new information (e.g. practical knowledge, advice and direction) (Aldrich and Zimmer 1986; Larson and Starr 1993) especially in the context of scarce resources as in Bangladesh. Thus, we assume a positive effect of network size on business performance.

Proposition 1: Network size shows a positive relationship with business performance of Bangladeshi women entrepreneurs.

The nuanced side of network embeddedness

Beyond a certain size of the network though, the set of ties may provide negative effects on performance, i.e., entrepreneurs become over-embedded in their network (Uzzi 1996). Over-embeddedness might occur when entrepreneurs heavily rely on their internal existing strong[14] ties (Uzzi 1996): the cost (of maintaining an extensive number of strong ties) might overcome the benefit (e.g. new knowledge and information) (Kreiser et al. 2013). Moreover, expectations and obligations built into strong ties constrain the creation of new external relationships (Uzzi 1997; Gargiulo and Benassi 1999), impeding the achievement of competitive advantages (Uzzi 1997).

The type of ties also matters. Ties are commonly divided into bonding, bridging (Gittell and Vidal 1998; Davidsson and Honig 2003; Lin 2008) and linking (Woolcock 2001; Szreter and Woolcock 2004; Hawkins and Maurer 2010). A bonding tie shapes the relationship between two homogenous individuals who share the same socio-demographic status or some common identity such as religion and ethnicity (Szreter and Woolcock 2004; Maas et al. 2014). A bridging tie indicates the relationship between two individuals who have different shared identity but belong to the same hierarchical level, working in different groups (ibid). A linking tie finally denotes the relationship between two heterogeneous individuals who have different hierarchical power and resources (Woolcock 2001; Szreter and Woolcock 2004; Hawkins and Maurer 2010).

In our study, women entrepreneurs' bonding ties are built with family, friends and relatives, bridging ties with other women entrepreneurs, and linking ties with government organizations (GOs), non-government organizations (NGOs), commercial banks (CBs) and societal powerful bodies (e.g. an elected member of the local authority).

Bonding ties usually provide the emotional and moral support needed to start a business (Brüderl and Preisendörfer 1998; Kuada 2009). However these ties might also provide emotional hindrance because of their obligations and liabilities (Gargiulo and Benassi 1999), inward-focused network orientation, similar flows of ideas, advice and information (Bates 1994; Renzulli et al. 2000; Hite and Hesterly 2001), discouraging women who just started their business (Maas et al. 2014). Furthermore, these ties might be not capable of providing enough financial resources demanded to develop businesses (Jack 2005). When entrepreneurs rely more on their ties with family for support, their probabilities of failure might increase (Arregle et al. 2015). Women seem to rely heavily on bonding ties (Rutashobya et al. 2009). Empirical research results from Ghana (Kuada 2009) even suggest that having no bonding ties might improve women entrepreneurs' performance.

Proposition 2: The number of bonding ties *shows a negative relationship with business performance of Bangladeshi women entrepreneurs*

Bridging ties might leverage new information flows and competitive capabilities (McEvily and Zaheer 1999) and help generating innovative ideas (Burt 2000; Scholten et al. 2015). This

---

[14] A tie is strong if the relationship between two actors is durable: they have a frequent contact (at least twice a week), a high amount of emotional closeness and a long time of connection (Granovetter 1973).

generates an information advantage compared to entrepreneurs only relying on bonding ties (Scholten et al. 2015) that enables entrepreneurs identifying numerous business ideas (Gargiulo and Benassi 2000), reducing the probabilities of failure (Baum et al. 2000; Scholten et al. 2015) especially in developing countries (Maas et al. 2014). Studies have shown that in fact bridging ties positively influence the likelihood of survival of new business run by Jordanian women entrepreneurs (Al-Dajani and Marlow 2010).

Proposition 3: The number of bridging ties *shows a positive relationship with business performance of Bangladeshi women entrepreneurs*

Linking ties might provide entrepreneurs with access to valuable information (e.g. on training, sources of credits, business rules and regulations, trade fair and foreign buyers etc.) (Al-Dajani and Marlow 2010; Maas et al. 2014) that enables the identification of new business opportunities (Kuada 2009; Smith-Hunter and Leone 2010; Maas et al. 2014). A study based in Ghana shows for example that women's linking ties with church leaders provide them with credit information, facilitating their access to bank credits and thus the chance of improving their business performance (Kuada 2009).

Proposition 4: The number of linking ties *shows a positive relationship with business performance of Bangladeshi women entrepreneurs.*

3.3 Data and methods
Research setting, sample and data
Chapter 2 has described the research location, sampling and data collection techniques in details (see section 2.4).

Variables of the model
Dependent variable
Business performance is commonly measured in literature either using *perceived* financial or non-financial measures, or *objective* financial performance measures (Rauch et al. 2009). As in Dess and Robinson (1984); Sarkar et al. (2001); Wall et al. (2004), we use perceived measures because of the absence of reliable objective financial data for the two regions analysed (Dess and Robinson 1984). Business performance is therefore measured as the sum of the scores of five perceptual items using a seven-point scale (1= completely disagree, 7= completely agree) (Hughes and Morgan 2007) (see Table 3.1).

Explanatory variables
Network size is our primary explanatory variable. The network data of Bangladeshi women entrepreneurs are gathered using the name generator method that allows acquiring data on structural characteristics of the network (e.g. size and composition of ties) (Renzulli et al. 2000; Batjargal 2007; Arregle et al. 2015; Scholten et al. 2015). Women entrepreneurs are asked to name a maximum of seven people[15] with whom they exchange information when discussing matters of finance, market, raw materials and technology (Scholten et al. 2015). These

---

[15] Respondents generally mention less than seven people when they are asked to name important people for their business (Scholten et al. 2015).

mentioned relationships are labelled as ties. We build three more explanatory variables, namely number of bonding-, bridging- and linking ties. To differentiate among the type of ties, women are also asked to mention how they know the persons they named (e.g. family member or from another business or from organizations) (see Table 3.1).

Control variables

Financial capital is controlled as this represents one of the main resources the business needs (Cooper et al. 1994; Dollinger 2005). As entrepreneurs might face challenges at different phases of their business (Lee et al. 2001; Stam and Elfring 2008; Arregle et al. 2015), we control for business experience. We also control for education level and business training since several authors find that education level (Coleman 2007; Inmyxai and Takahashi 2010) and business training (Kantor 2005; Inmyxai and Takahashi 2010) might positively contribute to performances. Furthermore, entrepreneurial orientation (EO) is a contributor to performances (Rauch et al. 2009; Fuentes-Fuentes et al. 2015). EO is the strategic capabilities and attitudes of entrepreneurs leading to entrepreneurial actions and decisions (Lumpkin and Dess 1996). EO consists of three dimensions: innovativeness, risk-taking and pro-activeness (Miller 1983). We therefore control for EO dimensions and adapt the EO scale of Verhees et al. (2012). The adapted EO scale includes twenty two items of innovativeness, risk-taking and pro-activeness that are measured on a seven-point scale (1= completely disagree, 7= completely agree). In addition, social- and business environment might influence women's performance (Welter and Smallbone 2011; De Vita et al. 2014; Poggesi et al. 2015). Based on this, we introduce two variables which proxy barriers in social environment and barriers in business environment. The items used to measure barriers in social- and business environment are adapted from Rodríguez-Gutiérrez et al. (2015), and are measured using a seven-point scale (1= completely disagree, 7= completely agree) (see Table 3.1). We include all the above mentioned control variables based on insights on chapter 2 (see Chapter 2 Model 2, Table 2.3).

Table 3.1: Operationalization of variables

Variables	Operationalization	Scale	Cronbach α
Business performance	Sum of: *The total volume of my firm's production has increased; I was satisfied with the price that I got from my customers; Customers were satisfied with my products and services; My shop had better products on offer compared to other handicrafts shops; My shop had a higher profit compared to other handicrafts shops*	Likert 1-7 (Summated scale: 5-35)	.73[*]
Barriers in social environment	*Hindrances due to family, norms, customs, traditions and religion*	Likert 1-7	-
Barriers in business environment	Sum of: *Hindrance due to infrastructural instability (electricity and information technology); Hindrance due to political instability (strike, illegal tolls and briberies); Hindrance due to environmental threats (flood & heavy rains); Hindrance due to government rules and regulations (license, tax and vat)*	Likert 1-7 (Summated scale: 4-28)	.75[*]
Innovative- and pro-active EO	Reported later (see *Exploratory factor analysis*)	Likert 1-7	.94
Risk-taking EO	Reported later (see *Exploratory factor analysis*)	Likert 1-7	.91
Education level	Highest level of education reported: (0 = no formal education; 1 = primary school; 2 = secondary school; 3 = higher secondary school; 4 = vocational and university education)		
Business training	Total number of hours of business related training / year		
Financial capital	Current inventory + (value of facilities / year) (Value of facilities = shop + sewing machine + embroidery machine + furniture + computer + other fixed assets)		
Business experience	The number of years since women entrepreneurs have started their business		
Network size	The total number of ties		
Number of bonding ties	The total number of bonding ties		
Number of bridging ties	The total number of bridging ties		
Number of linking ties	The total number of linking ties		

Note: [*] Cronbach α of the items combined providing the summated scale

Data analysis

Data analysis consists of two steps. The preparatory first step includes (a) a marker variable analysis to test the common method variance (CMV), (b) an exploratory factor analysis to check the multidimensionality of the EO concept, (c) the reliability analysis directed by the Cronbach alpha (α) to verify the internal consistency of items of latent variables, and (d) the descriptive analysis of variables. The second step consists of multiple regression analysis.

Marker variable analysis

Testing for the significance of the CMV corrected correlations provides an estimate of the magnitude and significance of CMV in the data. Correlations that remain significant after having controlled for CMV are unlikely to be severely affected by method variance (Lindell and Whitney 2001). Marker variable analysis[16] verifies that CMV is not a problem in our data.

Exploratory factor analysis

This analysis recognises the EO dimensions of women entrepreneurs in the context analysed as followed by Kraus et al. (2012). We extract from this analysis[17] that there are the two EO dimensions of women entrepreneurs in our context: Innovative- and pro-active EO, and Risk-taking EO (see Table 2.1 in Chapter 2).

Multiple regression analysis

We run a multiple regression analysis to test our propositions based on the final sample of 292 respondents, because of 4 missing values of financial capital and 4 outliers. To check the robustness of the model offered by this analysis, we also test for heteroskedasticity (Breusch-Pagan test), normality (Kolmogorov-Smirnov test) and multicollinearity (condition index, and VIF: Variance Inflation Factor).

3.4 Results

The business performance score of Bangladeshi women entrepreneurs on average is reasonably high (Table 3.2): about 29 out of 35. Their average network size is quite large, 4.8 (out of 7), mainly composed more of bonding ties (2.55) than of bridging (1.71) or linking ties (.54): women entrepreneurs in the Bangladeshi context build more ties with family and friends than with other entrepreneurial women and financial organizations. Moreover, they invest a small amount of financial capital in their business, on average about US$ 5,357. However, they have on average 9 years of business experience, and receive on average about 34 hours of business training per year. The level of education is on average low (secondary education). However, Bangladeshi women entrepreneurs are innovative, pro-active and often taking risks in entrepreneurial activities, as the average scores of Innovative- and pro-active EO (5.88 out of 7) and Risk-taking EO (5.96 out of 7) show. Barriers in business environment (20.16 out of 28) and barriers in social environment (4.82 out of 7) still represent impediments to the development of their business.

---

[16] The details are available in chapter 2.

[17] The detail procedures are shown in chapter 2.

Table 3.2: Descriptive statistics and correlations (N = 292)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Business performance	29.12	3.15	1.00												
2. Financial capital ($)	5,357.55	15,773.46	.28***	1.00											
3. Business experience	9.10	6.07	.11*	.13**	1.00										
4. Education level	2.19	1.08	.23***	.21***	-.05	1.00									
5. Business training	33.76	62.87	.06	-.01	-.22***	.25***	1.00								
6. Innovative- and pro-active EO	5.88	1.02	.41***	.16***	-.03	.31***	.07	1.00							
7. Risk-taking EO	5.96	.99	.29***	.18***	.06	.09	-.02	-.03	1.00						
8. Barriers in social environment	4.82	1.73	-.04	-.05	-.02	-.13**	.08	.01	.10*	1.00					
9. Barriers in business environment	20.16	4.91	.10	.05	-06	-13**	-.04	-.01	.14**	.36***	1.00				
10. Network size	4.80	1.72	-.01	.07	.13**	.32***	.16***	.01	.12**	-.18***	-.19***	1.00			
11. Number of bonding ties	2.55	1.73	-.10*	.08	-.12**	.22***	.06	-.03	-.01	-.24***	-.28***	.47***	1.00		
12. Number of bridging ties	1.71	1.71	.06	-.09	.15**	.07	.05	-.03	.10*	.06	.12**	.46***	-.47***	1.00	
13. Number of linking ties	.54	.78	.09	.17***	.23***	.08	.12**	.16***	.06	.00	-.06	.16***	-.17***	-.13**	1.00

*, ** and *** Significant respectively at 10%, 5% and 1% level

Table 3.3 presents the results of two multiple regression models[18]. Model 1 finds that network size (independently on the type of ties) has a negative significant relationship with business performance (β=-.11), which rejects our proposition 1. Financial capital, business experience, Innovative- and pro-active EO, Risk-taking EO positively influence the business performance, so do also barriers in business environment. However, barriers in social environment negatively influence business performance. Education level and business training are not significant.

Table 3.3: Multiple regression models[a] on network size and types of network ties

Variables	Model 1 (network size)		Model 2 (types of network ties)	
	β	t value	β	t value
Financial capital	.13***	2.57	.15***	2.84
Business experience	.13**	2.42	.12**	2.19
Education level	.08	1.43	.08	1.46
Business training	.07	1.37	.08	1.41
Innovative- and pro-active EO	.37***	7.07	.37***	7.05
Risk-taking EO	.28***	5.37	.27***	5.34
Barriers in social environment	-.11**	-2.02	-.12**	-2.13
Barriers in business environment	.09*	1.74	.08	1.35
Network size (total no. of ties)	-.11**	-1.97		
Number of bonding ties			-.16**	-2.44
Number of bridging ties			-.06	-.94
Number of linking ties			-.09	-.1.58
Adjusted R^2	.30		.30	
F test	14.72***		12.38***	
VIF	1.36		1.70	
Condition index	18.06		19.72	
X^2 for Breusch-Pagan test	1.93		1.91	
ZRE for Kolmogorov-Smirnov test	.03		.03	
Number of respondents (N)	292		292	

[a] Standardized coefficients
*, ** and *** Significant respectively at 10%, 5% and 1% level

Model 2 analyses the influence of the number of different types of ties on business performance. Results show that the number of bonding ties has a negative significant relationship with business performance (β=-.16), which supports our proposition 2, while the number of bridging and linking ties is statistically not significant. The control variables, except barriers in business environment, have similar and consistent results with Model 1.

3.5 In-depth analyses
The negative influence of network size (Model 1) and especially of the number of bonding ties (Model 2) reveal the dark side of social networks for business performance. When combined with Uzzi (1996)'s statement on over-embeddedness though, our results may still enlighten a bright side of networks in such a constrained situation. A zoom-in on size can indeed still inform

---

[18] Robustness of models: The VIF is below the threshold VIF (10) and the condition index is within limits (30), indicating no serious multicollinearity. The standardized residuals indicated by ZRE indicates that residuals are normally distributed. Moreover, X^2 value indicates constant variance of residuals because we cannot reject the proposition of constant variance at 5% level of significance (Greene 2003). We can therefore consider our models robust.

on the conditions needed for the influence on performance to become positive: we therefore explore the tipping point for size of a network independently of its ties' composition and for a network with bonding ties. With this aim, we run other multivariate models[19] introducing new explanatory (dummy) variables (Table 3.4) representing respectively small-, medium- and large- network (Model 3 and 4), and small-, medium- and large- bonding ties network (Model 5 and 6).

Table 3.4: Size of network and bonding ties network

New explanatory variables	Operationalization
Small network	1 if total number of ties is one or two, 0 otherwise
Medium sized network	1 if total number of ties is three to six, 0 otherwise
Large network	1 if total number of ties is seven and more, 0 otherwise
Small bonding ties network	1 if number of bonding ties is one or two, 0 otherwise
Medium sized bonding ties network	1 if number of bonding ties is three to six, 0 otherwise
Large bonding ties network	1 if number of bonding ties is seven or more, 0 otherwise

Model 3 indicates that a small network has a positive significant relationship with business performance (β=.12): relying on one or two ties (irrespective of the type of ties) seems beneficial for women entrepreneurs' performance.

Table 3.5: Multiple regression models[a] on the size of network

Variables	Model 3 (small network)		Model 4 (medium sized-/large network)	
	β	t value	β	t value
Financial capital	.13**	2.47	.13**	2.51
Business experience	.13**	2.47	.13**	2.51
Education level	.06	1.05	.07	1.17
Business training	.07	1.29	.07	1.33
Innovative- and pro-active EO	.38***	7.31	.38***	7.19
Risk-taking EO	.28***	5.42	.28***	5.44
Barriers in social environment	-.10*	-1.86	-.10*	-1.91
Barriers in business environment	.10*	1.88	.09*	1.71
Small network[d]	.12**	2.34		
Medium sized network[d]			-.19**	-2.20
Large network[d]			-.21**	-2.40
Adjusted R^2	.30		.30	
F test	14.98***		13.51***	
VIF	1.27		3.30	
Condition index	15.37		18.26	
X^2 for Breusch-Pagan test	1.23		1.42	
ZRE for Kolmogorov-Smirnov test	.02		.02	
Number of respondents (N)	292		292	

[a] Standardized coefficients

[d] Dummy variable

*, ** and *** Significant respectively at 10%, 5% and 1% level

---

[19] Same control variables of the previous models.

Model 4 shows that both medium sized- (β=-.19) and large network (β=-.21) have a negative relationship with business performance. A network consisting of more than two ties (regardless of the type of ties) might be harmful for women's performance. Moreover, as the coefficients indicate, a large network might be more harmful to performance than a medium sized network. All control variables in Model 3 and 4 are still consistent with the results of Model 1.

The same analyses are run to check whether a small (Model 5) or a medium-large (Model 6) *bonding* ties network have any effect on business performance. Results of Model 5 show that a small bonding ties network (i.e. one or two ties) has a positive significant relationship with business performance (β=.13), whilst the number of bridging and linking ties being not significant.

Model 6 shows moreover that a medium sized bonding ties network has a negative relationship with performance (β=-.13), while bridging and linking ties confirm not significant for performance: the network of women entrepreneurs having more than two bonding ties seem to be a burden for their performance. However, results on large bonding ties network are statistically not significant: these may be due to low case count (8). The control variables for Model 5 and 6 are in line with Model 1, with the exception of the barriers in business environment (not significant).

Table 3.6: Multiple regression models[a] on the size of bonding ties network

Variables	Model 5 (small bonding ties network)		Model 6 (medium sized-/large bonding ties network)	
	β	t value	β	t value
Financial capital	.16***	2.92	.15***	2.87
Business experience	.12**	2.21	.12**	2.25
Education level	.08	1.35	.08	1.41
Business training	.07	1.37	.07	1.37
Innovative- and pro-active EO	.38***	7.12	.37***	7.11
Risk-taking EO	.28***	5.36	.28***	5.34
Barriers in social environment	-.10*	-1.86	-.11**	-1.97
Barriers in business environment	.08	1.40	.08	1.35
Number of bridging ties	-.03	-.48	-.03	-.58
Number of linking ties	-.07	-1.31	-.08	-1.39
Small bonding ties network[d]	.13**	2.36		
Medium sized bonding ties network[d]			-.13**	-2.32
Large bonding ties network[d]			-.08	-1.44
Adjusted R^2	.30		.30	
F test	12.33***		11.32***	
VIF	1.34		1.35	
Condition index	17.50		18.12	
X^2 for Breusch-Pagan test	.51		.43	
ZRE for Kolmogorov-Smirnov test	.02		.02	
Number of respondents (N)	292		292	

[a] Standardized coefficients

[d] Dummy variable

*, ** and *** Significant respectively at 10%, 5% and 1% level

3.6 Discussion

Results of testing Uzzi's (1996) over-embeddedness proposition in the context of women entrepreneurs in Bangladesh suggest the corroboration of this proposition: beyond a definite number of ties, the network can be considered over-embedded. The negative influence of network size, maybe due to the dominance of strong ties, and the positive influence of small network on business performance represent the two sides of the embeddedness coin. The literature provides several reasons why the excessive presence (in number) of strong ties in a personal network might harm the business performance (Uzzi 1996; Arregle et al. 2015). First, numerous strong ties might provide overlapping, conflicting and unnecessary information that might limit the ability of entrepreneurs to achieve potential business opportunities (Uzzi 1997; Arregle et al. 2015). Second, obligations and expectations built into the strong ties might also constrain entrepreneurs' ability to build new external ties and accessing innovative knowledge and information (Uzzi 1997). Third, the potential cost (time and money) of building and maintaining a large set of strong ties might overweigh the potential benefit (new knowledge and information) (Kreiser et al. 2013). A small network might be helpful in providing not only motivation, but also instant financial support and experience-oriented and calculative advice (Maas et al. 2014). Embeddedness in a medium or large-sized network might not enhance women's performance: as the number of ties increases, conflict of information also increases due to varying interest (Mayoux 2001). Some of the ties might offer redundant information and some others (mostly in-laws) might want to get benefit from the business (Kuada 2009). Moreover, women embedded in such networks might need to invest more time in maintaining their network, which might hamper their performance (Bliemel and Maine 2008).

By analysing type and number of ties in the network, this research enables insight into which type of tie plays a role in business performance, suggesting that bonding ties may generate over-embeddedness, as bridging and linking ties being not significant. Having a large number of bonding ties in Bangladesh discourages the business development of women (Maas et al. 2014), being mainly an outcome of a traditional patriarchal mind set which portrays women as less productive in business and less mobile (Drinkwater 2009; Rabbani and Chowdhury 2013). Being mostly inward-focused, the ties with family and friends, might offer similar flows of advice and information, and disregard external diversified ideas, resources and knowledge (Bates 1994; Renzulli et al. 2000; Hite and Hesterly 2001) necessary for their performances (Jack 2005).

When women have a restricted number of ties with trusted family members or well-wishers (two in our context), less intrusion of emotional hindrance and more effective support to their business is expected (Arregle et al. 2015). Any additional member joining the network could bring emotional hindrances (Gargiulo and Benassi 1999), conflicting information not helpful for business decisions (Arregle et al. 2015) with some free riders who might want to gain something from the business (Kuada 2009). One could assume that in case of a smaller number of bonding ties, women entrepreneurs have room to include other type of ties in their network. Theoretically this inclusion could have a positive influence on business performance. However, our results show that the influence of bridging and linking ties is not significant in the

Bangladeshi context. Hence, we assume that in spite of the small number, bonding ties are able to control the freedom of women entrepreneurs to engage in bridging and linking ties.

3.7 Conclusions

We use a structural embeddedness perspective to analyse the impact that the personal network developed by women entrepreneurs in a constrained context has on their business performance. Results from multiple regression analyses show that: (1) the network negatively affects the performance, maybe due to over-embedded networks with a large number of ties with family and friends; (2) the number of bonding ties have a negative influence on performance, being the number of bridging and linking ties not significant; (3) a small number of bonding ties positively affects the performance.

The contribution of this study to the network (over-) embeddedness perspective is two-fold. First, it provides insight that Uzzi's (1996) network over-embeddedness proposition is corroborated in the case of women entrepreneurs operating in socially constrained environments. Second, it shows that bonding ties dominate women's networks. There are two sides to this issue: dark (the number of bonding ties has a negative effect on business performance) and bright side (up to a particular number of bonding ties has a positive effect on business performance). The tipping point between dark and bright side of bonding ties is specifically determined: bonding ties are helpful for women's business performance up to a certain point, beyond which they become over-embedded. At the best of our knowledge, this is the first attempt in literature to define the optimal size of networks for a specific group of women entrepreneurs in a developing country.

The study provides suggestions for policy makers and practitioners. The evidence shows that women in the Bangladeshi handicrafts sector have limited bridging and linking ties and even in the case of a small bonding network, the influence of bridging and linking ties on business performance is still not significant. The assumption is that family and friends hinder women in engaging in other ties in their day-to-day business practice: when being less subjected to social control, women might be more inclined to meet other women, for example through training sessions for groups of women aimed at developing their business in a collaborative way. Success of women entrepreneurs in their business projects loosens up the social control exercised by family and relatives (Maas et al. 2014). This training could be organized by socially reputed and trusted organizations such as NGOs and Governmental agencies.

Limitations and further research

Our study presents some methodological shortcomings, which suggest the need for further research. First, we explore only the handicraft industry in two selected districts in Bangladesh based on the evidence that women develop their enterprises more in this sector than in others. Future research might analyse the same dynamics in other industries (e.g. agricultural sector). Second, a subjective measure is used when operationalizing the business performance due to difficulties in getting actual financial data in the context analysed. Hence, further research with objective measure including actual financial performance data is required to validate our results. Third, our data are collected using the same questionnaire administered to women entrepreneurs

of two districts and are self-reported. Fourth, this study uses cross section data which might induce a problem of causality. Future research using longitudinal data would further reveal and verify the causal relation between network embeddedness and business performance. Future research can also trigger our understanding of how women under constrained circumstances can make and keep their bonding network small. Moreover, as we showed the potential positive effect of social network on performance, the question could be raised on which compensatory factors positively influence performance of women entrepreneurs in over-embedded situations.

Chapter 4
 Social ties and business performance of women entrepreneurs

4.1 Introduction

In entrepreneurship studies, researchers find that social capital represents a resource that might improve business performance of entrepreneurs (Davidsson and Honig 2003; Leonard and Onyx 2003; Kuada 2009). It may in fact accelerate business transactions and information flow, reduce transaction costs and the cost of information and allow trades without contracts (Shaw 2006; Svendsen et al. 2010). Social capital can be seen as the *value* of social networks that bond similar people and bridge between diverse people with norms of reciprocity. Adler and Kwon (2002) identify the value of social capital in the structure and content of the actor's social relations; information, influence and solidarity are made available by means of these relations (p. 23). As the relevance of social relations for engaging in business activities becomes more recognized (Jack 2005), the concept of social capital proves to be powerful in explaining entrepreneurs' relative success (Adler and Kwon 2002).

As in chapter 3 the structural embeddedness was subject to research, now the relational embeddedness is to be investigated. The strength of social ties can explain the relational embeddedness of entrepreneurs in the social environment and how these ties support their economic outcomes (Granovetter 1985; Manolova et al. 2007). In particular, the theoretical orientation of this study is Granovetter's (1973) strong and weak ties theory. Granovetter explains the strength of ties in terms of the resources they provide. Strong ties provide information that is cheap, trustworthy, detailed, but also easily available and redundant, since they can be anticipated to move in similar, if not the same, social circles (Jack 2005). Strong ties offer in certain situations of crises and uncertainty, emotional support and urgent aid (Granovetter 1992). On the other hand, weak ties offer new information that is not available to the most (Granovetter 1973). Studies in the entrepreneurship domain find that social capital generates limited outcomes when social ties become stronger since these ties create conformity and information lock in (Hoyman and Faricy 2009; Molina-Morales and Martínez-Fernández 2009; Eklinder-Frick et al. 2011).

Granovetter (1973) indicates as a limitation of his own hypothesis that only the strength of ties is incorporated, ignoring all the important issues involving their content (p. 1378). In that line of thinking, the division of social ties into bonding, bridging (Gittell and Vidal 1998; Davidsson and Honig 2003; Lin 2008) and linking ties (Woolcock 2001) becomes relevant. A bonding tie refers to the relationship between two actors having similar socio-demographic status or a shared identity such as religion and ethnicity (Maas et al. 2014). A bridging tie refers instead to the relationship between two actors having dissimilar shared identity but similar power level, acting in different social "circles" (Szreter and Woolcock 2004; Maas et al. 2014). A linking tie refers to the relationship between two actors having dissimilar resources and power, and they generally entail the capacity to leverage resources, ideas, and information from formal institutions beyond the analysed group or community (Woolcock 2001; Szreter and Woolcock 2004; Hawkins and Maurer 2010).

In this study, we investigate women entrepreneurs in developing countries representing for those women a socially constrained context. Constrained context is defined here as a home based, resource scarce, socially confining and business wise threat-to-disrupt environment.

Similar to the structural embeddedness, the number of social ties, this social and business environment constitutes an ambiguous situation for entrepreneurs to build social capital, here building strong - weak ties (see section 3.1). The constraints in the environment can hamper women entrepreneurs to benefit from information and emotional support stemming from social relations shaped in bonding, bridging and linking ties. Several studies show that in the context of women entrepreneurs operating in developing countries, the social environment (namely, society's beliefs, customs, practices and behaviours) represents often a barrier, because of its influence on their social relations, that constrains the business performance (Amine and Staub 2009; Jamali 2009; Roomi and Harrison 2010; De Vita et al. 2014; Mozumdar et al. 2016a). Thus, although Granovetter's strong and weak ties hypothesis has become an established paradigm especially in organizational literature, still questions arise over its applicability also in contexts of entrepreneurial activities (Jack 2005) especially in the case of entrepreneurs dealing with such contextual constraints.

Studies on social capital and strength of (social) ties of women entrepreneurs are mostly based on developed and western countries (Poggesi et al. 2015). A focus on the relationship between strength of ties and business performance of women entrepreneurs in developing countries is limited and empirical evidence inconclusive (Maas et al. 2014; Poggesi et al. 2015). Bangladesh, chosen as the case-country in this study, is a developing country in which the social position that women cover in the social environment represents a constraint for their business (Drinkwater 2009; Kabir and Huo 2011; Rabbani and Chowdhury 2013; Mozumdar et al. 2016a) and offers therefore a concrete case for analysing the influence of the strength of ties (strong and weak ties) on their business performance.

This study tries to answer the following question: What strength of ties and combinations of strength and type of ties are beneficial or detrimental for business performance of women entrepreneurs in Bangladesh?

Our study presents therefore an empirical contribution to the literature on the role and the strength of ties in influencing entrepreneurial processes and outcomes by providing evidence on the relationship between strong (and weak) ties and business performance of women entrepreneurs in Bangladesh. This study stresses the importance of weak ties for business performance in a developing country. This has important implications for the way women entrepreneurs in socially constrained contexts operate their business activities.

4.2 Theory and hypotheses
This paper frames the analysis of strong and weak ties used by women entrepreneurs in Bangladesh within the social capital theory. Arguments from the weakness of strong ties and 'the strength of weak ties' theory proposed by Granovetter (1973) are followed to build hypotheses on how strong and weak ties employed by women entrepreneurs influence their business performance in a socially constrained condition.

Social capital, social ties and the strength of ties

Social capital is defined as resources, whether actual or virtual, that can be developed through social relationships/ties (Bourdieu and Wacquant 1992; Adler and Kwon 2002). The social ties of entrepreneurs represent the relationships they have with other actors, including friends, family, relatives, business colleagues, government and non-government personnel, with whom they maintain social interactions (Dubini and Aldrich 2002). In the phase of identification and exploitation of business opportunities, social ties prove to be generally supportive of entrepreneurs, because they facilitate access to valuable resources such as credit, information and business direction advice (Aldrich and Zimmer 1986; Aldrich et al. 1989; Roomi 2013). However, social ties may have also a constraining effect on entrepreneurs (Gargiulo and Benassi 1999; Portes 2000; Mayoux 2001). Social ties seem to restrict access to opportunities when individuals are embedded into a closed group or network as they might rely on their existing relationships instead of seeking out new information and resources (Portes 2000). For instance, when studying group-based micro-finance programmes in Cameroon, Mayoux (2001) finds that ties between women belonging to the same group negatively influence their entrepreneurial activities: information and ideas exchanged between these actors remain the same and do not evolve. Information between groups instead might be beneficial for the novelty of the contacts these groups might bring about. Furthermore, strong ties may create the same knowledge: ideas deriving from these ties are rather conventional, no room is left for new ideas, with detrimental consequences on performances (Gargiulo and Benassi 1999). Using the terms of Granovetter (1973), ties in this case are restricted to direct ties thus with people who know one another.

According to Granovetter (1973), "*the strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie*" (p. 1361). Based on this argument, Granovetter defined two categories of ties: strong and weak. A strong tie indicates that the relationship between two actors is durable: they have a frequent contact (occurring at least twice a week), a high amount of emotional closeness and a long time of connection. Conversely, a weak tie refers to a loose relationship between two actors having a little contact, a low amount of emotional closeness and a short time of connection (Granovetter 1973).

Several studies on entrepreneurship have analysed and proposed evidence to support this theory. Aldrich and Zimmer (1986) suggest that strong ties offer redundant, overlapping information that seems less essential for businesses, whereas weak ties provide access to diversified business information such as information on new business location, new markets for products and services, innovation, potential investors or sources of financial capital (p. 19). Furthermore, Jack (2005) suggests that strong ties with friends and family are able to supply only limited business ideas and knowledge, while weak ties with friends of friends provide diversified new knowledge and ideas that facilitate the business activities of entrepreneurs. Consequently, weak ties are essential to derive novel information (Granovetter 1973; Aldrich and Zimmer 1986; Hansen 1999) that works as an exclusive resource to recognize and exploit business opportunities (Aldrich et al. 1997; Jack 2005). As found in Kreiser et al. (2013), sometimes the potential costs - in terms of time - incurred for developing stronger ties outweigh

the potential benefit - in terms of shared ideas and information - due to their limited ability of providing new ideas.

The literature on the relationship between strong and weak ties and business performance is however limited in the case of developing countries. Batjargal (2003) suggests - based on empirical evidence - that weak ties of (men and women) entrepreneurs operating in Russia positively relate to their business performance, measured as revenue growth. In the case of a developing country as Bangladesh, we can assume as well that weak ties have a positive influence on business performance. In Bangladesh, women entrepreneurs are embedded in societal norms that constrain their role to the care of the household and the family. These norms are part of the everyday life of women and might influence their behaviour (Navarro 2006). In case of strong ties, the restraining effects for entrepreneurship are more evident (Eklinder-Frick et al. 2011) as these societal rules are hard and slow to change (Willott and Griffin 2004). However, when a woman wants to start a business in a socially constrained country, she tries to influence her social environment to such an extent that she can develop her entrepreneurship (Wood and McKinley 2010). Establishing weak ties can thus be viewed as a strategy for women to be able to cope with their situation. Following the above arguments on strong- and weak ties, we therefore hypothesize:

Hypothesis H_{1a}: The number of strong ties has a negative relationship with business performance of Bangladeshi women entrepreneurs.
Hypothesis H_{1b}: The number of weak ties has a positive relationship with business performance of Bangladeshi women entrepreneurs.

As mentioned in the introduction, we integrate Granovetter's strength-of-ties theory with bonding, bridging and linking ties. We will now discuss, one after another, the combinations of these and Granovetter's theory.

In line with the definition of tie strength of Granovetter (1973), the bonding tie strength is a linear combination of the closeness, the frequency, and the duration of the bonding tie. In our case, women entrepreneurs build bonding ties with family, friends and relatives. The strong relationship with family, friends and relatives is known therefore as strong bonding ties, whereas the loose relationship of those is known as weak bonding ties. Strong ties with family members may reduce the business growth ability of women entrepreneurs through their unnecessary interference that influences the business direction (Jack 2005). These ties may decrease the business efficiency by increasing relationship tensions; time needs to be invested into maintaining social and moral obligations (ibid). For instance, Maas et al. (2014) illustrates specific relationships' tensions linked to the societal position of start-up women entrepreneurs in Bangladesh as follows in a citation of two daughters of a start-up woman entrepreneur: 'Mother never dared to speak to other people than the direct neighbours and the family. She didn't know how to walk to the other village' (Maas et al. 2014). These authors also described the reaction of neighbours to the new born woman entrepreneur: they asked themselves whether she had gone mad and stated that she would not succeed (ibid). Moreover, strong bonding ties are sources of traditional and conventional ideas - rather than new ideas - that may create a negative impact on performance (Gargiulo and Benassi 1999). Based on the weak ties argument

of Granovetter (1973), weak bonding ties of women entrepreneurs may provide new information (for example, advice) or reduce constraints (Mayoux 2001; Maas et al. 2014) which can improve their business performance. Therefore, we hypothesize for the Bangladesh context:

Hypothesis H2$_a$: The number of strong bonding ties has a negative relationship with business performance of Bangladeshi women entrepreneurs.
Hypothesis H$_{2b}$: The number of weak bonding ties has a positive relationship with business performance of Bangladeshi women entrepreneurs.

Following Granovetter (1973) and the reasoning proposed for hypothesis H$_{2a}$ and H$_{2b}$, the bridging tie strength can be considered as a linear combination of the closeness, the frequency, and the duration of the bridging tie. Bridging ties in this study are built between women entrepreneurs. When women entrepreneurs amongst them establish a strong relationship, it is said that they share strong bridging ties; conversely, weak bridging ties refer to a loose relationship between them. Strong bridging ties may hinder business innovation since they create mechanisms of imitation and promote conventionality (Hoyman and Faricy 2009), which does not necessarily improve the business performance. On the other hand, weak bridging ties improve business performance by means of providing new and innovative ideas and techniques. We therefore hypothesize for our context:

Hypothesis H3$_a$: The number of strong bridging ties has a negative relationship with business performance of Bangladeshi women entrepreneurs.
Hypothesis H$_{3b}$: The number of weak bridging ties has a positive relationship with business performance of Bangladeshi women entrepreneurs.

Finally, the linking tie strength is a linear combination of the closeness, the frequency, and the duration of the linking ties. In our study, linking ties are built between women entrepreneurs and government organizations (GOs), non-government organizations (NGOs), commercial banks (CBs) and other societal powerful bodies (for example, an elected member of a local authority). The strong (weak) relationship between women entrepreneurs and individuals from GOs or NGOs or CBs or local authority is known as strong (weak) linking ties. Based on the weak ties argument of Granovetter (1973), strong linking ties may hinder business performance of women entrepreneurs when they are highly costly to maintain, while weak linking ties may improve their business performance offering new business knowledge and information at a lower cost and higher benefit. In the case of Bangladeshi women entrepreneurs, linking ties seem difficult to achieve because of their social position that focusses their span of action mainly to indoor activities (Drinkwater 2009; Maas et al. 2014). Based on this, we presume that linking ties are weak and functionally demarcated (for instance, getting a (small) loan, or renting a location). We hypothesize for the Bangladesh context:

Hypothesis H4$_a$: The number of strong linking ties has a negative relationship with business performance of Bangladeshi women entrepreneurs.
Hypothesis H$_{4b}$: The number of weak linking ties has a positive relationship with business performance of Bangladeshi women entrepreneurs.

4.3 Data and methods

Research setting, sample and data collection

The research is conducted in two districts of Bangladesh, Jamalpur and Mymensingh, where the handicrafts sector is traditionally developed.

Sampling and data collection procedures are explained in details in Chapter 2 (see section 2.4).

Variables of the model

Dependent variable: Business performance. Business performance of women entrepreneurs in our context is measured on five perceptual items: *The total volume of my firm's production has increased*; *I was satisfied with the price that I got from my customers*; *Customers were satisfied with my products and services*; *My shop had better products on offer compared to other handicrafts shops*; *My shop had a higher profit compared to other handicrafts shops*. Items are measured on a seven-point scale (1= completely disagree, 7= completely agree). The sum of the score (Hughes and Morgan 2007) of five items of the scale represents business performance of women entrepreneurs in Bangladesh.

Independent variables (explanatory and control variables)

Explanatory variables. Strong (*Number of strong ties*) and weak ties (*Number of weak ties*) of women entrepreneurs are measured based on tie strength. To measure tie strength, we rely on social ties data gathered through the name generator technique. This technique allows respondents to name only the people who have concretely supported their business. Respondents are asked in fact to name a maximum of seven people who are (or have been) most important for their business[20]. The choice of asking seven people is motivated by extant studies: Renzulli et al. (2000) find for example that respondents indicate on an average 4.7 ties while they are asked to name important people for businesses. As in Granovetter (1973), we measure the tie strength through the indicators of closeness, intensity and duration of the tie. The closeness of the tie (namely, how well the women know their persons) is measured on a 7 point scale ranging from 'very little=1' to 'very well=7'. The intensity of the tie (how many times the women meet these persons) is also measured on a 7 point scale. From low to high, the intensity of ties is categorized into 'less than once a year=1', 'once a year=2', 'once in six months=3', 'once in three months=4', 'once a month=5', 'once in two weeks=6' and 'at least once a week=7'. The duration of the tie (since how many years the women know these persons) is measured through number of years and is categorized into: 'five years and less=1', 'six through ten years=2', 'eleven through fifteen years=3', 'sixteen through twenty years=4', 'twenty one through twenty five years=5', 'twenty six through thirty years=6' and 'thirty one years and above =7'. Thus, the tie strength is measured as the sum of closeness, intensity and duration of tie of women entrepreneurs. The maximum possible tie strength is 21 (7*3). Moreover, as in Granovetter (1973) we introduce and measure the bonding tie strength, the bridging tie strength and the linking tie strength as respectively the sum of closeness, intensity and duration of bonding-, bridging-, and linking tie of women entrepreneurs. Based on bonding tie strength, strong (*Number of strong bonding ties*) and weak bonding ties (*Number of weak bonding ties*) are measured. Similarly, we measure strong (*Number of strong bridging ties*) and weak bridging ties (*Number of weak bridging ties*) based on bridging tie strength, and strong (*Number of strong*

---

[20] Those with whom they discuss matters of finance, market, raw materials and technology

linking ties) and weak linking ties (*Number of weak linking ties*) based on linking tie strength. These measures are inserted to disentangle the influence of the strength of the respective types of ties. Table 4.1 presents the operationalization of our explanatory variables.

Table 4.1: Operationalization of explanatory variables

Variables	Operationalization
Strong tie:	the tie strength is equal to or greater than total sample median value for tie strength (15.4).
Weak tie:	the tie strength is less than total sample median value for tie strength (15.4).
Strong bonding tie:	the bonding tie strength is equal to or greater than total sample median value for bonding tie strength (17.52).
Weak bonding tie:	the bonding tie strength is less than total sample median value for bonding tie strength (17.52).
Strong bridging tie:	the bridging tie strength is equal to or greater than total sample median value for bridging tie strength (14.87).
Weak bridging tie:	the bridging tie strength is less than total sample median value for bridging tie strength (14.87).
Strong linking tie:	the linking tie strength is equal to or greater than total sample median value for linking tie strength (12.18).
Weak linking tie:	the linking tie strength is less than total sample median value for linking tie strength (12.18).

Control variables. As financial capital is the basic resource for businesses (Cooper et al. 1994; Dollinger 2005), we control for this variable (*Financial capital*), measured as the current investment in inventory and facilities used by women entrepreneurs. Moreover, since entrepreneurial businesses might face unique (not only financial) challenges at different levels of their lifecycle (Lee et al. 2001; Stam and Elfring 2008; Arregle et al. 2015), we control for business experience (*Business experience*), measured as the number of years since women entrepreneurs have started their business. Education level, furthermore, might positively relate to the business performance as shown in (Coleman 2007) and Inmyxai and Takahashi (2010): in view of this, we control for it (*Education level*) and measure it as the level of education of women entrepreneurs at the moment of the survey (0 = no formal education; 1 = primary school; 2 = secondary school; 3 = higher secondary school; 4 = vocational and university education). In addition, business trainings received by women entrepreneurs might have a positive relation to their business performance (Kantor 2005; Inmyxai and Takahashi 2010). We measure it as the average number of hours per year of business training received by women entrepreneurs (*Business training*). As shown in Rauch et al. (2009), entrepreneurial orientation (EO) might positively relate to the business performance. EO refers to the strategic capabilities and attitudes of entrepreneurs leading to entrepreneurial actions and decisions (Lumpkin and Dess 1996). EO consists of three dimensions; innovativeness, risk-taking and pro-activeness (Miller 1983). To measure the EO dimensions of women entrepreneurs (*Entrepreneurial Orientation*), we use an adapted version of the EO scale proposed by Verhees et al. (2012). It includes twenty-two items of innovativeness, risk-taking and pro-activeness, measured on a seven-point scale (1= completely disagree, 7= completely agree). EO dimensions of Bangladeshi women entrepreneurs are the result of an exploratory factor analysis reported later on (see *first step* of

data analysis). Next to the EO, also the social environment and the business environment might influence women's behaviour and their business performance (De Vita et al. 2014; Poggesi et al. 2015). We control for the social environment through a variable (*Barriers in social environment*) measured with an item of the survey representing *hindrances due to family, norms, customs, traditions and religion over business experiences*. This item is measured on a seven-point scale (1= completely disagree, 7= completely agree). Next to this, we control for the business environment (*Barriers in business environment*) in which women entrepreneurs operate, often characterized in developing countries by poor, uncertain and changing condition and creating opportunities or barriers for businesses (Welter and Smallbone 2011). These barriers are measured based on four items: *Hindrance due to infrastructural instability (electricity and information technology)*; *Hindrance due to environmental threats (flood & heavy rains)*; *Hindrance due to political instability (strike, illegal tolls and briberies)*; *Hindrance due to government rules and regulations (license, tax and vat) over business experiences*. Item have been adapted from Rodríguez-Gutiérrez et al. (2015) and are measured on a seven-point scale (1= completely disagree, 7= completely agree). The summated score (Hughes and Morgan 2007) of four items of the scale represents barriers in business environment. We maintain the same control variables used as the control variables in Chapter 3 Models (see Chapter 3, control variables, which are based on insights of Chapter 2).

Data analysis

The empirical strategy we adopt consists of two steps. The first step is a preparatory work aiming at (1) identifying through an exploratory factor analysis the dimensions of EO in the Bangladeshi context; (2) checking for the consistency of items used in measuring latent variables by means of a reliability analysis; (3) testing the common method bias through a marker variable analysis; (4) reporting on the descriptive statistics (mean and standard deviation) and the bivariate correlation of variables used in the model (Table 4.2). The second step is a multiple regression analysis.

First step

Exploratory factor analysis to identify the EO dimension. This analysis[21] identifies the EO dimensions in the context of Bangladeshi women entrepreneurs and also tests the multidimensionality of the EO concept (Kraus et al. 2012). Innovative- and pro-active EO and Risk-taking EO represents the two dimensions of EO for our context (see Table 2.1, Chapter 2).

Reliability analysis. The reliability test, as indicated by Cronbach alpha (α), should be greater than 0.70 (Field 2013). The value of Cronbach α for all the latent variables is higher than the threshold value: business performance (.73), barriers in business environment (.75), Innovative- and pro-active EO (.94) and Risk-taking EO (.91).

Marker variable analysis. Correlations that remain significant after having controlled for the common method variance (*CMV*) are unlikely to be severely affected by method variance (Lindell and Whitney 2001). Marker variable analysis[22] shows that CMV is not a big problem in our data.

---

[21] The procedure of exploratory factor analysis are explained in chapter 2.
[22] The detailed of CMV are shown in chapter 2.

Second step
Multiple regression analysis. Due to missing values in the variable related to financial capital (4) and to the presence of outliers (4), we adopt a multiple regression analysis (Ordinary Least Square) to test our hypotheses on a final sample of 292 respondents. We also test for linearity (adding square variables), normality (Kolmogorov-Smirnov test), multicollinearity (condition index, and *VIF*: Variance Inflation Factor) and heteroskedasticity (Breusch-Pagan test).

Measurement of 'structural embeddedness' and 'strong-weak ties'

As the hypotheses show, the relational approach of social ties is measured as the number of subsequently strong and weak ties (see for further elaboration on the measurement, this section on 'independent variable'). Thus both in 'structural embeddedness' and 'strong - weak ties' the number of ties plays a role. However, this does not imply that 'structural embeddedness' and 'relational' are equal in their measurement. The 'relational' equation encompasses, besides number, the three relational dimensions closeness, intensity and duration as well. These three dimensions constitute the relational component of a social tie. To study the network of an entrepreneur from a relational approach, the number needs to be included as well. However, the relational dimensions add to the result of the equation. The measured strength of a social tie (by means of the three dimensions) correlates differently to business performance compared to the number of ties. As presented in Appendix A3 (Table X1) both the 'average total ties strength' and 'network size' (total number of ties) are negatively, but differently associated with business performance.

Hence, although the number of ties is present in both the 'structural' and 'relational' approach, we propose that the overall equation of the relational embeddedness will impact business performance differently than 'only' number due to the effect of the three relational dimensions.

4.4 Results

Table 4.2 presents the descriptive statistics and the correlations of all the variables used in the multiple regression analyses. The average business performance score (as we defined it) of women entrepreneurs is moderately high, 29.12 out of 35. Women entrepreneurs in Bangladesh have in general more strong ties (the average number of strong ties is 2.76) than weak ties (the average number of weak ties is 2.04). Moreover, if we look at the strong ties by three different types of ties, it emerges that women have more strong relations with family, relatives and friends, as indicated by the average number of strong bonding ties (1.32), than with other women entrepreneurs (the average number of strong bridging ties is .89) and with GOs, NGOs, financial institutions and alike (the average number of strong linking ties is .26). The same findings are also true for weak ties by three different types of ties. Besides this, women entrepreneurs in the two districts analysed report on average about US$ 5,357 (Taka 417,888.75) available as financial capital; they are experienced in their business, as the average experience of their business shows (about 9 years), and they have on average a low level of education (secondary school). On average, they receive about 34 hours of business training per year. Women entrepreneurs in Bangladesh are also innovative and able to take risks, as the average scores of our indicators for Innovative- and pro-active EO and Risk-taking EO show, respectively 5.88 and 5.96 out of 7. When it comes to the barriers women face in the business

environment, they are relatively high on average (20 out of 28), while apparently the barriers in social environment score 4.82 out of 7. This indicates that women entrepreneurs face substantial challenges in the business and social environment in which they operate their business. Multiple regression models support therefore our aim of identifying which among these features acts as the best predictor for the business performance of women entrepreneurs in the context of the study. Once a light is shed on the factors exerting an influence on the dynamics of women entrepreneurship in Bangladesh, the results of the models can inform the policy debate.

Table 4.2: Descriptive statistics and correlations ($N = 292$)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Business performance	29.12	3.15	1.00																
2. Financial capital ($)	5,357.55	15,773.46	.28***	1.00															
3. Business experience	9.10	6.07	.11*	.13**	1.00														
4. Education level	2.19	1.08	.23***	.21***	-.05	1.00													
5. Business training	33.76	62.87	.06	-.01	-.22***	.25***	1.00												
6 Innovative- and pro-active EO	5.88	1.02	.41***	.16***	-.03	.31***	.07	1.00											
7. Risk-taking EO	5.96	.99	.29***	.18***	.06	.09	-.02	-.03	1.00										
8. Barriers in social environment	4.82	1.73	-.04	-.05	-.02	-.13**	.08	.01	.10*	1.00									
9. Barriers in business environment	20.16	4.91	.10	.05	-06	-.13**	-.04	-.01	.14**	.36***	1.00								
10. Number of weak ties	2.04	1.69	.06	.04	.06	.20***	.11*	-.09	.05	-.08	-.03	1.00							
11. Number of strong ties	2.76	1.64	-.07	.03	.07	.13**	.05	.10*	.08	-.11*	-.17***	-.47***	1.00						
12. Number of weak bonding ties	1.23	1.35	-.05	.07	-.17***	.16***	-.07	-.11*	-.02	-.20***	-.08	.24***	.02	1.00					
13. Number of strong bonding ties	1.32	1.37	-.08	.04	.01	.12**	.14**	.07	.01	-.10*	-.27***	-.32***	.67***	-.19***	1.00				
14. Number of weak bridging ties	.82	1.25	.10*	-.04	.03	.09	.05	-.11*	.12**	.01	.07	.69***	-.36***	-.13**	-.24***	1.00			
15. Number of strong bridging ties	.89	1.22	-.02	-.09	.18***	.01	.01	.06	.02	.07	.09	-.01	.31***	-.31***	-.15***	-.05	1.00		
16. Number of weak linking ties	.28	.52	-.02	.03	.10*	.02	.05	.15***	.03	-.04	-.13**	.12**	-.07	-.11*	-.01	-.15***	-.05	1.00	
17. Number of strong linking ties	.26	.60	.13**	.20***	.22***	.09	.11**	.08	.05	.03	.04	.18***	-.01	-.10*	-.08	-.02	-.03		1.00

* Significant at 10 percent level

** Significant at 5 percent level

*** Significant at 1 percent level

Table 4.3 and 4.4 contain the results of the two multiple regression models. The maximum *VIF* in both the models is far away from the threshold *VIF* (10), which indicates no apparent and serious multicollinearity (Hair 2010). The condition index for all models is within the limits generally accepted in the literature (30), confirming no serious multicollinearity (Greene 2003). The *ZRE* (standardized residual) statistic suggests that the residuals are normally distributed. Besides, X^2 value indicates constant variance of residuals (we cannot reject the hypothesis of constant variance at 5 percent level of significance). We can therefore consider our models robust[23].

Table 4.3: Results of multiple regression models[a] on weak and strong ties

Variables	Model 1 (weak and strong ties)	
	coefficient (β)	*t* value
Financial capital	.13***	2.56
Business experience	.12**	2.42
Education level	.07	1.26
Business training	.07	1.33
Innovative- and pro-active EO	.39***	7.37
Risk-taking EO	.28***	5.52
Barriers in social environment	-.11**	-2.04
Barriers in business environment	.08	1.53
Number of weak ties	-.04	-.66
Number of strong ties	-.17***	-2.89
Adjusted R^2	.31	
F test	14.02***	
Maximum *VIF*	1.51	
Condition index	18.88	
X^2 for Breusch-Pagan test	1.83	
Kolmogorov-Smirnov test (*ZRE*)	.03	
Number of respondents (*N*)	292	

[a] Standardized regression coefficients
* Significant at 10 percent level
** Significant at 5 percent level
*** Significant at 1 percent level

Model 1 explains the relation between business performance and number of *weak and strong ties* relying on the control variables. Results show that the number of strong ties has a significant negative relationship with business performance of women entrepreneurs (β=-.17, t value=-2.89), which supports our hypothesis H_{1a}. Having more strong ties, no matter with which actor, in general does not improve performances. The number of weak ties is not statistically related with the performance. Among the control variables, financial capital, business experience, Innovative- and pro-active EO, Risk-taking EO all shows a positive relation with business performance. Barriers in social environment show instead a negative significant relationship with business performance. Education level, business training and barriers in business

---

[23] The models explain about 30 percent of the variances, which indicates an acceptable fit of the models with the data analysed.

environment (although barriers in business environment show a positive significant relationship with business performance in Chapter 2), finally, are not statistically significant.

In order to go more into details of the influence that the different types of weak and strong ties can exert on the business performance, we propose Model 2. We run the same model we presented so far introducing the specific weak and strong ties that can influence the business performance of women entrepreneurs. In the attempt to extend the Granovetter's hypothesis, this study proposes evidence on which specific strong and/or weak ties are more (un)supportive of the business performance of women in Bangladesh. Table 4.4 presents the results of the new model.

Table 4.4: Results of multiple regression models[a] on types of weak and strong ties

Variables	Model 2 (types of weak and strong ties)	
	coefficient (β)	t value
Financial capital	.13**	2.54
Business experience	.13**	2.47
Education level	.06	1.13
Business training	.08	1.54
Innovative- and pro-active EO	.41***	7.59
Risk-taking EO	.27***	5.40
Barriers in social environment	-.11**	-2.03
Barriers in business environment	.06	1.02
Number of weak bonding ties	-.09	-1.44
Number of strong bonding ties	-.16***	-2.79
Number of weak bridging ties	.02	.41
Number of strong bridging ties	-.12**	-2.14
Number of weak linking ties	-.13**	-2.43
Number of strong linking ties	-.01	-.16
Adjusted R^2	.32	
F test	10.67***	
Maximum VIF	1.55	
Condition index	20.70	
X^2 for Breusch-Pagan test	1.45	
Kolmogorov-Smirnov test (ZRE)	.04	
Number of respondents (N)	292	

[a] Standardized regression coefficients
* Significant at 10 percent level
** Significant at 5 percent level
*** Significant at 1 percent level

Results show that the number of strong bonding ties has a statistically significant negative relationship with business performance of women entrepreneurs (β=-.16, t value=-2.79), which supports our hypothesis H_{2a}. The same is also found for the number of strong bridging ties (β=-.12, t value=-2.14), which provides support our hypothesis H_{3a}. In essence, the more the relationships with family, friends, relatives and with other entrepreneurs, the less are the performances. Furthermore, the number of weak linking ties has a negative significant

relationship with business performance of women entrepreneurs (β=-.13, t value=-2.43), which is the reverse relation to our proposed hypothesis H_{4b}. However, the number of weak bonding- and bridging- and strong linking ties is not statistically significant in this model, indicating no support for hypothesis H_{2b}, H_{3b} and H_{4a}. When we look at the control variables, they show patterns similar and consistent with the ones explained as resulting from Model 1.

4.5 Discussion

The aim of the study is to analyse the relationship between strong and weak ties and business performance of women entrepreneurs in a socially constrained position. We apply the social capital perspective, more specifically the weakness of strong ties and the strength of weak ties arguments of Granovetter (1973) that we interpret for the specific position of women entrepreneurs in Bangladesh. Moreover, we try to identify what strength of ties and combinations of strength and types of ties are associated with business performance of women entrepreneurs in this context.

Our results suggest that the number of strong ties of women entrepreneurs negatively influences their business performance: this indicates that the strong ties hypothesis of Granovetter (1973) is valid and applicable also in the context of women entrepreneurs operating in a developing country. However, in the interpretation of this finding we not only rely on Granovetter's reasoning on not accessing multiple and innovative ideas, information and resources. In our interpretation we also include the societal impact of the fact that most of the ties women entrepreneurs have in Bangladesh are mainly with family, friends, relatives and neighbours. These ties might exert a negative effect on the ability women have to conduct and improve their own business. The reasons for this negative effect are multiple. Firstly, in traditional societies women are regarded as taking care of the family, the children and looking after the homestead. Even when women are regarded as being equals to men, still their roles are different: men find jobs outside home, which hinders the possibility for women to exploit themselves business opportunities. Furthermore, even when women start their activities[24], bonding ties might not be able to provide the information they need to improve in their business: as suggested in other studies, strong ties with friends and family are able to supply only limited innovative business ideas and knowledge (Jack 2005); they offer rather redundant, overlapping information that seems less essential for businesses (Aldrich and Zimmer 1986).

Our results also suggest that the larger the number of strong bonding ties of women, the worse is their business performance. Keeping a large number of these ties might cost a considerable amount of time in order to maintain social and moral obligations such as domestic duties (for instance, cooking and taking care of family) that might hinder their business performance. Also, these ties might not provide a substantial extent of freedom and flexibility to women entrepreneurs as they can not take entrepreneurial actions and decisions without having relationship tensions because of maintaining family responsibilities. This might also negatively impact their performance. Maas et al. (2014) explains the negative impact of (strong) bonding

---

[24] The reasons why women in Bangladesh decide to start a business activity are diverse: inspiration comes sometimes by the family members, by the willingness to have self-dependency and economic freedom, by the need of finding extra money to support the family, or simply because there are no alternatives (BWCCI 2008)

ties on women's business development by emphasizing the discouraging effect of these ties on business women in their development.

Next to strong bonding ties, our results find also that the larger the number of strong bridging ties of women entrepreneurs, the lower is the performance of their business. Establishing a large number of these ties by women in this context might in fact produce replicated products and services for customers that may undermine their business performance. This explanation is in line with the study of Hoyman and Faricy (2009) who also find that strong ties bridging to other entrepreneurs hamper (innovation) performances as they create mechanisms of imitation and conventionality. Moreover, these ties might offer and share between women entrepreneurs traditional ideas and techniques that might not helpful for increasing their abilities to identify and exploit new business opportunities (for example, introducing new goods to consumers) and therefore might hinder their performance. As suggested also in the study of Mayoux (2001) that ideas and information exchanged via strong ties between women remain the same, which have negative influences on performances.

Although not significant the coefficients of weak ties, specifically, weak bonding and bridging ties, and strong linking ties, still they give us an indication. These ties apparently do not play a role in this context. Moreover, our results find a reverse relation than our hypothesized relation that the number of weak linking ties shows a positive relationship with business performance. This might be due to the fact that accessing to these links with institutions is very hard for women in this context (as men play a role as gatekeeper), but it would be interesting to see whether - when combined with other support (for instance, programmes for women education, training, campaigns to support gender equality, to support education of men towards the role of women in society) - they can be useful. The fact that also women work and produce an income surely helps the economy of these societies in countries aiming for development. If this is understood, recognized and shared also by men (being the family members or funders, or source of credits), maybe business performances of women can become a real support towards economic development.

4.6 Conclusions

This study analyses the influence that the strength of interpersonal ties exert on business performance of women entrepreneurs through the lenses of social capital theory. It aims to identify what combinations of strength and types of ties are positive or negative for performances in the specific context of Bangladesh. Our results provide evidence of the weakness of strong ties in the manner described by Granovetter (1973) as applied to a small business context in a developing country. The study in fact shows that the number of strong ties is negatively related with business performance of women entrepreneurs in Bangladesh. Strong bonding ties seem to be disadvantageous for business performance partly because women face barriers in their social environment which hinder their entrepreneurial activity. Strong bridging ties also seem not to be useful for their performance. These results suggest that in the context of a developing country where the social expectations towards the role of a woman strongly differ from those towards the role of an entrepreneur, the larger number of strong ties with

family, relatives and with other women involved in similar activities is counterproductive for their entrepreneurship.

In order to develop and improve women's capability not to build and make use of such ties, a role can be played by the national and local Government by means of campaigns to train the women in collaboration with different educational and training institutions at local, regional and national level; and to train men in the awareness of the importance of the economic activities of women for the economic development of the area in which they live.

This study contributes to the tie strength literature in four ways. First, it provides the insight that Granovetter's (1973) weakness of strong ties proposition holds true also under the specific circumstances of women entrepreneurs in socially constrained conditions. However, the underlying mechanism that enables us to understand why strong ties negatively influence business performance goes beyond Granovetter (1973)'s argument that strong ties offer access to redundant information and cheap, easily available, resources. For women entrepreneurs in Bangladeshi context, the role or functionality (Jack 2005) of the ties comes in as well. In this case, strong ties might interfere women not to take their own course of entrepreneurial actions and decisions. Second, it extends the insight of Granovetter's (1973) strong and weak ties propositions into more specific strong bonding, bridging and linking ties as well as weak bonding, bridging and linking ties propositions. Third, the study results nuance towards a wide spread negative influence of strong ties to business performance in literature (Batjargal 2003). Fourth, our study offers an empirical strategy in measuring the tie strength, particularly bonding-, bridging- and linking tie strength of women entrepreneurs for the developing country contexts. Moreover, this shows the measurements of strong versus weak ties, strong bonding versus weak bonding ties, strong bridging versus weak bridging ties and strong linking versus weak linking ties in this context.

Limitations and further research
This study presents some methodological limitations that, once addressed with new research, could provide new insights on the topic. First, the problem of causality is not properly addressed by the method used due to the nature of the available data (cross section). This type of data forces the researchers in implicitly assume that reverse causality is possible between the dependent and explanatory variables (for instance, the increased business performance might also induce the number of strong and weak ties). Further research on longitudinal data would be recommended in order to tackle this issue. Second, perceived measure of business performance of women entrepreneurs were used - instead of actual ones - because of the difficulty of getting objective data in the context we selected. Further research is needed to measure their business performance with objective data. Third, measurement error or common method variance (*CMV*) might arise for the reason that all data are self-reported and are collected using the same questionnaire. However, our evidence from marker variable analysis indicates that *CMV* does not create a serious problem in our research. Finally, the evidence from our data is based on women, which does not permit us to infer about men. Future research on a sample including men entrepreneurs would allow a comparison of the influence that weak and strong ties exerts on business performance of men- and women entrepreneurs in our context.

Such a comparison would inform the discussion of which ties are more supportive of performances and how in a traditional society men can support prosperity of the country relying also on the ability of women as entrepreneurs.

Chapter 5
EO and the contribution of women entrepreneurs to family livelihood

5.1 Introduction

Entrepreneurship for women in developing countries represents a feasible occupational basis to contribute to the income and livelihood[25] of themselves and their family (Awusabo-Asare and Tanle 2008; Al-Dajani and Marlow 2010; Moller 2012; Ramswamy and Kumar 2013). Women entrepreneurs are labelled as 'rising stars', 'new vehicles' (Mboko and Smith-Hunter 2009; Acs et al. 2011; Vossenberg 2013), 'untapped source' (Minniti and Naudé 2010; Vossenberg 2013), 'the way forward' (Hausmann et al. 2012) and 'the new movement for women' (De Bruin et al. 2006; Brush and Cooper 2012; Vossenberg 2013; Welsh et al. 2016) when looking at their potential to stimulate the economy and reduce poverty in developing countries (see Chapter 1, section 1.1.2). Although literature suggests that the contribution of women entrepreneurs to their family's livelihood in developing countries is a necessity (Gibson et al. 2004; Block et al. 2015; Shah and Saurabh 2015), they are as well confronted with barriers to developing their entrepreneurship. The social environment might constrain entrepreneurial activities of women in developing countries (Shah and Saurabh 2015). Social norms in fact influence women's business activities whilst being associated to the traditional roles of cooking and taking care of family. As a consequence, financial dependence on men and restricted activities outside home constrain their business activities (Roomi 2013; De Vita et al. 2014). Also the business environment in developing countries create difficulties for women to develop their business due to poor infrastructure, environmental threats and organisational limitation (Amine and Staub 2009; Al-Dajani and Marlow 2010; Roomi 2013). Being restrained in developing their entrepreneurship implies that women entrepreneurs in constrained contexts may face the risk of not succeeding in their necessary contribution to their families' basic necessities. Constrained context means that women's entrepreneurial activities in developing countries are home based, executed in a resource scarce, socially confining and business wise threat-to-disrupt environment.

In this chapter we are particularly interested in the antecedents of EO (factors influencing EO). As shown in chapter 2 EO is positively related to business performance. In chapters 3 and 4 results show that EO has a significant positive relationship with business performance whilst social capital (social ties and number of ties) is negatively related to business performance. In such a resource scarce setting social capital does not seem to function as a resource collector to support entrepreneurial activities. Therefore, further study is needed to understand the origin of the positive contribution of EO on business performance and especially to study if these women entrepreneurs can maximise their gains (see Chapter 1, section 1.1) in order to be able to contribute to their family livelihood.

Particularly for a constrained context, Wiklund and Shepherd (2005) suggest that entrepreneurs can benefit from entrepreneurial orientation (EO) to gain competitive advantage. The entrepreneurial ability to contribute to family livelihood is actually dependent on the extent to which women entrepreneurs succeed in reaching a viable business performance (e.g. business growth and income) (Gibson et al. 2004; Shah and Saurabh 2015). EO, defined in the literature as the strategic capabilities of entrepreneurs to exploit opportunities, is viewed as an important determinant for business performance since it might offer competitive advantages to

---

[25] Defined as the capabilities, assets (physical, economic and social resources) and activities required for a means of living (Ellis 2000).

entrepreneurs (Rauch et al. 2009; Fuentes-Fuentes et al. 2015). EO shapes the way in which entrepreneurs exploit opportunities by infusing innovativeness, pro-activeness and risk-taking - three EO dimensions - into their business operations (Miller 1983; Fuentes-Fuentes et al. 2015). As constraints can influence entrepreneurial activities (Leiponen and Byma 2009), the extent to which women's EO enables them to contribute to family livelihoods, via their business performance (Gibson et al. 2004; Shah and Saurabh 2015), is then of interest. Certainly when reviewing the roles, mentioned above, which are attributed to women entrepreneurs in the developing countries' economy. When driven by necessity to contribute to their family livelihoods and seemingly restricted in their entrepreneurial engagement, women entrepreneurs should then be able to shape and fuel their EO in such a manner that they leverage their business performance at least to a notable level (Gibson et al. 2004; Shah and Saurabh 2015).

As suggested by several researchers (Ireland et al. 2009; Wales et al. 2011; Wales et al. 2013), the antecedents of EO - factors influencing EO - represent an important area in which further research is needed. Although scarce, literature on the antecedents of EO states that factors such as entrepreneurs' internal resources - e.g. financial (Wiklund and Shepherd 2005) and human capital (Davidsson and Honig 2003; Wales et al. 2013) - and external environments - e.g. the social and the business environment - might influence EO (Leiponen and Byma 2009). Furthermore, literature demonstrates that factors like financial and human capital (Coleman 2007) and external environments may directly influence business performance (Mozumdar et al. 2016a). Thus, these factors may have an indirect influence on business performance as they may have a direct influence on EO.

As this research is focussed on how EO particularly for women entrepreneurs in a constrained context can, via business performance, induce their family livelihood, we select the case of Bangladesh. Bangladeshi women entrepreneurs operate small business in a context of socio-cultural barriers that represent a constraint to the possibility to leverage their EO in order to be able to establish their business and by this to support their family (De Vita et al. 2014; Maas et al. 2014; Mozumdar et al. 2016a). This research answers the following two questions: (1) what are the antecedents of EO to leverage business performance of women entrepreneurs in Bangladesh? (2) what is the impact of business performance of women entrepreneurs on their families' livelihood?

Our study has several contribution to the literature. First, EO literature is enriched by providing insights into how EO is fuelled in a context which is not favouring entrepreneurship, and thus adding to the understanding of the foundation and development of EO (Ruiz-Ortega et al. 2013). Second, we increase insights into the constellation of EO dimensions influencing business performance in a constrained situation. As business performance is not only dependent on EO, we map other influences (direct and indirect (via EO)) to understand, thirdly, how such a seemingly constrained situation can lead to business performance. Fourth, we show that within a context in which the risk to fail seems to be high, women entrepreneurs manage to contribute to family livelihood. The policy oriented contribution is aligned with the above. Knowing what is at the foundation of EO of women entrepreneurs is therefore crucial if one wants to support

women in engaging in entrepreneurship and thereby sustain their family livelihood in constrained contexts.

5.2 Theory and hypotheses

The comprehensiveness of the conceptual model is based on: (1) the view that women entrepreneurs in developing countries necessarily need to contribute to family livelihood and that (2) insights into antecedents of EO are beneficial for understanding how EO can be leveraged to realize such a contribution and (3) to get insights into the antecedents of EO by adopting an inclusive approach - which includes at the same time internal and external factors - is taken (Ruiz-Ortega et al. 2013). Combining internal and external factors is in line with the view that entrepreneurs are cognizant of the internal resources they possess and of those necessary to pursue an opportunity, being aware of the external environment where they operate (Haynie et al. 2009). Internal resources of entrepreneurs might fuel their EO to pursue opportunities (Gnyawali and Fogel 1994), while external environments might present opportunities or barriers for EO (Leiponen and Byma 2009). Also, the antecedents of EO can directly influence business performance. Business performance is seen as a necessary variable mediating EO and family livelihood to investigate to what extent these women contribute to their families' livelihood (see figure 5.1).
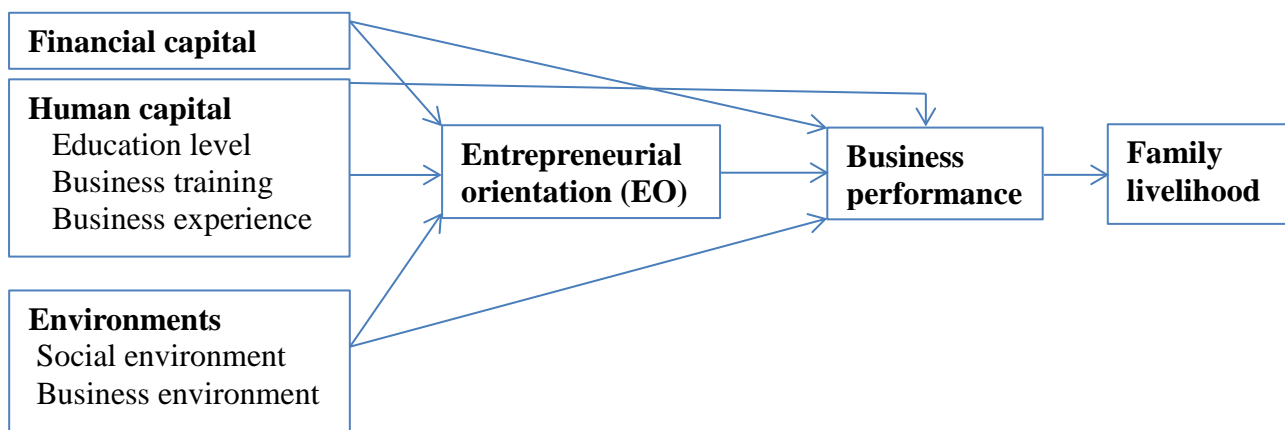

Figure 5.1: Theoretical research model

Entrepreneurial orientation

The concept of entrepreneurial orientation (EO) is central to the model. EO is one of the most rigorously researched themes in entrepreneurship literature (Rauch et al. 2009; Wales et al. 2013; Wales 2016). It reflects the strategic capabilities and attitudes of entrepreneurs leading them to entrepreneurial actions and decisions (Lumpkin and Dess 1996; Rodríguez Gutiérrez et al. 2014). Based on Miller (1983), innovativeness, risk-taking and pro-activeness are three main dimensions of EO. Innovativeness is reflected by an entrepreneur's ability to participate in new ideas and techniques for introducing new products and services in markets (Hurley and Hult 1998; Miller 2011). Risk-taking reflects the ability of entrepreneurs to take strategic and financial risks to develop new products and services and reach new markets (Miller 2011;

Willebrands et al. 2012). Pro-activeness is reflected by forward looking ability of entrepreneurs to forecast customers' needs and necessary changes in markets (Lumpkin and Dess 2001; Miller 2011). Although the EO dimensions as defined by Miller (1983) are central to understanding the entrepreneurial process, Lumpkin and Dess (1996) and later Wales et al. (2013) suggest that they may occur in different combinations. Which combination of EO dimensions match a situation in which entrepreneurs, like women entrepreneurs in developing countries, are driven by necessity and experience restrictions to engage in entrepreneurial activities?

Antecedents of EO

Financial capital is the most common resource - such as money and credit - that can easily be changed into other types of resources (e.g. materials and machineries) needed for the business (Cooper et al. 1994; Dollinger 2005). Available financial resources of entrepreneurs may positively influence their EO and specifically the EO dimensions (Wiklund and Shepherd 2005; Filser et al. 2014) since EO is a resource-consuming strategic capability (Covin and Slevin 1991). Seeing EO, especially for women in constrained conditions, as a resource-consuming strategic capability, we propose the following hypothesis.

Hypothesis H$_1$: Financial capital will show a positive relationship with EO of Bangladeshi women entrepreneurs.

Human capital refers to the knowledge and skills of individuals that increase their intellectual capabilities and lead to efficient and productive activities (Becker 2009). This is the outcome of formal and informal education (e.g. experience). Education, training and experience are viewed as the best investment in building and improving human capital (Becker 2009). Human capital might influence the EO of entrepreneurs (Davidsson and Honig 2003; Wales et al. 2013). This capital plays a vital role in nurturing an entrepreneurial mind-set as entrepreneurs with business experience, training and education are expected to have knowledge and intellectual abilities that may assist them to identify and exploit opportunities (Davidsson and Honig 2003; Hosseini and Eskandari 2013). Certainly for women entrepreneurs in constrained conditions, the level of their human capital, a personal trait, can fuel their EO.

Hypothesis H$_2$: Education level (H$_{2a}$), business training (H$_{2b}$) and business experience (H$_{2c}$) will show a positive relationship with EO of Bangladeshi women entrepreneurs.

The environment can influence people's activities (Amine and Staub 2009; De Vita et al. 2014). The social environment in terms of shared norms, values, customs, traditions, ideologies, beliefs and practices might influence activities of individuals by creating a sense of social control (Glonti et al. 2016). This creates barriers for entrepreneurial activities of women in many developing countries, because it controls most of their activities (Amine and Staub 2009; Jamali 2009; De Vita et al. 2014). Similarly, the business environment - the environment in which business transactions take place - in developing countries is challenging for women since this is usually characterized by poor, uncertain and changing condition (Amine and Staub 2009; Jamali 2009; De Vita et al. 2014). This condition is created due to physical and institutional barriers (Acs et al. 2011). Physical barriers in the form of environmental threats (floods) and infrastructural instability (poor roads and electricity), and institutional barriers in the form of

governance limitations (non-supportive gender policies of the government) and political instability (strikes and political unrests) produce challenges for entrepreneurial activities of women (and men) in this context (Jamali 2009; Acs et al. 2011). As there is no evidence of the influence of barriers in social and business environments on women's EO, the above more general reasoning leads us to the following hypothesis.

Hypothesis H_3: Barriers in the social environment (H_{3a}) and barriers in the business environment (H_{3b}) will show a negative relationship with EO of Bangladeshi women entrepreneurs.

Determinants of business performance

Numerous studies suggest that EO is an influential variable for business performance (Rauch et al. 2009; Fuentes-Fuentes et al. 2015). Entrepreneurs having a high level of innovative, pro-active and risk-taking EO tend to scan and monitor their environments regularly for new opportunities (Bradley et al. 2011), which strengthen their competitive positions and improve the performance (Burgelman and Grove 2007; Fuentes-Fuentes et al. 2015). Moreover, EO is a multidimensional construct and its dimensions might vary individually (Lumpkin and Dess 1996; Wales et al. 2013; Lechner and Gudmundsson 2014). The benefit of EO does not essentially depend on a high level of all its dimensions (Lumpkin and Dess 1996; Wales et al. 2013). Mozumdar et al. (2016a), in line with Wiklund and Shepherd (2005)'s finding on EO benefits particularly in constrained contexts, suggest a positive significant impact of women's EO on their business performance in Bangladesh.

Hypothesis H_4: EO will show a positive relationship with business performance of Bangladeshi women entrepreneurs.

Financial capital - besides influencing EO - has a direct influence on business performance (Cooper et al. 1994; Lee et al. 2001; Wiklund and Shepherd 2005; Acs et al. 2011). Entrepreneurs with a high level of financial capital invested in business might enjoy market opportunities through their high investment in improved and quality products, services and advertisements (Lee et al. 2001). In contrast, entrepreneurs with a low financial capital might not enjoy market opportunities completely as they might fail to compete with financially strong counterparts (ibid). We presume that women entrepreneurs in Bangladesh with a higher financial capital can have a better business performance compared to those with lower financial capital.

Hypothesis H_5: Financial capital will show a positive relationship with business performance of Bangladeshi women entrepreneurs.

Human capital - besides influencing EO - has also a direct influence on business performance (Ramos-Rodríguez et al. 2010; Crook et al. 2011). Education is the key element of human capital that leads to explicit knowledge and skills (Becker 2009), which is useful to improve business performance of entrepreneurs (Davidsson and Honig 2003). Empirical studies find that the education level has a significant positive effect on business performance - measured by growth and profitability - of women entrepreneurs in different developed and developing

country contexts (Coleman 2007; Inmyxai and Takahashi 2010; Aterido and Hallward-Driemeier 2011; Roomi 2013). Furthermore, entrepreneur's business knowledge achieved via business- trainings and experiences may significantly influence business performance (Colombo and Grilli 2005). This knowledge may assist entrepreneurs not only in building a business, but also in achieving sustainable competitive advantage in business (Peng 2001; Hatch and Dyer 2004). Various research results suggest that business training has a positive influence on business performance of women entrepreneurs in developing countries such as India and Laos (Kantor 2005; Inmyxai and Takahashi 2010). Also business experience can positively influence business performance through its support to exploring and exploiting opportunities (Lee et al. 2001; Stam and Elfring 2008; Arregle et al. 2015). Several authors find evidence that business experience has a significant positive impact on business performance of women entrepreneurs in developing countries context (Kantor 2005; Manolova et al. 2007; Inmyxai and Takahashi 2010; Roomi 2013).

Hypothesis H6: Education level (H6a), business training (H6b) and business experience (H6c) will show a positive relationship with business performance of Bangladeshi women entrepreneurs.

The environment - besides influencing EO - may directly influence entrepreneurs' performance (Poggesi et al. 2015) as well. Literature suggests that barriers in the social environment (e.g. gender discrimination, societal legitimation, social obligations, local norms and religion) appear to be the main obstacles to women for their business performance in developing countries (Al-Dajani and Marlow 2010; Belwal et al. 2012; Roomi 2013; De Vita et al. 2014; Mozumdar et al. 2016a). In the same way, barriers in business environment might have negative effects on their business performance (Mboko and Smith-Hunter 2009; Yordanova 2011). Based on this, we build the following hypothesis.

Hypothesis H7: Barriers in social- (H7a) and in business environment (H7b) will show a negative relationship with business performance of Bangladeshi women entrepreneurs.

Business performance and family livelihood
Women's business activities in developing countries are crucial to improve their individual and their family's livelihood (Ramswamy and Kumar 2013). Profit of their business might provide them not only with personal income and dignity (Awusabo-Asare and Tanle 2008), but also creates for them a resilient livelihood (Moller 2012). This might also be able to induce a steady family livelihood (Ramswamy and Kumar 2013). Empirical evidence suggests that income from women's home based business in developing countries - for instance, India and Jordan - contributes to their stable family income and livelihood though they operate their business activities in the context of embedded traditional patriarchal traditions (Al-Dajani and Marlow 2010; Ramswamy and Kumar 2013). In addition, women entrepreneurs in developing countries can be seen as dedicated to the final goal of contributing to family livelihood based on the necessity to contribute. As insight into the effect of business performance of such women entrepreneurs on family livelihood is lacking, we propose from the dedication-necessity angle,

the following proposition on business performance enhancing family livelihood by improving economic[26]-, food[27]- and health security[28] of the family.

Hypothesis H₈: Business performance will show a positive relationship with family livelihood of Bangladeshi women entrepreneurs.

5.3 Data and methods

Research setting, sample and data

The detailed of research setting, sampling and data collection methods are elaborated in Chapter 2 (see section 2.4 Data and methods).

Variables of the model

Family livelihood

Family livelihood i.e. food security, economic security and health security of the family (Lindenberg 2002) is measured by perceptions of women entrepreneurs. Total 11 perceptual items (3 on food (in)security (Coleman-Jensen et al. 2014); 4 on economic security; 4 on health security (Lindenberg 2002)) were measured using a seven point scale (1= completely disagree; 7= completely agree). Family livelihood of women entrepreneurs is finally measured on the summated score of the 11 items (see items in Table 5.1).

Business performance

Business performance in this study is measured on five perceptual items (production growth, profit growth, product quality, price satisfaction and customers' satisfaction) (Stam and Elfring 2008). Items are measured on a seven point scale (1= completely disagree, 7= completely agree). The sum of the score of the 5 items (Hughes and Morgan 2007) represents business performance of Bangladeshi women entrepreneurs (see Table 5.1).

Entrepreneurial orientation (EO)

To measure EO including the identification of the EO dimensions in the context of women entrepreneurs in Bangladesh, we use an adapted version of the EO scale suggested by Verhees et al. (2012). This scale contains twenty two items of innovativeness, risk-taking and pro-activeness, measured on a seven point scale (1= completely disagree; 7= completely agree). The EO dimensions in this context are identified by exploratory factor analysis presented later on in the text (see *data analysis*).

Financial capital

This is measured on the current investment in inventory and facilities used by women entrepreneurs.

Human capital

Three variables, education level, business training and business experience, represent human capital for this study. Education level is measured as the highest level of education of women entrepreneurs. Business training is stated here as the average number of hours per year of

---

[26] Economic security of a family indicates that it has the ability to maintain and improve its income and assets over the years (Lindenberg 2002).

[27] A family is called food secure if it has the ability to acquire the sufficient nutritious food needed by its members over the years (Coleman-Jensen et al. 2014).

[28] Health security of a family comprises the ability to access to fresh water, good sanitation and primary health care facilities (Lindenberg 2002).

business training received by women entrepreneurs. Business experience is measured as the number of years since women entrepreneurs have started their existing business.

Barriers in social environment

The social environment - Barriers in social environment - is measured with an item specifying hindrances due to family, norms, customs, traditions and religion on a seven-point scale (1= completely disagree; 7= completely agree).

Barriers in business environment

The business environment construct - Barriers in business environment - is adapted from Rodríguez-Gutiérrez et al. (2015) and is measured on four items reflecting environmental threats, infrastructural, and political instability, finally government rules and regulations. Each item is measured using a seven-point scale (1= completely disagree; 7= completely agree). The sum of the scores (Hughes and Morgan 2007) on four items of the scale represents this construct.

Control variables

Several studies suggest that the social relationships or ties might influence business performance of entrepreneurs (Granovetter 1985; Woolcock 1998; Hoang and Antoncic 2003; Slotte-Kock and Coviello 2010; Hoang and Yi 2015). Consequently we control three types of social ties, bonding- (Bonding ties: ties with family, friends and relatives), bridging- (Bridging ties: ties with other women entrepreneurs) and linking ties (Linking ties: ties with persons of organizations) for business performance of women entrepreneurs (Maas et al. 2014). The data on social ties are collected through the name generator technique as this can efficiently measure the number and the type of ties of entrepreneurs (Renzulli et al. 2000; Anderson et al. 2005; Batjargal 2007; Stam et al. 2014; Scholten et al. 2015). Women entrepreneurs are asked to name a maximum of seven people who concretely support their business (Scholten et al. 2015). Here, the relationships between women entrepreneurs and the persons they can mention are known as the ties. To separate different types of ties, women are also asked to indicate how they know the persons they named (e.g. friend or family member or from another business or from organizations etc.). In addition, we control other sources of income of women entrepreneurs (Other source of income) for family livelihood because - besides their business income - their other income (e.g. husbands' income) may influence their family livelihood (Kabir and Huo 2011). The operationalization of all control variables in this study is shown in Table 5.1.

Table 5.1: An overview and operationalization of variables used in the model

Variables	Operationalization	Scale	Cronbach α
Family livelihood	The summated score of food security, economic security and health security	Summated scale: 11-77 (Likert 1-7)	.91[*]
	Food security: The reversed score of food insecurity		
	Food insecurity: Sum of: *We worried whether our food would end before we got money to buy more; The food that we bought just didn't last & we didn't have money to get more; We couldn't afford to eat healthy and nutritious food*		
	Economic security: Sum of: *We were able to sustain and improve our annual family income; We were able to improve our accommodation facilities; We were able to increase our family assets (television, furniture, refrigerator); We were able to increase our family savings*		
	Health security: Sum of: *We had access to fresh water facilities (both for drinking and other use); We had access to sanitation facilities; We had access to primary health care facilities; Female members had access to health care facilities*		
Business performance	Sum of: *The total volume of my firm's production has increased; I was satisfied with the price that I got from my customers; Customers were satisfied with my products and services; My shop had better products on offer compared to other handicrafts shops; My shop had a higher profit compared to other handicrafts shops*	Summated scale: 5-35 (Likert 1-7)	.73[*]
Barriers in social environment	*Hindrances due to family, norms, customs, traditions and religion*	Likert 1-7	-
Barriers in business environment	Sum of: *Hindrance due to infrastructural instability (electricity and information technology); Hindrance due to political instability (strike, illegal tolls and briberies); Hindrance due to environmental threats (flood & heavy rains); Hindrance due to government rules and regulations (license, tax and vat)*	Summated scale: 4-28 (Likert 1-7)	.75[*]
Innovative- and pro-active EO	Resulted from exploratory factor analyses	Likert 1-7	.94
Risk-taking EO	Resulted from exploratory factor analyses	Likert 1-7	.91
Education level	Highest level of education: (0 = no formal education; 1 = primary school; 2 = secondary school; 3 = higher secondary school; 4 = vocational and university education)		
Business training	Total number of hours of business related training / year		
Financial capital	Current inventory + (the value of facilities / year) (Value of facilities = shop + sewing machine + embroidery machine + furniture + computer + other fixed assets)		
Business experience	The number of years since women entrepreneurs have started their business		
Bonding ties	The total number of bonding ties		
Bridging ties	The total number of bridging ties		
Linking ties	The total number of linking ties		
Other source of income	The average of 2012, 2013 and 2014 of other sources of women's family income (e.g. husbands' income from agriculture or remittance)		

Note: Cronbach α cannot be measured for single item variable and is indicated as (-)
  [*] Cronbach α of the items combined providing the summated scale

Data analysis

We analyse the data in two steps. The first step is the preparatory task including (a) marker variable analysis to test the common method bias, (b) exploratory factor analyses to identify the EO dimensions of Bangladeshi women entrepreneurs, (c) reliability analysis to check the consistency of items of the latent variables, and (d) correlations and descriptive analyses for the descriptions of all variables used in the model (Table 5.2). The second step is the structural equation modelling.

First step

Marker variable analysis

As in Lindell and Whitney (2001), correlations that remain significant after having controlled for the common method variance (CMV) are unlikely to be severely affected by method variance. This marker variable analysis[29] indicates that CMV is not a problem in our data.

Exploratory factor analysis

With this analysis[30], we get a two components solution for EO. Innovative- and pro-active EO and Risk-taking EO represent the two EO dimensions of Bangladeshi women entrepreneur (see Table 2.1, Chapter 2). Each dimension in itself can influence the entrepreneurial process and in turn result in a higher or lower business performance (Wales 2016) and the antecedents can differ as well in their effect on the identified dimensions of EO.

Reliability analysis

Cronbach alpha (α) indicates the internal consistency of items representing the latent variable. The value of α should be greater than 0.70 (Field 2013). This value for Innovative- and pro-active EO (.94) and Risk-taking EO (.91), barriers in business environment (.75), business performance (.73) and family livelihood (.91) shows that items are consistent in measuring all the five latent variables.

Second step

Structural equation model (SEM)

This model allows us to examine direct and indirect relations, at the same time it checks for the mediating effects of variables. In order to test our research hypotheses, we run a SEM with robust co-variances (Yuan and Bentler 1998) based on the final sample of 292 respondents. This number of respondents is resulted from the original set of 300 because of four outliers and four missing values of financial capital. As suggested by Hu and Bentler (1999), SRMR (standardized root mean squared residual) value is provided for the model fit indicator.

5.4 Results

Table 5.2 presents the baseline description and the bivariate correlation of all variables in the SEM. The descriptive statistics designate that financial capital invested by women entrepreneurs in their respective businesses on average is about US$ 5,357, suggesting that most of them operate in small sized business. They are experienced in operating their business as specified by their mean business experience (9 years). They are not highly educated (on average completed secondary school) but receive on average about 34 hours of business training per year. Also, their mean score on Innovative- and pro-active EO (5.88 out of 7) and Risk-taking EO (5.96 out of 7) indicates that they are innovative and pro-active and prefer to take

---

[29] The details are available in chapter 2.

[30] The procedures are explained in chapter 2.

risks in their business. These results show that women entrepreneurs in Bangladesh do not exercise pure ideal-typical EO dimension as presented in theory but combine items of different theoretical dimensions in their EO dimensions in practice. Next to EO, women face challenges in social and business environments in operating business as their average score for both barriers in social- (4.82 out of 7) and business environment (20 out 28) are quite high. Furthermore, their mean bonding- (2.55) bridging- (1.71) and linking ties (.54) inform that they build relatively more ties with family, friends and relatives compared to ties with other women entrepreneurs and with organizations and financial institutes. The average business performance score (about 29 out of 35) and family livelihood score (about 68 out of 77) of women entrepreneurs are quite high. Their families' average other-sources-of-income is quite low: this is about US$ 3,621 per year.

In the next step, the structural equation model illustrates which variables are the antecedents of EO, key determinants of business performance and its consequences on family livelihood of Bangladeshi women entrepreneurs.

Table 5.2: Descriptive statistics and correlations (N = 292)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Family livelihood	68.24	8.75	1.00													
2. Other sources of income ($)	3,621.23	4,698.25	.26***	1.00												
3. Business performance	29.12	3.15	.44***	.17***	1.00											
4. Financial capital ($)	5,357.55	15,773.46	.21***	.44***	.28***	1.00										
5. Business experience	9.10	6.07	-.01	.07	.11*	.13**	1.00									
6. Education level	2.19	1.08	.30***	.28***	.23***	.21***	-.05	1.00								
7. Business training	33.76	62.87	.05	-.01	.06	-.01	-.22***	.25***	1.00							
8. Innovative- and pro-active EO	5.88	1.02	.52***	.20***	.41***	.16***	-.03	.31***	.07	1.00						
9. Risk-taking EO	5.96	.99	.25***	.17***	.29***	.18***	.06	.09	-.02	-.03	1.00					
10. Barriers in social environment	4.82	1.73	.05	-.06	-.04	-.05	-.02	-.13**	.08	.01	.10*	1.00				
11. Barriers in business environment	20.16	4.91	.07	-.02	.10	.05	-06	-13**	-.04	-.01	.14**	.36***	1.00			
12. Bonding ties	2.55	1.73	-.10	.07	-.10*	.08	-.12**	.22***	.06	-.03	-.01	-.24***	-.28***	1.00		
13. Bridging ties	1.71	1.71	.02	.03	.06	-.09	.15**	.07	.05	-.03	.10*	.06	.12**	-.47***	1.00	
14. Linking ties	.54	.78	-.01	.06	.09	.17***	.23***	.08	.12**	.16***	.06	.00	-.06	-.17***	-.13**	1.00

* significant at p<.10 level

** significant at p<.05 level
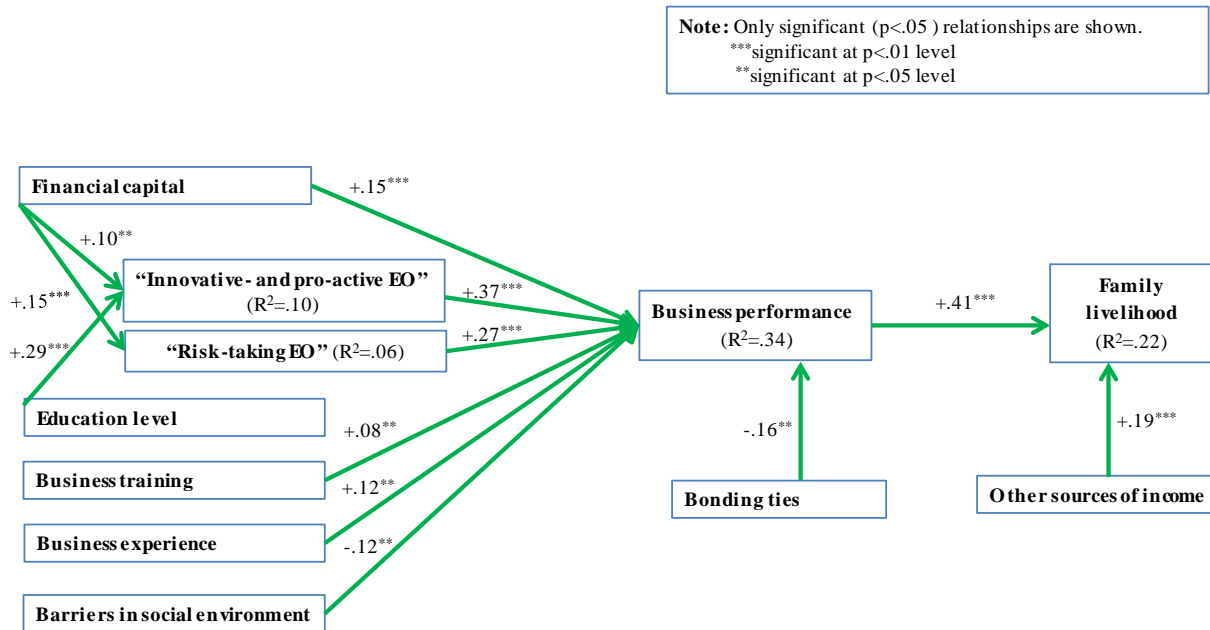
*** significant at p<.01 level

Figure 5.2: Overview of results of structural equation model

The structural equation model (SEM) produces a reasonably good fit: the value of SRMR =.043. A value of SRMR lower than .08 is accepted as a good fit of the model (Hu and Bentler 1999). Figure 5.2 and Table 5.3 illustrate the structural relationships in the model. On the antecedents of EO, financial capital has a positive and significant relationship with Innovative- and pro-active EO (β=.10, p<.05) and Risk-taking EO (β=.15, p<.01), which confirms hypothesis H_1 that financial capital directly triggers the EO (dimensions). Education level has a positive significant relationship with Innovative- and pro-active EO (β=.29, p<.01) but not with Risk-taking EO: the hypothesis H_{2a} is partially confirmed. Innovative- and pro-active EO is largely driven by education level. As business training, business experience, barriers- in social environment and business environment are not statistically related with EO dimensions, hypotheses H_{2b}, H_{2c}, H_{3a} and H_{3b} are not supported by the results.

Regarding determinants of business performance, Innovative- and pro-active EO (β=.37, p<.01) and Risk-taking EO (β=.27, p<.01) have a positive and significant relationship with business performance confirming hypothesis H_4. In line with hypothesis H_5, financial capital (β=.15, p<.01) has a positive significant relationship with business performance: this capital directly and positively influence business performance. In addition to direct influence, financial capital has an indirect positive influence on business performance via Innovative- and pro-active EO (β=.10*.37=.04) and Risk-taking EO (β=.15*.27=.04) and thus financial capital is partially mediated by EO dimensions. Human capital, specifically business training (β=.08, p<.05) and business experience (β=.12, p<.05) show a significant positive relationship with business performance as suggested by hypothesis H_{6b} and hypothesis H_{6c}. Hypothesis H_{6a} is not

supported as education level is not statistically related with business performance. The education level has an indirect positive influence via Innovative- and pro-active EO on business performance (β=.29*.37=.11). As education level does not show any direct influence on business performance, education level is fully mediated by Innovative- and pro-active EO. Thus, Innovative- and pro-active EO mediates the influence of financial capital and education level on business performance whereas Risk-taking EO only mediates the influence of financial capital on business performance. Business performance is negatively influenced by barriers in social environment (β=-.12, p<.05) but not by barriers in business environment being statistically not related: the hypothesis H_7 is partially confirmed. On the control variables, bonding ties (β=-.16, p<.05) have a negative significant relationship with business performance. Bridging- and linking ties are not statistically related with business performance.

Table 5.3: Overall results of structural equation model

Path to	Path from	Coefficient[s]	z value
Innovative- and pro-active EO (R^2=.10)	Financial capital	.10[**]	2.38
	Education level	.29[***]	5.96
	Business training	-.01	-.29
	Business experience	-.03	-.53
	Barriers in social environment	.05	.64
	Barriers in business environment	.01	.10
Risk-taking EO (R^2=.06)	Financial capital	.15[***]	2.91
	Education level	.10	1.63
	Business training	-.03	-.52
	Business experience	.05	.89
	Barriers in social environment	.08	1.14
	Barriers in business environment	.07	1.62
Business performance (R^2=.34)	Innovative- and pro-active EO	.37[***]	7.10
	Risk-taking EO	.27[***]	5.75
	Financial capital	.15[***]	2.70
	Education level	.08	1.46
	Business training	.08[**]	1.96
	Business experience	.12[**]	1.99
	Barriers in social environment	-.12[**]	-2.12
	Barriers in business environment	.07	1.29
	Bonding ties	-.16[**]	-2.34
	Bridging ties	-.06	-.91
	Linking ties	-.09	-1.49
Family livelihood (R^2=.22)	Business performance	.41[***]	8.56
	Other sources of income	.19[***]	3.00

[**] significant at p<.05 level
[***] significant at p<.01 level
[s] standardized coefficient

Business performance (β=.41, p<.01) has a positive and significant influence on family livelihood, which confirms hypothesis H_8. Also other sources of income (β=.19, p<.01) positively influences family livelihood. The results notify that business performance contributes more to family livelihood compared to other sources of income: these suggest that women entrepreneurs' family livelihood is mainly induced by their business performance.

5.5 Discussion

This study aimed to gain insight into how women entrepreneurs in a constrained circumstance can benefit from their EO to leverage their business performance to such an extent that they can contribute to their family livelihood.

As business performance has a large influence (β=.41) on family livelihood, we suggest that the women entrepreneurs by their EO succeed in their contribution to family livelihood. Engaging in entrepreneurial initiatives, via its high impact on business performance, is at the root of their contribution to family livelihood. Moreover, comparing women entrepreneurs' support with other sources of income to families' livelihood, the results surprisingly indicate that their business performance (β=.41) may contribute relatively more compared to other sources of income (β=.19). This in a sense underpins the necessity of women's support to family livelihood (Block et al. 2015). The results can be seen as adding to recent literature which suggests that life challenges can be drivers for entrepreneurship rather than personal advantages for a favourable context (Miller and Breton-Miller 2017). Such a background to start entrepreneurship is suggested to lead to often devoted, persistent and creative entrepreneurs (ibid). This again can lead to further development of those women entrepreneurs when contributing to the well-being of their family (Al-Dajani and Marlow 2010; Ramswamy and Kumar 2013). Women can improve their own status (Awusabo-Asare and Tanle 2008) and their personal livelihood (Moller 2012). The cumulative effect of women's contributions to the social welfare and economic development of developing countries is emphasized as well in literature (Ardrey IV et al. 2006; Acs et al. 2011).

To study which factors, in a constrained context, fuel their EO we investigated antecedents of EO. The results of the study suggest that financial capital effectively helps leveraging innovative-pro-active and risk-taking EO of Bangladeshi women entrepreneurs. Financial capital, being a common resource, can be converted into various other forms of resources - e.g. buying raw materials for producing products, purchasing machineries, decorating shop and advertising new products and services - needed by entrepreneurs (Cooper et al. 1994; Dollinger 2005). Entrepreneurs' financial capital is thus supportive for the development of EO (Wiklund and Shepherd 2005) since EO needs a considerable amount of resources to develop and maintain (Covin and Slevin 1991). The results are in line with the previous research results of Filser et al. (2014). The other antecedent, we found, influencing EO is education: education level significantly (β=.29) increases innovative and pro-active EO of Bangladeshi women entrepreneurs. This result is in line with Davidsson and Honig (2003) when considering education and EO relationship. In our study we refine this insight into the relationship between EO and education to the level of the EO dimensions mentioned. Interesting as well is the non-significant relationship between environments (barriers in social and business environments) and EO. This means that environments do not seem to have direct influence on EO. A possible explanation for this could be, when combining this with the influence of education on EO, that environments through the mediating 'filter' of education indirectly influence EO. After all, as we stated in section 2, education can be seen as nurturing an entrepreneurial mind-set with which opportunities are identified and exploited (Davidsson and Honig 2003; Hosseini and Eskandari 2013). In this explanation educational level determines the scan which is made from

environments to be able to identify opportunities in that environment. On the bases of these results on antecedents of EO one could assume that EO of Bangladeshi women is fuelled by an individual trait education and a more general factor financial capital.

In a constrained context, the EO dimensions of entrepreneurs can be shaped in their own manner (Wales et al. 2013) to achieve the notable business performance. Specifically innovative- and proactive and risk taking EO dimensions, characterizing the EO of women entrepreneurs in Bangladeshi handicrafts sector, influence positively their business performance. This result confirms the beneficial role EO plays for business performance in constrained contexts (Wiklund and Shepherd 2005). Apparently, from a contingency approach (Thompson 1967), in this study a constrained context, the mentioned EO dimensions are the manner in which these women entrepreneurs adapt to their environmental challenges and opportunities.

We see, besides EO dimensions, that financial capital, business- training and experience are drivers of business performance, whereas barriers in social environment have a negative effect on business performance. The result we found on financial capital is in line with the existing general (men and women) literature (Lee et al. 2001; Wiklund and Shepherd 2005; Acs et al. 2011). Also the results on business training (Kantor 2005; Inmyxai and Takahashi 2010) and on business experience confirm findings in other developing countries (Kantor 2005; Manolova et al. 2007; Inmyxai and Takahashi 2010; Roomi 2013). Besides these drivers, the results show that social environment, namely social norms, values, customs, family and religion, pose barriers for women's business performance, which are already indicated in literature (Kabir and Huo 2011; De Vita et al. 2014; Mozumdar et al. 2016a). These relationships are formed within a socially confining context for women which can explain the negative influence of bonding ties on business performance. From these factors, EO dimensions largely influence business performance.

Our results show that innovative-proactive and risk taking EO dimensions mediate the influence of financial capital on business performance. This result is consistent with the result of the study of Filser et al. (2014) who suggest that EO can mediate the relationship between availability of financial resources and performance, measured by growth. Also, results suggest that the influence of education level on business performance is mediated by innovative-proactive EO dimension. This result is in line with prior study of Fuentes-Fuentes et al. (2015) who show that EO mediates the relationship between knowledge acquisition and business (financial) performance of women entrepreneurs.

5.6 Conclusions

The study is attempted for understanding the antecedents of entrepreneurial orientation (EO), key determinants of business performance and its contribution to family livelihood of women entrepreneurs working in a constrained context.

To pursue the aim, data are collected through a structured questionnaire implemented to women entrepreneurs (N=292) operating handicrafts business at the Jamalpur and Mymensingh districts in Bangladesh. The structural equation model provides the results for this study. The results confirm that financial capital is an antecedent for Innovative- and pro-active EO as well

as for Risk-taking EO whereas education level proves as an antecedent for Innovative- and pro-active EO of women entrepreneurs. The results show that EO dimensions (Innovative- and pro-active EO jointly and Risk-taking EO), financial capital, business training and business experience positively but the social environment negatively influence their business performance. The results find evidences that EO dimensions partially mediate the influence of financial capital on business performance while Innovative- and pro-active EO fully mediate the influence of education level on the same performance. The results finally indicate that their business performance positively contributes to the family livelihood.

The study contributes to advancing knowledge in different streams of literature. First, we add to women entrepreneurship literature in two manners. By theoretically developing and empirically testing a comprehensive model on explaining the contribution of entrepreneurship and its antecedents on family livelihood in a constrained context: this is the first effort of building such a comprehensive model. And by providing evidence on the relationship between business performance and family livelihood of women entrepreneurs. Second, we provide evidences on the antecedents of EO (dimensions) in case of women entrepreneurs and by doing that contributing to literature on EO of women entrepreneurs. Although prior studies analyse the antecedent of EO (Ireland et al. 2009; Wales et al. 2011; Wales et al. 2013), they mostly focus on men- or general (men and women) entrepreneurs. Third, we add to literature on key determinants of women's business performance in developing countries. Fourth, we provide evidence on the mediating role of EO dimensions in different determinants of business performance and thereby contribute to both EO and performance literature.

We have some suggestions for practitioners and also for policy implications. Our study finds that financial capital is an antecedent of EO, which is an important determinant for women's business performance. This finding focusses on the role of banks and the social constraint for women to access bank facilities and doing business. Special facilities which lower the threshold for women to gain credits within bank facilities could support women's entrepreneurship. As education is found also as antecedent of Innovative- and pro-active EO, entrepreneurship courses could be introduced in formal and informal educational institutes so that especially underprivileged women can increase their entrepreneurial capabilities by following those courses. Moreover, practical and need-oriented business training should be designed for them that can increase in a focussed manner their performance. As the social norms, values and attitudes pose barriers for women's business development, the government, NGOs and private organizations can arrange different awareness increasing programmes in order to change social attitudes towards women's business. A campaign, for example, with successful women entrepreneurs who contributed to family income through their business could trigger insights in the weighing by individuals between constraining social norms and women's contribution to family livelihood, and more general to society and national economy as well.

Limitations and future research
Our study has some methodological limitations and at the same time that uncover the avenue for future research. First, we only analyse the handicrafts sector of two selected districts in Bangladesh due to time and budget constraints. Future research may conduct the similar studies

in different sectors (e.g. food processing sector) with representative samples from this context or from other developing countries and our theoretical model can be used as a reference. Second, we employ the perceived measure for business performance and family livelihood rather than the objective measure needed the archival data due to problems of obtaining such data in our context. Further research with archival data on business performance and family livelihood is needed to validate the results of our study. Third, as results of our analysis are based on self-reported data collected through a questionnaire, potential common method variance (CMV) or measurement bias might affect the results. However, the outcome from a marker variable analysis show that our results of the study are not seriously hampered by the CMV. Fourth, the cross sectional data as in our study might limit the study of causal relationships between the variables (for example, the relationship between business performance and family livelihood). The longitudinal data in this context may provide further insights into the dynamic nature of business performance and family livelihood. Future research may use longitudinal data to validate the causal relationships shown in our model.

Chapter 6
Discussion and conclusions

6.1 Introduction

Stimulating women's entrepreneurship is widely seen as a vital way of improving their family livelihoods especially in developing countries (Acs et al. 2011; Moller 2012; Bruton et al. 2013; Ramswamy and Kumar 2013). The improvement of their family livelihood is dependent on their business performance. The literature has focused on entrepreneurial orientation (EO) and social capital (social ties and networks) as leveraging the business performance. This however can be hampered in a constrained context, defined as a home based, resource scarce, socially confining and business wise threat-to-disrupt environment where women entrepreneurs (in developing countries) execute their businesses. This thesis enters into this debate offering a view on a specific developing country, Bangladesh. The main objective of this thesis is as follows:

To explore the influence of EO and social capital on business performance of women entrepreneurs in a constrained context and their contribution to family livelihoods.

The present chapter elaborates the main research results, research contributions, limitations and directions for future research. Importantly, it provides suggestions for policy makers and non-government organizations (NGOs), being the main actors able to concretely support women entrepreneurs. The chapter is structured as it follows. Section 6.1 recaps the main research aim. Section 6.2 reviews the main findings obtained in the analyses with respect to the four individual research questions. General discussion and conclusions of overall research are presented in Section 6.3. Section 6.4 synthesizes theoretical and methodological contributions of this thesis. Section 6.5 explains overall research limitations and providing outlines of future research. Finally, this chapter ends with Section 6.6 clarifying how our research findings may help in decision making of policy makers and NGOs who work for women's entrepreneurship development in constrained contexts.

6.2 Answering the research question

Research question 1 (Chapter 2)

Chapter 2 contains a study aimed at exploring (1) the dimensionality of the EO concept and (2) the role that separate EO dimensions and the business and social environment play in explaining business performance of women entrepreneurs operating in Bangladesh. The following research question is answered in Chapter 2.

Research question 1 (RQ1): What is the impact of entrepreneurial orientation (EO) and the social and business environment on business performance of women entrepreneurs in Bangladesh?

We determine through an exploratory factor analysis that risk-taking and, jointly, innovativeness and pro-activeness, are the two dimensions of EO in the context of Bangladeshi women entrepreneurs. Although not consistent with the main studies analysing three dimensions for the EO, the specific context analysed in this thesis shows that a combination of dimensions can typify the EO. Lumpkin and Dess (1996) and Wales et al. (2013) claim that even though the three dimensions of EO as suggested by Miller (1983) are certainly vital to

understanding the entrepreneurial process, it is in fact possible that in a specific constrained context - e.g. the Bangladeshi one - they may occur in distinct combinations compared to the usual ones. As the specific environment or context shapes EO and specifically the combination of EO dimensions (Boso et al. 2013), seemingly we can say that both the social and business environment frame the entrepreneurial process. When we analyse the impact of EO dimensions compared to the impact of social and business environment on business performance, our findings of a hierarchical multiple regression model lend support to previous studies: innovativeness and pro-activeness, although jointly, leverage business performance of women entrepreneurs in Bangladesh.

This finding adds to the empirical evidence offered by different studies on the separate positive impact of innovativeness (Calantone et al. 2002; Hughes and Morgan 2007) and pro-activeness on business performance in the developed country contexts (Hughes and Morgan 2007; Kraus et al. 2012) and provides a new insight on the combination of the two dimensions into one. Moreover, we find that the risk-taking dimension of EO enhances business performance of women entrepreneurs in Bangladesh. This finding is in line with the general (men and women) entrepreneurship literature in other developing countries (Swierczek and Ha 2003; Krauss et al. 2005; CEIRD 2013). In addition, our findings that barriers posed in social environment negatively influence Bangladeshi women's business performance is supported by Roomi (2013) who find that barriers on family, meeting with outside people and mobility have negative effects on sales growth of Pakistani women entrepreneurs. Thus, barriers on family, socio-cultural norms and traditions are often harmful for the business growth and performance of women entrepreneurs in developing countries. However, the barriers in business environment positively relate to women's business performance in Bangladesh. The Independent Sample Test (and also the positive correlation coefficient between Barriers in business environment and Risk-taking EO) indicates that women facing higher barriers in business environment tend towards higher risk-taking attitude. Hence, apparently risk-taking women engage in businesses, appreciate the likely barriers in business environment and transform them into business opportunities to increase their business performance.

Research question 2 (Chapter 3)
Chapter 3 uses a structural embeddedness perspective to explore the role of social networks in their business performance. We especially elaborate the influence of the network size and the number and different type of ties of women entrepreneurs on their business performance in a socially constrained context. In doing so, Chapter 3 answers the following research question.

Research question 2 (RQ2): What impact does the size of the networks and the number and type of ties exert on the business performance of women entrepreneurs in Bangladesh?

In Chapter 3, the findings of our study suggest that the personal social networks, measured as network size of women entrepreneurs in a socially constrained environment, Bangladesh, have a negative impact on their business performance. This is in contrast to the finding of Raz and Gloor (2007) who suggest that network size of software start-up firms in a more regulated or friendly environment, Israel, has a positive influence on their business survival. Also, our

findings show that the number of bonding ties has a negative impact on business performance of Bangladeshi women entrepreneurs, while the number of bridging and linking ties are not significant. This is in line with the research finding of Kuada (2009) who suggests that bonding ties of women entrepreneurs in Ghana negatively affect their business performance. The negative influence of network size and especially of the number of bonding ties notify the dark side of social networks for business performance in our context. However, our study provides an interesting new insight that a particular number of bonding ties of women entrepreneurs in Bangladesh has a positive effect on their business performance and beyond that these can bring a negative effect. Probably Bangladeshi women entrepreneurs' too extensive ties with family, relatives and friends may create over-embeddedness in their network. From this, we can say that the concept of over-embeddedness suggested by Uzzi (1996) seems to be applicable for women entrepreneurs working under socially or culturally constrained conditions in a developing country.

Research question 3 (Chapter 4)

Chapter 4 explores the role of social capital in terms of social relationships or ties that women entrepreneurs build and use to increase their business performance in a socially constrained context. In particular, this chapter offers insights on the influence that the strength of ties exerts on business performance of women entrepreneurs. It answers the following research question:

Research question 3 (RQ3): What strength of ties and combinations of strength and type of ties are beneficial or detrimental for business performance of women entrepreneurs in Bangladesh?

Using a multiple regression model, we find that the number of strong ties is negatively related to business performance: strong ties established by women entrepreneurs in a socially constrained context are not helpful for their business performance. These ties of women in our context possibly cost a large amount of time for maintaining them that may impede their business performance. Based on a qualitative research, Maas et al. (2014) already indicate that strong ties of Bangladeshi women might discourage their business activities. Also in case of Cameroon, women's strong ties are negatively related to their entrepreneurial activities (Mayoux 2001). In addition, our study introduces a new insight, namely that strong bonding- and bridging ties of women entrepreneurs in Bangladesh are unhelpful for their business performance. Strong bonding ties of women entrepreneurs in this context interfere strictly in their business activities and change its directions, which might have a negative influence on their performance. Moreover, strong bridging ties actually provide similar ideas, knowledge and techniques that possibly not help them to identify and exploit new business opportunities and thereby hinder their business performance. Based on this, apparently we can say that the weakness of strong ties argument of Granovetter's (1973) seems to be appropriate for business performance of women entrepreneurs operating under socially constrained conditions in a developing country.

Research question 4 (Chapter 5)

Chapter 5 particularly identifies antecedents of EO, key determinants of business performance of women entrepreneurs in a constrained context. Also, it reveals how women entrepreneurs in this context can contribute to the livelihood of their families by means of their business

performance. Knowing the antecedents of EO is connected to the influence of the business performance on the family livelihood. It answers the next research questions.

Research question 4 (RQ4): What are the antecedents of EO to leverage business performance of women entrepreneurs in Bangladesh (RQ4$_a$)? What is the impact of business performance of women entrepreneurs on their families' livelihood in Bangladesh (RQ4$_b$)?

In Chapter 5, we find that in a constrained context (Bangladesh) women entrepreneurs' EO, characterized as innovative- and pro-active and risk-taking EO dimensions, drives their business performance. Also, financial capital, business experience and training drive their business performance. However, our findings determine that among all drivers EO largely leverages their performance in such a context. This confirms the argument of Wiklund and Shepherd (2005) that entrepreneurs can benefit more from the EO particularly in a constrained environment. While analysing the antecedents of EO of women entrepreneurs in this context, the findings show that the financial capital drives innovative- and pro-active and risk-taking EO dimensions. This is consistent with the findings of the general (male and female) entrepreneurs in other developing country context (Filser et al. 2014). Moreover, we find that education level largely drives innovative- and pro-active EO of women entrepreneurs in Bangladesh, which is in line with Davidsson and Honig (2003). Based on the above, we assume that EO of Bangladeshi women entrepreneurs is fuelled by the individual trait education and the general factor financial capital. In addition, we provide insights that innovative- and pro-active and risk-taking EO can mediate the impact of financial capital, while innovative- and pro-active EO mediates the impact of education level on business performance of women entrepreneurs in Bangladesh. Also, women' business performance in this context has a higher positive effect - compared to their other sources of income - on their families' livelihood. Therefore, seemingly we can say that women's EO, via its large effect on business performance, is at the root of their contribution to family livelihood, which includes food-, economic- and health security of their family.

6.3 General discussion and conclusions

This thesis started with the acknowledgement that EO and social capital do not just emerge and are enacted but are both shaped in the environment in which entrepreneurs engage in their activities. Within such an environment entrepreneurs try to maximise their profit by collecting resources via social capital which are consumed via EO driven activities (see Chapter 1, section 1.1). Researching resource constrained entrepreneurs opens up the possibility to question established theories on EO and social capital and how this cycle of resource collection and resource consumption functions in such a context. The potential of maximising profit of women entrepreneurs in Bangladesh, considering their contribution to family livelihood, is substantial although they are entrepreneurial within a constrained context. In this context, women entrepreneurs have found their own 'personal strategy' to develop their business i.e., actively search for opportunities and pursue resources. In this section the several separate discussion and conclusions in section 6.2 are merged into a more integral discussion and conclusion on women entrepreneurs and their performance in such a constrained context.

In theory, one can assume that EO and social capital have a positive impact on performance of an entrepreneur, however, in the case of women entrepreneurs in Bangladesh, results are mixed (positive and negative). EO and specifically the risk-taking and the combined innovative- and pro-active EO dimensions positively influence business performance. This performance is negatively influenced by social capital specifically because of the dominance of (family) bonding ties and strong bonding ties. From the theory we hypothesized that bridging and linking ties were positively related to business performance as a manner to overcome individual level and larger environmental constraints. Nonetheless, these hypothetically supporting ties are hardly a part of women's social capital. Dominance of family bonding ties and the overall social, religious environment that constrain women in their role as entrepreneurs may explain the low number of ties outside the woman's family circle. Women entrepreneurs therefore cannot rely on a social network of linking and bridging ties to support them with resources. Their personal strategy seems to be influenced by the manner in which the women perceive their business environment specifically the potentially disruptive business environment.

An unexpected result was the positive influence of the business environment on performance in Chapter 2. However, in Chapter 5, while the three different types of social ties (bonding-, bridging- and linking ties) are added as controls for performance, the business environment (which was significant in Chapter 2) becomes statistically not significant and business training (which was not significant in Chapter 2) becomes significant for business performance. These inconsistent results between Chapter 2 and Chapter 5 might be due to technical reasons: (1) As additional variables are added in the structural equations model in Chapter 5, more variables compete themselves for significance and (2) this model (in Chapter 5) also explains the direct and indirect relationships between variables. Apparently, the hostile business environment of Bangladesh is accompanied by risk-taking entrepreneurial orientation. This risk-taking attitude of women entrepreneurs boosts their business performance. Thus, in an environment which is potentially threatening to entrepreneurship, women seem to take risks to develop their businesses. Possibly the necessity to contribute to family livelihood could explain the risk-taking attitude in such an environment: when one needs to become entrepreneur as a possible way to reduce poverty in an uncertain environment, the risk-taking EO could be explained as a compensatory factor to overcome threats.

Women entrepreneurs find themselves in a paradoxical situation. On the one hand, they feel the need to contribute to their families' livelihood and thus are pressed to make a success out of their business. On the other hand, they are confronted by that same family with constraints to develop their business. The women do not seem to have a choice to take more freedom to develop their business. They run the risk of a rupture with their family, trespassing social and family norms and the risk of not being able to contribute anymore to their family, which is at the heart of their entrepreneurship. A delicate balance, in which they combine their resources being their EO, their education and (some) financial capital to invest in their business. One can suppose that women being entrepreneurs develop their business efficiently using the resources available to them whilst not capable of collecting resources via social capital. Women are designated by themselves; they themselves are the initiator and propeller of their business.

6.4 Theoretical and methodological contributions

In this section, we reflect what contributions we made to literature. We present a synthesis of theoretical and methodological contribution of our research results in Chapter 2-5.

In entrepreneurship literature, EO is viewed as an important driver or contributor for business performance (Rauch et al. 2009; Wales et al. 2013; Fuentes-Fuentes et al. 2015; Wales 2016), still it remains unclear what EO dimensions contribute to business performance in the specific context of women-owned firms. The extent to which especially EO dimensions contribute to business performance is related to the influence of social and business environments of different countries on business performance (Miller 2011; Wales 2016). Chapter 2 of this thesis, first, contributes to understanding the dimensionality of EO construct of women entrepreneurs in a constrained context such as Bangladesh. Second, this increases insights on the distinct combination of EO dimensions and their individual contributions to women entrepreneurs' business performance. Third, this advances the knowledge on women's entrepreneurship by providing evidence on the influence of EO dimensions relative to the influence of social and business environments on business performance of women entrepreneurs.

Next to EO, social capital - in terms of strength of social ties - has long been considered as a way to enhance entrepreneurial success (Adler and Kwon 2002; Batjargal 2003; Jack 2005; Batjargal 2007; Maas et al. 2014; Hoang and Yi 2015). Within social capital literature, entrepreneurs' network embeddedness is viewed as helpful for their business development since it may provide necessary resources such as financial capital (e.g. finance/credit), business information and guidance (Dollinger 1985; Aldrich and Zimmer 1986; Batjargal 2003; Bliemel and Maine 2008; Huang et al. 2012). Although many studies suggest that network embeddedness has a positive role in promoting entrepreneurs' business growth and performance (Granovetter 1985; Woolcock 1998; Hoang and Antoncic 2003; Raz and Gloor 2007; Slotte-Kock and Coviello 2010; Hoang and Yi 2015), an insight on the effect of network embeddedness on business performance of women entrepreneurs in a constrained situation is still missing. Chapter 3 of this thesis contributes to the network (over-) embeddedness literature of women entrepreneurs in two ways. First, in line with Uzzi's (1996) proposition, this chapter enhances insight that beyond a definite size, the social network of women entrepreneurs in a constrained environment may be over-embedded. Second, this shows that bonding ties control women entrepreneurs' networks. Also, women entrepreneurs' bonding ties network show two sides: dark- and bright side. The dark side is that the number of bonding ties is negatively, whereas the bright side is that up to a definite number of bonding ties is positively related to business performance. Our study in this chapter determines the tipping point between bright and dark side and adds the insight that bonding ties are supportive for business performance up to a certain point, beyond which they become over-embedded. Our study, to our best knowledge, is the first attempt in the literature to determine the optimal size of women entrepreneurs' network and particularly bonding ties network in a developing country context.

Literature on what strength of ties and combinations of strength and type of ties are beneficial or detrimental for business performance of women entrepreneurs in a socially constrained context is missing. In Chapter 4, this thesis contributes to the missing literature by providing

evidence on the relationship between strong (and weak) ties and business performance in the case of women entrepreneurs operating in a socially constrained context, Bangladesh. First, in accordance with Granovetter's (1973) study, this chapter offers insights that strong ties of women entrepreneurs working under socially constrained conditions are not beneficial for their business performance. Second, this chapter extends the Granovetter's (1973) insight of the weakness of strong ties: our findings on strong bonding- and bridging ties suggest that women entrepreneurs in a socially constrained position build and maintain more strong relationship with family, relatives and friends and with other women entrepreneurs, and these strong bonding and strong bridging ties are not beneficial for their business performance. Third, our study in this chapter adds evidence on the negative influence of strong ties to women's business performance. Fourth, the study in Chapter 4 offers methodological contribution by showing the measurement of the tie strength and especially bonding-, bridging and linking tie strength of women entrepreneurs for the developing country context. Moreover, this explains the way we identify strong vs weak ties and strong bonding- vs weak bonding ties, strong bridging- vs weak bridging ties and strong linking- vs weak linking ties in the case of women entrepreneurs.

In addition, Chapter 5 offers a theoretical contribution in different ways. First, this chapter adds to EO literature by offering an insight on antecedents of EO of women entrepreneurs working in a constrained context, which is crucial to understanding the foundation and development of their EO (Ruiz-Ortega et al. 2013). Although some studies analyse the antecedent of EO (Ireland et al. 2009; Wales et al. 2011; Wales et al. 2013), they mostly focus on male entrepreneurs and none of them on women entrepreneurs. Second, business performance literature in the field of women entrepreneurs is enriched by providing a more comprehensive understanding and evidence of the factors that directly and indirectly (via EO) affect business performance. Third, the study presents evidence that EO dimensions can play a mediating role in different determinants of business performance and thereby improves EO and performance literature. Finally, this chapter adds to the literature on the role of women's entrepreneurship in improving families' livelihood in two ways: (1) by theoretically developing and empirically testing a comprehensive model on explaining the end result of women' entrepreneurship and its antecedents on family livelihood in a constrained situation; and (2) by presenting empirical evidence of the business performance and family livelihood relationship.

6.5 Limitations and future research

While acknowledging theoretical contributions of the present thesis, we feel the necessity to inform the reader about its limitations. Our study also uncovers the future research directions by illustrating the main methodological limitations. In this section, we show our main research limitations and outline the future research perspectives.

This study analyses only the handicraft sector of two selected districts in Bangladesh based on the fact that women establish their entrepreneurial activities relatively more in this sector than in others. Future studies may investigate the same dynamics in other sectors (e.g. service sector) with more samples from this context or comparing with another developing country context.

Data of this study is cross-sectional, which may induce the causality problem. Due to this type of data, we assume that reverse causality is possible between the dependent and independent variables (for example, the increased business performance may also increase the level of EO of women). Although our study provides some interesting insights into business performance determinants of women entrepreneurs, results are not based on panel data. Future longitudinal studies should verify our findings and this may further deepen the causalities of the different determinants of women's business performance.

Common method bias might affect the findings of this study. Potential common method bias or measurement bias may induce artificial covariance between the items because of the fact that they are collected from the same source (e.g. women entrepreneurs) using the same method (e.g. the same questionnaire). Nonetheless, evidence from a marker variable analysis reports that the results of the present study are not seriously hampered by the method bias.

This study uses the subjective perceptual data for business performance and family livelihood of women entrepreneurs due to the difficulty of getting objective data in the context analysed. Further study should measure both business performance and family livelihood with objective data to validate the results of our study.

The study in Chapter 2 explains that EO of women entrepreneurs contributes to increase their business performance. Another avenue for future research is the analysis of moderator variables into the relationship between EO and business performance. Future study should explore to what extent the EO and business performance relationship is contingent on moderator variables, for instance financial resource or capital (Wiklund and Shepherd 2005), human capital (Hosseini and Eskandari 2013) and knowledge based resources, leadership capabilities and managerial charisma (Wales 2016) of women entrepreneurs. Furthermore, Chapter 5 proves the mediating role of EO in different variables influencing women's business performance. Future research should also analyse the mediating variables into the relationship between EO and business performance (Wales 2016) of women entrepreneurs.

In addition, Chapter 4 identifies and suggests that the larger number of strong ties of women entrepreneurs can play a negative role in their business performance, but it does not suggest how to keep the number of such ties lower. Future study should focus on the mechanism of maintaining the fewer number of strong ties of women entrepreneurs in a constrained setting. Conversely, as our findings in the study of Chapter 3 suggest a potential positive role of small bonding network in business performance, future study could reveal our insights of how women entrepreneurs can make and keep their bonding network small in a constrained environment. Moreover, as we suggest that the social network of women entrepreneurs in a constrained condition, beyond a particular size, become over-embedded. Future study could also explore which compensatory variables positively influence business performance of women entrepreneurs in over-embedded situations.

More in general this study shows that although the women operate businesses from their homes, as prescribed by social and religious norms, this does not effectively constrain their

entrepreneurial behaviour. Nevertheless, the question is how home based entrepreneurship works in reality and specifically who are the customers of their products. Women entrepreneurs themselves told us (during our interviews with them) that they have a dedicated group of customers who know them very well. This is in line with Viswanathan et al. (2014) who use the term embedded selling to characterize this dedicated group of customers in the case of subsistent entrepreneurs. Another business cross boundary activity is purchasing or buying raw materials for the production and again the question is how women transact with suppliers. Possibly women entrepreneurs have a very stable supply base (Hagelaar et al. 2016). In such a situation they need not to visit new suppliers, nor transact actively and could do business from their homes. Pro-activeness combined with innovativeness can be explained as aiming at strengthening long term relations both with the supply and the demand side. Future research could explore these and other explanations for the manner in which these women entrepreneurs develop their business relations with parties down and up the supply chain.

6.6 Policy implications

Although this thesis is about women entrepreneurs, we do not formulate recommendations directly for them. The results and the integral picture of the entrepreneurial women with in a constrained environment show the delicate balance between these women, their family and the wider context of the Bangladeshi society (see section 6.3). This delicate balance is to be taken into account when choosing the targeted actors to formulate recommendations for. Addressing women entrepreneurs as change actors implies changing their behaviour. This change in behaviour can interfere the delicate balance between them, their families and the (immediate) surrounding society (neighbours, customers, banks, etc.). We are reluctant to endanger this balance while it enables them, from a social point of view, to act as entrepreneurs and to contribute to their families' livelihood.

Instead, we provide recommendations for governmental policymakers and development partners or organizations (e.g. NGOs) who mainly work for the development of women entrepreneurs. Policy makers can use our findings to assess the effectiveness of the present policy of women's entrepreneurship. This study provides new knowledge on women's entrepreneurship development that could assist in the development of future policy as well. Also, our findings can help national and international NGOs to set their projects and programmes on women entrepreneurs.

Our recommendations are provided at promoting women's entrepreneurship in Bangladesh. Promoting such entrepreneurship has two phases: (1) to legitimize and strengthen the base of economic activity of women and (2) to strengthen women's ability to develop their business.

Legitimize and strengthen the base of economic activity for women
- Stimulate females' education throughout different levels of education that will enhance a broader participation of women in entrepreneurship on the longer term;

- Promoting role models of women entrepreneur (e.g. providing awards to the best woman entrepreneur at *upazilla*[31] level) that will encourage other women to come to business activities;
- Promoting a special governmental unit to develop activities (e.g. designing the different incentive packages) especially for women;
- Enabling access of women to institutions as banks and governmental agencies;
- Stimulating micro-credit for the women who just start their businesses;
- Promoting specific and extra funding (with minimum documentation formalities) for women entrepreneurs;
- Reserving plots and shops for women entrepreneurs at industrial parks in district and divisional cities;
- Organizing trade fairs for women entrepreneurs at *upazilla* and district levels;
- Reserving stalls for women entrepreneurs at international trade fair in capital city;
- Value added tax (VAT) and tariff should be abolished for micro women entrepreneurs at least for the first five years of their business development;
- Ensuring a representative of woman entrepreneurs in policy making: as the parliament has thirty quota for women, the government could appoint one parliamentarian from women entrepreneurs;
- As the social attitudes pose barriers for women's business development, the government and the other organizations (e.g. NGOs and private organizations) can arrange different awareness-increasing-programmes to change social attitudes towards women's business. The government could encourage electronic and print media to represent key examples of successful women entrepreneurs even respecting the social norms;
- A campaign with successful women entrepreneurs who contributed to family income by means of their business could trigger insights in the weighing by individuals between constraining social norms and women's contribution to family livelihood, and more general to society and national economy as well.

Strengthen women's entrepreneurial ability to develop their business
As we find that innovative-pro-active abilities on the one hand and risk-taking abilities on the other hand positively trigger business performance, an entrepreneurial culture should be created among women so that their abilities to invent, respond to the changes in the market and environment and risk are nurtured and enhanced. Governmental policies should put emphasis on stimulating the EO of women as well as their business performance. Thus, we suggest the following:

- Entrepreneurship courses should be launched in both formal and informal educational institutes so that women can increase their entrepreneurial abilities by following those courses. The level of education fuels their EO, seemingly entrepreneurship courses will stimulate their abilities to explore opportunities.
- As the financial capital positively influences the EO and the business performance, the government and financial institutions (e.g. banks) should extend easy access to credit to

---

[31] This means sub-district.

already established women entrepreneurs as well as start-ups. The following initiatives can increase their easy access to credit:

- A credit guarantee scheme should be developed for women entrepreneurs;
- Collateral free loans should be arranged for women entrepreneurs;
- Reducing interest rate of their credits in both governmental and commercial banks;
- Setting up special counters for women entrepreneurs in all banks;
- Developing data base on women entrepreneurs' credit disbursement;
- Dissemination of information on credit opportunities of women entrepreneurs.

- Need-based practical business training (e.g. promotion of new product development, national and international marketing) should be arranged for them with the aim to increase in a focussed manner their business performance. The Government could launch these training courses together with socially reputed NGOs supporting women's businesses.

Summary

Summary

Women entrepreneurs in developing countries can contribute to the economic well-being of their family and society (Acs et al. 2011; De Vita et al. 2014; Welsh et al. 2016). The contribution to the income and livelihoods of their family is dependent on their business performance (Gibson et al. 2004; Shah and Saurabh 2015). Studies show that women entrepreneurs operate small businesses, make less returns and are more likely to underperform (Du-Rietz and Henrekson 2000; GEM 2010; Vossenberg 2013). Business performance is thus a major challenge for all women entrepreneurs, especially who operate in developing countries (Vossenberg 2013). They face constraints in the business- (Amine and Staub 2009; Vossenberg 2013; Al-zoubi and Al-Alak 2014) and social environment in developing countries (Handy et al. 2007; Jamali 2009; Nagadevara 2009; De Vita et al. 2014). To deal with these constraints, entrepreneurial orientation (EO) (Lumpkin and Dess 1996; Wales 2016) and social capital (Adler and Kwon 2002) are regarded as two important personal strategies to enhance business performance (Carter et al. 2003; Kuada 2009; Boso et al. 2013; Xie and Lv 2016). However, insights on both EO and social capital and their impacts on business performance of women entrepreneurs operating in such constrained conditions, are limited. Therefore, the main objective of this thesis is as follows.

To explore the influence of EO and social capital on business performance of women entrepreneurs in a constrained context and their contribution to family livelihoods.

Mainly through the theoretical lenses of EO and social capital (social ties and networks), we study the multi-challenged processes of women's entrepreneurship. Empirical investigation is conducted based on the survey data collected from 292 women entrepreneurs in Bangladesh in 2015. Based on these data, the main objective of this thesis is addressed through four empirical studies that are presented in four different chapters (Chapter 2-5). These studies are guided by specific research questions. The following four research questions are addressed.

Research question 1 (RQ1): What is the impact of entrepreneurial orientation (EO) and the social and business environment on business performance of women entrepreneurs in Bangladesh?

The first research question is answered in Chapter 2. In this chapter, we particularly analyse the influence of entrepreneurial orientation and the business and social environment on business performance of women entrepreneurs engaged in the handicraft business in Bangladesh. The exploratory factor analyses determine that innovativeness and pro-activeness jointly and risk-taking are the two dimensions of EO in the case of women entrepreneurs in Bangladesh. The results obtained from hierarchical multiple regression analyses suggest that the entrepreneurial orientation dimensions positively relate to business performance, but barriers in the social environment (for example, socio-cultural norms and customs) exert a negative influence on it. In contrast, barriers in the business environment positively relate to business performance, suggesting that apparently, when faced with risk, entrepreneurial women transform barriers into opportunities. Our findings contribute to the research efforts directed at understanding the

dimensionality of the EO construct and the role that external factors (namely, the social and business environment) have in explaining business performance in a constrained context.

Chapter 3 analyses in what way network embeddedness may influence business performance of women entrepreneurs working in a socially constrained context. Using a structural network embeddedness perspective, this chapter answers the next research question.

Research question 2 (RQ2): What impact does the size of the networks and the number and type of ties exert on the business performance of women entrepreneurs in Bangladesh?

Our findings from multiple regression models show that network size has a negative impact on business performance of women entrepreneurs in Bangladesh. Also, the findings show that the number of bonding ties has a negative impact on business performance of Bangladeshi women entrepreneurs, while the number of bridging and linking ties are not significant. Based on in-depth analysis, our study offers an interesting new insight that a particular number of bonding ties of women entrepreneurs in Bangladesh has a positive impact on their business performance and beyond that these can bring a negative impact. Possibly Bangladeshi women entrepreneurs' too extensive ties with family and relatives may create over-embeddedness in their network. Apparently, the over-embeddedness proposition of Uzzi (1996) proves to be valid for women entrepreneurs operating under socially constrained circumstances in a developing country.

Chapter 4 analyses the business performance of women entrepreneurs in a socially constrained context through the social capital theory perspective (relational embeddedness perspective). In this chapter, we aim at extending Granovetter's (1973) argument of the strength of ties to an entrepreneurial context. As such, it answers the following research question.

Research question 3 (RQ3): What strength of ties and combinations of strength and type of ties are beneficial or detrimental for business performance of women entrepreneurs in Bangladesh?

Based on a multiple regression model, the study shows that the number of strong ties is negatively related to business performance. This suggests that strong ties of women entrepreneurs are not beneficial for their business performance in a traditional culture such as the Bangladeshi one. In fact, the study specifically suggests that women entrepreneurs' strong bonding- and strong bridging ties are also not beneficial for their business performance in this context. Apparently, Granovetter's (1973) hypothesis of the weakness of strong ties seems to be valid also for women entrepreneurs in socially constrained conditions of a developing country.

Chapter 5 particularly analyses antecedents of EO, key determinants of business performance and its impact on family livelihood of women entrepreneurs in a constrained context. Knowing the antecedents of EO is connected to the impact of the business performance on the family livelihood. This chapter answers the following research questions.

Research question 4 (RQ4): What are the antecedents of EO to leverage business performance of women entrepreneurs in Bangladesh (RQ4$_a$)? What is the impact of business performance of women entrepreneurs on their families' livelihood in Bangladesh (RQ4$_b$)?

The results of a structural equation model suggest that the financial capital and education level are antecedents positively influencing innovative- and pro-active EO of Bangladeshi women entrepreneurs, whereas their risk-taking EO is positively influenced by financial capital only. In this context, women entrepreneurs' EO, characterized as innovative- and pro-active and risk-taking EO dimensions, drives their business performance. Moreover, financial capital, business experience and training drive their business performance. However, the findings suggest that among all drivers EO largely leverages their business performance in such a context. Also, the study finds that women's business performance in this context has a large positive effect on their families' livelihood. Seemingly, the study suggests that Bangladeshi women's EO, via its large positive impact on business performance, is at the root of their contribution to family livelihood.

Taking together, the above four empirical studies provide a better understanding on the impact of EO and social capital on business performance of women entrepreneurs operating in a constrained context. The thesis also finds the evidence that women entrepreneurs can contribute to their family livelihoods by means of their business performance even in a constrained condition. These findings will help in decision making of policy makers and development partners or organizations (e.g. NGOs) who work for women's entrepreneurship development in constrained conditions in developing countries.

References

Acquaah, M. (2007). Managerial social capital, strategic orientation, and organizational performance in an emerging economy. *Strategic Management Journal, 28*(12), 1235-1255.

Acs, Z. J., Bardasi, E., Estrin, S., & Svejnar, J. (2011). Introduction to special issue of Small Business Economics on female entrepreneurship in developed and developing economies. *Small Business Economics, 37*(4), 393-396.

Adler, P. S., & Kwon, S. W. (2002). Social capital: Prospects for a new concept. *Academy of Management Review, 27*(1), 17-40.

Afroze, T., Alam, M. K., Akther, E., & Jui, N. S. (2015). Women entrepreneurs in Bangladesh-Challenges and determining factors. *Journal of Business and Technology, 9*(2), 27-41.

Al-Dajani, H., & Marlow, S. (2010). Impact of women's home-based enterprise on family dynamics: Evidence from Jordan. *International Small Business Journal, 28*(5), 470-486.

Al-Haddad, F. Y. (2010). Effect of gender on the success of women entrepreneurs in Jordan. *Interdisciplinary Journal of Contemporary Research in Business, 1*(12), 42.

Al-zoubi, A. F., & Al-Alak, B. (2014). Effect of gender on the success of women entrepreneurs in Jordan (entrance contemporary marketing). *Journal of Business Administration and Management Sciences Research, 3*(9), 194-203.

Aldrich, H., Elam, A. B., & Reese, P. R. (1997). Strong ties, weak ties, and strangers. *Entrepreneurship in a global context*, 1-25.

Aldrich, H., Reese, P. R., & Dubini, P. (1989). Women on the verge of a breakthrough: Networking among entrepreneurs in the United States and Italy. *Entrepreneurship & Regional Development, 1*(4), 339-356.

Aldrich, H., & Zimmer, C. (1986). Entrepreneurship through social networks. *The art and science of entrepreneurship. Ballinger, Cambridge, MA*, 3-23.

Amine, L. S., & Staub, K. M. (2009). Women entrepreneurs in sub-Saharan Africa: An institutional theory analysis from a social marketing point of view. *Entrepreneurship & Regional Development, 21*(2), 183-211, doi:10.1080/08985620802182144.

Anderson, A. R., Jack, S. L., & Dodd, S. D. (2005). The role of family members in entrepreneurial networks: Beyond the boundaries of the family firm. *Family Business Review, 18*(2), 135-154.

Anna, A. L., Chandler, G. N., Jansen, E., & Mero, N. P. (2000). Women business owners in traditional and non-traditional industries. *Journal of Business Venturing, 15*(3), 279-303.

Ardrey IV, W. J., Pecotich, A., & Shultz, C. J. (2006). Entrepreneurial women as catalysts for socioeconomic development in transitioning Cambodia, Laos, and Vietnam. *Consumption, Markets and Culture, 9*(4), 277-300.

Arregle, J. L., Batjargal, B., Hitt, M. A., Webb, J. W., Miller, T., & Tsui, A. S. (2015). Family ties in entrepreneurs' social networks and new venture growth. *Entrepreneurship Theory and Practice, 39*(2), 313-344.

Atalay, M., Anafarta, N., & Sarvan, F. (2013). The Relationship between Innovation and Firm Performance: An Empirical Evidence from Turkish Automotive Supplier Industry. *Procedia - Social and Behavioral Sciences, 75*, 226-235, doi:http://dx.doi.org/10.1016/j.sbspro.2013.04.026.

Aterido, R., & Hallward-Driemeier, M. (2011). Whose business is it anyway? [journal article]. *Small Business Economics, 37*(4), 443-464, doi:10.1007/s11187-011-9375-y.

Atuahene-Gima, K., & Ko, A. (2001). An empirical investigation of the effect of market orientation and entrepreneurship orientation alignment on product innovation. *Organization Science, 12*(1), 54-74.

Awusabo-Asare, K., & Tanle, A. (2008). Eking a living: Women entrepreneurship and poverty reduction strategies: The case of palm kernel oil processing in the Central Region of

Ghana. *Norsk Geografisk Tidsskrift-Norwegian Journal of Geography, 62*(3), 149-160, doi:10.1080/00291950802335525.

Baker, W. E., & Sinkula, J. M. (2009). The complementary effects of market orientation and entrepreneurial orientation on profitability in small businesses. *Journal of Small Business Management, 47*(4), 443-464.

Barnes, M., Kalberg, K., Pan, M., & Leung, P. (2016). When is brokerage negatively associated with economic benefits? Ethnic diversity, competition, and common-pool resources. *Social networks, 45*, 55-65.

Bates, T. (1994). Social resources generated by group support networks may not be beneficial to Asian immigrant-owned small businesses. *Social forces, 72*(3), 671-689.

Batjargal, B. (2003). Social capital and entrepreneurial performance in Russia: A longitudinal study. *Organization Studies, 24*(4), 535-556.

Batjargal, B. (2007). Internet entrepreneurship: Social capital, human capital, and performance of Internet ventures in China. *Research Policy, 36*(5), 605-618.

Baum, J. A., Calabrese, T., & Silverman, B. S. (2000). Don't go it alone: Alliance network composition and startups' performance in Canadian biotechnology. *Strategic Management Journal*, 267-294.

Baumol, W. J. (1986). Entrepreneurship and a century of growth. *Journal of Business Venturing, 1*(2), 141-145.

Becker, G. S. (2009). *Human capital: A theoretical and empirical analysis, with special reference to education*: University of Chicago Press.

Begley, T. M., & Boyd, D. P. (1988). Psychological characteristics associated with performence in entrepreneurial firms and smaller businesses. *Journal of Business Venturing, 2*(1), 79-93.

Belwal, R., Tamiru, M., & Singh, G. (2012). Microfinance and sustained economic improvement: Women small-scale entrepreneurs in Ethiopia. *Journal of International Development, 24*(S1), S84-S99.

Bliemel, M. J., & Maine, E. M. (2008). Network embeddedness as a predictor of performance for New Technology-Based Firms. *International Journal of Technoentrepreneurship, 1*(3), 313-341.

Block, J. H., Kohn, K., Miller, D., & Ullrich, K. (2015). Necessity entrepreneurship and competitive strategy. *Small Business Economics, 44*(1), 37-54.

Boso, N., Story, V. M., & Cadogan, J. W. (2013). Entrepreneurial orientation, market orientation, network ties, and performance: Study of entrepreneurial firms in a developing economy. *Journal of Business Venturing, 28*(6), 708-727.

Bourdieu, P., & Wacquant, L. J. (1992). *An invitation to reflexive sociology*: University of Chicago press.

Bradley, S. W., Shepherd, D. A., & Wiklund, J. (2011). The importance of slack for new organizations facing 'tough' environments. *Journal of Management Studies, 48*(5), 1071-1097.

Brüderl, J., & Preisendörfer, P. (1998). Network support and the success of newly founded business. *Small Business Economics, 10*(3), 213-225, doi:10.1023/A:1007997102930.

Brush, C. G., & Cooper, S. Y. (2012). Female entrepreneurship and economic development: An international perspective. *Entrepreneurship & Regional Development, 24*(1-2), 1-6.

Bruton, G. D., Ahlstrom, D., & Li, H. L. (2010). Institutional theory and entrepreneurship: where are we now and where do we need to move in the future? *Entrepreneurship Theory and Practice, 34*(3), 421-440.

Bruton, G. D., Ketchen Jr, D. J., & Ireland, R. D. (2013). Entrepreneurship as a solution to poverty. *Journal of Business Venturing, 28*(6), 683-689, doi:http://dx.doi.org/10.1016/j.jbusvent.2013.05.002.

Burgelman, R. A., & Grove, A. S. (2007). Let chaos reign, then rein in chaos—repeatedly: Managing strategic dynamics for corporate longevity. *Strategic Management Journal, 28*(10), 965-979.

Burt, R. S. (2000). The network structure of social capital. *Research in organizational behavior, 22*, 345-423.

BWCCI (2008). Building women in business: A situation analysis of women entrepreneurs in Bangladesh. Dhaka: Bangladesh Women Chamber of Commerce and Industry.

Calantone, R. J., Cavusgil, S. T., & Zhao, Y. (2002). Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management, 31*(6), 515-524.

Carter, N. (2002). The role of risk orientation on financing expectations in new venture creation: Does sex matter? Frontiers of Entrepreneurship Research. *Babson-Kauffman Foundation. Available at http://www. babson. edu/entrep/fer/Babson2002/VI/VI_P2 P, 2*.

Carter, N., Brush, C., Greene, P., Gatewood, E., & Hart, M. (2003). Women entrepreneurs who break through to equity financing: the influence of human, social and financial capital. *Venture Capital: An international journal of entrepreneurial finance, 5*(1), 1-28.

CEIRD (2013). Why does entrepreneurial orientation affect company performance? *Discussion paper no. 4*.

Chaston, I., & Sadler-Smith, E. (2012). Entrepreneurial cognition, entrepreneurial orientation and firm capability in the creative industries. *British Journal of Management, 23*(3), 415-432.

Chowdhury, F. Customized form of finance for SMEs. In *Seminar Proceedings, National SME Development Program for OIC Member Countries, FBCCI, Dhaka, 2007*

Coduras, A., Saiz-Alvarez, J. M., & Ruiz, J. (2016). Measuring readiness for entrepreneurship: An information tool proposal. *Journal of Innovation & Knowledge, 1*(2), 99-108, doi:http://dx.doi.org/10.1016/j.jik.2016.02.003.

Coleman-Jensen, A., Gregory, C., & Singh, A. (2014). Household food security in the United States in 2013: Statistical supplement. (Vol. AP-066): U.S. Department of Agriculture, Economic Research Service.

Coleman (2007). The role of human and financial capital in the profitability and growth of women-owned small firms. *Journal of Small Business Management, 45*(3), 303-319.

Colombo, M. G., & Grilli, L. (2005). Founders' human capital and the growth of new technology-based firms: A competence-based view. *Research Policy, 34*(6), 795-816, doi:http://dx.doi.org/10.1016/j.respol.2005.03.010.

Cooper, A. C., Gimeno-Gascon, F. J., & Woo, C. Y. (1994). Initial human and financial capital as predictors of new venture performance. *Journal of Business Venturing, 9*(5), 371-395, doi:http://dx.doi.org/10.1016/0883-9026(94)90013-2.

Costello, A. B. (2009). Getting the most from your analysis. *Pan, 12*(2), 131-146.

Covin, J. G., Green, K. M., & Slevin, D. P. (2006). Strategic process effects on the entrepreneurial orientation–sales growth rate relationship. *Entrepreneurship Theory and Practice, 30*(1), 57-81.

Covin, J. G., & Lumpkin, G. T. (2011). Entrepreneurial orientation theory and research: Reflections on a needed construct. *Entrepreneurship Theory and Practice, 35*(5), 855-872.

Covin, J. G., & Slevin, D. P. (1989). Strategic management of small firms in hostile and benign environments. *Strategic Management Journal, 10*(1), 75-87.

Covin, J. G., & Slevin, D. P. (1991). A conceptual model of entrepreneurship as firm behavior. *Entrepreneurship: Critical perspectives on business and management, 3*.

Covin, J. G., & Wales, W. J. (2012). The measurement of entrepreneurial orientation. *Entrepreneurship Theory and Practice, 36*(4), 677-702.

Crook, T. R., Todd, S. Y., Combs, J. G., Woehr, D. J., & Ketchen Jr, D. J. (2011). Does human capital matter? A meta-analysis of the relationship between human capital and firm performance. *Journal of applied psychology, 96*(3), 443.

Damanpour, F. (1991). Organizational innovation: A meta-analysis of effects of determinants and moderators. *Academy of Management Journal, 34*(3), 555-590.

Davidsson, P., & Honig, B. (2003). The role of social and human capital among nascent entrepreneurs. *Journal of Business Venturing, 18*(3), 301-331.

Dawes, J. (1999). The relationship between subjective and objective company performance measures in market orientation research: further empirical evidence. *Marketing Bulletin-Department of Marketing Massey University, 10*, 65-75.

De Bruin, A., Brush, C. G., & Welter, F. (2006). Introduction to the special issue: Towards building cumulative knowledge on women's entrepreneurship. *Entrepreneurship Theory and Practice, 30*(5), 585-593.

De Vita, L., Mari, M., & Poggesi, S. (2014). Women entrepreneurs in and from developing countries: Evidences from the literature. *European Management Journal, 32*(3), 451-460.

Dess, G. G., & Lumpkin, G. T. (2005). The role of entrepreneurial orientation in stimulating effective corporate entrepreneurship. *The Academy of Management Executive, 19*(1), 147-156.

Dess, G. G., & Robinson, R. B. (1984). Measuring organizational performance in the absence of objective measures: the case of the privately-held firm and conglomerate business unit. *Strategic Management Journal, 5*(3), 265-273.

Dollinger, M. J. (1985). Environmental contacts and financial performance of the small firm. *Journal of Small Business Management, 23*(1), 24-30.

Dollinger, M. J. (2005). *Entrepreneurship: strategies and resources*: Marsh Publications, Lombard, Illinois U.S.A.

Drinkwater, M. (2009). 'We are also Human': Identity and Power in Gender Relations. *Rights-based approaches to development: exploring the potential and pitfalls. Kumarian Press, Sterling*, 145-164.

Du-Rietz, A., & Henrekson, M. (2000). Testing the female underperformance hypothesis. *Small Business Economics, 14*(1), 1-10.

Dubini, P., & Aldrich, H. (2002). Personal and extended networks are central to the entrepreneurial process. *Entrepreneurship: Critical perspectives on business and management*, 217-228.

Eisenhardt, K. M. (1989). Making fast strategic decisions in high-velocity environments. *Academy of Management Journal, 32*(3), 543-576.

Eklinder-Frick, J., Eriksson, L.-T., & Hallén, L. (2011). Bridging and bonding forms of social capital in a regional strategic network. *Industrial Marketing Management, 40*(6), 994-1003.

Ellis, F. (2000). *Rural livelihoods and diversity in developing countries*: Oxford University Press, Incorporated.

Feld, S. L. (1997). Structural embeddedness and stability of interpersonal relations. *Social networks, 19*(1), 91-95.

Field, A. (2013). *Discovering statistics using IBM SPSS statistics*: Sage.

Filser, M., Eggers, F., Kraus, S., & Málovics, É. (2014). The effect of financial resource availability on entrepreneurial orientation, customer orientation and firm performance in an international context: an empirical analysis from Austria and Hungary. *Journal for East European Management Studies*, 7-30.

Fletschner, D., & Carter, M. R. (2008). Constructing and reconstructing gender: Reference group effects and women's demand for entrepreneurial capital. *The Journal of Socio-Economics, 37*(2), 672-693, doi:http://dx.doi.org/10.1016/j.socec.2006.12.054.

Fuentes-Fuentes, M. M., Bojica, A. M., & Ruiz-Arroyo, M. (2015). Entrepreneurial orientation and knowledge acquisition: effects on performance in the specific context of women-owned firms. *International Entrepreneurship and Management Journal, 11*(3), 695-717, doi:10.1007/s11365-014-0336-1.

Fuller, T. (2000). Will small become beautiful? *Futures, 32*(1), 79-89.

Garba, A. S. (2011). Stumbling block for women entrepreneurship in Nigeria: How risk attitude and lack of capital mitigates their need for business expansion. *European Journal of Economics, Finance and Administrative Sciences*(36), 38-49.

Gargiulo, M., & Benassi, M. (1999). *The dark side of social capital*: Springer.

Gargiulo, M., & Benassi, M. (2000). Trapped in your own net? Network cohesion, structural holes, and the adaptation of social capital. *Organization Science, 11*(2), 183-196.

GEM (2010). Global Entrepreneurship Monitor. 2010 Women's report.

Gibson, S., Mahmud, S., Toufique, K., & Turtonic, K. (2004). Breaking new ground: livelihood choices, opportunities and tradeoffs for women and girls in rural Bangladesh.

Gittell, R., & Vidal, A. (1998). *Community organizing: Building social capital as a development strategy*: Sage publications.

Glonti, K., Mackenbach, J., Ng, J., Lakerveld, J., Oppert, J. M., Bárdos, H., et al. (2016). Psychosocial environment: definitions, measures and associations with weight status–a systematic review. *obesity reviews, 17*(S1), 81-95.

Gnyawali, D. R., & Fogel, D. S. (1994). Environments for entrepreneurship development: key dimensions and research implications. *Entrepreneurship Theory and Practice, 18*, 43-43.

Granovetter, M. (1973). The strength of weak ties. *American Journal of Sociology, 78*(6), 1360-1380, doi:10.2307/2776392.

Granovetter, M. (1985). Economic action and social structure: The problem of embeddedness. *American Journal of Sociology*, 481-510.

Granovetter, M. (1992). Problems of explanation in economic sociology. *Networks and organizations: Structure, form, and action, 25*, 56.

Granovetter, M. (1995). The economic sociology of firms and entrepreneurs. In A. Portes (Ed.), *The economic sociology of immigration* (pp. 128-165, Essays on Networks, Ethnicity, and Entrepreneurship): Russell Sage Foundation.

Greene, W. H. (2003). *Econometric analysis*: Pearson Education India.

Greve, A., & Salaff, J. W. (2003). Social networks and entrepreneurship. *Entrepreneurship Theory and Practice, 28*(1), 1-22.

Guérin, I. (2006). Women and money: Lessons from Senegal. *Development and change, 37*(3), 549-570.

Gulati, R. (1998). Alliance and networks. *Strategic Management Journal, 19*(4), 293-317.

Gundry, L. K., & Welsch, H. P. (2001). The ambitious entrepreneur: high growth strategies of women-owned enterprises. *Journal of Business Venturing, 16*(5), 453-470.

Gupta, V. K., & Bhawe, N. M. (2007). The influence of proactive personality and stereotype threat on women's entrepreneurial intentions. *Journal of Leadership & Organizational Studies, 13*(4), 73-85.

Hagelaar, G., Staal, A., Holman, R., & Walhof, G. (2016). *Extend business activities through aligning suppliers' resources - results from a Dutch multiple case study in SMEs*. Paper presented at the IPSERA, Dortmund, Germany,

Hair, J. F. (2010). *Multivariate data analysis: A global perspective*: Pearson Education.

Hampton, A., Cooper, S., & Mcgowan, P. (2009). Female entrepreneurial networks and networking activity in technology-based ventures an exploratory study. *International Small Business Journal, 27*(2), 193-214.

Handy, F., Ranade, B., & Kassam, M. (2007). To profit or not to profit: Women entrepreneurs in India. *Nonprofit Management and Leadership, 17*(4), 383-401.

Hansen, M. T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly, 44*(1), 82-111.

Hatch, N. W., & Dyer, J. H. (2004). Human capital and learning as a source of sustainable competitive advantage. *Strategic Management Journal, 25*(12), 1155-1178, doi:10.2307/20142188.

Haugh, H. M., & Talwar, A. (2014). Linking social entrepreneurship and social change: The mediating role of empowerment. [journal article]. *Journal of Business Ethics*, 1-16, doi:10.1007/s10551-014-2449-4.

Hausmann, R., Tyson, L. D., & Zahidi, S. (2012). The global gender gap report (Geneva: World Economic Forum).

Hawkins, R. L., & Maurer, K. (2010). Bonding, bridging and linking: How social capital operated in New Orleans following Hurricane Katrina. *British Journal of Social Work, 40*(6), 1777-1793.

Haynie, J. M., Shepherd, D. A., & McMullen, J. S. (2009). An opportunity for me? The role of resources in opportunity evaluation decisions. *Journal of Management Studies, 46*(3), 337-361.

Hite, J. M., & Hesterly, W. S. (2001). The evolution of firm networks: From emergence to early growth of the firm. *Strategic Management Journal, 22*(3), 275-286.

Hoang, H., & Antoncic, B. (2003). Network-based research in entrepreneurship: A critical review. *Journal of Business Venturing, 18*(2), 165-187.

Hoang, H., & Yi, A. (2015). Network-based Research in Entrepreneurship: A Decade in Review. *Foundations and Trends (R) in Entrepreneurship, 11*(1), 1-54.

Hosseini, M., & Eskandari, F. (2013). Investigating entrepreneurial orientation and firm performance in the Iranian agricultural context. *Journal of Agricultural Science and Technology, 15*(2), 203-214.

Hoyman, M., & Faricy, C. (2009). It takes a village a test of the creative class, social capital, and human capital theories. *Urban Affairs Review, 44*(3), 311-333.

Hsueh, J.-T., Lin, N.-P., & Li, H.-C. (2010). The effects of network embeddedness on service innovation performance. *The Service Industries Journal, 30*(10), 1723-1736.

Hu, L. t., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1-55, doi:10.1080/10705519909540118.

Huang, H.-C., Lai, M.-C., & Lo, K.-W. (2012). Do founders' own resources matter? The influence of business networks on start-up innovation and performance. *Technovation, 32*(5), 316-327.

Hughes, M., Eggers, F., Kraus, S., & Hughes, P. (2015). The relevance of slack resource availability and networking effectiveness for entrepreneurial orientation. *International Journal of Entrepreneurship and Small Business, 26*(1), 116-138.

Hughes, M., & Morgan, R. E. (2007). Deconstructing the relationship between entrepreneurial orientation and business performance at the embryonic stage of firm growth. *Industrial Marketing Management, 36*(5), 651-661.

Hult, G. T. M., Hurley, R. F., & Knight, G. A. (2004). Innovativeness: Its antecedents and impact on business performance. *Industrial Marketing Management, 33*(5), 429-438.

Hurley, R. F., & Hult, G. T. M. (1998). Innovation, market orientation, and organizational learning: an integration and empirical examination. *The Journal of Marketing*, 42-54.

Inkpen, A. C., & Tsang, E. W. (2005). Social capital, networks, and knowledge transfer. *Academy of Management Review, 30*(1), 146-165.

Inmyxai, S., & Takahashi, Y. (2010). Performance contrast and its determinants between male and female headed firms in Lao MSMEs. *International Journal of Business and Management, 5*(4), 37.

Ireland, R. D., Covin, J. G., & Kuratko, D. F. (2009). Conceptualizing corporate entrepreneurship strategy. *Entrepreneurship Theory and Practice, 33*(1), 19-46.

Islam, M. S., Sasaki, T., & Mozumdar, L. (2009). Socio-economic development of small scale broiler farmers in rural areas of Bangladesh: A case study of Mymensingh district. *Journal of Rural Problems, 45*(2), 276-281.

Jack, S. L. (2005). The role, use and activation of strong and weak network ties: a qualitative analysis*. *Journal of Management Studies, 42*(6), 1233-1259.

Jack, S. L., & Anderson, A. R. (2002). The effects of embeddedness on the entrepreneurial process. *Journal of Business Venturing, 17*(5), 467-487.

Jahed, A., Kulsum, U., & Akthar, S. (2011). Women entrepreneurship in Bangladesh: A study on support services available for its development and growth. *Global Management Review, 5*(3).

Jamali, D. (2009). Constraints and opportunities facing women entrepreneurs in developing countries: A relational perspective. *Gender in Management: An International Journal, 24*(4), 232-251, doi:doi:10.1108/17542410910961532.

Kabir, M., & Huo, X. (2011). Advancement of rural poor women through small entrepreneurship development: The case of Bangladesh. *International Journal of Business and Management, 6*(9), 134-140.

Kantor, P. (2005). Determinants of women's microenterprise success in Ahmedabad, India: Empowerment and economics. *Feminist Economics, 11*(3), 63-83, doi:10.1080/13545700500301163.

Kepler, E., & Shane, S. (2007). *Are male and female entrepreneurs really that different?* : Office of Advocacy, US Small Business Administration.

Kim, P. H., & Li, M. (2014). Seeking assurances when taking action: Legal systems, social trust, and starting businesses in emerging economies. *Organization Studies, 35*(3), 359-391.

Klyver, K., & Foley, D. (2012). Networking and culture in entrepreneurship. *Entrepreneurship & Regional Development, 24*(7-8), 561-588.

Knight, G. A. (1997). Cross-cultural reliability and validity of a scale to measure firm entrepreneurial orientation. *Journal of Business Venturing, 12*(3), 213-225.

Kraus, S., Rigtering, J. P. C., Hughes, M., & Hosman, V. (2012). Entrepreneurial orientation and the business performance of SMEs: a quantitative study from the Netherlands. *Review of Managerial Science, 6*(2), 161-182, doi:10.1007/s11846-011-0062-9.

Krauss, S. I., Frese, M., Friedrich, C., & Unger, J. M. (2005). Entrepreneurial orientation: A psychological model of success among southern African small business owners. *European Journal of Work and Organizational Psychology, 14*(3), 315-344, doi:10.1080/13594320500170227.

Kreiser, P. M., Patel, P. C., & Fiet, J. O. (2013). The influence of changes in social capital on firm-founding activities. *Entrepreneurship Theory and Practice, 37*(3), 539-568.

Kuada, J. (2009). Gender, social networks, and entrepreneurship in Ghana. *Journal of African Business, 10*(1), 85-103, doi:10.1080/15228910802701445.

Kyrgidou, L. P., & Spyropoulou, S. (2013). Drivers and performance outcomes of innovativeness: an empirical study. *British Journal of Management, 24*(3), 281-298.

Larson, A., & Starr, J. A. (1993). A network model of organization formation. *Entrepreneurship: Theory and Practice, 17*(2), 5-16.

Le Roux, I., & Bengesi, K. M. K. (2014). Dimensions of entrepreneurial orientation and small and medium enterprise performance in emerging economies. *Development Southern Africa, 31*(4), 606-624, doi:10.1080/0376835x.2014.913474.

Lechner, C., & Gudmundsson, S. V. (2014). Entrepreneurial orientation, firm strategy and small firm performance. *International Small Business Journal, 32*(1), 36-60.

Lee, C., Lee, K., & Pennings, J. M. (2001). Internal capabilities, external networks, and performance: a study on technology-based ventures. *Strategic Management Journal, 22*(6-7), 615-640, doi:10.1002/smj.181.

Leiponen, A., & Byma, J. (2009). If you cannot block, you better run: Small firms, cooperative innovation, and appropriation strategies. *Research Policy, 38*(9), 1478-1488, doi:https://doi.org/10.1016/j.respol.2009.06.003.

Leonard, R., & Onyx, J. (2003). Networking through loose and strong ties: An Australian qualitative study. *Voluntas, 14*(2), 189-204.

Lerner, M., & Almor, T. (2002). Relationships among strategic capabilities and the performance of women-owned small ventures. *Journal of Small Business Management, 40*(2), 109-125.

Lerner, M., Brush, C., & Hisrich, R. (1997). Israeli women entrepreneurs: An examination of factors affecting performance. *Journal of Business Venturing, 12*(4), 315-339.

Light, I., & Dana, L. P. (2013). Boundaries of social capital in entrepreneurship. *Entrepreneurship Theory and Practice, 37*(3), 603-624.

Lim, S., & Envick, B. R. (2013). Gender and entrepreneurial orientation: a multi-country study. *International Entrepreneurship and Management Journal, 9*(3), 465-482.

Lin, N. (1999). Building a network theory of social capital. *Connections, 22*(1), 28-51.

Lin, N. (2008). A network theory of social capital. *The handbook of social capital, 50*, 69.

Lindell, M. K., & Whitney, D. J. (2001). Accounting for common method variance in cross-sectional research designs. *Journal of applied psychology, 86*(1), 114.

Lindenberg, M. (2002). Measuring household livelihood security at the family and community level in the developing world. *World Development, 30*(2), 301-318.

Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking it to performance. *The Academy of Management Review, 21*(1), 135-172, doi:10.2307/258632.

Lumpkin, G. T., & Dess, G. G. (2001). Linking two dimensions of entrepreneurial orientation to firm performance: The moderating role of environment and industry life cycle. *Journal of Business Venturing, 16*(5), 429-451, doi:http://dx.doi.org/10.1016/S0883-9026(00)00048-3.

Luo, Y. (2003). Industrial dynamics and managerial networking in an emerging market: The case of China. *Strategic Management Journal, 24*(13), 1315-1327.

Maas, J., Seferiadis, A., Bunders, J. G., & Zweekhorst, M. M. (2014). Bridging the disconnect: how network creation facilitates female Bangladeshi entrepreneurship. *International Entrepreneurship and Management Journal*, 1-14, doi:10.1007/s11365-014-0299-2.

Mair, J., & Marti, I. (2009). Entrepreneurship in and around institutional voids: A case study from Bangladesh. *Journal of Business Venturing, 24*(5), 419-435, doi:http://dx.doi.org/10.1016/j.jbusvent.2008.04.006.

Manolova, T. S., Carter, N. M., Manev, I. M., & Gyoshev, B. S. (2007). The differential effect of men and women entrepreneurs' human capital and networking on growth expectancies in Bulgaria. *Entrepreneurship Theory and Practice, 31*(3), 407-426.

Marlow, S., & Patton, D. (2005). All credit to men? Entrepreneurship, finance, and gender. *Entrepreneurship Theory and Practice, 29*(6), 717-735.

Mayoux, L. (2001). Tackling the down side: Social capital, women's empowerment and micro-finance in Cameroon. *Development and change, 32*(3), 435-464.

Mboko, S., & Smith-Hunter, A. E. (2009). Women entrepreneurs in Zimbabwe: A case study. *Journal of Global Business Issues, 3*(1), 157.

McEvily, B., & Zaheer, A. (1999). Bridging ties: A source of firm heterogeneity in competitive capabilities. *Strategic Management Journal, 20*(12), 1133-1156.

Menon, N., & Meulen Rodgers, Y. (2011). How access to credit affects self-employment: Differences by gender during India's rural banking reform. *The Journal of Development Studies, 47*(1), 48-69, doi:10.1080/00220381003706486.

Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science, 29*(7), 770-791.

Miller, D. (2011). Miller (1983) revisited: A reflection on EO research and some suggestions for the future. *Entrepreneurship Theory and Practice, 35*(5), 873-894.

Miller, D., & Breton-Miller, L. (2017). Sources of entrepreneurial courage and imagination: Three perspectives, three contexts. *Entrepreneurship Theory and Practice*.

Miller, D., & Friesen, P. H. (1982). Innovation in conservative and entrepreneurial firms: Two models of strategic momentum. *Strategic Management Journal, 3*(1), 1-25.

Minniti, M. (2009). *Gender issues in entrepreneurship*: Now Publishers Inc.

Minniti, M., & Naudé, W. (2010). What do we know about the patterns and determinants of female entrepreneurship across countries? *European Journal of Development Research, 22*(3), 277-293.

Molina-Morales, F. X., & Martínez-Fernández, M. T. (2009). Too much love in the neighborhood can hurt: how an excess of intensity and trust in relationships may produce negative effects on firms. *Strategic Management Journal, 30*(9), 1013-1023.

Moller, C. (2012). Gendered entrepreneurship in rural Latvia: Exploring femininities, work, and livelihood within rural tourism. *Journal of Baltic Studies, 43*(1), 75-94, doi:10.1080/01629778.2011.634103.

Moore, D. P., & Buttner, E. H. (1997). *Women entrepreneurs: Moving beyond the glass ceiling*: Sage Publications, Inc.

Morris, M. H., Kuratko, D. F., & Covin, J. G. (2010). *Corporate entrepreneurship & innovation*: Cengage Learning.

Mozumdar, L., Omta, O., van der Velde, G., & Hagelaar, G. Influence of entrepreneurial orientation on women's business performance in Bangladesh. In *Academy of Management Proceedings, 2016a* (Vol. 2016, pp. 14071): Academy of Management

Mozumdar, L., Omta, O., Velde, G. v. d., & Hagelaar, G. Influence of Entrepreneurial Orientation on Women's Business Performance in Bangladesh. In *The 76th Annual Meeting of the Academy of Management, Anaheim, California, United States, 2016b*

Nagadevara, V. (2009). Impact of gender in small scale enterprises: A study of women enterprises in India. *International Journal of Business and Economics, 9*(1), 111-117.

Navarro, Z. (2006). In search of a cultural interpretation of power: the contribution of Pierre Bourdieu. *IDS bulletin, 37*(6), 11-22.

Nawaz, F. (2009). Critical factors of women entrepreneurship development in rural Bangladesh.

Omta, O., & Rossum, W. (1999). The management of social capital in R&D collaboration. In *Corporate social capital and liability* (pp. 356-375): Springer.

Orser, B. J., Riding, A. L., & Manley, K. (2006). Women entrepreneurs and financial capital. *Entrepreneurship Theory and Practice, 30*(5), 643-665.

Pablo-Martí, F., García-Tabuenca, A., & Luis Crespo-Espert, J. (2014). Do gender-related differences exist in Spanish entrepreneurial activities? *International Journal of Gender and Entrepreneurship, 6*(2), 200-214.

Parvin, L., Jinrong, J., & Rahman, M. W. (2012). Women entrepreneurship development in Bangladesh: What are the challenges ahead? *African Journal of Business Management, 6*(11), 3862.

Peng, M. W. (2001). How entrepreneurs create wealth in transition economies. *The Academy of Management Executive, 15*(1), 95-108.

Poggesi, S., Mari, M., & Vita, L. (2015). What's new in female entrepreneurship research? Answers from the literature. [journal article]. *International Entrepreneurship and Management Journal*, 1-30, doi:10.1007/s11365-015-0364-5.

Poon, J. P. H., Thai, D. T., & Naybor, D. (2012). Social capital and female entrepreneurship in rural regions: Evidence from Vietnam. *Applied Geography, 35*(1–2), 308-315, doi:http://dx.doi.org/10.1016/j.apgeog.2012.08.002.

Portes, A. (2000). Social capital: Its origins and applications in modern sociology. *LESSER, Eric L. Knowledge and Social Capital. Boston: Butterworth-Heinemann*, 43-67.

Putzel, J. (1997). Policy arena: accounting for the 'dark side'of social capital: reading Robert Putnam on democracy. *Journal of International Development, 9*(7), 939-949.

Rabbani, G., & Chowdhury, M. S. (2013). Policies and institutional supports for women entrepreneurship development in Bangladesh: Achievements and challenges. *International Journal of Research in Business and Social Science, 2*(1), 31.

Rahmatullah, M., & Zaman, F. (2014). Female Entrepreneurship in Bangladesh: Constraints, Motivation and Success. *Bangladesh e-Journal of Sociology, 11*(2), 65.

Ramos-Rodríguez, A.-R., Medina-Garrido, J.-A., Lorenzo-Gómez, J.-D., & Ruiz-Navarro, J. (2010). What you know or who you know? The role of intellectual and social capital in opportunity recognition. *International Small Business Journal, 28*(6), 566-582, doi:10.1177/0266242610369753.

Ramswamy, R., & Kumar, N. (2013). Women Weavers in Mizoram: Sustaining Livelihood through Cluster Development. *Indian Journal of Gender Studies, 20*(3), 435-452, doi:10.1177/0971521513495292.

Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice, 33*(3), 761-787, doi:10.1111/j.1540-6520.2009.00308.x.

Raz, O., & Gloor, P. A. (2007). Size really matters-new insights for start-ups' survival. *Management Science, 53*(2), 169-177.

Renzulli, L. A., Aldrich, H., & Moody, J. (2000). Family matters: Gender, networks, and entrepreneurial outcomes. *Social forces, 79*(2), 523-546.

Rodríguez-Gutiérrez, M. J., Moreno, P., & Tejada, P. (2015). Entrepreneurial orientation and performance of SMEs in the services industry. *Journal of Organizational Change Management, 28*(2), 194-212, doi:doi:10.1108/JOCM-01-2015-0020.

Rodríguez Gutiérrez, P., Fuentes Fuentes, M. D. M., & Rodríguez Ariza, L. (2014). Strategic capabilities and performance in women-owned businesses in Mexico. *Journal of Small Business Management, 52*(3), 541-554, doi:10.1111/jsbm.12048.

Roomi, M. A. (2013). Entrepreneurial capital, social values and Islamic traditions: Exploring the growth of women-owned enterprises in Pakistan. *International Small Business Journal, 31*(2), 175-191.

Roomi, M. A., & Harrison, P. (2010). Behind the veil: women-only entrepreneurship training in Pakistan. *International Journal of Gender and Entrepreneurship, 2*(2), 150-172.

Roomi, M. A., & Parrott, G. (2008). Barriers to development and progression of women entrepreneurs in Pakistan. *Journal of Entrepreneurship, 17*(1), 59-72.

Rosenbusch, N., Brinckmann, J., & Bausch, A. (2011). Is innovation always beneficial? A meta-analysis of the relationship between innovation and performance in SMEs. *Journal of Business Venturing, 26*(4), 441-457.

Ruiz-Ortega, J. M., Parra-Requena, G., Rodrigo-Alarcón, J., & García-Villaverde, P. M. (2013). Environmental dynamism and entrepreneurial orientation: The moderating role of firm's capabilities. *Journal of Organizational Change Management, 26*(3), 475-493.

Rutashobya, L. K., Allan, I. S., & Nilsson, K. (2009). Gender, social networks, and entrepreneurial outcomes in Tanzania. *Journal of African Business, 10*(1), 67-83, doi:10.1080/15228910802701387.

Sarkar, M., Echambadi, R., & Harrison, J. S. (2001). Research note: Alliance entrepreneurship and firm market performance. *Strategic Management Journal, 22*(6-7), 701-711.

Scholten, V., Omta, O., Kemp, R., & Elfring, T. (2015). Bridging ties and the role of research and start-up experience on the early growth of Dutch academic spin-offs. *Technovation, 45–46*, 40-51, doi:http://dx.doi.org/10.1016/j.technovation.2015.05.001.

Sekarun, U., & Leong, F. T. (1992). *Women power: Managing in times of demographic turbulence*: Newbury Park, CA: Sage Publications.

Shah, H., & Saurabh, P. (2015). Women Entrepreneurs in Developing Nations: Growth and Replication Strategies and Their Impact on Poverty Alleviation. *Technology Innovation Management Review, 5*(8), 34.

Shaw, E. (2006). Small firm networking an insight into contents and motivating factors. *International Small Business Journal, 24*(1), 5-29.

Sheng, S., Zhou, K. Z., & Li, J. J. (2011). The effects of business and political ties on firm performance: Evidence from China. *Journal of Marketing, 75*(1), 1-15.

Singh, S., Mordi, C., Okafor, C., & Simpson, R. (2010). Challenges in female entrepreneurial development - A case analysis of Nigerian entrepreneurs. *Journal of Enterprising Culture, 18*(04), 435-460.

Slater, S. F., & Narver, J. C. (2000). The positive effect of a market orientation on business profitability: A balanced replication. *Journal of Business Research, 48*(1), 69-73.

Slotte-Kock, S., & Coviello, N. (2010). Entrepreneurship research on network processes: A review and ways forward. *Entrepreneurship Theory and Practice, 34*(1), 31-57.

Smith-Hunter, A. E., & Leone, J. (2010). Evidence on the characteristics of women entrepreneurs in Brazil: An empirical analysis. *International Journal of Management and Marketing Research, 3*(1), 85-102.

Stam, W., Arzlanian, S., & Elfring, T. (2014). Social capital of entrepreneurs and small firm performance: A meta-analysis of contextual and methodological moderators. *Journal of Business Venturing, 29*(1), 152-173.

Stam, W., & Elfring, T. (2008). Entrepreneurial orientation and new venture performance: The moderating role of intra- and extraindustry social capital. *Academy of Management Journal, 51*(1), 97-111.

Stevenson, H. H., & Jarillo, J. C. (1990). A paradigm of entrepreneurship: Entrepreneurial management. *Strategic Management Journal, 11*(Special Issue), 17-27.

Sultana, A. (2012). Promoting women's entrepreneurship through SME: Growth and development in the context of Bangladesh. *Journal of Business and Management (IOSRJBM), 4*(1), 18-29.

Svendsen, G. L. H., Kjeldsen, C., & Noe, E. (2010). How do private entrepreneurs transform local social capital into economic capital? Four case studies from rural Denmark. *The Journal of Socio-Economics, 39*(6), 631-644.

Swierczek, F. W., & Ha, T. T. (2003). Entrepreneurial orientation, uncertainty avoidance and firm performance: an analysis of Thai and Vietnamese SMEs. *The International Journal of Entrepreneurship and Innovation, 4*(1), 46-58.

Szreter, S., & Woolcock, M. (2004). Health by association? Social capital, social theory, and the political economy of public health. *International Journal of Epidemiology, 33*(4), 650-667.

The-Daily-Star (2017). Challenges for women entrepreneurs. http://www.thedailystar.net/education-employment/challenges-women-entrepreneurs-1366573. The Daily Star. Accessed on March 01, 2017.

Thompson, J. D. (1967). *Organizations in action: Social science bases of administrative theory*: Transaction publishers.

Uddin, R., Bose, T. K., & Yousuf, S. (2014). Entrepreneurial orientation (EO) and performance of business in Khulna City, Bangladesh. *Journal of Small Business & Entrepreneurship, 27*(4), 343-352.

Ufuk, H., & Özgen, Ö. (2001). Interaction between the business and family lives of women entrepreneurs in Turkey. *Journal of Business Ethics, 31*(2), 95-106, doi:10.1023/a:1010712023858.

Uzzi, B. (1996). The sources and consequences of embeddedness for the economic performance of organizations: The network effect. *American sociological review*, 674-698.

Uzzi, B. (1997). Social structure and competition in interfirm networks: The paradox of embeddedness. *Administrative Science Quarterly*, 35-67.

Venkatraman, N., & Ramanujam, V. (1986). Measurement of business performance in strategy research: A comparison of approaches. *Academy of Management Review, 11*(4), 801-814.

Verhees, F. J., Lans, T., & Verstegen, J. A. (2012). The influence of market and entrepreneurial orientation on strategic marketing choices: the cases of Dutch farmers and horticultural growers. *Journal on Chain and Network Science, 12*(2), 167-179.

Verheul, I., & Thurik, R. (2001). Start-up capital:" does gender matter?". *Small Business Economics, 16*(4), 329-346.

Viswanathan, M., Echambadi, R., Venugopal, S., & Sridharan, S. (2014). Subsistence entrepreneurship, value creation, and community exchange systems: A social capital explanation. *Journal of Macromarketing, 34*(2), 213-226.

Vossenberg, S. (2013). Women entrepreneurship promotion in developing countries: What explains the gender gap in entrepreneurship and how to close it. *Maastricht School of Management Working Paper Series*(2013/08).

Wales, W. J. (2016). Entrepreneurial orientation: A review and synthesis of promising research directions. *International Small Business Journal, 34*(1), 3-15.

Wales, W. J., Gupta, V. K., & Mousa, F.-T. (2013). Empirical research on entrepreneurial orientation: An assessment and suggestions for future research. *International Small Business Journal, 31*(4), 357-383.

Wales, W. J., Monsen, E., & McKelvie, A. (2011). The organizational pervasiveness of entrepreneurial orientation. *Entrepreneurship Theory and Practice, 35*(5), 895-923.

Wall, T. D., Michie, J., Patterson, M., Wood, S. J., Sheehan, M., Clegg, C. W., et al. (2004). On the validity of subjective measures of company performance. *Personnel psychology, 57*(1), 95-118.

Walter, A., Auer, M., & Ritter, T. (2006). The impact of network capabilities and entrepreneurial orientation on university spin-off performance. *Journal of Business Venturing, 21*(4), 541-567.

Ward, P. T., Duray, R., Keong Leong, G., & Sum, C.-C. (1995). Business environment, operations strategy, and performance: An empirical study of Singapore manufacturers. *Journal of Operations Management, 13*(2), 99-115, doi:http://dx.doi.org/10.1016/0272-6963(95)00021-J.

Welsh, D. H., Memili, E., & Kaciak, E. (2016). An empirical analysis of the impact of family moral support on Turkish women entrepreneurs. *Journal of Innovation & Knowledge, 1*(1), 3-12.

Welter, F. (2011). Contextualizing entrepreneurship—conceptual challenges and ways forward. *Entrepreneurship Theory and Practice, 35*(1), 165-184.

Welter, F., & Smallbone, D. (2011). Institutional perspectives on entrepreneurial behavior in challenging environments. *Journal of Small Business Management, 49*(1), 107-125.

Wiklund, J. (2006). The sustainability of the entrepreneurial orientation–performance relationship. *Entrepreneurship and the growth of firms*, 141-155.

Wiklund, J., & Shepherd, D. (2003). Knowledge-based resources, entrepreneurial orientation, and the performance of small and medium-sized businesses. *Strategic Management Journal, 24*(13), 1307-1314.

Wiklund, J., & Shepherd, D. (2005). Entrepreneurial orientation and small business performance: a configurational approach. *Journal of Business Venturing, 20*(1), 71-91, doi:http://dx.doi.org/10.1016/j.jbusvent.2004.01.001.

Willebrands, D., Lammers, J., & Hartog, J. (2012). A successful businessman is not a gambler. Risk attitude and business performance among small enterprises in Nigeria. *Journal of Economic Psychology, 33*(2), 342-354, doi:10.1016/j.joep.2011.03.006.

Willott, S., & Griffin, C. (2004). Redundant men: Constraints on identity change. *Journal of Community & Applied Social Psychology, 14*(2), 53-69.

Wood, M. S., & McKinley, W. (2010). The production of entrepreneurial opportunity: a constructivist perspective. *Strategic Entrepreneurship Journal, 4*(1), 66-84.

Woolcock, M. (1998). Social capital and economic development: Toward a theoretical synthesis and policy framework. *Theory and society, 27*(2), 151-208.

Woolcock, M. (2001). The place of social capital in understanding social and economic outcomes. *Canadian journal of policy research, 2*(1), 11-17.

World-Bank (2014). http://data.worldbank.org/about/country-and-lending-groups%23Lower_middle_income. Accessed on 15 March, 2016.

Xie, X., & Lv, J. (2016). Social networks of female tech-entrepreneurs and new venture performance: the moderating effects of entrepreneurial alertness and gender discrimination. *International Entrepreneurship and Management Journal, 12*(4), 963-983.

Yordanova, D. I. (2011). The effects of gender on entrepreneurship in Bulgaria: an empirical study. *International journal of management, 28*(1), 289.

Yuan, K.-H., & Bentler, P. M. (1998). Structural equation modeling with robust covariances. *Sociological methodology, 28*(1), 363-396.

Zahra, S. A., & Covin, J. G. (1993). Business strategy, technology policy and firm performance. *Strategic Management Journal, 14*(6), 451-478.

Zahra, S. A., & Garvis, D. M. (2000). International corporate entrepreneurship and firm performance: The moderating effect of international environmental hostility. *Journal of Business Venturing, 15*(5), 469-492.

Zaman, A. H. U., & Islam, M. J. (2011). Small and medium enterprises development in Bangladesh: Problems and prospects. *ASA University Review, 5*(1), 145-160.

Zoogah, D. B., Peng, M. W., & Woldu, H. (2015). Institutions, resources, and organizational effectiveness in Africa. *The Academy of Management Perspectives, 29*(1), 7-31.

Zulkiffli, S. N. A. (2014). Business performance for SMEs: Subjective or objective measures? *Review of Integrative Business and Economics Research, 3*(1), 371.

Appendix A1: Survey questionnaire

Socio-demographic characteristics	

1. Name:
   Address:
   Cell number:
2. Age of the entrepreneur: .... years
3. Marital status:
   - o   1= Married
   - o   2= Unmarried
   - o   3= Divorced
   - o   4= Separated (living apart)
4. How many people live in your house? ....
5. Where do you live?
   - o   1= In parental home
   - o   2= In own home
   - o   3= In rented home
   - o   4= With others

Handicrafts business

6. When did you start your current handicrafts business? ....
7. What kind of handicraft products do you produce? (multiple answer is possible)
   - o   1= Jute products
   - o   2= Cane and bamboo products
   - o   3= Wooden products
   - o   4= Clay products
   - o   5= Leather products
   - o   6= Textile products
   - o   7= Others
8. What is your current investment in inventory (products)? BDT.:.........................
   - o   1= Less than BDT 10,000
   - o   2= BDT 10,000 to less than BDT 30,000
   - o   3= BDT 30,000 to less than BDT 50,000
   - o   4= BDT 50,000 to less than BDT 100,000
   - o   5= BDT 100,000 to less than BDT 500,000
   - o   6= BDT 500,000 to less than BDT 1,500,000
   - o   7= BDT 15,00,000 and above

Value of facilities

9. Physical capital:	Value (in BDT)	10. Buying/renting year
a. -Own building/shop	....	....
-Shop (rent/year)	....	....
b. Sewing machine	....	....
c. Embroidery machine	....	....
d. Furniture	....	....
e. Computer/laptop	....	....
f.	....	....
g.	....	....
h.	....	....

Knowledge and experience

11. Your highest level of education:
    - o 0=no formal education
    - o 1=primary school
    - o 2=secondary school
    - o 3=higher secondary school
    - o 4=vocational college
    - o 5=university
12. Have you participated in any trainings or workshops related to your business?   No   Yes
    a. If yes, how many trainings/workshops have you taken part since you started your business?
       ....
       - o 1= 1 to 4
       - o 2= 5 to 8
       - o 3= 9 to 12
       - o 4= 13 to 16
       - o 5= more than 16
    b. What is the total duration of the training? ....hours
13. How much business experience do you have?   ....   years/months

Entrepreneurial attitude

14. **Block 1**

(completely disagree =1; disagree=2; somewhat disagree=3; neither agree or disagree=4; somewhat agree=5; agree=6; completely agree =7)
Could you please respond to the following statements?

a.	I always start new activities if I see an opportunity	1 2 3 4 5 6 7
b.	I always look for new ideas and techniques	1 2 3 4 5 6 7
c.	I always look for new markets	1 2 3 4 5 6 7
d.	I always try out new products	1 2 3 4 5 6 7
e.	I produce a variety of unique products	1 2 3 4 5 6 7
f.	I use new techniques in production and marketing	1 2 3 4 5 6 7
g.	I introduce new and uncommon products into the market	1 2 3 4 5 6 7
h.	I use my own techniques to create new products	1 2 3 4 5 6 7

15. **Block 2**

a.	I always take risks if I see an opportunity	1 2 3 4 5 6 7
b.	I take financial risks for higher profit	1 2 3 4 5 6 7
c.	I am good at managing financial risks	1 2 3 4 5 6 7
d.	I take financial risks by producing new products and to go to new markets	1 2 3 4 5 6 7
e.	I invest extra time in products and services that yield a higher profit	1 2 3 4 5 6 7
f.	I invest extra money in products and services that yield a higher profit	1 2 3 4 5 6 7

16. **Block 3**

a.	I usually initiate activities before other handicraft firms do	1 2 3 4 5 6 7
b.	I start production and marketing of new products faster than competitors	1 2 3 4 5 6 7
c.	I am able to predict future demands and the necessary changes of products	1 2 3 4 5 6 7
d.	I plan ahead what I want to do	1 2 3 4 5 6 7
e.	I always produce desirable products for clients	1 2 3 4 5 6 7
f.	I look for new connections to get access to raw materials, finance & new markets	1 2 3 4 5 6 7
g.	I can easily predict the action of competitors and set my strategies accordingly	1 2 3 4 5 6 7
h.	I am always eager to find potential strategies for higher profit	1 2 3 4 5 6 7

Hindrances

17. My business experiences:	completely disagree=1; completely agree=7)
a. Hindrance due to infrastructural instability (electricity, IT)	1 2 3 4 5 6 7
b. Hindrance due to political instability (strike, illegal tolls & briberies)	1 2 3 4 5 6 7
c. Hindrance due to environmental threats (flood & heavy rains)	1 2 3 4 5 6 7
d. Hindrance due to government rules and regulations (license, tax, vat etc.)	1 2 3 4 5 6 7
e. Hindrance due to family, norms, customs, traditions and religion	1 2 3 4 5 6 7

Supporting people

Could you please tell me the name of a maximum of seven people who are or have been most important for your business? (With whom you discuss matters of finance, market, raw materials and technology)

Person	1	2	3	4	5	6	7
Name							

18. How do you know this person?

	1	2	3	4	5	6	7
a) a family member or relative	❑	❑	❑	❑	❑	❑	❑
b) a friend	❑	❑	❑	❑	❑	❑	❑
c) someone from another firm	❑	❑	❑	❑	❑	❑	❑
d) someone from a supporting organization	❑	❑	❑	❑	❑	❑	❑
(which organization?)	......	......	......	......	......	......	......

	1	2	3	4	5	6	7
19. How well do you know the person? (very little=1 to very well=7)	......	......	......	......	......	......	......
20. How intensive is the contact?	......	......	......	......	......	......	......

20. How intensive is the contact?
1= less than once a year
2= once a year
3= once in six months
4= once in three months
5= once a month
6= once in two weeks
7= at least once a week

	1	2	3	4	5	6	7
21. How many years do you know this person?	...	...	...	...	...	...	...

22. What do you discuss with this person?

	1	2	3	4	5	6	7
a) Finance and credit issues	❑	❑	❑	❑	❑	❑	❑
b) Technology & equipment issues	❑	❑	❑	❑	❑	❑	❑
c) Market, customers & competition issues	❑	❑	❑	❑	❑	❑	❑
d) Raw materials & product quality issues	❑	❑	❑	❑	❑	❑	❑
e) Employees & management issues	❑	❑	❑	❑	❑	❑	❑
f) Institutional & legal issues (licence, tax)	❑	❑	❑	❑	❑	❑	❑
g) Risk & uncertainty issues	❑	❑	❑	❑	❑	❑	❑
h) Emotional support	❑	❑	❑	❑	❑	❑	❑
i) Other issues.....................................	❑	❑	❑	❑	❑	❑	❑

Performance

Could you please respond to the following statements?

In the last three years: (completely disagree=1; completely agree=7)

23. The total volume of my firm's production has increased	1 2 3 4 5 6 7
24. I was satisfied with the price that I got from my customers	1 2 3 4 5 6 7
25. Customers were satisfied with my products and services	1 2 3 4 5 6 7
26. My shop had better products on offer compared to other handicrafts shops	1 2 3 4 5 6 7
27. My shop had a higher profit compared to other handicrafts shops	1 2 3 4 5 6 7

Can you give an indication of the following?	2012	2013	2014	expected 2015
28. Total no. of full time employees:				
29. Other sources of family income (in BDT.):				

Family livelihoods

30. Food (in)security

Could you please respond to the following statements?

In the last three years: (completely disagree=1; completely agree=7)

a. We worried whether our food would end before we got money to buy more	1 2 3 4 5 6 7
b. The food that we bought just didn't last & we didn't have money to get more	1 2 3 4 5 6 7
c. We couldn't afford to eat healthy and nutritious food	1 2 3 4 5 6 7

31. Economic security

In the last three years:

a. We were able to sustain and improve our annual family income	1 2 3 4 5 6 7
b. We were able to improve our accommodation facilities	1 2 3 4 5 6 7
c. We were able to increase our family assets (television, furniture, refrigerator)	1 2 3 4 5 6 7
d. We were able to increase our family savings	1 2 3 4 5 6 7

32. Health security

In the last three years:

a. We had access to fresh water facilities (both for drinking and other use)	1 2 3 4 5 6 7
b. We had access to sanitation facilities	1 2 3 4 5 6 7
c. We had access to primary health care facilities	1 2 3 4 5 6 7
d. Female members had access to health care facilities	1 2 3 4 5 6 7

Appendix A2: Table X

Table X: An overview and operationalization of variables

Variables	Operationalization	Scale	Cronbach α
Business performance	Sum of: The total volume of my firm's production has increased; I was satisfied with the price that I got from my customers; Customers were satisfied with my products and services; My shop had better products on offer compared to other handicrafts shops; My shop had a higher profit compared to other handicrafts shops	Likert 1-7 (Summated scale: 5-35)	.73[*]
Barriers in social environment	Hindrances due to family, norms, customs, traditions and religion	Likert 1-7	-
Barriers in business environment	Sum of: Hindrance due to infrastructural instability (electricity and information technology); Hindrance due to political instability (strike, illegal tolls and briberies); Hindrance due to environmental threats (flood & heavy rains); Hindrance due to government rules and regulations (license, tax and vat)	Likert 1-7 (Summated scale: 4-28)	.75[*]
Innovative- and pro-active EO	Resulted from exploratory factor analysis (Items are shown in Table 2.1)	Likert 1-7	.94
Risk-taking EO	Resulted from exploratory factor analysis (Items are shown in Table 2.1)	Likert 1-7	.91
Education level	The highest level of education: (0 = no formal education; 1 = primary school; 2 = secondary school; 3 = higher secondary school; 4 = vocational and university education)	Categorical variable	
Business training	The total number of hours of business related training / year	Continuous variable	
Financial capital	Current inventory + (the value of facilities / year) (Value of facilities = shop + sewing machine + embroidery machine + furniture + computer + other fixed assets)	Continuous variable	
Business experience	The number of years since women entrepreneurs have started their businesses	Continuous variable	

Note: Cronbach's α cannot be measured for single item variables and are indicated as (-)
[*] Cronbach α of the items combined providing the summated scale

Appendix A3: Table X1

Table X1: Results of multiple regression models[a] on 'network size' and 'average total ties strength'

Variables	Model	
	coefficient (β)	t value
Financial capital	.14***	2.61
Business experience	.12**	2.34
Education level	.08	1.37
Business training	.07	1.36
Innovative- and pro-active EO	.38***	7.14
Risk-taking EO	.28***	5.38
Barriers in social environment	-.11**	-1.98
Barriers in business environment	.09	1.63
Network size (Number of ties)	-.11**	-.2.05
Average total ties strength	-.07	-1.38
Adjusted R^2	.30	
F test	13.49***	
Maximum VIF	1.37	
Number of respondents (N)	292	

[a] Standardized regression coefficients

*, ** and *** Significant respectively at 10%, 5% and 1% level

About the author

Lavlu Mozumdar was born on 13th October, 1984 in Bhola, Bangladesh. He obtained a bachelor degree in Agricultural Economics from Bangladesh Agricultural University (BAU) in 2006. In 2008, he received his first master degree in Rural Sociology from the same University. Since 2008 (November), he worked at the Department of Rural Sociology under the Faculty of Agricultural Economics and Rural Sociology in BAU. In late 2010, he won the Erasmus Mundus scholarship for pursing International Master of Science in Rural Development (IMRD). In 2012, he got his second master degree (IMRD) from Ghent University, Belgium. After completion of IMRD degree, he returned to Bangladesh and again started working at the Department of Rural Sociology in BAU. Next, he was awarded a PhD fellowship by the NUFFIC-NICHE/156 project, which was executed by the Centre for Development Innovation, Wageningen, the Netherlands. In 2014 (March), he started his PhD project at Management Studies (MST) group in Wageningen University and Research. His current research interests are entrepreneurships and innovations in developing and emerging countries.

Lavlu Mozumdar

Wageningen School of Social Sciences (WASS)

Completed training and supervision plan

Name of the learning activity	Department/Institute	Year	ECTS*
A) Project related competences			
Academic Research/Consultancy Training, YMC 60809	WUR	2014	9.0
Advanced Econometrics, AEP 60306	WUR	2014	6.0
Research Proposal Writing	WASS	2014	6.0
B) General research related competences			
WASS Introduction Course	WASS	2014	1.0
Systematic Approaches to Reviewing Literature	WGS	2014	4.0
Efficient Writing Strategies	WGS	2014	1.2
Techniques for Writing and Presenting a Scientific Paper	WGS	2015	1.2
'Influence of entrepreneurial orientation and financial capital on women's business performance in traditional societies'	26th Annual IFAMA World Conference, Aarhus, Denmark	2016	1.0
'Influence of entrepreneurial orientation on women's business performance in Bangladesh'	76th Annual Meeting of the Academy of Management, Anaheim, California, USA	2016	1.0
C) Career related competences/personal development			
Professional Capacity Building Programme on Design & Implementation of Interdisciplinary Team Research	ICRA	2013	3.0
Competences for Integrated Agricultural Research (C-IAR)	CDI	2014	1.0
Thematic Sessions on Food Security and Interdisciplinary Approaches	Niche BGD 156 program, WUR	2015	1.5
Total			**35.9**

*One credit according to ECTS is on average equivalent to 28 hours of study load