

Stockholm School of Economics
Department of Management
Master of Science in Business Management
1350 - Thesis in Management
May 2016

Reaching for higher hanging fruit

*A quantitative study of the impact of business incubators
on students' opportunity-based entrepreneurial intentions
in low-income countries*

Abstract: This study examines the role of business incubators in the development of opportunity-based entrepreneurial intentions among students in low-income countries. The study, conducted at Makerere University in Uganda, first concludes that Shapero's model for measuring entrepreneurial intentions is applicable in a low-income country's context, though with lower explanatory effect than in high-income countries. Second, the study concludes that business incubators have a positive impact on students' opportunity-based entrepreneurial intentions. Thus, it is predicted that establishment of business incubators in low-income countries will have a positive effect on students' entrepreneurial intentions and result in more opportunity-based entrepreneurship. The findings of the study can be used by public policy agencies and development aid organizations as evidence for validation of, and future investments in business incubators.

Key words: Entrepreneurship, Entrepreneurial Intention, Business Incubator, Low-income Countries, Uganda

Authors: Marcus Karlsson (50189) and Carl Ljunggren (22274)

Supervisor: Mikael Samuelsson

Acknowledgments

Conducting this study would not have been possible without the help of our supervisor, Mikael Samuelsson, and we would like to thank him for his dedicated support and advice. We would also like to express our greatest thanks to the staff of Global Business Labs Uganda, and the faculty and students at Makerere University for making this study possible. Moreover, we would like to thank Sida for the grant awarded to conduct this study. Last but not least, warm thanks to our friends and family for invaluable support, feedback and love.

Marcus Karlsson & Carl Ljunggren

Stockholm, May 2016

Definitions

African countries

In this study, African countries are referred to as Sub-Saharan countries that are fully or partially located south of the Sahara. However, South Africa is excluded since it cannot be regarded as a low-income or low-mid income country.

Business incubator

An organization designed to accelerate the growth and success of entrepreneurial companies through an array of business support resources and services that could include physical space, capital, coaching, common services, and networking connections. Even though it can be argued that business accelerators, business labs and startup incubators might differ from a business incubator they all offer similar services.

*Entrepreneurship*¹

The capacity and willingness to develop, organize and manage a business venture along with any of its risks in order to make a profit.

*Global Entrepreneurship Monitor (GEM)*²

GEM began in 1999 as a joint project between Babson College (USA) and London Business School (UK). GEM is the world's foremost study of entrepreneurship. Through a vast, centrally coordinated, internationally executed data collection effort, GEM is able to provide high quality information, comprehensive reports and interesting stories, which greatly enhance the understanding of the entrepreneurial phenomenon. A few times per decade, a report on the entrepreneurial climate in a specific country is produced. This study uses the GEM Uganda 2010 and GEM Uganda 2012 executive report, written by Namatovu, Balunywa, Kyejjusa and Dawa (2010; 2012). In the paper, the report is referred to as Namatovu et al. (2010; 2012).

*Global Business Labs*³

Global Business Labs is based on one of Europe's leading business incubators at the Stockholm School of Economics. Through operations in Uganda, Botswana and Namibia, the overall purpose and objectives of Global Business Labs is to reduce poverty and create formal employment through local private sector development by supporting promising business ideas. The business incubators offer business services such as accounting support, free office space, legal advice, networking and peer-to-peer mentoring. Most of the funding comes from governmental aid organizations.

¹ <http://www.businessdictionary.com/definition/entrepreneurship.html#ixzz3xgk6J2Tm>

² <http://www.gemconsortium.org/>

³ <http://globalbusinesslabs.com/>

*High-income and low-income countries*⁴

Each year on July 1, the World Bank revises analytical classification of the world's economies based on estimates of gross national income (GNI) per capita for the previous year. The updated GNI per capita estimates are used as input to the World Bank's operational classification of economies that determines lending eligibility. As of 1 July 2014, high-income economies are those with a GNI per capita of \$12,736 or more. These types of countries were earlier often referred to as developed countries. As of 1 July 2014, low-income economies are defined as those with a GNI per capita, calculated using the World Bank Atlas method, of \$1,045 or less in 2013.

Opportunity-based entrepreneurship

Opportunity-based entrepreneurship is according to GEM a business that stems from the identification of a business opportunity, which aims to bring a new product or service to the market with the intention to employ more than 20 people within the next five years. The business should also be formally organized and registered with authorities (Namatovu et al., 2012). In this study, opportunity-based entrepreneurship will be used with this meaning.

*Swedish International Development Cooperation Agency (Sida)*⁵

Sida is a government agency working on behalf of the Swedish parliament and government with the mission to reduce poverty in the world. Sida has as its mission to implement the Swedish development policy that will enable poor individuals to improve their lives.

*Western context*⁶

Western context refers to studies conducted in Western Europe, North America or Australia.

⁴ <http://data.worldbank.org/about/country-and-lending-groups>

⁵ <http://www.sida.se/English/>

⁶ <http://www.oxforddictionaries.com/definition/english/western>

Table of Contents

1. Introduction	6
1.1 Background	6
1.2 Area of research development	8
1.3 Purpose of the research	8
1.4 Research question	9
1.5 Expected contributions and implications	10
1.6 Our study	10
1.7 Study outline	10
2. Literature review and hypothesis development	12
2.1 Introducing entrepreneurial intentions	12
2.1.1 Ajzen's 'Theory of Planned Behavior'	13
2.1.2 Shapero's model of 'Entrepreneurial Event'	15
2.1.3 A comparison of Ajzen's and Shapero's model	16
2.1.4 Choosing the most appropriate model for this study	16
2.2 Introducing business incubators	18
2.2.1 The nature of business incubators	18
2.2.2 Importance of business incubators	18
2.2.3 Different types of business incubators	19
2.2.4 Business incubators in low-income countries	20
2.3 Linking business incubators to entrepreneurial intentions	20
2.4 Literature and hypothesis summary	23
3. Methodology	24
3.1 Research approach	24
3.2 Study object selection	25
3.2.1 Choice of country	25
3.2.2 Choice of university	25
3.2.3 Choice of sample frame	25
3.3 Pre-study	26
3.3.1 Faculty input	26
3.3.2 Student input	27
3.4 Survey design, measurements and variables	27
3.4.1 Survey design	27
3.4.2 Measurements	28
3.4.3 Dependent variables	28
3.4.4 Independent variables	28
3.4.5 Other variables	29
3.5 Data collection	31
3.5.1 Pilot study	31
3.5.2 Pilot study results	32
3.5.3 Main study	34
3.5.4 Descriptive statistics from the main study	35
3.6 Data analysis procedure	36
3.7 Methodological limitations	36

3.8 Quality considerations	37
3.8.1 Reliability.....	37
3.8.2 Validity	38
4. Results	40
4.1 Introduction of the results	40
4.1.1 Reliability testing.....	40
4.1.2 Correlation testing.....	41
4.1.3 Robustness testing of the models.....	41
4.1.4 Control variables.....	41
4.1.5 Entrepreneurial intention	42
4.2 Testing Shapero's model	43
4.2.1 Results for Hypothesis 1	43
4.2.2 Results for Hypothesis 2	44
4.2.3 Results for Hypothesis 3	44
4.3 Testing business incubators impact on opportunity-based entrepreneurial intentions	45
4.3.1 Results for Hypothesis 4	45
4.3.2 Results for Hypothesis 5	47
4.4 Summary of the results	48
5. Analysis	49
5.1 Applicability of Shapero's model in low-income countries.....	49
5.1.1 Analysis of Hypothesis 1	49
5.1.2 Analysis of Hypothesis 2	50
5.1.3 Analysis of Hypothesis 3	50
5.1.4 Continued analysis of Hypotheses 1-3.....	51
5.2 Business incubators impact on opportunity-based entrepreneurial intentions.....	52
5.2.1 Analysis of Hypothesis 4	52
5.2.2 Analysis of Hypothesis 5	53
5.3 Further reflections beyond this study.....	53
6. Discussion	54
6.1 Conclusion and summary of main findings	54
6.2 Contributions to academia	55
6.3 Implications for practice and policy makers.....	56
6.4 Limitations of the study	56
6.5 Further research	57
6.6 Importance of increased opportunity-based entrepreneurship	58
7. References	59
7.1 Academic references.....	59
7.2 Electronic sources	68
8. Appendix	69
8.1 Appendix 1 – Survey used in Pilot study.....	69
8.2 Appendix 2 – Survey used in Main study	76

1. Introduction

The background section starts by introducing the role of entrepreneurship in low-income countries and Uganda specifically. This is followed by an introduction to the area of research development, the purpose of the study and the research question. Thereafter the expected contributions and implications of this study is presented. Finally, the present study is introduced and followed by a study outline.

1.1 Background

Entrepreneurship has been recognized for playing an essential role in societies (Wennekers & Thurik, 1999). The topic is especially known for having a significant role in the economic development and renewal of a country (Braunerhjelm, 2010). In recent years, economic failures and social insecurity in many countries have led to an intensified interest for entrepreneurial activities around the world (Greene & Storey, 2010). Haase, Lautenschläger, and Rena (2011) argue that there is particularly strong empirical support between entrepreneurship and economic development in low-income countries. These countries often have resounding declarations about entrepreneurial culture and consider the solutions to poverty and unemployment to come with increased emphasis on entrepreneurship (George, 2014).

Historically, individuals who have started their businesses as means to make a living and survive have characterized the entrepreneurial business environment in low-income countries (Reynolds, Camp, Bygrave, Autio & Hay, 2001). This type of entrepreneurship is called necessity-based entrepreneurship as it originates from necessity. In other words, necessity-based entrepreneurs are individuals who are naturally induced to become entrepreneurs due to reasons such as poverty and lack of job opportunities. As a consequence, this type of entrepreneurship leads to limited job creation and contributions to a country's economic development. The other type of entrepreneurship is called opportunity-based entrepreneurship (Reynolds et al., 2001). Those who become opportunity-based entrepreneurs are individuals who identify and want to pursue a business opportunity. This type of entrepreneurial activity, on the other hand, is considered to be vital for a country's economic growth (Sesen, 2013).

Today, one of the highest levels of entrepreneurial activity in the world is found in Africa (Xavier, Kelley, Kew, Herrington & Vorderwulbecke, 2012). Studies conducted in African countries show that the intentions to start a business are usually high among people due to the extensive number of necessity-based entrepreneurs (Namatovu et al., 2012). Still, the African continent remains the least developed of all continents in the world. Poor social, economical and political conditions are all barriers for a fast economic development (Fick, 2002). According to Kiggundu (1989), African entrepreneurs face many difficulties in developing, scaling up and sustaining effective organizational arrangements. These constraints put restrictions on African businesses' growth, competitiveness and long-term survival (Namatovu et al., 2012).

Despite the problems facing low-income countries and especially those in Africa, the African continent is currently on the rise. From the deserts in the north to the savanna plains in the south, countries are gradually moving from solely focusing on economic development driven by necessity-based entrepreneurs to focus on embracing entrepreneurship that stems from seizing new opportunities (Fick, 2007). In these countries, opportunity-based entrepreneurship has during the last decade been widely recognized as an important factor for economic growth (Liñán, Nabi & Krueger, 2013; Sesen, 2013).

Opportunity-driven entrepreneurship is now seen as one of the key drivers for economic development through job creation (Fick, 2002). Beyond the positive element of job creation, opportunity-based entrepreneurship also creates improved living standards, technical developments, enlarged tax bases and increased competitiveness of countries. There is a consensus among economists that opportunity-based entrepreneurship is fundamental for the future growth and socio-political stability of any low-income country (Nieman & Nieuwenhuizen, 2009; Turker & Selcuk, 2009). One of many countries where it is important to increase opportunity-based entrepreneurship is Uganda.

Similarly, to many other low-income countries, Uganda has a politically and economically unstable past. Ever since peace was reinstated in 1986, the entrepreneurial climate has flourished (Bewayo, 1995). Ugandans have among the highest entrepreneurial intentions in the world, with almost 80% of the population intending to start a business. The majority of the Ugandans however still start a business to make a living - hence becoming necessity-based entrepreneurs (Bewayo, 1995). Added to this, only two percent of the started businesses are expected to employ more than 20 people in the next five years. Moreover, the failure rate among businesses is high, with only 70% of all newly started business continue to operate 12 months (Namatovu et al., 2012). Taking these facts into consideration it becomes evident that Ugandan entrepreneurship misses to generate the long-term, opportunity-based businesses that are crucial for economic development.

As a response to the low levels of successful opportunity-based entrepreneurial activities, business incubators have started to emerge in Uganda, as well as across the African continent (Namatovu et al., 2012). Through offering various services, business incubators serve as a mean to transform the business creation activity from nascent into a sustainable business that exhibits high-growth potential (Aerts, Matthyssens & Vandenbempt, 2005).

At the same time, Xavier et al. (2012) conclude that one of the most important challenges for economic growth is to encourage and facilitate innovation and entrepreneurial activities among students. This is especially important as the unemployment rates are high and it is increasing among the youth population (Namatovu et al., 2012). Added to this, students have historically preferred to be

formally employed, rather than having entrepreneurship as a viable career option (Xavier et al., 2012). Though, studies still suggest that students from low-income countries have stronger entrepreneurial intentions than those from high-income countries (Haase et al., 2011; Iakovleva, Kolvereid & Stephan, 2011). Studies conducted in Kenya and Botswana concluded that entrepreneurial intentions among students are high; still none of these studies distinguish between opportunity and necessity-based intentions (Ngugi et al., 2012; Sjöstrand & Shadloo, 2013).

1.2 Area of research development

First, given the importance of opportunity-based entrepreneurship for economic growth, there has been an increased interest for what generates entrepreneurship during the last years (Iakovleva et al., 2011; Krueger, Hansen, Michl & Welsh, 2011; Liñán & Chen, 2009; Miralles, Riverola & Giones, 2012; Schlaegel & Koenig, 2014). The increased academic focus on entrepreneurship has driven scholars to study what drives individuals to become entrepreneurs. Some researchers, including Bird (1988), Kolvereid (1996), Krueger, Reilly and Carsrud (2000) and Shapero (1975) have focused extensively on the entrepreneurial intention and its role in the process of developing entrepreneurship. Though, these studies have traditionally not focused on entrepreneurship in low-income countries (Malebana, 2014; Nabi & Liñán, 2011). Neither have any of these studies made a distinction between opportunity and necessity-based entrepreneurial intentions.

Second, low-income countries such as Uganda need more research on what generates opportunity-based entrepreneurship. As an example, the possible effect of business incubators on entrepreneurial intentions have not yet been examined in this context. Research has confirmed the fact that individuals that join a business incubator are more likely to become successful than those who do not join one (Mian, 1994). However, studies have not concluded if business incubators influence the opportunity-based entrepreneurial intentions among individuals.

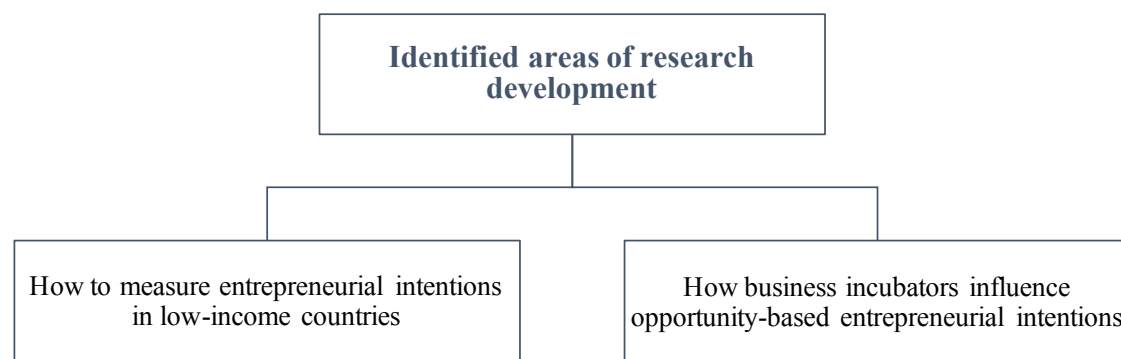


Figure 1 – Identified areas of research development

1.3 Purpose of the research

Based on the areas for research development, the research purpose of this study is twofold. Firstly, the study aims to test the applicability of an existing theoretical model,

which was developed in a Western context, for measuring entrepreneurial intentions among university students in a low-income country.

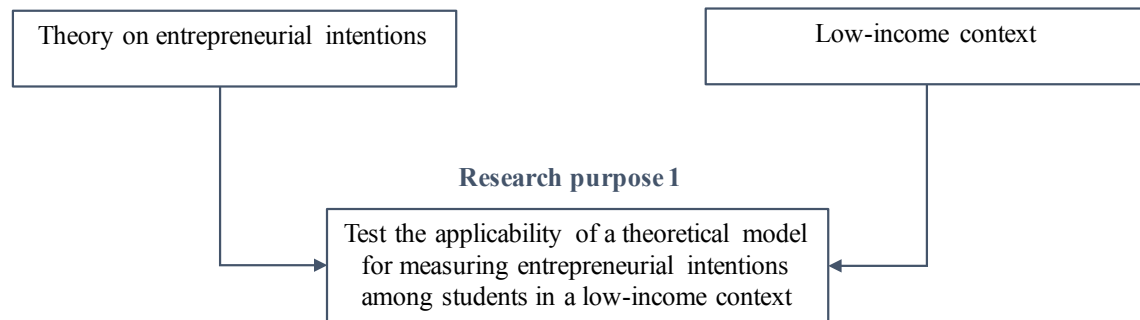


Figure 2a – Research purpose 1

Secondly, this study aims to investigate the impact of business incubators on opportunity-based entrepreneurial intentions among these students by adding a new dimension to the theoretical model of entrepreneurial intentions.

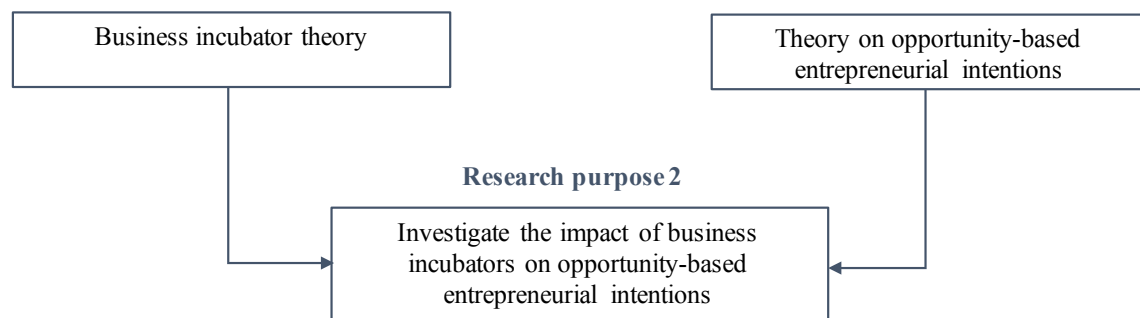


Figure 2b – Research purpose 2

1.4 Research question

Based on the purpose of the study, the following research question was formulated:

Do business incubators increase the opportunity-based entrepreneurial intentions among students in low-income countries?

In order to facilitate the study, the research question will be examined by two sub-questions:

1. *Can a theoretical model for entrepreneurial intentions be applied to explain students' entrepreneurial intentions in low-income countries?*
2. *Can a business incubator variable be added to this model, to increase the explanatory power of opportunity-based entrepreneurial intentions?*

1.5 Expected contributions and implications

This study is predicted to have several contributions and implications. First of all, the findings of this study will be expected to contribute to academia by testing if an existing theoretical model is applicable in a low-income country's context. Thereby, the study will add to the knowledge on how the entrepreneurial intentions among students in these countries are developed. Related to this, few research paper have differentiated between opportunity and necessity-based entrepreneurial intentions when testing existing models for measuring entrepreneurial intentions. This study intends to do so and hence contribute to this research area. A third expected contribution is to expand the theoretical model through including the impact of business incubators on the formation of opportunity-based entrepreneurial intentions. Research has highlighted that there is a need to provide empirical evidence about factors that impact opportunity-based entrepreneurship in low-income countries (Kiggundu, 2002).

The study is also expected to have implications for practice and policy makers. As for practice, findings from the study could be used as arguments for funding purposes and validation of operation by business incubators. Adding to this, it is reasonable to expect that business incubators could change mindsets of students towards opportunity-based entrepreneurship. For policy makers, this study could add to the knowledge if investment in business incubators in low-income countries actually is theoretically justifiable. This knowledge would be useful for how public policy organizations and international development aid agencies consider future establishments of business incubators in low-income countries.

1.6 Our study

To answer the research question posed, this study will examine the entrepreneurial intentions of students at Makerere University in Kampala, the capital of Uganda. In order to facilitate the study, collaboration with the organization Global Business Labs has been initiated. To answer the research question, data will be gathered in three steps. The data will be collected during two months by the author's onsite visit at Makerere University. The empirical findings will later be analyzed by using statistical methods to answer the defined hypotheses in order to draw conclusions.

1.7 Study outline

After this introductory chapter a literature review will follow. The literature review is divided into three sections. The first deals with research regarding entrepreneurial intentions, while the second sheds light on research regarding business incubators. The third section bridges these two theoretical areas and proposes a developed theoretical model to address the gap in the literature. The subsequent chapter describes the methodological choices made for the study, including the research design, selection of the population studied and data collection. The limitations of the choices made are described, as well as the reliability and validity of the study. The empirical findings are

later presented along with the analysis where the study addresses the research question through the framework introduced in the literature review. Findings from the analysis, as well as implications and suggestions for future research are later summarized in a conclusion. Lastly the references used in the study are presented, followed by an appendix. Figure 3 outlines the study.

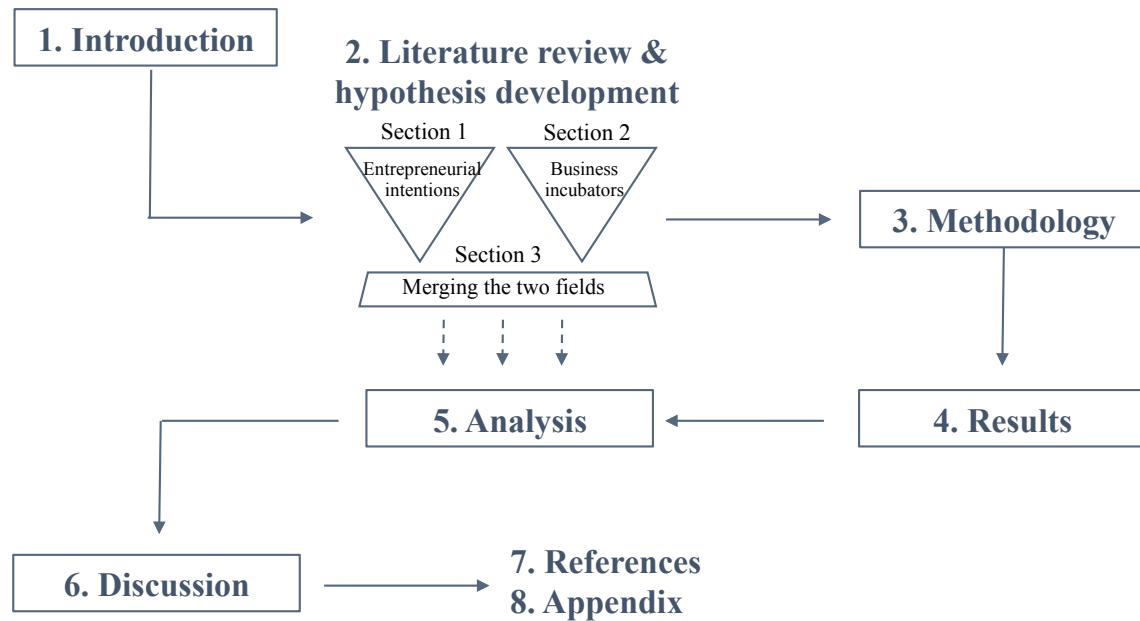


Figure 3 – Study outline

2. Literature review and hypothesis development

The first section of the literature chapter aims to present previous literature and theory about entrepreneurial intentions (section 1). The second section aims to briefly describe the present stage of research about business incubators (section 2). Based on these two sections, the aim of the third section is to develop a model that can be used for testing the five hypotheses (section 3).

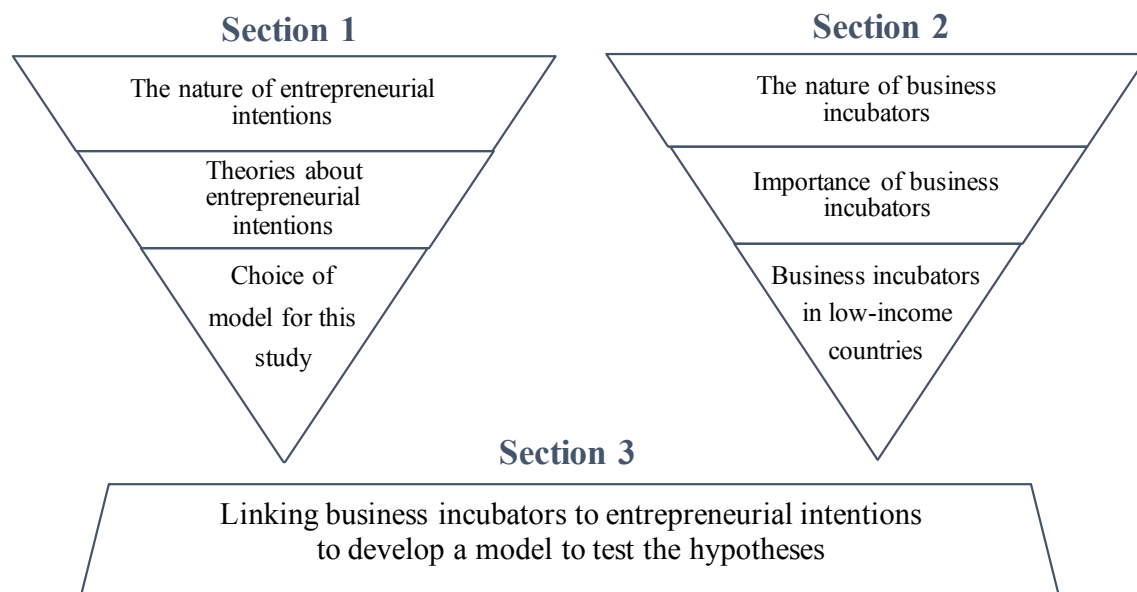


Figure 4 – Literature outline

2.1 Introducing entrepreneurial intentions

Studying entrepreneurship and the individuals starting new firms, in what situations and for what reasons has been a popular research topic for a long time (Autio, Keeley, Klofsten & Ulfstedt, 1997; Low & MacMillan, 1988). Initially, research was focused on the psychological factors of the entrepreneur such as self-efficacy, risk-taking, need for achievement and attitude towards entrepreneurship (Davidsson, 1995). Another field of research focused on the personal traits and the social context around an entrepreneur. Gender, education, family background and prior experience were common factors investigated (Krueger, 1993; Hisrich & Peters, 1989). This research contributed to a better understanding of characteristics of successful entrepreneurs, however, it failed to show causality (Krueger & Brazeal, 1994). Still, much of this research has been criticized as it focuses on the post situation – when the entrepreneur already has started a business, which assumes the entrepreneur's psychological and personal traits are constant (Gartner, 1988; Gartner, 1989).

To overcome this fact, more recent research has focused on the pre-situation – before the entrepreneur actually starts the business. Some of this research has focused on the entrepreneurial process and applied the 'Theory of Planned Behavior' (Ajzen &

Fishbein, 1980; Ajzen, 1987; Ajzen, 1991; Kim & Hunter, 1993). Others have focused on the entrepreneurial intentions (Bird, 1988; Krueger, 1993; Shapero & Sokol, 1982). Intentions have been argued as being a good predictor of planned behavior, for instance starting a new business (Ajzen, 1991; Krueger, 1993). In a study made on successful entrepreneurs, Choo and Wong (2009) even concluded that intentions were the single best predictor of entrepreneurial behavior. Amsal, Kumar and Ramalu (2014) added to this by arguing that a person with the intention to start a business would have the readiness and progress better than someone without intent to start a business.

More recently, studying entrepreneurial intentions using a process-based approach (step-by-step) has become more common, which implies looking at entrepreneurial intentions as a sequence of several steps (Krueger, 1993; Krueger & Carsrud, 1993; Krueger & Brazeal, 1994; Davidsson, 1995; Niittykangas & Laukkanen, 1996; Reitan, 1996). Based on this research, several theoretical models of entrepreneurial intentions have been developed throughout the years (Autio et al., 2001; Davidsson, 1995; Shapero & Sokol, 1982). As concluded by scholars, there are only minor differences between the models (Kennedy, 2003; Krueger et al., 2000). The majority of the models build on Ajzen's (1991) 'Theory of Planned Behavior' and Shapero's (1982) model of 'Entrepreneurial Event'. Therefore, to further understand entrepreneurial intentions, and find the most appropriate model to be used in this study, these two models will be discussed in more depth in the next sections.

2.1.1 Ajzen's 'Theory of Planned Behavior'

As mentioned, one of the most recognized behavioral intention models is the 'Theory of Planned Behavior' (Ajzen, 1991). This theory has been extensively used in behavioral studies, and further used in literature on entrepreneurial intentions, given its ability to predict a person's behavior, and intention to exert entrepreneurial behavior. According to Ajzen, intentions are created by three attitudinal determinants; attitude toward the behavior, subjective (social) norms and the perceived behavioral control (see Figure 5).

In this theory, the attitude towards the behavior is an individual's judgment, which refers to the degree to which a person has a favorable assessment of the behavior (Autio et al., 2001). This implies that attitudes act through intentions to influence a behavior. Pruett, Shinnar, Toney, Llopis and Fox (2009) made factors out of this dimension, such as perception of motives, perception of barriers and personal role models to measure entrepreneurial intention.

In Ajzen's model, the subjective norm is what people around the individual thinks about the intended behavior. These beliefs are influenced by a person's motivation to comply with the individuals who are considered to be the most important to the person. It can be referred to as social pressure to perform the behavior (Autio et al., 2001).

The last independent variable in Ajzen's model is perceived behavioral control, which can be interpreted as the individual's perceived judgment of the likelihood to perform the intended behavior. Autio et al. (2001) refer to this as the ease of performing the behavior and perceived control over the outcome of it. The individual will make a judgment of the viability of the task, his or her ability to perform the intended task successfully, and availability of resources. Turker and Selcuk (2009) related different kinds of support to this variable. Different types of support such as educational support, structural support and relational support were included. The study found that two internal factors, motivation and self-confidence, as well as perceived level of support were statistically significant factors.

The reasoning of the model is that the greater perceived behavioral control, and the more favorable attitude and subjective norm with respect to the behavior, the stronger is the intention to perform the behavior (Autio et al., 2001). In the 'Theory of Planned Behavior', the ultimate construct is the individual's intention to perform a specific behavior, though not necessarily an entrepreneurial behavior.

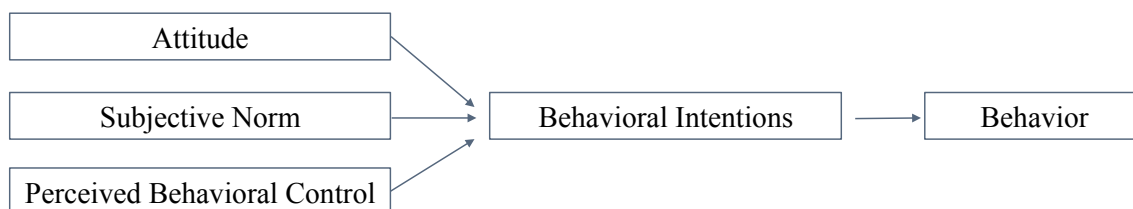


Figure 5 - Ajzen's 'Theory of Planned Behavior'

According to a study by Summers (2013), conducted in a high-income country, empirical tests of Ajzen's model applied in various situations have indicated that the attitudes and perceived behavioral control on average explains over 50% of the variance in the behavioral intention. Summers also found that on average, 30% of the variance in the behavior is explained by the behavioral intentions.

Another recent study from Malebana (2014) suggests that the theory of planned behavior is a good tool for evaluating the impact that entrepreneurial support programs have on the entrepreneurial intentions of starting a business. Yet, another study carried out by Liñán, Rodríguez-Cohard and Rueda-Cantuche (2011) revealed that the two main factors influencing entrepreneurial intention are personal attitude and perceived behavioral control. Ajzen (2011) states that the model can be used to assess entrepreneurial support programs' influence on entrepreneurial intentions and behaviors. Kautonen, Tornikoski and Kibler (2009) successfully applied the model as well, when determining the effect of perceived age norms on the formation of entrepreneurial intentions.

2.1.2 Shapero's model of 'Entrepreneurial Event'

As discussed, Shapero's model has been highly recognized in research on entrepreneurial intentions. The model describes an intentions-based process, which means that the interactions of several determinants are examined to predict the entrepreneurial behavior. The model assumes that a change in behavior is derived from a disruptive event, which can be either negative or a positive (Stewart, Watson, Carland & Carland, 1999). Individuals can for example react to negative disruptions, such as a loss of job, or sometimes on positive ones, such as support from a mentor. When it is time to make a choice of action, that is performing an entrepreneurial activity, Shapero (1982) states that the action depends on three variables (see Figure 6).

The first variable is perceived feasibility. It is referred to as the perceived extent of which an individual is capable of starting a business. According to Krueger (1993), individuals with previous positive entrepreneurial experience are more likely to form good perceptions of feasibility of entrepreneurial activities. It is a measure of uncertainty, and uncertainty is the perception of controllability of a situation.

The second variable in Shapero's model is perceived desirability. It is defined as how attractive the prospect of starting a business is, and how other people think of the behavior. According to Mhango (2006), the perceived desirability is defined as the relative attractiveness of the entrepreneurial opportunity, both in terms of personal preference and attitude in a certain environment. If the attitudes and subjective norms are favorable with respect to the behavior, the greater the perceived self-efficacy will be, which in turn leads to a higher intention to perform the behavior. The perceived desirability is impacted by social background, which is comprised of broader cultural influences as well as family and personal exposure to entrepreneurship (Mhango, 2006).

The third variable is propensity to act and it refers to the individual's propensity to act on a decision or opportunity. Shane (2003) argued that this variable is similar to risk-taking propensity and tolerance of ambiguity, defined as a person's willingness to take action when outcomes are not known.

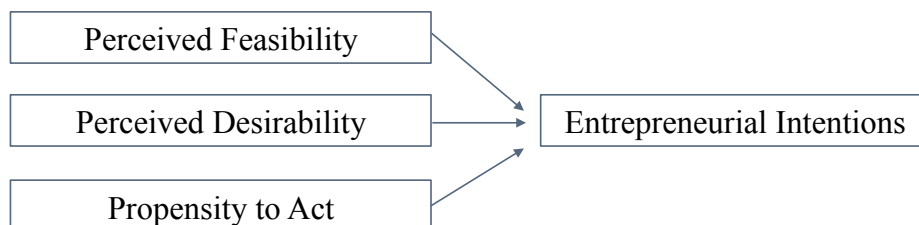


Figure 6 - Shapero's model of 'Entrepreneurial Event'

2.1.3 A comparison of Ajzen's and Shapero's model

Even though researchers analyze entrepreneurial intention considering different aspects, the two models presented have both similarities and differences. Both the models include a measure of attitude, being perceived desirability and attitude toward the behavior. The two models both contain an element conceptually associated with perceived self-efficacy (perceived feasibility and perceived behavioral control). In other words, the attitude toward behavior and perceived behavioral control in Ajzen's model can be closely related to the perceived desirability and feasibility in Shapero's model. However, Shapero in contrast to Ajzen, predicts that the previous entrepreneurial experience influences the perceived desirability and feasibility.

One of the main differences is the fact that Shapero's model was developed for measuring entrepreneurial intentions, whilst Ajzen's model originally was a model developed for measuring behavioral intentions. Another difference between the two models is that Ajzen emphasize the subjective norm whilst Shapero highlighted the importance of propensity to act. Shapero instead suggested the subjective norm or social pressure indirectly could influence the intentions through the perceived desirability (Krueger, 1993). In line with Shapero, Reynolds and Miller (1992) suggests that a good attitude towards entrepreneurship is not enough because it leaves no guarantee that individuals with good attitudes to entrepreneurship may ever take the step to form a business, therefore the construct of propensity to act was included in the model. Shapero's model reasoned that having positive perceptions of desirability and feasibility are not enough to succeed in creating a firm.

In short, it can be concluded that the models have several similarities and differences that are important to take into account when choosing an appropriate model when investigating entrepreneurial intentions in a particular context.

2.1.4 Choosing the most appropriate model for this study

Krueger et al. (2000) made a well-cited empirical comparison of the two models and their respective ability to predict entrepreneurial intention among university students in a Western context. The results from the study indicated relatively strong statistical support for both models. However, Shapero's model generated a higher explanatory power from the regression analysis of perceived feasibility, perceived desirability, and propensity to act upon intentions. The study indicated a R-squared value of 0.408 ($p > 0.0001$) for Shapero's model and 0.350 ($p > 0.0001$) for Ajzen's model. In Shapero's model, support was found for all of the three independent variables; perceived feasibility (self-efficacy), perceived desirability and propensity to act (Krueger et al., 2000). However, when testing Ajzen's model, support was only found for behavioral control (self-efficacy) and attitude toward the behavior to predict intentions. Limited support was found for social (subjective) norms when testing Ajzen's model. In this study, questions were raised why social norms did not help to predict entrepreneurial intentions to such a great extent. The discussion focused on the fact that social norms could be

confounded with other attitudes. As indicated earlier, social norms can be associated both with attitude toward the act and with perceived feasibility. Reitan (1996) suggests that perceived social norms may instead serve to moderate or even mediate the impact of the other attitudes on intentions. Therefore, it is necessarily not needed to be a separate variable in a model, which further strengthens the argument for using Shapero's model.

More importantly for this study, Shapero's model has successfully been applied in studies conducted in Kenya and Malawi. Studies in these countries have shown statistically significant relationships between respondents' entrepreneurial intentions and the independent variables in Shapero's model (Mwatsika, 2015; Ngugi, Gakure, Waithaka & Kiwara, 2012). Ngugi et al. (2012) also argued for applying Shapero's model instead of Ajzen's model when explaining significance of entrepreneurial behavior amongst university students in Kenya, as the model incorporates the variable of propensity to act. This is claimed to be of specifically high importance in low-income countries since a low propensity to act affect entrepreneurial behavior more, given the lack of entrepreneurial support systems (Krueger, 1993; Ngugi et al., 2012). Based on these arguments, this study will apply and test the applicability of Shapero's model for measuring entrepreneurial intentions among students in low-income countries, such as Uganda. The model's independent variables are therefore hypothesized to explain, and thereby influence, entrepreneurial intention (see Figure 7).

Hypothesis 1: Perceived Feasibility explains entrepreneurial intentions among students in low-income countries

Hypothesis 2: Perceived Desirability explains entrepreneurial intentions among students in low-income countries

Hypothesis 3: Propensity to Act explains entrepreneurial intentions among students in low-income countries

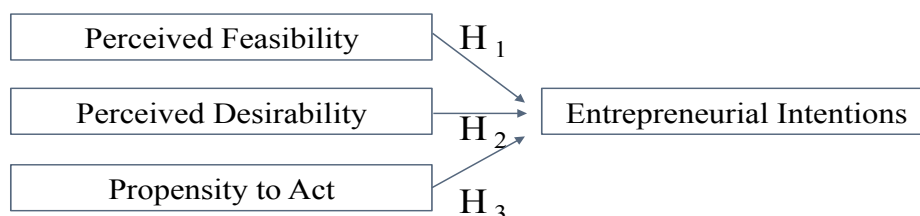


Figure 7 - Shapero's model with Hypotheses 1-3

2.2 Introducing business incubators

Having covered the literature around entrepreneurial intentions, this section will now address relevant research around business incubators.

2.2.1 The nature of business incubators

The term incubator was derived from the artificial nurturing of chicken eggs to make them hatch faster in a controlled and sheltered environment. The business incubator applies the same concept but for businesses; it speeds up the development of the business and increases the chances of success. Thus, a business incubator hatches new ideas by providing businesses with resources, both tangible and intangible (Becker & Gassmann, 2006). Starting in the 1970's in the United States and England, the concept of business incubation has evolved rapidly (Lalkaka, 2010). The business incubators are today recognized as important and useful support organizations for the promotion of entrepreneurship in both high-income and low-income countries. They are many times seen as a mechanism to stimulate the entrepreneurial climate in a given country (Adegbite, 2001).

Scholars have made numerous descriptions of a business incubator. Hackett and Dilts (2004) pointed out that the incubator can be seen as a dynamic 'network of individuals and organizations', including; manager and staff, local universities and community members, industry contacts and professional service providers. In a systematic review of business incubation research, they defined the business incubator as a shared office space that provides its incubates/tenant firms with a strategic and value-adding business monitoring and assistance. This system can provide the resources necessary to successfully develop and create new businesses, and simultaneously contain the cost of their potential failure (Hackett & Dilts, 2004). Unece (1999) builds on this definition and concludes that a business incubator's key objective is to produce successful firms that will leave the incubator in a viable and freestanding condition.

2.2.2 Importance of business incubators

In a study comparing different incubators, Mian (1994) concluded that the business incubators have a positive impact on the tenant firms' survival and growth. Adegbite (2001) added to this, by concluding that business incubators can reduce the failure rate of new ventures to below 10% over a three-year period compared to the normal rate of 60-80% for newly founded businesses. In the longer term, Mubaraki and Busler (2013) concluded that this ultimately would lead to job creation, technology transfer, commercialization of new technologies and increased wealth for economies. According to Lalkaka (2001), the business incubator in the long-term provide several benefits for a country's government in terms of helping to overcome market failures, promoting regional development and generating taxes.

There has however also been critique around business incubators. It has been argued that business incubators create an elite as it caters to a selected group of potential winners

among prospective entrepreneurs in society. Further on, the common dependency of government support for infrastructure and funding as well as the limited outreach are arguments opponents have used against the establishment of business incubators (Lalkaka, 2001).

According to Hamdani (2006), many academic studies have focused on the services that business incubators provide. Hatten (2006) concluded that the incubator acts as a favorable physical location to start a business, with offerings of various support services and equipment. Aerts et al. (2005) argued that business incubators provide a fruitful environment for enterprises to grow, as they can leverage free office space, management support and knowledge, which can increase the success rate of the firm. Mubarak and Busler (2013) argued that some of the benefits for tenant firms are access to bank loans, legal services, linkage to higher education resources and comprehensive business training programs. Lalkaka (2001) saw the business incubator as a micro-environment with a small management team, that offer the tenant firms with physical work-space, counseling, access to finance, information and training, and affordable professional services. According to Ratinho, Harms, and Groen (2009), services available at business incubators may include business support, internal coaching, business training, direct subsidies, access to networks, external coaching and access to capital. Beyond these factors Lewis (2001) argued that tenant firms could benefit from interaction among other firms, mentoring programs and courses in entrepreneurship. A study in the United States by Mian (1996) concluded that some of the most common business incubator services included shared office services, business assistance, access to capital, and business networks.

2.2.3 Different types of business incubators

There are many types of business incubators. Lalkaka (2001) defined the various incubators depending on the sponsor and desired goals. Lazarowich and Wojciechowski (2002) cited four different types of incubators based on sponsorship and objectives: public (non-profit), private (for profit), private (non-profit) and educational incubators. According to Chandra (2007) on the other hand, there are five types of business incubators; traditional incubators, technology incubators, cooperative/social incubators, private incubators and corporate incubators. Variations among the incubators could be different depending on the location, culture, time of development, and availability of resources.

A recent type of business incubator that has evolved around the world is the university-based incubator. These are incubators that are located at and directly linked to a university (Bathula, Karia & Abbott, 2011). Most of the prior research on this type of business incubator has been done in high-income countries. According to Bathula et al. (2011), the overall benefit that university-based incubators could derive from universities was said to be factors such as institutional support, technology and a high involvement of the university students. Mian (1996) concluded that some of the most

common benefits of university-based incubators included using faculty consultants and student employees, university image, related R&D activities, technology transfer programs and business training to increase the success of newly started businesses.

There are other similar concepts reminding of business incubators. These are sometimes referred to as business accelerators or business labs. A distinction between these is seldom made, but according to Stagars (2014), accelerators are more often for-profit versions of business incubators. Miller and Bound (2011) identified other criteria that distinguish accelerators from business incubators. Accelerators more often have an open application process and pre-seed investments are common in exchange for equity. Therefore, the business model of accelerators emphasizes a larger focus on producing venture-capital-style returns. Other researchers claimed that the accelerator more commonly directs its focus towards startups that are more mature and have reached a later stage in its startup cycle (Petersson, Mårdström, Fornell, Westergård, Larsson & Barrehag, 2012). Even though it can be argued that business accelerators and business labs can differ from a business incubator, they all offer similar services.

2.2.4 Business incubators in low-income countries

Many governments in low-income countries have national economic frameworks demanding a strong emphasis of public-private partnerships (Ecuru, 2011). National development plans call for increased collaboration between industry-academia-government. Setting-up businesses has been seen as a natural way to correspond to this cooperation request. As a result, multiple attempts to start business incubators have been made in low-income countries in the last couple of years (Mutambi, 2011).

In Uganda for instance, there are currently research institutions and universities that have established business incubators, which allow students to develop their ideas and seize business opportunities. Other reasons for this rapid expansion of business incubators directed towards young individuals is that 77% of the population in Uganda is under 30 years of age. Added to this, the degree of entrepreneurial intentions in Uganda is among the highest in the world, with 79% of all 18-24 year olds intending to start a business within three years, whereas the average among African countries is 53%. However, this entrepreneurial intention included intentions towards both opportunity and necessity-based entrepreneurial intention (Namatovu et al., 2012).

2.3 Linking business incubators to entrepreneurial intentions

It has been concluded that certain factors were expected to have a significant impact on opportunity-based entrepreneurship in low-income countries in the future. These factors were expected to stimulate and support innovation as well as encouraging successful entrepreneurial activity. The first factor was the availability of financial resources; equity, debt, grants and subsidies for new businesses. The second factor involved business training and entrepreneurial education. A third factor that was highlighted was

the presence of commercial and professional services, as well as institutions that allow and promote the emergence of newly established businesses. The R&D transfer was mentioned and described as to which extent national research conducted at universities would lead to new commercial opportunities, and whether or not these are available for new businesses (Namatovu et al., 2012). Based on the literature review of the business incubator, it is apparent that the business incubator actually addresses many of these issues. Therefore, business incubators would likely have an impact on individuals' mindset about the possibilities of entrepreneurship. Though, the limited research around business incubators have yet to conclude if this is the case in low-income countries.

Studies have nevertheless shown that entrepreneurship courses and the image of business founders that acts as role models within universities can encourage students to become entrepreneurs (Lüthje & Franke, 2003). Added to this, Mueller (2011) argued that entrepreneurial networks and support structures could increase the perceived behavioral control and thus raise an individual's perceptions, which results in higher entrepreneurial intention. Autio et al. (1997) also concluded in a study of students from four different countries that their career preferences and entrepreneurial convictions are influenced by the support received from the university environment. BenDaniel (1999) made it clear that the university environment, with support organizations and faculty form a crucial role in students' formation of entrepreneurial intentions. The business incubator could be seen as one kind of support system. A study conducted in Nigeria further on concluded that business incubators form a vital role in promoting entrepreneurship among students, in other words as a mean to create entrepreneurial intention (Adegbite, 2001). Schulte (2004) conducted a study in Europe and concluded that business incubators located at universities impact the entrepreneurial spirit of the students.

In summary, there is a consensus among scholars and policy makers that entrepreneurial support systems, such as the business incubator positively influence entrepreneurial intentions. However, the studies mentioned do not make a distinction between necessity and opportunity-based entrepreneurship. Thus, this study examines if the business incubator helps to explain opportunity-based entrepreneurial intentions (see Figure 8).

Hypothesis 4: Business incubators help explain opportunity-based entrepreneurial intentions among students in low-income countries

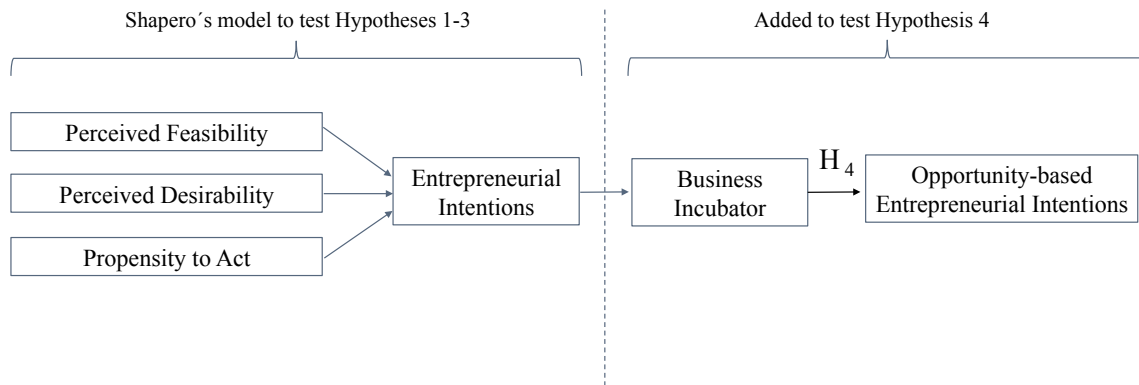


Figure 8 – Model to test Hypothesis 4

As illustrated above, a new model has been formed where the business incubator has been added to Shapero's model to measure opportunity-based entrepreneurial intentions. The two theoretical fields, entrepreneurial intentions and business incubators will in this model be examined together in a low-income country's context.

To further distinguish the role of the business incubator in the process of forming opportunity-based entrepreneurial intentions among students, the business incubator will also be tested as a moderator. Commonly, researchers assume that a moderator variable alters the relationship between the independent and dependent variables in a linear function (Baron & Kenny, 1986). As indicated, the services provided by the business incubator could increase the entrepreneurial intention of individuals; hence, affect the relationship between entrepreneurial intentions and opportunity-based entrepreneurial intentions. It is therefore hypothesized that the business incubator also can be seen as a moderator that strengthens the relationship, in other words moderating effect, of entrepreneurial intentions and opportunity-based entrepreneurship (see Figure 9).

Hypothesis 5: Business incubators have a moderating effect on opportunity-based entrepreneurial intentions among students in low-income countries

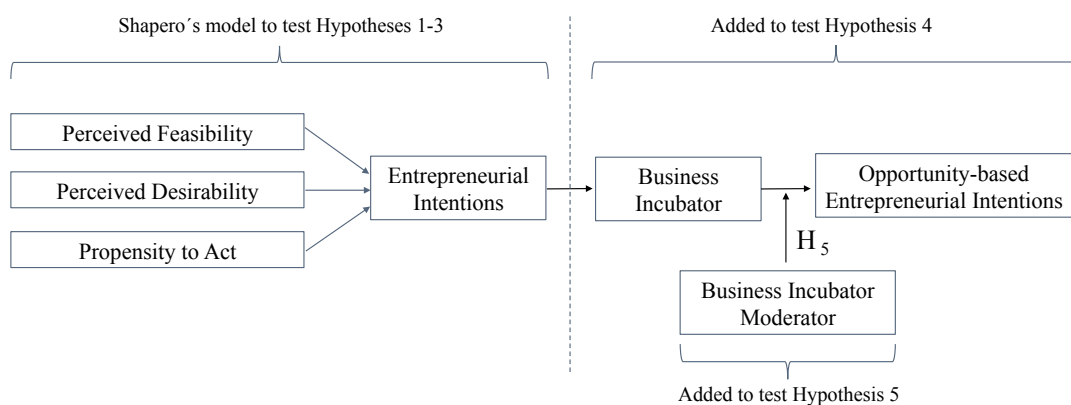


Figure 9 – Model to test Hypothesis 5

2.4 Literature and hypothesis summary

As the review of the literature has indicated, the research around entrepreneurial intentions is at a fairly mature stage. This study will test Shapero's model to measure entrepreneurial intentions among students in a low-income country's context. The wide recognition of the model motivates the thought of keeping Shapero's three constructs as independent variables to measure the dependent variable; entrepreneurial intention (Hypotheses 1-3). Moreover, as indicated, there is a shortage in the literature of how business incubators relates to opportunity-based entrepreneurial intentions. Therefore, the business incubator will be tested as an independent variable and as a moderator, in the proposed theoretical model (Hypotheses 4-5). The five hypotheses formulated to test model are repeated below (see Figure 10).

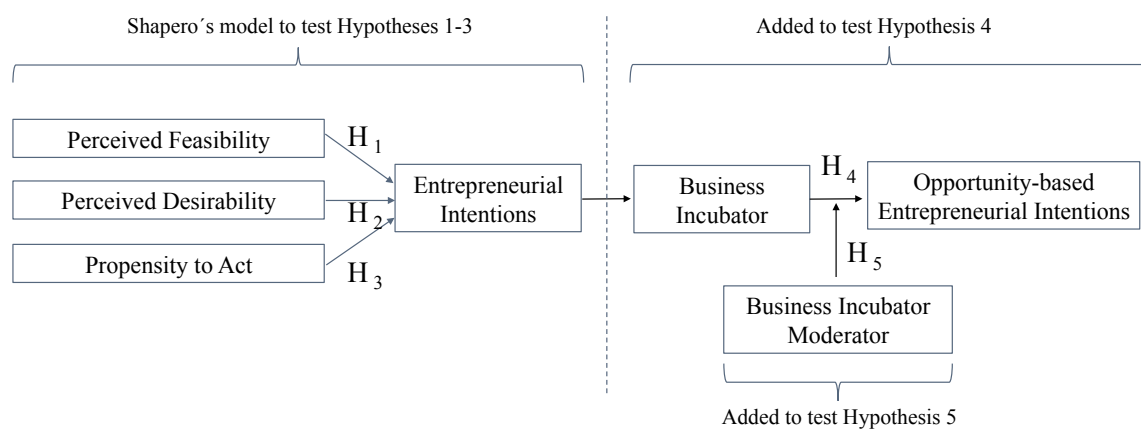


Figure 10 – Model visualizing all hypotheses stated

Hypothesis summary	
<i>Hypothesis 1</i>	Perceived feasibility explains entrepreneurial intentions among students in low-income countries
<i>Hypothesis 2</i>	Perceived desirability explains entrepreneurial intentions among students in low-income countries
<i>Hypothesis 3</i>	Propensity to act explains entrepreneurial intentions among students in low-income countries
<i>Hypothesis 4</i>	Business incubators help explain opportunity-based entrepreneurial intentions among students in low-income countries
<i>Hypothesis 5</i>	Business incubators have a moderating effect on opportunity-based entrepreneurial intentions among students in low-income countries

3. Methodology

This chapter describes and explains the methodological choices and decisions made for this study. The chapter will cover the research approach (3.1), study object selection (3.2), pre-study (3.3), survey design and measurements (3.4), data collection (3.5), data analysis procedure (3.6), methodological limitations (3.7), and reliability and validity (3.8).

3.1 Research approach

As described by Patel and Davidson (2011), a research approach should determine the best way for a study to combine existing knowledge and gathered data to examine the reality. Given the research question, this study used a deductive approach. A deductive approach uses existing theory from which hypotheses are formulated and will be tested. To test the hypotheses, data had to be gathered. With the data at hand, the hypotheses can be tested with the specific data, in order to confirm or reject the stated hypotheses. This ultimately leads to revision and contribution to existing theory (Bryman & Bell, 2015).

Data for this study was collected in three steps. Firstly, the pre-study used findings from the literature review along with qualitative discussions with faculty and students. Secondly, based on insights from the pre-study, the pilot study aimed to be the exploratory testing of new questions and constructs, as argued by Edmondson and McManus (2007). The main data collection, which was the third step, aimed to test the hypotheses.

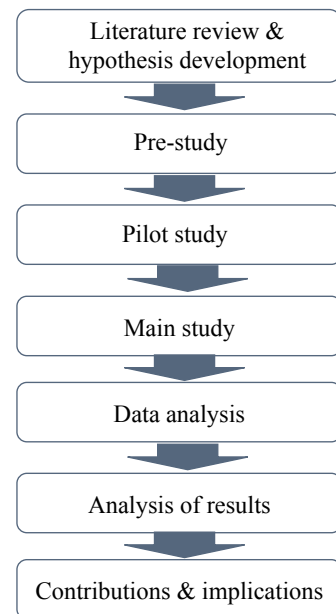


Figure 11 – Research process

The mature state of the literature regarding entrepreneurial intentions supports a quantitative analysis (Edmondson & McManus, 2007). Quantitative research entails the collection of numerical data and exhibits the relationship between theory and research as deductive (Bryman & Bell, 2015). For this type of study, Edmondson and McManus (2007) further argue for a research method where surveys should be designed and systematically coded and quantified where data is obtained from field sites. Following these arguments, the decision was made to gather data using self-completion surveys distributed in a paper format to each study respondent. The method of using paper-based surveys for self-completion increased the control over respondents to the survey as compared to surveys distributed online. It also made it possible to monitor the respondents during the completion, which was an advantage if any respondent were to have difficulties in filling-out the survey (Bryman & Bell, 2015). Having a paper-based survey was also expected to increase the response rate, as many of the respondents in the sample did not have access to personal computers nor reliable network accessibility.

Additionally, conducting the survey offline allowed for a sample frame to be selected properly.

3.2 Study object selection

This section discusses the choices that were made in order to decide on the object selection. Firstly, the part to be discussed is choice of research country. Secondly, the choice of university is discussed, followed by the third and last part of the section, the choice of sample frame.

3.2.1 Choice of country

Uganda was chosen as the country of research for several reasons. Firstly, even though Uganda exhibits one of the highest levels of entrepreneurial intentions in the world, the country have few opportunity-based entrepreneurs. This makes the country interesting from a research point of view. Secondly, existing connections between the Stockholm School of Economics, Makerere University and Global Business Labs allowed for research arrangements in Uganda to be managed already in the fall of 2015. Thirdly, the choice of country was based on relative political stability. Uganda was perceived to be a sufficiently stable country to conduct the research successfully. Fourthly, Uganda is a former British colony; hence the official language is English, which reduces language barriers between the researchers and study respondents.

3.2.2 Choice of university

Given the topic of research, students from a university had to be examined. Makerere University was partly chosen because of the well-established university-business incubator, named Global Business Lab Uganda. Makerere University is Uganda's largest and third-oldest institution of higher learning. The university offers programs to some 42,000 students. Global Business Lab Uganda was established at Makerere University in 2013 and has ever since provided support to prospective student entrepreneurs at the university. To get further access to students and faculty at the university as well as advice about the local context, the country manager of Global Business Lab Uganda was assigned to supervise the data collection at the university.

3.2.3 Choice of sample frame

The study intended to have students in their ultimate or penultimate year as sampling frame. These students have the least time until graduating and, thereby, entrance to the job market. These groups have had the most time to form the entrepreneurial intentions during the study period, as well as being exposed to business incubators. Students from three academic degrees - Business Administration, Engineering Sciences and Computer Sciences - were chosen to participate in the study for several reasons. Firstly, the outcome of the pre-study indicated that these academic degrees were the most appropriate to measure entrepreneurial intentions. Secondly, these groups have been

used in similar studies before (Remeikiene, Startiene & Dumciuviene, 2013). Thirdly these academic degrees were chosen because of accessibility and their relatively large population size (67% of the university students are from these academic disciplines) that implies that the groups represented a substantial part of the entire student body at the university.

These three academic degrees, along with students from two different years (final and penultimate), created six different sampling frames. In total, this was a sample frame of 9214 students. With an intended total sample size of about 450 students, a sample fraction of 5% was intended to be reached. To be able to compare the strata, the aim was to have around 75 respondents in each of these six different groups (see Table 1).

Type of students	Sampling frame (N)	Intended sample size (n)	Sampling fraction (n/N)
Business Adm. - ultimate year	2063	75	4%
Business Adm. - penultimate year	2063	75	4%
Engineering Sciences - ultimate year	1511	75	5%
Engineering Sciences - penultimate year	1511	75	5%
Computer Sciences - ultimate year	1033	75	7%
Computer Sciences - penultimate year	1033	75	7%
Total	9214	450	5%

Table 1 – Choice of sample frame

3.3 Pre-study

In order to get a better understanding of the local context, to increase the authors' credibility and access, as well as to prepare for the pilot and main study, discussions were initially held with faculty and students in Sweden and Uganda. Findings from this pre-study is presented below.

3.3.1 Faculty input

Prior to the onsite data collection at Makerere University, understanding contextual differences between high-income and low-income countries was important for a successful study (Reiche & Harzing, 2007). If such differences are not taken into account, the risk for inferential errors increases significantly (Singh, 1995). Therefore, the first step of the research method was to have exploratory discussions with faculty and professionals at Stockholm School of Economics and Sida who had previous experience from doing research in low-income countries. The learning's from these discussions were useful in further planning for an efficient and well-structured study.

Upon arrival in Kampala, the pre-study continued and discussions were held with faculty at Makerere University and professionals working at Global Business Labs Uganda to gain more insights about the local context. The survey produced for the pilot study was presented to faculty and their input was used to adapt the survey further. As an example, information about the formal approval of the survey by the faculty at Makerere University was added to the front page of the survey in order to enhance the credibility and importance. The pre-study also served as a way of increasing the credibility, and to enable the access needed for a successful pilot study and main data collection. This proved to be successful as the faculty granted access to all colleges of the sample frame as well as showing support for the study.

3.3.2 Student input

Simultaneously as feedback from faculty was provided, the survey was discussed with 15 randomly selected students from the intended study disciplines at the university to secure the study respondents' understanding of the survey as well as to increase reliability of the study (Bell & Nilsson, 2000). The authors went through all the questions with the students to make sure that each question was understood correctly. One example of changes made during this process was that the word *firm* was changed to *business*. Based on feedback, the words *business accelerator* and *business lab* were added as synonyms to business incubator to avoid misunderstanding. Changes in terms of font size, layout of tables and instructions were adapted to improve readability and clarity of the survey, in line with Fowler (2013).

3.4 Survey design, measurements and variables

This section covers the aspects of survey design, measurements and variables. It discusses the survey design, measurements, dependent variables, independent variables, and other variables.

3.4.1 Survey design

The survey was designed so that the analysis of the responses would provide an answer to the two sub-questions of the overall research question. Most of the questions used in the survey originate from previous research described in the literature review. As indicated in the literature, much of the theory has been developed in a Western context, hence, there was a need to customize the questions in the survey to ensure the right outcome could be anticipated (Harzing, Maznevski & Ten country collaborators, 2002). Bryman and Bell (2015) highlights the importance of adapting the research method to the local context. Therefore, both the pre-study and the pilot study acted as input for the final survey used in the main data collection. The survey used in the pilot study is found in Appendix 1 and the survey used in the main study can be found in Appendix 2.

3.4.2 Measurements

The measurements for this study were managed through different variables. Many of the questions were measured through Likert scales. According to a study by Preston and Colman (2000), having a ten-point Likert scale generated the highest preference of respondents, closely followed by 7 and 9-point Likert scales. Several indices of validity, reliability and discriminating power indicated higher performance for Likert scales with more than 4-points. Therefore, for this study, a 7-point Likert scale was concluded to offer more variance, a higher degree of measurement precision and provide a better chance to explain the points of views (Revilla, Saris & Krosnick, 2013), and was hence used.

3.4.3 Dependent variables

Entrepreneurial Intention

For this study the entrepreneurial intention was measured with questions derived from Namatovu et al. (2010; 2012) that have been used in similar settings in Uganda and other low-income countries before. The first question (Q1) measured the student's likelihood of starting a new business within the next three years on a 7-point Likert scale. This question was seen as the dependent variable in this study since it aims to measure entrepreneurial intention among students around graduation or within a limited time frame after graduation. A high value indicated that the student agrees to the question, thus having a high entrepreneurial intention. In this survey section, two other questions were also added: one statement about entrepreneurial intentions at any point in the future (Q2) and one statement regarding perceived opportunities for starting a business (Q3). Though, these were not seen as part of the dependent variable in the analysis.

3.4.4 Independent variables

As motivated in the literature review, the variables in this study build on the model of entrepreneurial intention developed by Shapero and Sokol (1982). These variables have been constructed from questions used by renowned researchers. According to Bryman and Bell (2015), this should enable us to make comparisons with previous studies and increase the validity and reliability of the study.

Perceived Feasibility

Based on indications from the pre-study, the measure of perceived feasibility was condensed to five questions (Q4-Q8) derived and adapted from Krueger (1993), who has applied these statements when testing Shapero's model. The questions for this variable measured perceived difficulty, perceived workload, perceived insecurity, perceived knowledge and skills required starting a business. A low value for each question indicated a high perceived feasibility. The scale was later reversed so that a high value indicates entrepreneurial intention in order to analyze the variable against other variables.

Perceived Desirability

The five questions used in the survey to measure perceived desirability were chosen from Amsal et al. (2014), Krueger (1993), Peterman and Kennedy (2003) and adapted to the local context. These questions measured the respondent's excitement, passion, confidence, requirements and perceived easiness to start at business. High answers on Q9, Q10, Q12 and Q13 indicated high perceived desirability. Meanwhile a low value on Q11 indicated high perceived desirability - this to avoid acquiescence. This question was intended to be reversed when analyzing the data.

Propensity to Act

This variable measured propensity to act with questions derived from Krueger (1993). The questions used in the survey included decision-making ability, responsibility taking, probability to act on opportunities, attitude towards mistakes and impulsiveness. High answers on Q14, Q17 and Q18 indicated a higher degree of propensity to act, and low answers on Q15 and Q16 indicates higher degree of propensity to act - as these questions had been reversed. The scale of these questions was later reversed back to the same scale as the other questions.

3.4.5 Other variables

To answer the research question, other variables were also created. These are described in detail below. Added to this, several other questions (Q23, Q31, Q33, Q34) were also added to the survey with the intention to be used internally by Global Business Labs.

Business Incubator

To measure how the access of business incubator services could affect the entrepreneurial intention, six questions (Q24-Q29) were used. These questions have their foundation in the literature review on business incubators and were produced by the authors, as similar questions could not be found in previous studies. Hence, careful attention was brought to these in both the pre-study and pilot study to secure their relevance and the understanding of them among study respondents. Respondents answering high values on these questions indicated that the different services would have a positive impact on entrepreneurial intention. These questions were later merged into a variable named *Business Incubator Services*.

To test the awareness and knowledge of business incubators among the respondents, two questions (Q30, Q32) were used. These questions were tested using single binary variables (1 = no, 2 = yes). To be considered as aware and knowledgeable of a business incubator, the respondent must answer *yes* on these two dummy variables. These were later merged to form a new a dummy variable called *Business Incubator Awareness/Knowledge*. For this variable, a response coded as 1 indicated that the respondent is aware of and has knowledge of business incubators.

The pre-study indicated that each of these variables alone did not provide sufficient information about the business incubator, but together they could represent the more complex concept. As the *Business Incubator Awareness/Knowledge* was a binary variable, it could only affect the *Business Incubator Services*, if the response had been coded with a code 1, and not a 0. Therefore, out of the two variables described, *Business Incubator Services* and *Business Incubator Awareness/Knowledge*, the actual *Business Incubator* variable was computed into a composite variable (see Figure 12).

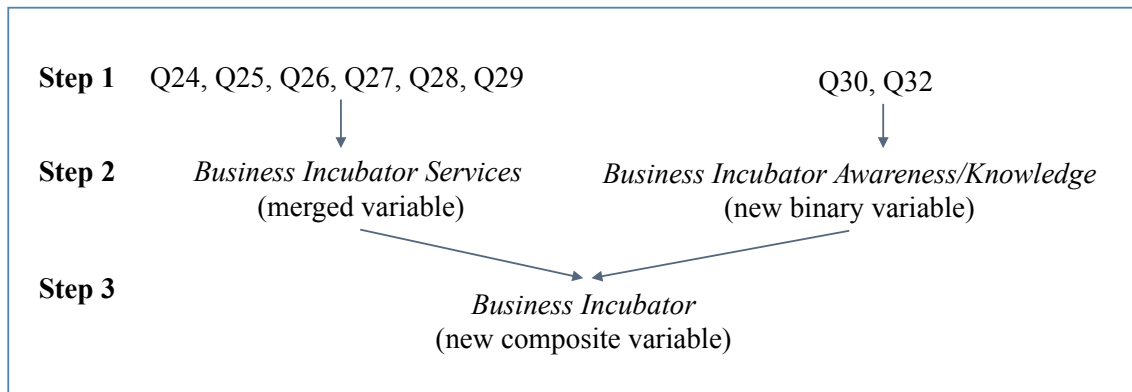


Figure 12 - Demonstration of the logic behind the creation of *Business Incubator* variable

Business Incubator Moderator

This is a composite variable that has been constructed through multiplying the *Business Incubator* with the *Entrepreneurial Intention* variable (see Figure 13). A moderator variable is assumed to alter the relationship between the independent and dependent variables in a linear function; hence, this variable is used to test Hypothesis 5. The variable is expected to influence the strength of the relationship (have a moderating effect) between the *Business Incubator* and *Entrepreneurial Intention*. To eliminate multicollinearity, the predictor variable and the moderator were centered before testing the interaction (Baron & Kenny, 1986). This transformation has no impact on the level of significance of the interaction terms (Holmbeck, 1997).

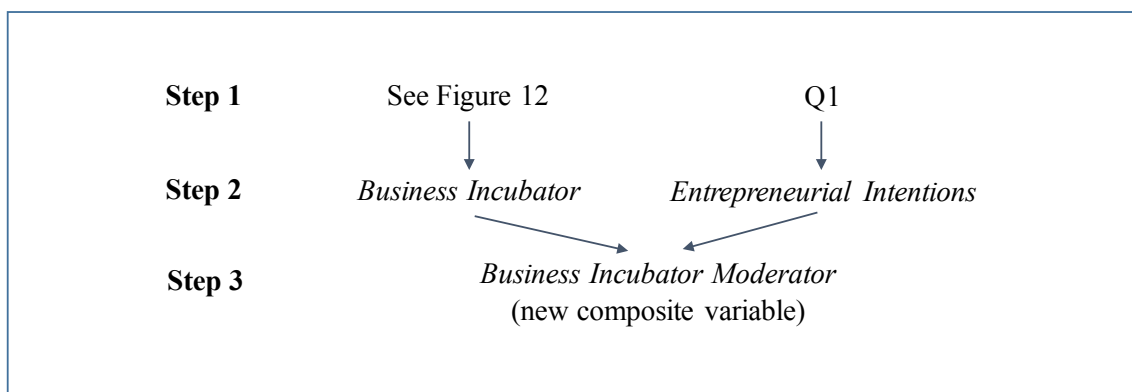


Figure 13 - Demonstration of the logic behind the creation of *Business Incubator Moderator* variable

Opportunity-based Entrepreneurial Intentions

To measure opportunity-based entrepreneurial intentions several questions were used. These originate from Namatovu et al. (2012) and have been used in Uganda and other low-income countries before. These questions center around the reasons to start a business and the expected number of employees the business would have. Based on the definition of opportunity-based entrepreneurship, the respondents were required to respond as follows; “I want to take advantage of a business opportunity” at Q19, “20+” at Q20, “Yes” at Q21 and “Yes” at Q22 to be considered as having opportunity-based entrepreneurial intentions. Based on this outcome a new binary variable was coded. Students with opportunity-based entrepreneurial intentions were coded 1, and students without were represented with 0. Based on the outcome of the pre-study the final variable called *Opportunity-based Entrepreneurial Intentions* were later computed as a composite variable (see Figure 14).

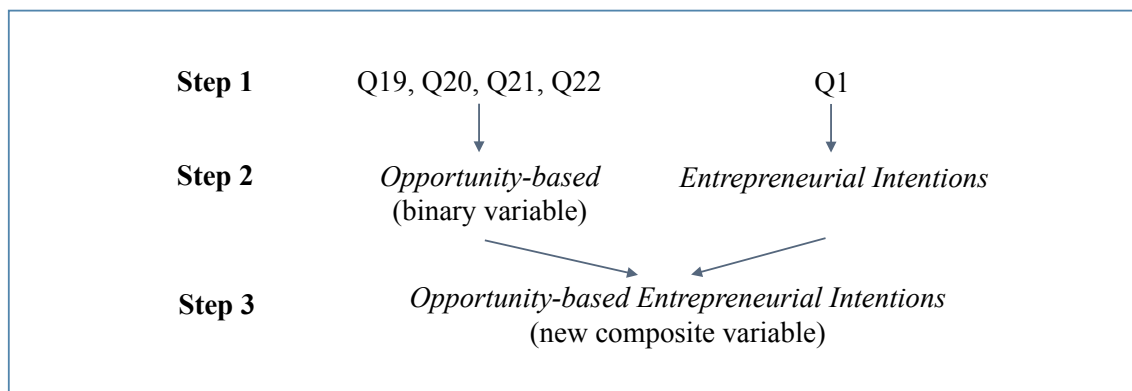


Figure 14 - Demonstration of the logic behind the creation of *Opportunity-based Entrepreneurial Intentions* variable

Control variables

Several control variables were added to the survey. As recommended by Söderlund (2005), questions of demographic character, such as age, gender and academic degree, were added in the end of the survey. These variables were mainly measured using single binary variables. Questions regarding previous entrepreneurial experience were also added.

3.5 Data collection

The section will cover the quantitative data collection including the pilot study, pilot study results, main study, and descriptive statistics from the main study.

3.5.1 Pilot study

To identify potential issues that may have unwanted impact on the survey results, a pilot study was conducted. A pilot study is defined as a small-scale trial of a study that is conducted before the full-scale study is conducted (Gay, Mills & Airasian, 2006). Conducting a pilot study is recommended as a mean to ensure that questions operate

well in the study's specific context, and to see if the research instrument as a whole is suitable and efficient in the given environment (Bryman & Bell, 2015; Fowler, 2013). It is further a way of ensuring that respondents understand all questions to avoid the common problem of misunderstanding in survey-based research (Cooper & Schindler, 2010).

For this study, the pilot study served other purposes as well. Firstly, when the authors are from a geographically and culturally different place in comparison to where the study is conducted, a pilot study is highly desired in order to remain a high validity and reliability (Maiyaki & Mokhtar, 2010). Secondly, the language in the survey was controlled for, as there may be language and interpretative differences between the authors' and respondents' native tongue. Studies have concluded that the language in a survey affects the way respondents answer the questions, hence the language is important to be equally understood by the researcher and respondents (Harzing & Maznevski, 2002). Thirdly, the intention was additionally to measure the time required to complete the survey, the adequacy of the survey and that the appropriateness of the number of questions. Lastly, the aim of the pilot study was to analyze statistical measurements to verify the correctness of the data.

When it comes to sample sizes in pilot studies there is a controversy among scholars. A sample size equal to around a tenth of the sample for the larger main study is a common metric (Connelly, 2008; Treece & Treece, 1982). Other researchers claim that a sample size of 15-30 respondents usually is enough for pilots in survey-based research (Hill, 1998; Isaac & Michael, 1995; Malhotra, 2008). Given this reasoning, along with the aim of having around 450 respondents in the main study, divided into six groups, the decision to have a pilot study of 30 respondents was made.

3.5.2 Pilot study results

The pilot study generated insights to the main data collection, which enabled the authors to anticipate and mitigate potential problems and misunderstandings in the main study. The intended collection method of only using paper-based surveys proved to be successful and efficient was confirmed. Further on, the overall willingness to participate in the study proved to be high. However, a few respondents indicated acquiescence, a tendency for some to constantly tick the most extreme value on some questions. To rectify this potential source of bias, some questions were re-written to imply an opposite stance, which is in line with Bryman and Bell's (2015) tactics to avoid acquiescence.

Descriptive statistics

With a 100% response rate and all valid surveys, the 30 respondents constituted the sample of the pilot study. All respondents were from one of the three desired academic disciplines; 12 from Business Administration, 8 from Engineering Sciences and 10 from Computer Sciences. Out of all the respondents, 17 were women and 13 were men, and they were all in their ultimate or penultimate year of studies. The respondents

participating in the pilot study were decided not to be participating in the main data collection. As per Bryman and Bell (2015), the respondents of the pilot study should not participate in the main study too, as that could have a potential subjective effect on respondents in the official questionnaire.

Reliability

In order to make sure that the questions were all measuring the same variable, this study looked at the internal consistency among the questions by looking at the Cronbach's alpha coefficient. This is a common reliability test when conducting surveys with questions that are on Likert scales (Djurfeldt & Barmark, 2009). For this type of exploratory research, a Cronbach's alpha above 0.5 is claimed to be acceptable for merging questions into a new variable and still have a high reliability (Kehoe, 1995). The Cronbach's alpha for the construct *Perceived Feasibility* (Q4-Q8) was 0.78. The second construct, *Perceived Desirability* (Q9-Q13), had a Cronbach's alpha of 0.40. The third construct, *Propensity to Act* (Q14-Q18), had a Cronbach's alpha of 0.44. A previous study by Peterman and Kennedy (2003) who used the same questions for perceived feasibility and perceived desirability in another context got a Cronbach's alpha of 0.77 and 0.66 for the respective constructs. Notably, the *Perceived Desirability* construct had a somewhat lower Cronbach's alpha in this study.

Given the extreme values that respondents had answered at many of the questions, the pilot study failed to show a normal distribution for these independent variables, when doing a Shapiro-Wilks test of normality. As goes for the normal distribution and reliability, the statistical measurements are likely to improve with a larger sample (Djurfeldt & Barmark, 2009). Therefore, the questions were still computed into three new independent variables.

Means

The analyzed results from the pilot study indicated high entrepreneurial intentions among the respondents. The dependent variable, the likelihood to start a new business, including any type of self-employment, within the next three years had a mean of 5.20. The independent variable of *Perceived Feasibility* had a mean of 4.48, which indicates a rather strong perceived feasibility. *Perceived Desirability* had a mean of 5.46, which indicates a moderate tendency towards perceived desirability. *Propensity to Act* on the other hand had a mean of 5.73 where a high value indicates high propensity to act (see Table 2).

	<i>Entrepreneurial Intention</i>	<i>Perceived Feasibility</i>	<i>Perceived Desirability</i>	<i>Propensity to Act</i>
Mean	5.20	4.48	5.46	5.73
S.D.	1.94	1.64	0.92	0.90
N	30	30	30	30

Table 2 – Pilot study results

Survey developments

After completing the pilot study, the respondents were asked to give feedback on the survey (Fowler, 2013). The survey draft was once again modified based on the feedback gathered and later on controlled with a handful of students about their understanding of it, which seemed to have been increased after the changes made to the survey. Changes that were made included inserting page breaks to improve readability, adding instructions for each set of questions for improved understanding, improving logical order on some of the answer options, and increasing sizes of the tables. Minor grammar edits and synonym replacements were made to adapt to the local context (e.g., *enthusiastic* was changed to *excited* based on feedback). To save time and make it easier to code the answers, open answer questions for control variables were made into multiple-choice alternatives (Fisher, 2010; Fowler, 2013).

A section for comments was included to make it possible for students to provide general feedback and comments on the survey (Fisher, 2010). However, due to lack of respondents commenting on this section, it was later removed from the survey before conducting the main study. Based on feedback from the respondents, the survey was printed on double-sided paper to increase overview of the questions and minimize the risk of having respondents missing an entire page of the survey. The completion of filling out a survey took between 8-14 minutes for the respondents and no indication of tiredness were raised; hence, the number of questions - 41 in total - were kept.

3.5.3 Main study

The third step of the data collection was the main study, which entailed the distribution of the final version of the survey to respondents. These surveys were collected at the different colleges at Makerere University using a stratified random sample approach during a three-week period in March 2016. First of all, the collection process followed a stratified sample where students from three academic degrees, Business Administration, Engineering Sciences and Computer Sciences, were chosen to participate in the study.

As discussed earlier, the study targeted final-year and penultimate year students, which could be seen as an additional sub-group within each academic discipline. In other words, the population was stratified using two criteria, which resulted in six different strata. Having six strata in a stratified sample is in accordance with Aczel and Sounderpandian (2002), who argue that the number of strata should not exceed six. Bryman and Bell (2015), argues that this sampling technique ensures that the resulting sample is distributed in the same way as the population in terms of the stratifying criteria.

Within each college, different classrooms were chosen to be entered based on a random sampling technique (Bryman & Bell, 2015). After verifying for the different strata the authors selected classrooms randomly that were about to start a seminar or that just had finished a seminar. These classrooms were selected at different points in time and during

different days of the week during the data collection period to increase randomness (Emmel, 2013). This technique partly eliminates the risk for bias in respondent selection since it followed a strict procedure (Bryman & Bell, 2015).

Each stratum was aimed to be of an approximate size of 75 respondents, which implied that the overall number of respondents in the study would be around 450. The median number of students that participated in each seminar class were around 15, and in total 33 classrooms were visited, 11 classrooms per academic discipline.

After entering a classroom, the authors presented the purpose of the study and some background of the research to the group of students. The aim of this initial presentation was to build a common ground with the respondents (Fowler, 2013). The students in each classroom were later asked to voluntarily participate in the study. To avoid rushed answers that could be of low quality, the students were asked if they had about 15 minutes to complete the survey.

To avoid survey fatigue among respondents, the importance of reading the instructions thoroughly and answering all questions independently were clearly communicated to the students when distributing the surveys (Fowler, 2013). To further create an incentive for the students to fill out the survey, SSE-branded pens were given out to all the respondents, along with the survey. The study had received formal permission to collect data at all of these colleges from the faculty at Makerere University.

3.5.4 Descriptive statistics from the main study

The main data collection generated a total of 456 responses (see Table 3). As the surveys were gathered manually and the respondents were incentivized to fill out the survey, only 19 individuals rejected to fill out the survey, which implies a low unit-non-response bias. This corresponds to a response rate of 96.0%. Additionally, there were a few surveys that were filled out incompletely (item-non response). Therefore, to increase the reliability, the item-non-response bias caused by the incompletely filled-out surveys was managed by removing these surveys from the sample.

Some 18 respondents did further on not fulfill the criteria of being in the ultimate or penultimate year; hence these respondents were also removed from the sample. Removing these respondents implied a smaller sample that could increase the risk of statistical errors (type 1, type 2 and type 3) and reduced quality of the study (Bryman & Bell, 2015; Fowler, 2013). The risk for non-response bias increases and could lower the reliability of the study.

To reduce the risk of these statistical errors and response bias, a mean analysis with the control variables was conducted to compare the removed respondents with the remaining sample. Based on the mean values of age, gender and academic disciplines, the results indicated that the removed respondents were a representative group of the

main sample. Hence, the risk of statistical errors and response bias is considered to be low.

Description	Count	%
Respondents asked	475	100%
Declined to respond	19	4%
Surveys complete	456	96%
Removed (faulty filled-out surveys)	28	5.9%
Final sample	428	90.1%

Table 3 – Main study sample outcome (1/2)

In total, after scrutinizing, the approved sample turned out to be 428 respondents, and constitutes 67% male and 33% female respondents. The gender distribution of the sample frame was 60% male and 40% female, hence the approved sample is also gender wise fairly representative for the sample frame. The respondents were of various ages, with a mean of 22.4 years. As planned, the respondents were almost perfectly evenly distributed between three academic disciplines; Business Administration, Engineering Sciences and Computer Sciences (see Table 4).

	Ultimate Year	Penultimate year	Total
Business Administration	82	64	146
Computer Sciences	71	69	140
Engineering Sciences	73	69	142
Total	226	202	428

Table 4 – Main study sample outcome (2/2)

3.6 Data analysis procedure

The survey responses were manually coded into the statistical computer software SPSS, version 22, in which the statistical analysis also was conducted. SPSS is the most widely used computer software for the analysis of quantitative data for social scientists (Bryman & Bell, 2015). SPSS offers easy access to descriptive statistics and frequency distributions and full set of statistical tests - all of which makes this study's analysis more efficient and accurate (Fowler, 2013).

3.7 Methodological limitations

Use of self-completion survey

The methodological approach of using self-completion surveys brings some limitations. Bryman and Bell (2015) discusses the difficulty of letting respondents elaborate on questions, and there is a difficulty of asking additional questions. To mitigate this, both a pre-study and a pilot study were conducted to allow respondents and faculty to provide valuable feedback and comments on the study and different parts of the survey.

Possible sampling error

Sampling error is the difference between a sample statistic used to estimate a population parameter and the actual but unknown value of the parameter. Even though there is a risk that the sample contains sample error Fowler (2013) argues that a stratified random sampling technique reduces the chance as compared to simple random samples. The relatively large sample size and the six different sample strata additionally minimize the chance for sampling error.

3.8 Quality considerations

This section will discuss the choices made and decisions taken regarding reliability and validity to ensure a high quality of this study.

3.8.1 Reliability

The importance of a study's reliability in research methodology has been highlighted by researchers (Bell & Waters, 2007; Bryman & Bell, 2015). Reliability is concerned with the question of whether the results of a study are replicable, in other words, the consistency of measures (Bryman & Bell, 2015; Trochim & Donnelly, 2008). If the same results are found repeatedly when the same measurements are tested, the reliability and precision is high (Söderlund, 2005). Within the concept of reliability, factors such as stability and internal reliability are often mentioned (Bryman & Bell, 2015).

The external reliability also referred to as stability entails whether a measure is stable over time. In other words, if the study is conducted repeatedly, it should measure the same results and thus reach the same conclusions every time (Bryman & Bell, 2015). The stability is said to be rather strong for this study, since both the pilot study and the main study, which were conducted at different points in time, indicated similar findings. Still, though, to increase stability further, Bell and Waters (2014) argues that the main study should be done more than once. However, the time restrictions of this study did not allow for this.

In order for other researchers to replicate this study, the procedures and method for selecting respondents, survey design, main data collection and analysis have all been outlined in detail. This is an important element for increasing the replicability and thereby reliability of the study (Bryman & Bell, 2015; Hair, Black, Babin, Anderson & Tatham, 2010). It is also important to bear in mind that this study measures, entrepreneurial intention, which is likely to fluctuate over time and among different respondents. To mitigate these potential fluctuations, samplings from different academic disciplines were collected during different days during the collection period (Bell & Waters, 2014).

Internal reliability refers to the response that respondents give for the overall score of a measurement, to check if it is consistent and reliable (Bryman & Bell, 2015). To have a high internal reliability, it is important to use measurements that fit together with each other. Internal reliability is thus best achieved with already well-established multi-item measurements such as the Likert scale (Söderlund, 2005), which was used in this study. To further increase the internal reliability, the Cronbach's alpha test was used to verify the inter-correlations among test items for each independent variable. Even though the Cronbach's alphas were low in general they were still in fairly line with previous studies and acceptable given the exploratory nature of this research.

3.8.2 Validity

Validity is referred to as the integrity of the conclusions that are generated from a piece of research. Validity is often divided into internal and external validity (Bryman & Bell, 2015).

To increase the internal validity - whether the measurement of a concept really measures that particular concept - this study uses well-established questions that have been used before in renowned research. The pre-study acted as a way of ensuring that the new variables constructed, such as *Opportunity-based Entrepreneurial Intentions* and *Business Incubator* really measured what they intended to measure. To further increase internal validity, all surveys that were distributed were identical (Bryman & Bell, 2015).

The authors were always present during the completion of the survey to avoid potential discussion or cooperation among respondents. Furthermore, the study used well-established measures and dimensions for the survey. The multi-item measurements with a Likert scale, increases the validity according to Bryman and Bell (2015). As Söderlund (2005) recommends, the scales had low values ("strongly disagree") to the left and high values ("strongly agree") to the right. Given this, the internal validity of this study is considered to be high.

The external validity refers to whether or not the cause-and-effect relationship in a study can be generalized and used to fit in other contexts and to larger populations (Jacobsen, Sandin & Hellström, 2002). The fact that the sample comes from different academic disciplines and different starting years increase the external validity (Bryman & Bell, 2015). However, the fact that only one university has been used from one specific country makes the external validity less strong.

As discussed, Uganda is extreme in many ways when it comes to entrepreneurial intentions, which makes the results less generalizable to other low-income countries. This is on the other hand one of the reasons why this country is interesting from a research perspective. Collecting data from several universities in several countries would furthermore not have been possible given time, access and resource constraints. Thus, while it would have been interesting to compare findings across different

universities in other low-income countries, the trade-off would have been less detailed findings and fewer respondents from each university.

4. Results

In this chapter, the results from the data collection is presented as well as statistical analysis performed to accept or reject the stated hypotheses. The first section provides a background of the results (4.1). The second section aims to test Shapero's model and by that answer Hypotheses 1-3 (4.2). The third section aims to test the business incubators impact opportunity-based entrepreneurial intentions, and hence test Hypotheses 4-5 (4.3). Finally, a summary of the results is presented (4.4).

4.1 Introduction of the results

The aim of this section is to verify that the data is appropriate for conducting the statistical analysis necessary to test the hypotheses. The section discusses the reliability, correlation testing, robustness of the model, control variables, and finally the entrepreneurial intention.

4.1.1 Reliability testing

In order to create aggregated independent variables, reliability tests were performed (see Table 5). The reliability test for the questions testing *Perceived Feasibility* indicated a Cronbach's alpha of 0.63 (Q4-Q8). These five questions were therefore computed into a new aggregated variable called *Perceived Feasibility*.

The reliability test for *Perceived Desirability* indicated a Cronbach's alpha of 0.58; hence these five questions were computed into a new aggregated variable called *Perceived Desirability* (Q9-Q13). Compared to the results from the pilot study and in line with the study by Peterman and Kennedy (2003), the Cronbach's alpha for *Perceived Desirability* increased sufficiently when increasing the number of respondents.

For *Propensity to Act*, the five questions combined did not generate an acceptable Cronbach's alpha. There could be several reasons for this, where one could be that different authors have used different questions in different contexts. Though, a Cronbach's alpha of 0.48 was reached when merging Q14, Q17 and Q18 and these were computed into the new aggregated variable called *Propensity to Act*. The low Cronbach's alpha coefficients affect the reliability of the study. However, the Cronbach's alpha coefficients are in line with a previous similar exploratory study conducted in Malawi, another low-income country in Africa (Mwatsika, 2015).

	Questions	Cronbach's alpha
<i>Perceived Feasibility</i>	Q9, Q10, Q11, Q12, Q13	0.63
<i>Perceived Desirability</i>	Q4, Q5, Q6, Q7, Q8	0.58
<i>Propensity to Act</i>	Q14, Q17, Q18	0.48

Table 5 – Reliability testing results

4.1.2 Correlation testing

To analyze correlation, a Pearson correlation analysis was performed (see Table 6). All independent variables showed a slightly positive correlation with the dependent variable. For *Perceived Feasibility* the correlation with the dependent variable showed to be positive of 0.169 with statistical significance at the 0.0001-level. For *Perceived Desirability* the correlation with the dependent variable is 0.409, and was statistically significant at the 0.0001-level. The correlation between *Propensity to Act* and the dependent variable was 0.097, and was statistically significant at the 0.05-level.

As the correlation analysis showed, there were correlations between the independent variables. All correlations between the independent variables were positive and statistically significant, except the correlation between *Propensity to Act* and *Perceived Feasibility*, which had a negative correlation and did not show statistical significance. To further control for multicollinearity the Variance Inflation Factor (VIF) was analyzed. As seen in the table 6, all variables had a VIF under 2.5 and a tolerance value close to 1, hence multicollinearity was anticipated to not substantially affect the results (Djurfeldt & Barmark, 2009; Hair et al., 2010).

	<i>Entrepreneurial Intention</i>	<i>Perceived Feasibility</i>	<i>Perceived Desirability</i>	<i>Propensity to Act</i>
<i>Perceived Feasibility</i>	0.169			
<i>Perceived Desirability</i>	0.409	0.446		
<i>Propensity to Act</i>	0.097	-0.023	0.259	
<i>VIF</i>		1.373	1.281	1.100

Table 6 – Correlation testing results

4.1.3 Robustness testing of the models

In order to test the robustness of Shapero's model and the developed model, multiple alternative regression analyses were conducted, including the usage of different control variables, as suggested by Hair et al. (2010). For example, one analysis included only respondents that were in the ultimate year of study. Irrespectively of how the sample was chosen, results were materially identical. As another test for robustness in the models, a random sub-sample consisting of 75% of the original sample was conducted. The models were robust in this analysis as well.

4.1.4 Control variables

The control variables were initially tested in each of the regression analyses outlined below, with the purpose to see if they could further increase the explanatory power of the model. However, the majority of the variables were statistically insignificant in the regression analysis even though the R-squared value increased from 0.168 to 0.208. This indicated that the strata in the sample frame were a homogenous group with entrepreneurial intentions that cannot be explained further with the help of control variables.

As the study purpose was to test some explicit variables in a specific context, and not to test or explain the variations between different strata, such as age, gender, entrepreneurial experience or academic degrees, the relevance to incorporate these variables in the regression analysis was limited. Based on this reasoning, that the control variables did not constitute an important role for the subsequent analysis, they were decided to be excluded from the regression models presented below.

4.1.5 Entrepreneurial intention

As in the pilot study, the results from the main study showed support for high entrepreneurial intentions among the respondents. On the 7-point Likert scale, the mean value of the dependent variable *Entrepreneurial Intention* was 5.76. Out of all the respondents, a total of 86.2% of respondents agreed to some extent that they were likely to start a business within three years (see Figure 15). Furthermore, 82.9% indicated strongly agree or agree to be likely to start a business at any point in the future. When looking at the different academic disciplines, gender and years of studies, none of these showed any significant differences.

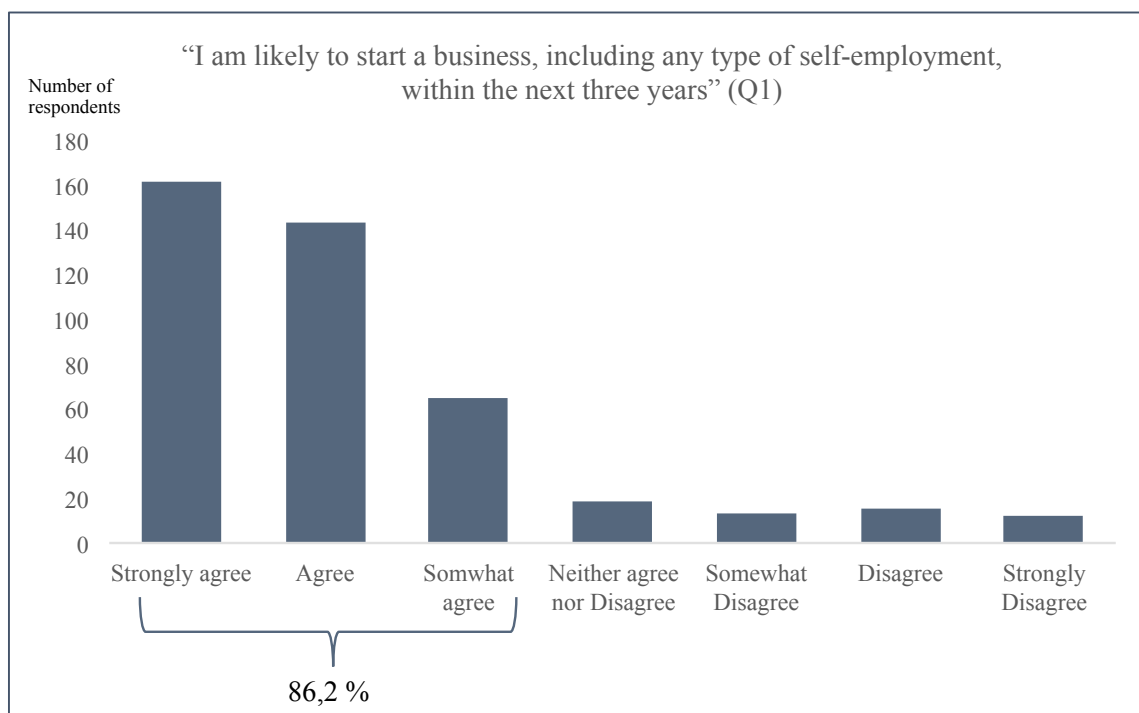


Figure 15 – Diagram showing attitudes towards entrepreneurial intentions

4.2 Testing Shapero's model

In order to test the three independent variables in Shapero's model, a multiple regression analysis was conducted (see Table 7). When excluding the control variables, the model indicated an R-squared value of 0.168, though the model did not deliver statistically significant results for two of the three independent variables. For *Perceived Feasibility* ($\beta = -0.018$, $p = 0.713$) and *Propensity to Act* ($\beta = -0.012$, $p = 0.792$) negative Beta-values were seen when testing the variables against the dependent variable *Entrepreneurial Intention*. *Perceived Desirability* ($\beta = 0.420$, $p = 0.0001$), however, had a positive Beta-value and was statistically significant.

The dominance of the *Perceived Desirability* variable made the *Perceived Feasibility* and *Propensity to Act* statistically insignificant. In an attempt to adjust for this, a principal component analysis was conducted (Djurfeldt & Barmark, 2009). However, this analysis failed to remove the correlations between the independent variables as described in section 4.1.2. To manage this, three separate linear regressions were used to test Hypotheses 1-3 (Hair et al., 2010).

As a result of the multiple regression, only *Perceived Desirability* was decided to be included in Shapero's model to accurately test the effect of the business incubator in Hypotheses 4-5. Throughout the analysis, the hypotheses were accepted on a 0.1 significance level given the exploratory nature of the research (Bryman & Bell, 2015).

	<i>Perceived Feasibility</i>	<i>Perceived Desirability</i>	<i>Propensity to Act</i>
Beta-value	-0.018	0.420	-0.012
Mean	4.53	5.84	5.89
S.D.	1.25	0.79	1.03
N	428	428	428
Significance (p-value)	0.713	0.000	0.792
Constant (for the model)	1.374		
R ² (for the model)	0.168		
Adjusted R ² (for the model)	0.162		
F (for the model)	28.447		

Table 7 – Multiple regression of Shapero's model

4.2.1 Results for Hypothesis 1

Hypothesis 1: Perceived Feasibility explains entrepreneurial intentions among students in low-income countries

Perceived Feasibility indicated a mean value of 4.53 out of 7. The simple linear regression analysis indicated that *Perceived Feasibility* explains 2.9% of the total variance in the dependent variable (see Table 8). This was statistically significant and

the Beta-value was positive ($\beta = 0.169$, $p = 0.0001$), indicating that *Perceived Feasibility* positively influence the *Entrepreneurial Intention* variable. Based on these statistics the hypothesis was accepted.

Descriptions	Values
Beta-value	0.169
Constant	2.649
R ²	0.029
Adjusted R ²	0.026
F	12.564
Significance (p-value)	0.000

Table 8 - Simple linear regression of *Perceived Feasibility*

4.2.2 Results for Hypothesis 2

Hypothesis 2: Perceived Desirability explains entrepreneurial intentions among students in low-income countries

Perceived Desirability indicated a high mean value of 5.84 out of 7. When testing the *Perceived Desirability* variable in a simple linear regression, results indicated that 16.7% of the total variance in the dependent variable is explained by *Perceived Desirability* (see Table 9). This was statistically significant and the Beta-value ($\beta = 0.409$, $p = 0.0001$) was positive for *Perceived Desirability*, hence the hypothesis was accepted.

Descriptions	Values
Beta-value	0.409
Constant	1.296
R ²	0.167
Adjusted R ²	0.165
F	85.528
Significance (p-value)	0.000

Table 9 - Simple linear regression of *Perceived Desirability*

4.2.3 Results for Hypothesis 3

Hypothesis 3: Propensity to Act explains entrepreneurial intentions among students in low-income countries

Propensity to Act indicated a high mean value of 5.89 out of 7. Results indicated that 0.9% of the variance in the dependent variable was explained by *Propensity to Act*, when testing the *Propensity to Act* variable in a simple linear regression (see Table 10).

This was statistically significant and the Beta-value ($\beta = 0.097$, $p = 0.045$) now turned out to be positive, and therefore the hypothesis was accepted.

Descriptions	Values
Beta-value	0.097
Constant	4.943
R ²	0.009
Adjusted R ²	0.007
F	4.056
Significance (p-value)	0.045

Table 10 - Simple linear regression of *Propensity to Act*

4.3 Testing business incubators impact on opportunity-based entrepreneurial intentions

Hypotheses 4 and Hypothesis 5 are tested using stepwise linear regressions where the Business Incubator is tested first as an independent variable (Hypothesis 4). Then the effect of the Business Incubator Moderator variable will be tested (Hypothesis 5).

4.3.1 Results for Hypothesis 4

Hypothesis 4: Business incubators help explain opportunity-based entrepreneurial intentions among students in low-income countries

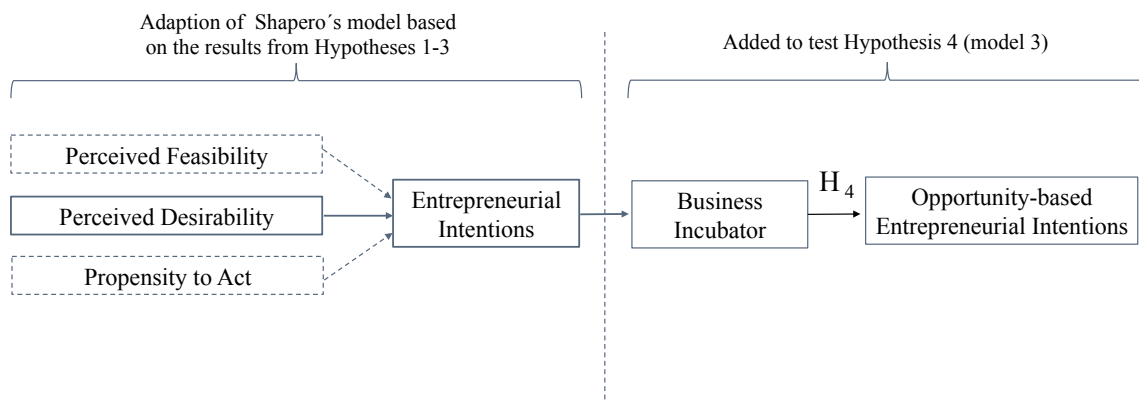


Figure 16 - Model to test Hypothesis 4

Hypothesis 4 was tested using a stepwise linear regression (see Figure 16). Stepwise linear regression analyses are used in the exploratory stages of model building to identify a useful subset of predictors. The process systematically adds the most significant variable or removes the least significant variable during each step (Tabachnick, Fidell & Osterlind, 2001).

In the first step, model 1, only *Perceived Desirability* was included as independent variable to explain the dependent variable *Opportunity-based Entrepreneurial Intentions*. This model generated an R-squared value of 4.1% ($\beta = 0.208$) and was statistically significant at 0.0001-level (see Table 11).

In model 2, *Perceived Desirability* ($\beta = 0.150$) and the variable *Entrepreneurial Intentions* ($\beta = 0.142$) were included (see Table 11). The latter variable was in Shapero's model seen as the dependent variable, now it was added to explain variation in *Opportunity-based Entrepreneurial Intentions*. From the model 2 regression, it could be seen that 6.0% of the variation in *Opportunity-based Entrepreneurial Intentions* was explained at a 0.01-level.

To test the hypothesis, the *Business Incubator* ($\beta = 0.111$) was added as a third independent variable (model 3), along with the variables used in model 2 (see Table 11). In model 3, the results indicated that the *Business Incubator* positively help explain the dependent variable. The R-squared value increased with 1.2% up to 7.2%, and was statistically significant at a 0.05-level. Interpreting this model, it could be concluded that the presence of a business incubator amplified the effect between the independent variables and the dependent variable with 1.2%. In other words, the business incubator positively influenced opportunity-based entrepreneurial intentions. Since the model showed support for the hypothesis, the hypothesis was accepted.

	Model 1	Model 2	Model 3	Model 4
	Beta (sig. level)	Beta (sig. level)	Beta (sig. level)	Beta (sig. level)
<i>Perceived Desirability</i>	0.208 (0.000)	0.150 (0.004)	0.140 (0.007)	0.127 (0.014)
<i>Entrepreneurial Intention</i>		0.142 (0.006)	0.125 (0.017)	0.163 (0.003)
<i>Business Incubator</i>			0.111 (0.021)	0.086 (0.080)
<i>Business Incubator Moderator</i>				0.103 (0.043)
Constant	2.649	2.966	2.803	2.960
R ²	0.043	0.060	0.072	0.081
Adjusted R ²	0.041	0.056	0.065	0.072
R ² -change	0.043	0.017	0.012	0.011
F	19.338	26.919	32.309	36.433
N	428	428	428	428
Model significance	0.000	0.006	0.027	0.070

Table 11 – Multiple stepwise regression of hypothesis 4-5

To further verify the acceptance of the hypothesis, the *Business incubator* variable was tested against the variable *Opportunity-Based Entrepreneurial Intentions* through Pearson's chi-squared test. In total, 277 respondents were unaware of the business incubator and 151 respondents were aware of it. Out of those that were aware of the

business incubator, 28% had opportunity-based entrepreneurial intentions. Meanwhile only 18% of those that were unaware of the incubator indicated opportunity-based entrepreneurial intentions (see Table 12a). Hence, it could be statistically concluded ($p = 0.014$) that there is a relationship between the degree of opportunity-based entrepreneurial intentions and awareness and knowledge of a business incubator (see Table 12b).

Descriptive Statistics			
	Opportunity-based Entrepreneurial Intentions	Other	Total
<i>Business Incubator Awareness/Knowledge</i>	42	109	151
Percentage of total	28%	18%	46%
Other	49	228	277
Total	91	337	428

Table 12a – Descriptive statistics for Hypothesis 4

Pearson's chi-squared test	
Value	5.984
Degrees of freedom	1
Significance (2-sided)	0.014

Table 12b – Pearson's chi-square test for Hypothesis 4

4.3.2 Results for Hypothesis 5

Hypothesis 5: Business incubators have a moderating effect on opportunity-based entrepreneurial intentions among students in low-income countries

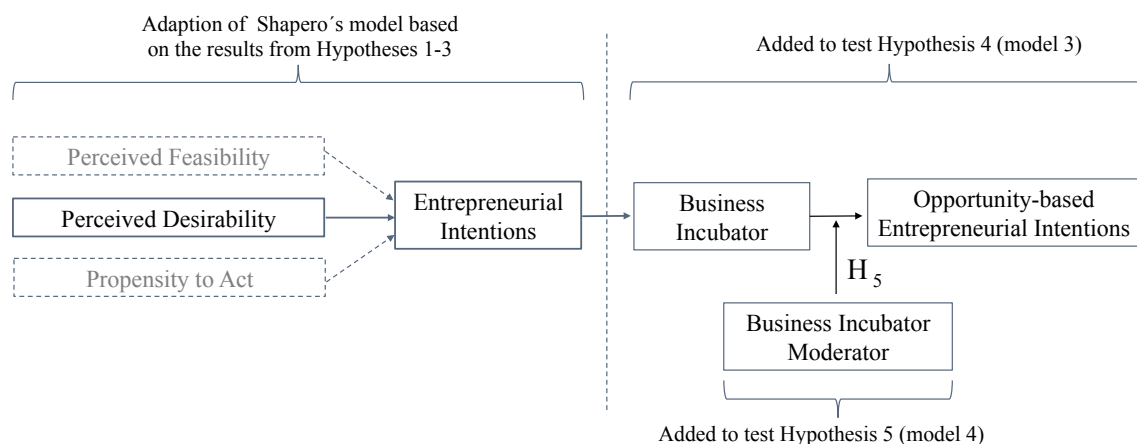


Figure 17 - Model to test Hypothesis 5

In order to test Hypothesis 5, a stepwise linear regression was computed including the same variables as in model 3. However, a fifth variable - *Business Incubator Moderator*

was also included (see Figure 17). This variable was predicted to affect the strength of the relationship between the independent variables and the dependent variable. In the procedure all variables in the model were checked to see if their significance had been reduced below the specified tolerance level ($p > 0.1$). If a statistically insignificant variable had been found, it would have been removed from the model.

As seen in model 4, when the *Business Incubator Moderator* ($\beta = 0.103$) was added, the R-squared value of the model increased to 8.1% (see Table 11). The increased R-squared value implied that the *Business Incubator Moderator* had an interaction effect, and the *Business Incubator Moderator* influences the *Entrepreneurial Intention* variable. This supported the hypothesis that Business incubators have a moderating effect on *Opportunity-based Entrepreneurial Intention*. Though, the model was statistically significant only at a 0.07-level ($p = 0.07$). Still as argued, due to the nature of this study that includes cross-sectional data, as well as the exploratory approach, the hypothesis was accepted at this significance level.

4.4 Summary of the results

The table below indicates a summary of the stated hypotheses for this study, indicating that all of the hypotheses have been accepted.

Results summary		
<i>Hypothesis 1</i>	Perceived feasibility explains entrepreneurial intentions among university students in low-income countries	Accepted*
<i>Hypothesis 2</i>	Perceived desirability explains entrepreneurial intentions among students in low-income countries	Accepted*
<i>Hypothesis 3</i>	Propensity to act explains entrepreneurial intentions among students in low-income countries	Accepted*
<i>Hypothesis 4</i>	Business incubators help explain opportunity-based entrepreneurial intentions among students in low-income countries	Accepted*
<i>Hypothesis 5</i>	Business incubators have a moderating effect on opportunity-based entrepreneurial intentions among students in low-income countries	Accepted**

* - Statistically significant at 0.05 level (95% confidence interval)

** - Statistically significant at 0.1 level (90% confidence interval)

5. Analysis

This chapter aims to analyze and discuss the results of the study in more depth. Firstly, the analysis of the applicability of Shapero's model in low-income countries is presented (5.1). Secondly, the analysis of business incubators impact on opportunity-based entrepreneurial intentions is discussed (5.2). Finally, some further reflections beyond this study are presented (5.3).

5.1 Applicability of Shapero's model in low-income countries

It was hypothesized that the three independent variables of Shapero's model would explain the variance in the dependent variable *Entrepreneurial Intention*. In line with theory, the individual tests of the three hypotheses were statistically significant and all the variables do to some extent explain entrepreneurial intention. Hence, hypotheses 1-3 could be accepted.

The model explained 16.8% of the variation in the dependent variable. This is considerably lower than many other studies conducted in other contexts, such as high-income countries, where the variables have shown higher explanatory power. Results from these studies suggested that Shapero's model had an explanatory power of around 30% - 40% (Kourilsky & Walstad, 1998; Lepoutre, Tilleuil & Crijns, 2010; Peterman & Kennedy, 2003).

However, when testing the variables independently in this study, the results indicated that *Perceived Feasibility* explained 2.9%, and *Propensity to Act* explained 0.9% of the variance in *Entrepreneurial Intention*. Yet, *Perceived Desirability* explained 16.7% of the variance in *Entrepreneurial Intention* - a significantly higher number compared to the other two independent variables.

5.1.1 Analysis of Hypothesis 1

With regards to the *Perceived Feasibility* variable, the explanatory power in this study is low in comparison to other studies conducted in high-income contexts (Krueger, 1993; Lepoutre et al., 2010). This indicates that perceived feasibility is a more important factor among students in high-income than in low-income countries for developing entrepreneurial intentions.

The low emphasis put on having the capabilities and knowledge necessary for starting a business among students in low-income countries can be an explanatory factor for the high degree of entrepreneurship in these countries. This could be because prospective entrepreneurs give less prominence to the competence needed to start a business than individuals do in high-income countries. One possible explanation for this is that students in low-income countries many times do not have other choices for work - the opportunity-cost is often lower - as compared to high-income countries.

Taking this further, the low perceived feasibility could be one of the reasons for the high business discontinuation and failure rates among newly started businesses in low-income countries. This emphasizes the importance of business training and entrepreneurial education as means to increase entrepreneurial intentions towards long-lasting, sustainable entrepreneurship among students in this part of the world (Busler, 2011; Lalkaka, 2001). It is reasonable to argue that in these countries, business incubators have an important role, as one of the primary services they provide is business training and education.

5.1.2 Analysis of Hypothesis 2

Perceived Desirability contributes more to explaining entrepreneurial intentions among university students in Uganda, than *Perceived Feasibility* and *Propensity to Act* do. A similar study conducted in Kenya presented similar results that perceived desirability had a relatively higher explanatory power than the other variables, when tested against entrepreneurial intention (Ngugi et al., 2012). In contrast, a similar study on students in a high-income country showed that perceived desirability had a lower explanatory power than the other two variables (Lepoutre et al., 2010). This indicates that perceived desirability seems to influence entrepreneurial intentions more in a low-income than in a high-income country's context. In other words, the more attractive the prospect of starting a business is, and what other individuals think of the behavior (social pressure), seem to have greater influence on entrepreneurial intentions among students in low-income countries than in high-income countries.

This finding, of the high importance of perceived desirability, was in line with the pre-study, where discussions with students indicated that social norms and the appeal of entrepreneurship play an important role when forming entrepreneurial intentions. Therefore, if the aim would be to understand the origin of entrepreneurial intentions, and potentially increase the entrepreneurial behavior among students in a low-income country, the emphasis on perceived desirability must be considered.

5.1.3 Analysis of Hypothesis 3

The variable *Propensity to Act* showed the least explanatory power among the three variables. Several other studies have indicated similar findings, though in general with higher R-squared values than in this study (Lepoutre et al., 2010; Ngugi et al., 2012). The low R-squared values in this study indicates that little of the variance in the dependent variable is explained by *Propensity to Act*. In other words, one's tendency to act on a decision or opportunity - which is what propensity to act measures - influence entrepreneurial intentions among students in low-income countries only to a limited extent. One possible reason for this could be that the questions creating the variable have been developed in high-income countries where factors such as attitude towards mistakes, responsibility and opportunity-identification have a more important role as explanatory factors for entrepreneurial intention.

As this study set out to explore the applicability of this variable in a context which is different to where the questions creating the variable has been developed, this is not an unpredictable finding. The pre-study findings also leaned towards this reasoning, that students in general were not action-oriented towards seizing business opportunities. This can be linked to Krueger's (2000) reasoning that a lower importance of propensity to act might result in individuals perceiving and acting upon smaller, less discontinuous opportunities.

5.1.4 Continued analysis of Hypotheses 1-3

One must keep the context in mind to further understand the results of this study. Despite the fact that this study accepts the hypotheses using Shapero's model, higher explanatory power has been achieved in studies conducted in high-income countries. One of the reasons for this can be that the relevance of the questions related to the variables may differ in the different contexts, even though both a pre-study and a pilot study were conducted to validate the comprehensiveness and relevance of the questions.

Another, arguably more important reason could be that the view of entrepreneurship differs in different environments. As Barbosa and Moraes (2004) argued, studies carried out in low-income countries may reach different conclusions from those carried out in high-income countries. Shapero's model is developed in a Western context where entrepreneurship is associated with starting and running businesses by a pursuing business opportunity, in other words opportunity-based entrepreneurship. In this context, for instance in Uganda, entrepreneurship is still most commonly considered as a mean to financially survive. Hence the interpretation of some of the variables, such as entrepreneurial intention, is likely to differ between students in Uganda and students in high-income countries. As an indication of this, the entrepreneurial intentions proved to be high in this study.

The fact that such a large percentage (86.2%) of students expect to start a business in the next three years stands in strong contrast to similar figures from high-income countries claiming that students in general prefer a career in large corporations with high job security (Plattner, 2009; Xavier et al., 2012). What is interesting, though, is that the findings furthermore suggest that no less than 77% among the students indicate good perceived business opportunities in Uganda. Still, students do not have high opportunity-based entrepreneurial intentions. Most of them are simply considering setting up a business to provide for themselves.

Linking back to the first sub-question, it can be concluded that Shapero's model of 'Entrepreneurial Event' can be applied to explain students' entrepreneurial intentions in low-income countries.

5.2 Business incubators impact on opportunity-based entrepreneurial intentions

5.2.1 Analysis of Hypothesis 4

As the results indicate, Hypothesis 4 was accepted, hence it can be concluded that business incubators help to explain opportunity-based entrepreneurial intentions among students in low-income countries. The acceptance of hypothesis 4 is in accordance with what the literature review. The features of business incubators, such as financial resources, free business services, office facilities, business counseling and relevant networks and mentors simplify the process of succeeding in launching a business, hence increasing opportunity-based entrepreneurial intentions.


The results from the main study further verify the indications from the pre-study, saying that the establishment of business incubators increases the intention to seize business opportunities among the students. If prospective entrepreneurs are not aware of the business incubators or the services that the business incubators provide, the odds remain low that the business incubators will generate the desired results. Thus, making the entrepreneurs more aware, and increase the accessibility of the business incubators and their related services, would likely stimulate opportunity-based entrepreneurial intentions. This is verified in the Pearson's chi-squared test where students that were aware of business incubators showed higher tendency towards opportunity-based entrepreneurial intentions.

Despite the acceptance of Hypothesis 4, the R-squared value for this model is low and the explanatory power is only 7.2%. One reason for this could be related to the dependent variable, which is a composite variable consisting partly of a binary classification of respondents as either opportunity-driven students or necessity-driven students. The composite variable was derived from several binary variables that indicated the type of entrepreneurial intentions a respondent had. Even though these variables have been used in the same context before, it is likely that another classification and definition of opportunity-based entrepreneurship would have resulted in higher explanatory power (Namatovu et al., 2010; Namatovu et al., 2012).

Another reason could be the different samples used in the respective studies. Whereas this study uses cross sectional data on a rather homogenous group, other researchers have had a more diverse and heterogeneous sample (Adegbite, 2001). What is important to bear in mind is that this is an exploratory study that aims to test a newly developed model in a new context, why a low R-squared value is not unexpected (Hair et al., 2010).

5.2.2 Analysis of Hypothesis 5

In Hypothesis 5, the business incubator was predicted to have a moderating effect on *Opportunity-based Entrepreneurial Intentions*. The creation of the new variable *Business Incubator Moderator* provided the study with further flexibility in evaluating and understanding the relationship of the business incubator with other variables within the regression models. As predicted, the moderator altered the relationship between the *Business Incubator* variable and the dependent *Opportunity-based Entrepreneurial Intentions* variable. This implies that the explanatory effect of the *Business Incubator* variable increase when the *Business Incubator Moderator* is added, which further strengthens the acceptance of Hypothesis 4 that the business incubator helps explain opportunity-based entrepreneurial intentions. In other words, students that are exposed to business incubators are more likely to form opportunity-based entrepreneurial intentions, which according to theory, should lead to entrepreneurial behavior (Ajzen, 1991). Still, it should be kept in mind that accepting a hypothesis at a 0.1 level implies lower generalizability of the result (Hair et al., 2010).



Linking back to the second sub-question, it can be concluded that a business incubator variable can be added to Shapero's model to increase the explanatory power of opportunity-based entrepreneurial intentions.

5.3 Further reflections beyond this study

The results from this study indicate that entrepreneurial intentions are based on many more factors than what Shapero's model and the developed model can predict. Being researchers from a high-income country that spent two months in Uganda during the data collection phase of this study, many other unpredicted factors that could influence entrepreneurial intentions became evident. For instance, factors that could potentially increase the explanatory power of the model could be few job opportunities, perceived ease of starting and operating a business, and influence from family and society that creates social norms. Environmental factors such as limited infrastructure, and limited access to capital can certainly also act as barriers for developing opportunity-based entrepreneurial intentions. Entrepreneurs may see these barriers as difficult to overcome and therefore chose not even to try. Added to this, the cultural and historical legacy could possibly also be seen as factors influencing entrepreneurial intentions. Uganda, and many other similar countries are still hierarchical, bureaucratic with widespread corruption. Many of the business incubators aim to solve and mitigate these issues. It is reasonable to believe that business incubators might have a different, and possibly even more important role in low-income than high-income countries.

6. Discussion

This chapter wraps up the study, by discussing the conclusion and summary of main findings (6.1), contributions to academia (6.2), implications (6.3), limitations of the study (6.4), future research (6.5), and importance of increased opportunity-based entrepreneurship (6.6).

6.1 Conclusion and summary of main findings

This study set out to explore two areas of research development. The first was to explore how to measure entrepreneurial intentions in low-income countries, and the second was to explore how business incubators influence opportunity-based entrepreneurial intentions. With these areas of development in mind, the purpose of this study was twofold. The first purpose was to test the applicability of an existing theoretical model for measuring entrepreneurial intentions among students in a low-income country. The second purpose was to investigate the impact of business incubators on opportunity-based entrepreneurial intentions among these students, and thereby address an existing gap in the management literature. To fulfill the purposes of this study, the following research question was developed:

Do business incubators increase the opportunity-based entrepreneurial intentions among students in low-income countries?

In order to facilitate the study, the research question was examined by two sub-questions:

- 1. Can a theoretical model for entrepreneurial intentions be applied to explain students' entrepreneurial intentions in low-income countries?*
- 2. Can a business incubator variable be added to this model, to increase the explanatory power of opportunity-based entrepreneurial intentions?*

The first sub-question was answered through testing Shapero's model's applicability on university students in Uganda. The findings indicate that Shapero's model was applicable in low-income countries since all independent variables in the model were statistically significant when tested separately in simple-linear regressions. Out of the model's three variables, it was foremost *Perceived Desirability* that explains the variation in *Entrepreneurial Intention*. However, applying the model in a low-income country such as Uganda generated lower explanatory power compared to results generated in high-income countries. One of the main reasons for this difference was concluded to be the difference in students' perception of entrepreneurship. In a high-income country, entrepreneurship is most often associated with seizing opportunities, whereas in low-income countries entrepreneurship is still most commonly seen as a mean to survive financially.

The second sub-question was answered by testing if the business incubator, added as a variable and a moderator to Shapero's model, would increase the explanatory power of opportunity-based entrepreneurial intentions. As the results indicated, business incubators positively influence opportunity-based entrepreneurial intentions among students in low-income countries. As a moderator, the business incubator further strengthens the explanatory effect. Added to this, the study predicts that the business incubator can play an even more important role in this context, given the entrepreneurial difficulties facing students in low-income countries.

To summarize the findings; all of the study's five hypotheses have been accepted. The main research question has been answered, indicating that business incubators do increase the opportunity-based entrepreneurial intentions among students in low-income countries. This should, according to studies, increase the opportunity-based entrepreneurial behavior. The two sub-questions have been answered as well, indicating that Shapero's model is applicable in low-income countries and a business incubator can be added to the model to increase the opportunity-based entrepreneurial intentions. Given the conclusion, the twofold purpose of this study is considered to be fulfilled.

6.2 Contributions to academia

This study had two anticipated contributions to academia to test if an existing entrepreneurial intentions model is applicable in a low-income country's context and to investigate if business incubators impact opportunity-based entrepreneurial intentions. The objective was to contribute to an existing research gap in the literature about entrepreneurial intentions and business incubators in low-income countries.

Firstly, the study concludes that Shapero's model is applicable, yet to a limited extent in low-income countries. This shows that existing models, such as Shapero's model, fail to cover certain aspects of the entrepreneurial intentions that should be included to increase the explanatory power in a low-income country's context. This study concludes that one of these aspects is the appropriate support, such as business incubators.

Secondly, the contribution to academia is the conclusion that business incubators influence opportunity-based entrepreneurial intentions, something that has not been covered in previous research from this context. By merging these two theoretical areas, entrepreneurial intentions and business incubators, this study verifies that business incubators help explain entrepreneurial intentions that stems from opportunity. Therefore, this study recommends future researchers to include the business incubator as an independent variable or as a moderator in theoretical models aimed to explain opportunity-based entrepreneurial intentions in their studies.

Thirdly, according to our knowledge, none or few research papers have differentiated between opportunity and necessity-based entrepreneurial intentions when testing

existing models for measuring entrepreneurial intentions. This study shows that this is important to do when conducting research in a low-income country, since the view of entrepreneurship is very different compared to the view in a high-income country.

6.3 Implications for practice and policy makers

Implications for practice

The results of this study help to understand the impact of business incubators in low-income countries. Students in these countries do not lack entrepreneurial intentions; the concern is that these are mainly necessity-driven. The indications in this study show that if students are exposed to business incubators the mindset is likely to change towards opportunity-based entrepreneurship. This thereby increases the likelihood of students creating sustainable businesses. This, in turn, implies that business incubators can use these findings as arguments for funding purposes and validation of their operations.

Implications for policy makers

As for policy makers, it can be predicted that establishing business incubators will generate more opportunity-based businesses in African countries in the future, which ultimately can improve the welfare of low-income countries. Related to this, findings from this study could be used by public policy agencies and development aid organizations, such as Sida, as evidence that business incubators have a positive impact on the entrepreneurial sector in low-income countries. This implies that investments in business incubators should continue. For several years, Sida has been funding business incubator establishments across the African continent and this study provides academic support that these investments impact students' opportunity-based entrepreneurial intentions. Related to this, the findings provide support for governments and other private organizations that invest in and promote business incubators as a way to increase opportunity-based entrepreneurship.

6.4 Limitations of the study

It is important to acknowledge the limitations of the study. The limitations presented should be kept in mind when reviewing the study and interpreting the results.

Entrepreneurial intention as predictor of entrepreneurial behavior

As the literature chapter indicated, entrepreneurial intention is predicted to be a good measurement for entrepreneurial behavior. This study focuses on measuring the entrepreneurial intention of students by applying Shapero's model, and understanding how business incubators affect opportunity-based entrepreneurial intentions. Still, there is no guarantee that individuals with these intentions will conduct any entrepreneurial behavior, in other words start a business. If there are opportunity-based entrepreneurial intentions but no entrepreneurial behavior, no value will be created for society and stakeholders. Therefore, as a policy maker, the opportunity-based entrepreneurial intention should just be one of several predictors when evaluating business incubators.

Student sample

Another limitation of this study is the sample. The study uses a cross-sectional sample that is rather homogenous, which was confirmed by the insignificance in many of the control variables. This study was conducted in only one of many universities in Uganda. Taking this into consideration implies that the generalizability to other low-income countries is lower and the possibility of having bias in the results exists (Thisted, 2011).

Measurements

The fact that the response frequencies in this study are narrow cannot be overlooked. It indicates cultural differences in how individuals respond to agree-disagree measurements. A previous study by Bachman and O'Malley (1984) concluded that native Africans are more likely than Caucasians to select extreme responses, especially on the positive end of agree-disagree scales. This leads to extreme mean values, which affects the variance and leads to lower explanatory power. Therefore, it is advised that future research should consider using other measurements, such as a 3-point Likert scale (agree/disagree).

Survey questions

Another limitation of this study is the questions used in the survey. The questions are not exhaustive and future research needs to identify which questions that are the most appropriate when measuring entrepreneurial intentions in different contexts. Given that the authors developed some of the questions used in the survey, also reduces the validity of the study, as the questions had not been tested previously. In addition, the Cronbach's alpha values for some of the constructs were lower than the general acceptance levels (0.60) in research. Hence, future research should bear this in mind when assessing the findings of this study. Related to this, as this study asked questions about the reasons why respondents want to start a business, it would likewise have been interesting to offer an open answer option. This would have allowed respondents to share their other reasons for starting a business in more detail.

6.5 Further research

Despite providing several interesting findings, this study also generated many ideas for future research to add to the defined research areas.

Firstly, this study should be replicated in other contexts, such other to low-income countries, and possibly with another sample frame. As described, Uganda is a special country in many aspects; therefore, finding proof of the model in other places would increase the generalizability of the study and validate the operationalization of the questions used in the survey for this study. Added to this, the study should

Secondly, as the three independent variables in Shapero's model generated a relatively low R-squared value, future studies should explore what could be other factors that

influence entrepreneurial intentions among students in this context. On the same note, given the low explanatory power of Shapero's model in this study, we would suggest that further research should try and merge parts of Shapero's and Ajzen's models to increase the model's applicability.

Thirdly, with regards to understanding whether opportunity-based entrepreneurial intentions actually predict opportunity-based entrepreneurship, further research that investigates entrepreneurial intentions over time would be of interest in low-income countries. This could be done through measuring opportunity-based entrepreneurial intentions at one point in time and then analyzing if these individuals actually are engaged in opportunity-based entrepreneurship at a predetermined time thereafter, for instance three-years.

Fourthly, given that perceived feasibility's and propensity to act's explanatory power differs in different contexts, it is suggested that future research should compare these differences. This could possibly result in conclusions and insights into whether the business incubator can affect these constructs and by that have different roles in high-income and than in low-income countries.

Finally, given the differences between high-income and low-income countries, it is reasonable to believe that the roles of business incubators differ, and should differ, among countries in order to create the most value. Therefore, future research should examine what focus they should have and examine the different roles that business incubators might assume to create the most value where they are situated.

6.6 Importance of increased opportunity-based entrepreneurship

As highlighted in the introduction, Africa is currently the fastest growing continent in the world, both economically and population wise. Despite this, the access to formal jobs and international markets is still limited. This implies that more and more individuals, including university students, will end up on the streets, selling everything from fruits to sandals. One of the ways to solve this is to change individuals' mindsets about entrepreneurship and make the future generation in Africa more oriented towards opportunity-based entrepreneurial activities that are likely to contribute more to the economical development and welfare of a country. This will be an important topic for eliminating poverty in Africa and low-income countries elsewhere in the years ahead. This is all about getting people to reach for higher hanging fruits. As such, this study has perhaps contributed a small piece to making the world a better place.

7. References

7.1 Academic references

- Aczel, A. D., & Sounderpandian, J. (2002). Complete business statistics (Vol. 545, p. 2006). New York, NY: McGraw-Hill/Irwin.
- Adegbite, O. (2001). Business incubators and small enterprise development: the Nigerian experience. *Small Business Economics*, 17(3), 157-166.
- Aerts, Kris, Matthyssens, Paul and Vandenbempt, Koen, (2005), "Critical Role and Screening Practices of European Business Incubators"
- Ajzen, I. 1987. Attitudes, traits, and actions: Dispositional prediction of behavior in personality and social psychology. *Advances in Experimental Social Psychology*, vol 20. pp 1 - 63
- Ajzen, I. 1991. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, vol 50. pp 179 – 211
- Ajzen, I. Fishbein, M. 1980. Understanding attitudes and predicting social behavior. Prentice-Hall, Englewood Cliffs
- Albert, P., & Gaynor, L. (2001). Incubators—growing up, moving out. A review of the literature. Chair of High.
- Amsal, M. S., Kumar, D. M., & Ramalu, S. S. (2014). Categorizing and Fixing Variables on Entrepreneurial Intention through Qualitative Research. *Asian Social Science*, 10(19), 45.
- Autio, E., Keeley, R. H., Klofsten, M., & Ulfstedt, T. (1997). Entrepreneurial intent among students: testing an intent model in Asia, Scandinavia and USA.
- Autio, E., H. Keeley, R., Klofsten, M., GC Parker, G., & Hay, M. (2001). Entrepreneurial intent among students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, 2(2), 145-160.
- Barbosa, E. G., & Moraes, C. D. C. (2004). Determinants of the firm's capital structure: The case of the very small enterprises. Accessed on Aug, 18, 2007.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173.

Bathula, H., Karia, M., & Abbott, M. (2011). *The Role of University-Based Incubators in Emerging Economies* (No. 22). Working Paper.

Becker, B., & Gassmann, O. (2006). Corporate incubators: industrial R&D and what universities can learn from them. *The Journal of Technology Transfer*, 31(4), 469-483.

Bell, J., & Waters, S. (2014). *Introduktion till forskningsmetodik*. Studentlitteratur.

BenDaniel, D. (1999). Center of Entrepreneurial Leadership of the Ewing Kauffman Foundation and the Johnson Graduate School of Management. *Cornell University*.

Bewayo, E. (1995). Uganda entrepreneurs: why are they in business?. Center for Economic Research on Africa, Department of Economics and Finance, School of Business, Montclair State.

Bird, B. (1988). Implementing entrepreneurial ideas: The case for intentions. *Academy of Management Review*, 13, 442-454.

Braunerhjelm, P. (2010). Entrepreneurship, Innovation and Economic Growth-past experience, current knowledge and policy implications.

Bryman, A., & Bell, E. (2015). *Business research methods*. Oxford University Press, USA.

Chandra, A. (2007). Approaches to business incubation: a comparative study of the United States, China and Brazil. *Networks Financial Institute Working Paper*, (2007-WP), 29.

Choo, S., & Wong, M. (2006). Entrepreneurial intention: triggers and barriers to new venture creations in Singapore. *Singapore management review*, 28(2), 47.

Connelly, L. M. (2008). Pilot studies. *Medsurg Nursing*, 17(6), 411-413.

Davidsson, P. 1995. Determinants of entrepreneurial intentions. RENT IX Workshop in Entrepreneurship Research. Piacenza, Italy. November 23 – 24

Djurfeldt, G., & Barmark, M. (2009). *Statistisk verktygslåda 2: multivariat analys*. Studentlitteratur.

Drucker, P.F. (1999) *Innovation and entrepreneurship*, 2nd. ed. Oxford: Butterworth-Heinemann

Ecuru, J. (2011). *Fostering Growth in Uganda's Innovation System*.

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Academy of management review*, 32(4), 1246-1264.

Emmel, N. (2013). *Sampling and choosing cases in qualitative research: A realist approach*. Sage.

Fatoki, O. O. (2010). Graduate entrepreneurial intention in South Africa: Motivations and obstacles. *International Journal of Business and Management*, 5(9), 87

Fick, D. S. (2002). *Entrepreneurship in Africa: A study of successes*. Greenwood Publishing Group.

Fick, D. (2007). *Africa: continent of economic opportunity*. Real African Publishers.

Fisher, C. (2010). *Researching and writing a dissertation: a guidebook for business students*. Pearson Education.

Fowler Jr, F. J. (2013). *Survey research methods*. Sage publications.

Gartner, W. B. 1988. 'Who is an entrepreneur?' is the wrong question. *American Small Business Journal*, Spring. pp 11 – 31

Gartner, W. B. 1989. Some suggestions for research on entrepreneurial traits and characteristics. *Entrepreneurship Theory & Practice*. Fall.

Gay, L. R., Mills, G. E., & Airasian, P. W. (2011). *Educational research: Competencies for analysis and applications*. Pearson Higher Ed.

George, S. (2014, July 4). How do we help Africa's entrepreneurs? *The Guardian*. Retrieved January 24, 2016, <http://www.theguardian.com/global-development-professionals-network/2014/jul/04/help-african-entrepreneurs-roundtable>

Greene, F. J. & Storey, D. J. (2010). *Small business and entrepreneurship*. Financial Times Prentice Hall.

Haase, H., Lautenschläger, A., & Rena, R. (2011). The entrepreneurial mind-set of university students: a cross-cultural comparison between Namibia and Germany. *International Journal of Education Economics and Development*, 2(2), 113-129.

Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2010). *Multivariate data analysis* (Vol. 6). Upper Saddle River, NJ: Pearson Prentice Hall.

Hamdani, D. 2006. *Conceptualizing and Measuring Business Incubation*. Statistics Canada, and Innovation and Electronic Information Division Science.

Harper, Malcolm. (1991). "Enterprise Development in Poorer Nations." *Entrepreneurship Theory and Practice*, 15, 4, 7-11

Harzing, A. W. K., & Maznevski, M. Ten country collaborators. (2002). The interaction between language and culture: A test of the cultural accommodation hypothesis in seven countries. *Language and Intercultural Communication*, 2(2), 120-139.

Hatten, Timothy S., (2006) " Small Business Management: Entrepreneurship and Beyond", Houghton Mifflin Company, Third edition.

Hill, R. (1998). What sample size is "enough" in internet survey research. *Interpersonal Computing and Technology: An electronic journal for the 21st century*, 6(3-4), 1-12.

Hisrich, R. D., & Peters, M. P. (1989). *Entrepreneurship: Starting. Developing, And Managing A New Enterprise*, Homewood, IL: BPI, IrwinMcGraw-Hill.

Iakovleva, T., Kolvereid, L. & Stephan, U. 2011. 'Entrepreneurial intentions in developing and developed countries', *Education and Training*, 53(5): 353–370

Isaac, S., & Michael, W. B. (1995). *Handbook in educational research and evaluation: A collection of principles, methods, and strategies useful in the planning, design, and evaluation of studies in education and the behavioral sciences*.

Jacobsen, D. I., Sandin, G., & Hellström, C. (2002). Vad, hur och varför: om metodval i företagsekonomi och andra samhällsvetenskapliga ämnen. *Studentlitteratur*.

Kautonen, T., Tornikoski, E. T., & Kibler, E. (2011). Entrepreneurial intentions in the third age: the impact of perceived age norms. *Small business economics*, 37(2), 219-234.

Kehoe, J. (1995). *Basic item analysis for multiple-choice tests*. ERIC Clearinghouse on Assessment and Evaluation.

Kiggundu, M. N. (2002). Entrepreneurs and entrepreneurship in Africa: What is known and what needs to be done. *Journal of developmental entrepreneurship*, 7(3), 239.

Kim, M. S. Hunter, J. E. 1993. Relationships among attitudes, behavioral intentions, and behaviors: A meta-analysis of past research. *Communication Research*, vol 20. pp 331 – 364

Kolvereid, L. (1996) Prediction of employment status choice intentions. *Entrepreneurship Theory and Practice*, 21(1), 47-57

Kourilsky, M. L., & Walstad, W. B. (1998). Entrepreneurship and female youth: Knowledge, attitudes, gender differences, and educational practices. *Journal of business venturing*, 13(1), 77-88.

Krueger, N. F. 1993. The impact of prior entrepreneurial exposure on perceptions of new venture feasibility and desirability. *Entrepreneurship Theory & Practice*, Fall. pp 5 – 21

Krueger, N. F. Brazeal, D. V. 1994. Entrepreneurial potential and potential entrepreneurs. *Entrepreneurship Theory & Practice*, Spring. pp 91 – 104

Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of business venturing*, 15(5), 411-432.

Krueger, N. F. Carsrud, A. 1993. Entrepreneurial intentions: Applying the theory of planned behavior. *Entrepreneurship and Regional Development*, vol 5. pp 316-323

Krueger, N., Hansen, D.J., Michl, T. & Welsh, D.H.B. 2011. ‘Thinking “sustainably”’: the role of intentions, cognitions, and emotions in understanding new domains of entrepreneurship’, in Lumpkin, G.T. & Katz, J.A. (Eds), *Social and Sustainable Entrepreneurship, Advances in Entrepreneurship, Firm Emergence and Growth series*, Vol. 13. Emerald Group.

Lalkaka, R. (2002). Technology business incubators to help build an innovation-based economy. *Journal of Change Management*, 3(2), 167-176

Lazarowich, M., & Wojciechowski, M. J. (2002). Russian business incubator program phase one prospect development & strategic plan.

Lepoutre, J., Tilleuil, O., & Crijns, H. (2010). A new approach to testing the effects of entrepreneurship education among secondary school pupils. In *Entrepreneurship, growth and economic development*. Edward Elgar Publishing Cheltenham, UK.

Lewis, D. A. (2001). Does technology incubation work?: A critical review. USA: Economic Development Administration, US Department of Commerce

Likert, R. (1932). A technique for the measurement of attitudes. *Archives of psychology*

Liñán, F. & Chen, Y. 2009. ‘Development and cross-cultural application of a specific instrument to measure entrepreneurial intentions’, *Entrepreneurship Theory and Practice*, May: 593–617

Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: a role for education. *International entrepreneurship and management Journal*, 7(2), 195-218.

Liñán, F., Nabi, G. & Krueger, N. 2013. 'British and Spanish entrepreneurial intentions: a comparative study', *Revista de Economía Mundial*, 33: 73–103

Low, M. B., & MacMillan, I. C. (1988). Entrepreneurship: Past research and future challenges. *Journal of management*, 14(2), 139-161.

Lüthje, C., & Franke, N. (2003). The 'making' of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R&d Management*, 33(2), 135-147.

MAIYAKI, A. A., & Mokhtar, S. S. M. (2010). Determinants of customer behavioural responses: A pilot study. *International business research*, 4(1), 193.

Malebana, J. 2014. 'Entrepreneurial intentions of South African rural university students: a test of the theory of planned behaviour', *Journal of Economics and Behavioral Studies*, 6(2): 130–143

Malebana, M. J. (2014). The effect of knowledge of entrepreneurial support on entrepreneurial intention. *Mediterranean Journal of Social Sciences*, 5(20), 1020.

Malhotra, N. K. (2008). *Marketing research: An applied orientation*, 5/e. Pearson Education India.

Mhango, M. W. (2006). Assessing entrepreneurial career intentions of family and consumer sciences students in higher education: a model testing approach. ProQuest.

Mian, S. A. (1994). US university-sponsored technology incubators: an overview of management, policies and performance. *Technovation*, 14(8), 515-528

Mian, S. A. (1996). Assessing value-added contributions of university technology business incubators to tenant firms. *Research policy*, 25(3), 325-335.

Miller, P., & Bound, K. (2011). *The Startup Factories: The rise of accelerator programmes to support new technology ventures*. NESTA.

Miralles, F., Riverola, C., & Giones, F. (2012). Analysing nascent entrepreneurs' behaviour through intention-Based models. In *7th European Conference on Innovation and Entrepreneurship* (p. 482). Academic Conferences Limited

- Mueller, S. (2011). Increasing entrepreneurial intention: effective entrepreneurship course characteristics. *International Journal of Entrepreneurship and Small Business*, 13(1), 55-74.
- Mutambi, J. (2011). Stimulating industrial development in Uganda through open innovation business incubators. School of Planning and Media Design, Blekinge Institute of Technology.
- Mwatsika, C. (2015). Entrepreneurship development and entrepreneurial orientation in rural areas in Malawi. *African Journal of Business Management*, 9(9), 425-436.
- Nabi, G. & Liñán, F. 2011. 'Graduate entrepreneurship in the developing world: intentions, education and development', *Education and Training*, 53(5): 325–334
- Namatovu, R. W., Balunywa, W., Kyejjusa, S., & Dawa, S. (2010). Global entrepreneurship monitor: GEM Uganda 2010 executive report. GEM Uganda.
- Namatovu, R. W., Balunywa, W., Kyejjusa, S., & Dawa, S. (2012). Global entrepreneurship monitor: GEM Uganda 2012 executive report. *GEM Uganda*.
- Ngugi, J. K., Gakure, R. W., Waithaka, S. M., & Kiwara, A. N. (2012). Application of Shapero's model in explaining entrepreneurial intentions among university students in Kenya. *International Journal of Business and Social Research*, 2(4), 125-148.
- Nieman, G., & Nieuwenhuizen, C. (2009). Entrepreneurship: A South African Perspective. Van Schaik.
- Niittykangas, H. Laukkanen, M. 1996. Potential entrepreneurs - Can they be located? RISE '96 Conference on Innovative Strategies and Entrepreneurship. Jyväskylä, Finland. June. Conference proceedings. Pp 204 – 223
- Patel, R. and Davidson, B. 2011, "Forskningsmetodikens Grunder: att Planera, Genomföra och rapportera en Undersökning", Studentlitteratur
- Petersson, S., Mårdström, V., Fornell, A., Westergård, V., Larsson, G., & Barrehag, L. (2012). Accelerating success: a study of seed accelerators and their defining characteristics.
- Preston, C. C., & Colman, A. M. (2000). Optimal number of response categories in rating scales: reliability, validity, discriminating power, and respondent preferences. *Acta psychologica*, 104(1), 1-15.

- Pruett, M., Shinnar, R., Toney, B., Llopis, F., & Fox, J. (2009). Explaining entrepreneurial intentions of university students: a cross-cultural study. *International Journal of Entrepreneurial Behavior & Research*, 15(6), 571-594.
- Ratinho, T., Harms, R., & Groen, A. (2009). Technology business incubators as engines of growth: towards a distinction between technology incubators and non-technology incubators.
- Reiche, B. S., & Harzing, A. W. (2007). Key issues in international survey research. Retrieved November, 13, 2008.
- Reitan, B. 1996. Entrepreneurial intentions: A combined models approach. 9th Nordic Small Business Research Conference. Lillehammer, Norway. May 29 - 31
- Remeikiene, R., Startiene, G., & Dumciuviene, D. (2013). Explaining entrepreneurial intention of university students: the role of entrepreneurial education. In *Knowledge and Learning International Conference*.
- Revilla, M. A., Saris, W. E., & Krosnick, J. A. (2013). Choosing the number of categories in agree-disagree scales. *Sociological Methods & Research*, 0049124113509605.
- Reynolds, P., & Miller, B. (1992). New firm gestation: Conception, birth, and implications for research. *Journal of Business Venturing*, 7(5), 405-417.
- Reynolds, P.D.; Camp, S.M.; Bygrave, W.D.; Autio, E. and Hay, M. (2001): The Global Entrepreneurship Monitor, 2001 Executive Report, London Business School and Babson College
- Schlaegel, C. & Koenig, M. 2014. 'Determinants of entrepreneurial intent: a meta-analytic test and integration of competing models', *Entrepreneurship Theory and Practice*, March: 291–332
- Schulte, P. (2004). The entrepreneurial university: A strategy for institutional development. *Higher education in Europe*, 29(2), 187-191.
- Sesen, H. 2013. 'Personality or environment? A comprehensive study on the entrepreneurial intentions of university students', *Education and Training*, 55(7): 624–640
- Shapero, A. 1975. The displaced, uncomfortable entrepreneur. *Psychology Today*, vol 9. pp 83-88

Shapero, A., & Sokol, L. (1982). The social dimensions of entrepreneurship. *Encyclopedia of entrepreneurship*, 72-90.

Singh, J. (1995). Measurement issues in cross-national research. *Journal of international business studies*, 597-619.

Sjöstrand, J., & Shadloo, Maral (2013). Entrepreneurial intentions: A comparative study of Swedish and Namibian Business students

Stagars, M. (2015). Incubators and Accelerators. In *University Startups and Spin-Offs* (pp. 131-136). Apress.

Stewart, W. H., Watson, W. E., Carland, J. C., & Carland, J. W. (1999). A proclivity for entrepreneurship: A comparison of entrepreneurs, small business owners, and corporate managers. *Journal of Business venturing*, 14(2), 189-214.

Summers, D. F. (2013). *Forming Entrepreneurial Intentions: An Empirical Investigation of Personal and Situational Factors*. Routledge.

Söderlund, M. (2005). *Mätningar och mått: i marknadsundersökarens värld*. Liber ekonomi.

Tabachnick, B. G., Fidell, L. S., & Osterlind, S. J. (2001). *Using multivariate statistics*.

Thisted, R. A. (2011). *The cross-sectional study: Investigating prevalence and Association*.

Trochim, W. M., & Donnelly, J. P. (2008). *Qualitative and unobtrusive measures. The research methods knowledge base*. 3rd ed. Mason, OH: Atomic Dog, 144-145.

Turker, D., & Selcuk, S. S. (2009). Which factors affect entrepreneurial intention of university students? *Journal of European Industrial Training*, 33(2): 142-159.

Treece, E. W., & Treece Jr, J. W. (1977). Elements of research in nursing. *Nursing* 2015, 7(6), 12-13.

Wennekers, S., & Thurik, R. (1999). Linking entrepreneurship and economic growth. *Small business economics*, 13(1), 27-56.

Wennekers, S., Van Stel, A., Carree, M., & Thurik, R. (2010). *The Relationship between Entrepreneurship and Economic Development: is it U-shaped?*. Now Publishers Inc.

Xavier, S. R., Kelley, D., Kew, J., Herrington, M., & Vorderwulbecke, A. (2012). Global Entrepreneurship Monitor 2012 Global Report (GEM). Babson College, Universidad del Desarrollo, Universiti Tun Abdul razak, London Business School.

7.2 Electronic sources

"Entrepreneurship Education and Training : Insights from Ghana, Kenya, and Mozambique" World Bank <http://elibrary.worldbank.org/doi/book/10.1596/978-1-4648-0278-2>

GEM Global Entrepreneurship Monitor. (n.d.). Retrieved January 28, 2016, from <http://www.gemconsortium.org/>

Global Business Labs | Accelerating Entrepreneurship. (n.d.). Retrieved February 14, 2016, from <http://globalbusinesslabs.com/>

What is entrepreneurship? definition and meaning. (n.d.). Retrieved February 02, 2016, from <http://www.businessdictionary.com/definition/entrepreneurship.html#ixzz3xgk6J2Tm>

World Bank, "Entrepreneurship Education and Training : Insights from Ghana, Kenya, and Mozambique" World Bank <http://elibrary.worldbank.org/doi/book/10.1596/978-1-4648-0278-2>

8. Appendix

8.1 Appendix 1 – Survey used in Pilot study

Survey on Entrepreneurship

Hi,

Thank you for helping us with our survey. We are final-year Business students at the Stockholm School of Economics, in Sweden. This survey is our main data collection for our Master thesis about entrepreneurship in Uganda.

In this survey, many questions are asked about various aspects of entrepreneurship and the data collected will be analyzed to gain a better understanding of entrepreneurship.

All respondents will remain anonymous. Please provide your **personal opinion** when answering all the questions in survey. It is important that you answer honestly and accurately. Please make sure that you **read the questions carefully** and answer **all the questions** in the survey.

The faculty at Makerere University has accepted the distribution of this survey.

Once again, thank you for helping us out!

Best Regards,

Marcus Karlsson & Carl Ljunggren

Please rate how strongly you agree or disagree with each of these following statements. Please answer all questions and mark one alternative per statement only.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q1. I am likely to start a new business, including any type of self-employment, within the next <u>three</u> years							
Q2. I am likely to start a new business, including any type of self-employment, sometime in the future							
Q3. Where you live, do you think there will be good opportunities for starting a business in the next three years							

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q4. If I were to start my own firm, I would be constantly afraid to loose my money							
Q5. I think it would be hard to start a firm							
Q6. I would probably be overworked if I were to start a firm							
Q7. I am unsure of success if I were to start a firm							

Q8. I do not think I have the skill and knowledge required to start a firm							
---	--	--	--	--	--	--	--

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q9. I know what is required to start a firm							
Q10. I feel sure enough of myself to start a firm							
Q11. It looks very hard to me to start a firm							
Q12. I would love to start a firm							
Q13. I would be very enthusiastic starting a firm							

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q14. I would rather make my own mistakes than take orders from others							
Q15. I like to get an idea of what a job is all about before I begin							
Q16. I would rather not have too much responsibility							
Q17. I enjoy making my own decisions							
Q18. When I see an opportunity, I prefer to do something about it rather than							

sit by and let it continue							
-------------------------------	--	--	--	--	--	--	--

Please also answer the following questions by ticking one box only.

Q19. Would you start a firm because you do not have better choice for work or to take advantage of a business opportunity?

- ☐ I do not have a better choice for work
- ☐ I want to take advantage of a business opportunity
- ☐ Other reason
- ☐ I would not like to start a firm

Q20. How many people (other than the owners) would you expect to employ within the next five years?

- ☐ 0 employees
- ☐ 1-5 employees
- ☐ 6-19 employees
- ☐ 20+ employees
- ☐ I would not like to start a firm

Q21. Would you consider to create a product or service that is new and unfamiliar to your customers?

- ☐ Yes
- ☐ No
- ☐ I would not like to start a firm

Q22. If you were to start a business, would you intend to register it with the formal company registration institution (Uganda Registration Services Bureau)?

- ☐ Yes
- ☐ No

Please rate how strongly you agree or disagree with each of these following statements. Please answer all questions and mark one alternative per statement only.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
--	----------------------	----------	----------------------	-------------------------------------	-------------------	-------	-------------------

Q23. If the process of starting a business was easier, my intention to start a firm would increase							
Q24. If I had access to financial resources (grants/equity/debt), my intention to start a firm would increase							
Q25. If I had access to free business services (e.g. accounting / software programs), my intention to start a firm would increase							
Q26. If I had access to relevant networks and mentors, my intention to start a firm would increase							
Q27. If I had access to business training (e.g. a sales course), my intention to start a firm would increase							
Q28. If I had access to business counselling, my intention to start a firm would increase							
Q29. If I had access to free office facilities, my intention to start a firm would increase							

Please also answer the following questions by ticking one box only.

Q30. Are you aware of any business incubator / accelerator in your surrounding?

- ☐ Yes
☐ No

Q31. Do you know the name of any business incubator / accelerator in your surrounding?

- ☐ Yes

If yes, which one/ones? _____

☐ No

Q32. Do you know what a business incubator / accelerator do?

☐ Yes

☐ No

Q33. Have you ever been in contact with a business incubator / accelerator?

☐ Yes

☐ No

Q34. Have you ever worked in / started a firm in a business incubator / accelerator?

☐ Yes

☐ No

Q35. Have your parents or anyone you know ever started a firm?

☐ Yes

☐ No

Q36. Have you ever started your own firm?

☐ Yes.

If yes, how many employees did/do you have: _____

☐ No

Q37. Have you ever worked for a newly started firm?

☐ Yes

☐ No

Q38. What is your academic course/degree?

Answer: _____

Q39. How many years/months of university studies do you have left?

Answer: _____

Q40. What is your gender?

☐ Female

☐ Male

Q41. What is your age (e.g. 21 years old)?

Answer: _____

Q42. Do you have any other comments on the survey? (voluntarily)

Comments:

Many thanks for taking this survey. Your help is much appreciated. We wish you all the best!

8.2 Appendix 2 – Survey used in Main study

Survey

Hi,

Thank you for helping us with our survey. We are final-year Business students at the Stockholm School of Economics, in Sweden. This survey is our main data collection for our Master thesis about entrepreneurship in Uganda.

In this survey, many questions are asked about various aspects of entrepreneurship and the data collected will be analyzed to gain a better understanding of entrepreneurship.

All respondents will remain anonymous. Please provide your **personal opinion** when answering all the questions in survey. It is important that you answer honestly and accurately. Please make sure that you **read the questions carefully** and answer **all the questions** in the survey.

The distribution of this survey has been accepted by the College of Business at Makerere University.

Once again, thank you for helping us out!

Best Regards,

Marcus Karlsson & Carl Ljunggren

Please rate how strongly you agree or disagree with each of these following statements. Please answer all questions and mark one alternative per statement only.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q1. I am likely to start a new business, including any type of self-employment, within the next <u>three</u> years							
Q2. I am likely to start a new business, including any type of self-employment, sometime in the future							
Q3. Where you live, do you think there will be good opportunities for starting a business in the next three years							

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q4. If I were to start my own business, I would be afraid to loose my money							
Q5. I think it would be difficult to start a business							
Q6. I would probably be overworked if I were to start a business							
Q7. I am unsure of success if I were to start a business							

Q8. I do not think I have the skill and knowledge required to start a business							
---	--	--	--	--	--	--	--

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q9. I know what is required to start a business							
Q10. I feel sure enough of myself to start a business							
Q11. It looks very hard to me to start a business							
Q12. I would love to start a business							
Q13. I would be very excited to start a business							

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q14. I would rather make my own mistakes than take orders from others							
Q15. I like to get an idea of what a job is about before I begin							
Q16. I would rather not have too much responsibility							
Q17. I enjoy making my own decisions							
Q18. When I see an opportunity, I prefer to do something about it rather than wait and let it							

continue							
----------	--	--	--	--	--	--	--

Please also answer the following questions by ticking one box only.

Q19. Would you start a business because you do not have better choice for work or to take advantage of a business opportunity?

- ☐ I would not like to start a business
- ☐ Because I do not have a better choice for work
- ☐ Because I want to take advantage of a business opportunity
- ☐ Other reason

Q20. How many people (other than the owners) would you expect to employ within the next five years?

- ☐ I would not like to start a business
- ☐ 0 employees
- ☐ 1-5 employees
- ☐ 6-19 employees
- ☐ 20+ employees

Q21. Would you consider to create a product or service that is new and unfamiliar to your customers?

- ☐ Yes
- ☐ No
- ☐ I would not like to start a business

Q22. If you were to start a business, would you intend to register it with the formal company registration institution (Uganda Registration Services Bureau)?

- ☐ Yes
- ☐ No

Please rate how strongly you agree or disagree with each of these following statements. Please answer all questions and mark one alternative per statement only.

	Strongly Disagree	Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Agree	Strongly Agree
Q23. If the process of starting a business was easier, my							

intention to start a business would increase							
Q24. If I had access to financial resources (grants/equity/debt), my intention to start a business would increase							
Q25. If I had access to free business services (e.g. accounting / software programs), my intention to start a business would increase							
Q26. If I had access to relevant networks and mentors, my intention to start a business would increase							
Q27. If I had access to business training (e.g. a sales course), my intention to start a business would increase							
Q28. If I had access to business counseling, my intention to start a business would increase							
Q29. If I had access to free office facilities, my intention to start a business would increase							

Please also answer the following questions by ticking one box only.

Q30. Are you aware of any business incubator / lab / accelerator in your surrounding?

☐ Yes

☐ No

Q31. Do you know the name of any business incubator / lab / accelerator in your surrounding?

- ☐ Yes
- ☐ No

If yes, which one/ones? _____

Q32. Do you know what a business incubator / lab / accelerator does?

- ☐ Yes
- ☐ No

Q33. Have you ever been in contact with a business incubator / lab / accelerator?

- ☐ Yes
- ☐ No

Q34. Have you ever worked in / started a business in a business incubator / lab / accelerator?

- ☐ Yes
- ☐ No

Q35. Have your parents or anyone you know ever started a business?

- ☐ Yes
- ☐ No

Q36. Have you ever started your own business?

- ☐ Yes
- ☐ No

If yes, how many employees did/do you have: _____

Q37. Have you ever worked for a newly started business?

- ☐ Yes
- ☐ No

Q38. What is your degree / education?

- ☐ Business administration
- ☐ Social sciences
- ☐ Natural sciences
- ☐ Computer sciences
- ☐ Engineering
- ☐ Other: _____

Q39. How many years of university studies do you have left?

- ☐ Less than 0,5 year
- ☐ 0,5 - 1 year
- ☐ 1 - 2 years

☐ More than 2 years

Q40. What is your gender?

☐ Female

☐ Male

Q41. What is your age (e.g. 21 years old)?

Answer: _____

Many thanks for taking this survey. Your help is much appreciated. We wish you all the best!