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The influence of national culture on entrepreneurial processes in Malaysia

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Master thesis

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List of abbreviations

ANOVA	Analysis of variance
EPICC	Entrepreneurial Processes in a Cultural Context
GLOBE	Global Leadership and Organizational Behavior Effectiveness
IBM	International Business Machines
IDV	Individualism
KMO	Kaiser-Meyer-Olkin
LTO	Long-term orientation
MAS	Masculinity
PDI	Power Distance Index
UAI	Uncertainty avoidance index

Foreword

This master thesis is the final part of the Master Business Administration at the University of Twente. Within this MBA, the specialization International Management is followed. A broad range of topics were discussed during the courses but the topic cultural differences intrigued me the most. During my traineeship in Australia, for my previous study, I met many people from different cultures. Since then, I developed a passion for exploring new cultures. I am interested to find out why people act and think so differently based on their culture where they grew up. The Entrepreneurial Processes in a Cultural Context (EPICC) project offered me a chance to get more in-depth knowledge about this topic and that is one of the reasons why I decided to cooperate with this project. Another reason is the entrepreneurial aspect which is very important in this project. I am not an entrepreneur myself, but I always admire people who can see an opportunity in something small and make it something successfully. It is even more interesting to combine both fields and find out if there are differences between entrepreneurs in their approach based on their cultural background. With the EPICC project it is possible to combine both fields.

The EPICC project consists of a variety of students who collected data in different countries to get more information about the cultural backgrounds of entrepreneurs. I decided to conduct my field research in Malaysia. Many people asked me, why Malaysia? Well, so far I have only visited typical Western countries in my life. I thought because this project is about discovering different cultures, it is also a personal challenge to visit a country where I was not familiar with. So one of my requirements was visiting an Asian country and Malaysia was one of the first countries which came to mind. I knew it consists of several ethnic groups, which makes the culture even more interesting. So besides I expect that visiting this country will be a personal challenge, I also expect that Malaysia will be of added value for the EPICC project.

Before I will provide more information about this project, I would like to thank a few people which were of great help during this project. First of all my supervisors Mr. Stienstra and Mr. Harms, to give me the opportunity to be part of the EPICC project and the feedback I received during this project. Furthermore, I would like to thank Mrs. Abdul from University Putra Malaysia, for her help during my stay in Kuala Lumpur. I would also like to thank the Malaysian student entrepreneurs which I interviewed while I was visiting Malaysia. Every single one of them was really helpful and open to share a part of their culture with me. It was an interesting and inspiring experience.

Nicole van der Linde,

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Management summary

The purpose of this research project is to find out to what extent national culture has any influence on the type of entrepreneurial processes used by an entrepreneur in the development of a new venture. The causation and effectuation type of entrepreneurial processes of Sarasvathy (2001) are the leading processes for this project. Characteristics of causation are among others making goals in advance, conducting market research and trying to predict the future. On the other hand, characteristics of effectuation are among others trying to exploit contingencies and minimizing predictability. But when does an entrepreneur makes use of an effectuation or causation type of process? Does the use of a specific process maybe depend on the cultural background of the entrepreneur? Several entrepreneurial process models were identified by Moroz & Hindle (2011) but none of them take the influence of national culture into account. In addition, also Sarasvathy did not research if the cultural background of an entrepreneur has any influence on the type of process the entrepreneur would use. Therefore is tried to make a link between the two concepts by looking at several cultural dimensions related to characteristics of causation and effectuation. In total, 22 Malaysian and 22 Dutch student entrepreneurs conducted a think aloud case and a survey. The results were analyzed to find out if the national culture of Malaysia has any influence on the use of causation or effectuation type of processes by entrepreneurs.

Malaysia is a country with a high power distance and therefore in general, Malaysian people accept a hierarchical order and rely on laws and control which could be gained by making predefined goals. Consequently, it could be expected that people in Malaysia make more use of predefined goals than Dutch student entrepreneurs because the Netherlands scores low on power distance. Making use of clear goals suggests the use of a causational type of process. In addition, Malaysia is a country with a low uncertainty avoidance which indicates people are open for the unknown future. They do not need predictability. In comparison with the Netherlands, which have a higher uncertainty avoidance and people need predictability. When people do not need to predict the future it is expected they are willing to exploit contingencies that can arise unexpectedly which can be linked to the use of effectuation type of processes. Furthermore, Malaysia is a collectivistic country which means the people are cooperative and think in terms of ‘we’. In comparison with the Netherlands, which is an individualistic country and people think in terms of ‘I’. Malaysian entrepreneurs will try to find partners to exploit new ideas. Therefore it is expected that Malaysian entrepreneurs would make more use of alliances than Dutch entrepreneurs. Using alliances suggests a causation type of process.

Furthermore, because Malaysia consists of different ethnic groups it is expected that being part of one of the ethnic groups could also be of influence on the type of entrepreneurial process that is used. In addition, research provides evidence that people often turn to their religion when they have to make difficult decisions. For Malaysia, the Muslim and Buddhist religion are taken into account, because these are the largest religions in the country. It can be presumed that the Islamic population in Malaysia encourages a hierarchical strategy where decision making is centralized. When individuals accept hierarchy and rely on having laws and rules, it could be expected that individuals in these cultures make more use of predefined goals than Buddhists. Buddhist entrepreneurs make decisions based on meditation sessions and recommendations of other people. Making predefined goals suggests a causation type of process. Furthermore, it is expected that Buddhists strive for cooperation and teamwork and have no problems with adapting suggestions from partners and will make more use of alliances than Muslims. Muslims see joint decision making as an indication of weakness. The use of alliances suggests an effectuation type of process.

Based on the results it could be concluded that causation but also effectuation type of processes are used by the entrepreneurs. The results do not confirm that one type of process is leading. The results do also not confirm the expected different use of processes by Muslims and Buddhists. As a consequence, based on the findings it could be concluded that national culture has influence because there are differences between Malaysian and Dutch entrepreneurs regarding the use of entrepreneurial processes, however it cannot be concluded that national culture influence the type of entrepreneurial process that is used, because both causation and effectuation processes are used. Hence, national culture does not influence as in the way that was expected. It is even the question if Malaysia has one national culture because of the presence of many different ethnic groups? It is possible that Malaysian entrepreneurs use both type of processes because they receive so many influences from the different religions in daily life. Furthermore, it is also possible that the results could not confirm that national culture has any influence on the type of process used because causation and effectuation are two multidimensional constructs. In addition, the think aloud method and survey do not have a strong correlation with each other. As a result, the validity of the survey and think aloud method is low which means it is possible both methods do not measure what they intend to measure which could result in answers where both type of entrepreneurial processes are used.

1. Introduction

The introduction starts with a general background of this research project. Because this project is conducted in Malaysia also an explanation is given about the cultural history of this country which has a large influence on the entrepreneurial activities in Malaysia nowadays. Afterwards the research question, purpose and relevance of this study are explained.

1.1 General background

The level of interest in entrepreneurship is increasing. Not only the number of people engaging in entrepreneurial activities is increasing, also the interest in this field among business school students is growing (Shane, 2003). Universities around the world provide courses about how to start and finance your own business and furthermore business plan competitions are hold to win money to start up a new company. Besides the attention from the global universities, different organizations have started special programs to encourage entrepreneurship. A good example is the organization of the Global Entrepreneurship Week. This organization inspires people around the world through activities on local, national and global level to help people to explore their own potential as innovators and self-starters (GEW, 2012). The organization started only a few years ago with the idea to start a global movement to inspire people around the world to embrace entrepreneurship. Nowadays already 104 countries are participating.

Before looking at the concept of entrepreneurship nowadays, let's go back to 1934. Josef Schumpeter developed an approach to the study of long-run economic and social change, while focusing on the crucial role of innovation. In 1934 the revised version of 'The theory of economic development' was published. Nowadays in the entrepreneurship literature, still many authors refer to the work of Schumpeter (Fagerberg, 2009). Schumpeter considers entrepreneurship as the process by which the economy goes forward. Entrepreneurship can be seen as something that disrupts the market equilibrium and innovation can be seen as the essence (Schumpeter, 1934). "The carrying out of new combinations we call 'enterprise'; the individuals whose function is to carry them out we call 'entrepreneurs'" (Schumpeter, 1934, p.74). Since 1934 a lot of attention is given to the concept of entrepreneurship. Although comparing the field of entrepreneurship with other fields like for example marketing, finance and organizational behavior, the field of entrepreneurship is still poorly explained by academics (Shane, 2003). The knowledge about entrepreneurship that is available is mostly fragmented. This is especially the case if the concept of entrepreneurship is taken a step further and the entrepreneurial processes are analyzed. Looking at this concept, 32 entrepreneurial process models were identified by Moroz & Hindle (2011). One example is the entrepreneurial process model developed by Shane (2003); this model explains the different stages from the

identification of opportunities till the creation of strategies to exploit the opportunities (Moroz & Hindle, 2011). Another example is the entrepreneurial process model developed by Sarasvathy (2001) which is called the concept of 'effectuation'. The concept of effectuation is related to the question what an entrepreneur should do in uncertain situations. There are different approaches to deal with these situations. An entrepreneur can use a planning approach to predict and prepare the organization for challenges that can occur in the future. Furthermore, a learning approach can be used, with this approach the entrepreneur is able to quickly respond to emerging opportunities (Wiltbank, Dew, Read & Sarasvathy, 2006). The learning approach, where the focus is on minimizing predictability, can be linked to the concept of effectuation of Sarasvathy (Wiltbank et al., 2006). On the other hand, the planning approach can be linked to the concept of causation. Sarasvathy does not argue that one process is better or more efficient than the other, but causation and effectuation are different type of processes which can be used in different situations. But when does an entrepreneur makes use of an effectuation or causation type of process? Could the use of a specific process depend on the cultural background of the entrepreneur?

Already in 1904 Weber argued that cultural factors have influence on differences in entrepreneurial activity. In the following years, also different other studies found relationships between the culture of a country and entrepreneurial activities (Hayton et al., 2002; Davidsson & Wiklund, 1997; Thomas & Mueller, 2000). But do cultural factors also have any influence on entrepreneurial processes in specific? There is a lack of information available about the influence of culture on the specific concept of entrepreneurial processes. In addition, some of the entrepreneurial process models analyzed by Moroz & Hindle (2011) consisted of cultural elements but none of them specifically looked at the influence of culture on entrepreneurial processes. Looking at the concept of causation and effectuation, Sarasvathy (2001) made a difference between both processes but did not researched if the culture of an entrepreneur has any influence on the type of process they use.

Shortly summarized it can be said there is information available about the influence of culture on entrepreneurship but information is missing about the influence of culture on entrepreneurial processes in specific. This lack of information indicates there is a gap in the literature between the two concepts.

1.2 Malaysia

The research project was conducted in Malaysia. This country consists of two separated parts; Peninsular Malaysia and East Malaysia. For this research project only Peninsular Malaysia is taken into account. Furthermore, Malaysia consists of different ethnic group with the Muslims as the majority group and the Chinese and Hindus as

minority groups. Perhaps the presence of these ethnic groups can be an important cultural factor that influences the type of entrepreneurial process used. Besides the presence of the different ethnic groups the culture of Malaysia is also influenced by the British which still have influence on the current entrepreneurial activities in the country.

Before the British arrived in 1824, the Malays were economic independent and involved in national and international trade (Drabble, 2000). Because of the arrival of the British a lot of things changed, Malaysia was for example divided based on their ethnic background and social and economic status. The British treated the Chinese differently. They saw the Chinese as a more sophisticated society and they were settled in the urban areas where business activities took place. As a result the Malays and Indians did not receive business experience and knowledge like the Chinese did. The influence of the British was seen as one of the reasons that Malays and Indians were discouraged from involving in entrepreneurial actions (Hamidon, 2009; Peletz, 1998). After the independence of Malaysia in 1957 the situation changed, however there were still differences between the ethnic groups. In 1954, from the 73.673 business were only 10% owned by Malays, 17% by the Indians and the Chinese owned 73%. This slightly changed in the upcoming years, but the Chinese still own most of the businesses (Hamidon, 2009; Goh, 1962).

In 1975 the Malaysian government started trying to reduce the imbalances between the ethnic groups and to further stimulate a culture of entrepreneurship, the Ministry of Entrepreneur and Cooperative Development was established in 1995. They set targets to stimulate entrepreneurship and they specifically tried to focus more on students, youth, graduates and women (Hamidon, 2009). To increase the amount of entrepreneurs, specific programs were set up to give students an early experience with the entrepreneurial sector. Also specific business opportunity programs were set up where entrepreneurs for example could join a joint venture program to create more opportunities for their business. Research showed that students who follow entrepreneurial programs are more likely to become an entrepreneur in future than students who did not follow such programs (Yu & Chang, 2004; Ibrahim & Soufani, 2002). In addition, fostering entrepreneurship through specific policies can create a climate for innovation and entrepreneurship (George & Prahbu, 2000). This indicates that setting up specific programs by the Malaysian government, could indeed have a positive influence on entrepreneurship. Furthermore, the Ninth Malaysian Plan (2008) showed that after calculations in 2007, 67,533 new entrepreneurs set up a new venture through various programs.

To indicate the ease of doing business in Malaysian when starting your own business, data from the World Bank (2011) is used. The World Bank measure how easy or difficult it is for a local entrepreneur to start a business in their country. When measuring the ease of starting a business all the procedures (as well as time and costs) that are required for an entrepreneur to start up a business are taken into account (World Bank, 2012). Malaysia is ranked at place 18 out of 183 in 2012. In 2011 Malaysia was ranked 23th. In comparison with the Netherlands, which was ranked at place 31 in 2012. In addition, Malaysia is the top country at the ease of getting credit. The ranking of the World Bank indicates that taken all the procedures into account, as a local entrepreneur it is easier to start a business in Malaysia than in the Netherlands.

1.3 Purpose of the project

The purpose of this research project is to provide more in-depth information about the influence of culture on entrepreneurial processes to be able to remove the gap in the literature. During this project the entrepreneurial process of causation and effectuation are leading. Because literature stated that there is a link between culture and entrepreneurship in general it is expected there must also be a correlation between culture and the specific entrepreneurial processes, although research have not confirmed this correlation yet. To be able to provide more information about these concepts, data is gathered and analyzed and hopefully it is a first step to provide more information about the correlation between national culture and the use of causation or effectuation processes. Based on the present gap in the literature the following research question is formulated:

"To what extent does national culture influence the way in which entrepreneurs use a causal or effectual type of process in the development of a new venture?"

The main concepts are entrepreneurship and culture. Both concepts are covered in subquestions which are explained in the theoretical framework.

Subquestion 1:
What do we understand with the concept of entrepreneurship and more specifically the entrepreneurial processes?

Subquestion 2:
What do we understand with the concept of culture and which cultural levels, values and dimensions can be clarified?

1.4 Relevance of the project

The level of interest in entrepreneurship is increasing but the field of entrepreneurship is still poorly explained by academics in comparison with other fields of interest. This research project takes the concept of entrepreneurship even a step further because the main purpose is trying to remove the gap in the literature regarding the influence of culture on entrepreneurial processes. This project is therefore scientific relevant because it could provide more in-depth knowledge about these concepts to the literature and hopefully it is a first step to remove the gap in the literature. Furthermore, future research could use this project for further elaborations on this topic.

Outcomes of this study could also be used for practical reasons. When the outcomes of the different EPICC studies are combined and analyzed, conclusions could be made about the cultural influence on entrepreneurial processes based on the research conducted in the different countries. This information could be used in entrepreneurial start-up programs. Worldwide programs are developed to help entrepreneurs set up a business by for example helping individuals to make a business plan. However, if results show that culture could influence entrepreneurial processes, perhaps different programs need to be developed for different countries. If for example a culture is focused on using causational type of processes, then programs could be adjusted to a specific country. Furthermore, providing more information about this concept could also be of practical relevance because it could be seen as a potential to make individuals even better entrepreneurs, because of the development and practical application of good theory (Bygrave, 2006).

1.5 Outline

First of all, in chapter two a theoretical framework is given. In this framework the most important concepts are defined and an answer is given on the two subquestions. The main concepts are entrepreneurship and culture. Entrepreneurship is used as the main concept but consists of the following subcategories: entrepreneurial opportunities, entrepreneurial processes, planning and learning and causation and effectuation. The second concept is culture. This concept is used to cover several subcategories as: national culture, cultural values, and cultural dimensions. Furthermore, the influence of culture on entrepreneurship in general is explained. Chapter two ends with a short theoretical conclusion which leads to the hypotheses of this project.

Each hypothesis is theoretical explained in chapter three. A link is made between different cultural dimensions and causational and effectual elements. The first three hypotheses are focused on the differences between Malaysian and Dutch student entrepreneurs. The last two hypotheses are focused on the differences between Muslim and Buddhist student entrepreneurs in Malaysia.

The fourth chapter consists of the methodology section. This chapter provides firstly information about the sample of the project. Furthermore, the think aloud protocol is explained and the additional questionnaire that is used. This chapter also provides information which statistical tests are conducted. In addition, an explanation is given about a multiple regression analysis, the exploratory factor analysis and a correlation matrix to test the correlation between the survey and think aloud method.

In the fifth chapter the results of the different tests are described. The results are used to come to a conclusion in the sixth chapter. In this chapter the results of the hypotheses and additional tests are further elaborated and afterwards an answer is given on the research question.

The seventh and last chapter consists of a discussion section where some important issues are discussed and where limitations of the study are explained. Furthermore, recommendations for future research are provided in this chapter.

2. Theoretical Framework

The theoretical framework consists generally of two main concepts which are entrepreneurship and culture. Both concepts are extensively explained in this chapter, where chapter 2.1 provides an answer on the first subquestion and chapter 2.2 on the second subquestion and finally a link is made between the two concepts.

2.1 Entrepreneurship

Entrepreneurship can be described as a self-directed activity which will not spontaneously occur from the changes in the technological and industrial area, but entrepreneurship needs individuals who can identify and strive after opportunities (Shane, 2003). Entrepreneurship can also be explained as "the process by which individuals, either on their own or inside organizations, pursue opportunities without regard to the resources they currently control" (Stevenson & Jarillo, 1990, p.23). In addition, "the term entrepreneurship implies a configuration of psychological traits, attributes and values of an individual motivated to initiate a business venture" (Thomas & Mueller, 2000, p.291). Entrepreneurship is occasionally defined by explaining who the entrepreneur is and what this person does but these definitions are not complete (Shane & Venkataraman, 2000). It is not only about the presence of the individual but also about the presence of opportunities. Defining an entrepreneur as a person who establishes a new organization does not include the quality of opportunities that people identify. Therefore the field of entrepreneurship can also be defined as "the scholarly examination of how, by whom, and with what effects, opportunities to create future goods and services are discovered, evaluated, and exploited" (Shane & Venkataraman, 2000, p.218).

Furthermore, entrepreneurship consists of individuals who can identify opportunities (Shane, 2003; Stevenson & Jarillo, 1990), these individuals can be called entrepreneurs. An entrepreneur can be explained as someone who is able to think creative and demonstrates initiative, can organize social and economic mechanisms to turn resources and situations to practical account and can also deal with taking risks and failure (Hisrich, 1990). When explaining the concept of entrepreneurship similarities can be found between the definitions of Shane (2003), Stevenson & Jarillo (1990) and Shane & Venkataraman (2000). All of them make a link between entrepreneurship and identifying and striving after opportunities. Therefore this concept is further elaborated.

2.1.1 Discovering and creating entrepreneurial opportunities

An opportunity can be seen as "perceived means of generating economic value that previously has not been exploited and is not currently being exploited by others" (Baron, 2006, p.107). In addition, an entrepreneurial opportunity can be a situation where someone can create a new means-end framework where resources can be

combined wherefrom the entrepreneur believed it will provide profit (Shane, 2003). Being able to recognize opportunities depends on different factors, namely search, alertness and prior knowledge (Baron, 2006). But are the opportunities created by the actions of the entrepreneur or are they just waited to be discovered? A difference is made between the discovery and creation theory which explains how entrepreneurial opportunities can be formed (Alvarez & Barney, 2007). An entrepreneur can discover and exploit opportunities when they exist as objective phenomena. It is important that an entrepreneur acts quickly before another entrepreneur will discover and exploit the opportunity. If an entrepreneur is late in discovering an opportunity then most of the time this entrepreneur will experience not the same success as the entrepreneur who discovered and exploited the opportunity earlier (Alvarez & Barney, 2007). A second possibility is that opportunities are created instead of discovered. Entrepreneurs who discover opportunities are people who observe how consumers and markets respond to their actions, however entrepreneurs who are creating opportunities engage in an iterative process of learning and that could lead to the creation of an opportunity (Alvarez & Barney, 2007).

A difference is made between discovering and exploiting opportunities. However, besides the differences in the type of opportunities there are also differences in the entrepreneurial way of thinking. For example, some entrepreneurs rely on making plans in advance and some do not want to use predefined plans and strategies. These different ways of thinking are further elaborated.

2.1.2 The planning and learning school

It is possible to identify two different schools of thought (Brinckmann, Grichnik & Kapsa, 2010). The first one is the school of planning. Planning can be seen as encouraging the development of firms because it is possible to use resources more effectively. Besides that, with planning decisions can be made more quickly and flexible actuation is supported (Delmar & Shane, 2003). Furthermore, with the planning approach the entrepreneur relies on prediction (Wiltbank et al., 2006). To be able to deal with challenges in the future, business planning can be used to predict and prepare the organization for such challenges. Some scholars argue that especially in dynamic and unstable external environments, benefits of planning will increase because for example with the help of planning uncertainty can be reduced (Brinckmann et al., 2010). The opposite school focuses on learning. Followers of the learning school argue that in uncertain and unpredictable environments a quick respond is needed to capture emerging opportunities. Effective strategies do not need to be planned in advance; they can be emergent patterns that do not need to follow a predefined plan (Mintzberg, 1994). Some arguments against using a planning approach, are that planning can lead to rigidity, slowing down the organization and it will limit the strategic flexibility (Vesper, 1993). Furthermore, planning can also be seen

as a restriction on resources. When an organization uses the planning approach, time from the management is needed but this time can also be used for other activities that create value (Carter, Gartner & Reynolds, 1996).

Business planning can increase the performance of new and established firms; however this performance is influenced by different factors as uncertainty and limited prior information (Brinckmann et al., 2010). Findings suggests that greater returns could be expected for the established small firms instead of the new firms because the established firms already have information from previous experience available which can support planning (Brinckmann et al., 2010). For a new firm it is more difficult to make a business planning because information and procedures that will help to make an effective planning is missing. Furthermore, when starting a new firm, important strategic decisions need to be made which consists of a high degree of uncertainty (Brinckmann et al., 2010). The combination of this high degree of uncertainty and the missing information for new firms can explain why a positive effect of planning on the performance of the new firm is reduced (Forbes, 2007).

Besides the difference between planning for new and established firms also different cultural settings could be taken into account. Cultures with a high uncertainty avoidance will have lesser benefits of business planning in comparison with cultures with a low uncertainty avoidance (Brinckmann et al., 2010). A reason for this could be that entrepreneurs in countries with a high uncertainty avoidance stick to their predetermined plans. The result of this is that it can limit entrepreneurs in their flexibility and openness to changes that need to be made in their plans, which as a result limits the performance (Brinckmann et al., 2010). In addition, countries with a low uncertainty avoidance may see unpredicted events as an opportunity, but countries where the uncertainty avoidance is high these unforeseen events can be seen as a threat to the performance (Brinckmann et al., 2010). Based on the findings an approach is recommended where the planning and learning approach are combined. If an entrepreneur use the planning approach it is also important to be flexible and be willing to learn and adapt to make a business plan more successful (Brinckmann et al., 2010).

The planning and learning school are two different ways of thinking in the field of entrepreneurship. When going a step further, the different ways of thinking can also be linked to entrepreneurial processes. One entrepreneurial process model in the literature explains the concept of effectuation, which can be linked to the learning approach of Brinckmann et al. (2010). However, before looking at how different ways of thinking can be linked to the use of different processes, the concept of entrepreneurial processes is further explained. It is important to first receive more in-depth knowledge about the different entrepreneurial process models in the literature.

2.1.3 Entrepreneurial processes

Entrepreneurial processes are “all the functions, activities and actions associated with the perceiving of opportunities and the creation of organizations to pursue them” (Bygrave & Hofer, 1991, p.14). Nowadays several researchers have developed different entrepreneurial process models. Moroz & Hindle (2011) investigated 32 entrepreneurial models from different researchers. They tested the models based on several characteristics: distinctness of the models, which indicated if the model applies to entrepreneurship instead of management in general. The generality, to check if the model is capable of getting the label ‘entrepreneurship’. Furthermore, the accuracy of the model which tested if there is an evidential basis for the process claim and the simplicity which tested if the model was not too complex as a guide for practitioners and researchers (Moroz & Hindle, 2011). Only four of the 32 entrepreneurial models were selected based on the criteria. These four are the entrepreneurial models of Gartner (1985), Bruyat & Julien (2000), Sarasvathy (2001) and Shane (2003).

Gartner tried to provide a framework with his model upon which the variance associated with the new venture creation process can be compared to focus on the differences between entrepreneurs and the organizations they create (Moroz & Hindle, 2011). Bruyat & Julien do not limit entrepreneurship to the emergence of a new firm. The model of Bruyat & Julien (2000) also consists of elements of Gartner’s model, but the main difference is the dialogic between an event and the entrepreneur. The focus of entrepreneurial research should be the creative organizing individual and the innovative organizations that emerge from the process is a second important focus of entrepreneurial research (Moroz & Hindle, 2011). Looking at the entrepreneurial process model of Sarasvathy (2001), she developed a concept called ‘effectuation’, to differentiate between types of entrepreneurs and non-entrepreneurs. Sarasvathy differentiates between ‘effectual logic’ and ‘predictive logic’ and using these terms through the new venture process (Moroz & Hindle, 2011).

The entrepreneurial process model of Shane is created because in his opinion there is a lack of a coherent conceptual framework because most researchers only concentrate on one part of the entrepreneurial process (Shane, 2003). The entrepreneurial model of Shane consists of different stages which indicate the entrepreneurial process. To give an example of one of the models, the entrepreneurial process model according to Shane is shown in figure 1. The process begins with the identification and evaluation of opportunities, which can be linked to the theory of opportunity recognition of Alvarez & Barney (2007). The entrepreneur needs to decide if he wants to exploit the opportunity or not. If yes, the entrepreneur has to obtain resources and create strategies to exploit these opportunities. All these activities are influenced by individual, industry and institution level factors (Shane, 2003).

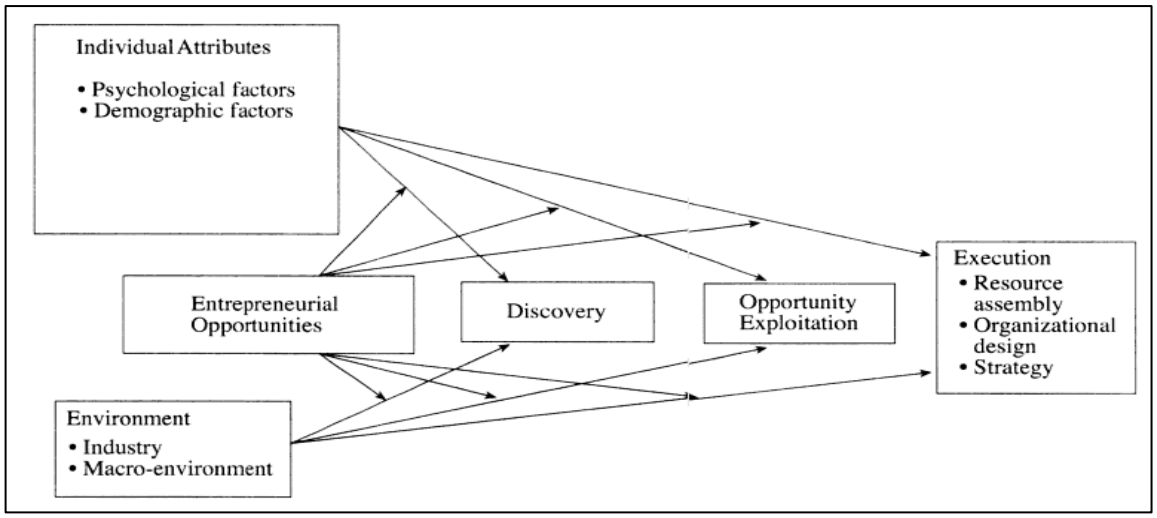

Figure 1: Model of the entrepreneurial process (Shane, 2003, p11)

Comparing the four entrepreneurial process models of the four authors, each model has its strength and weaknesses. Table 1, in appendix 1 summarizes a brief evaluation of the four models. The evaluation shows for example that the model of Bruyat & Julien (2000) did address temporality issues but only partly implemented the concept of innovation. On the other hand the model of Sarasvathy was the only one that presented a direct practical focus (Moroz & Hindle, 2011). Comparing the four models, the only aspect all models have in common is the belief of the different authors that a process-based approach is important to understand the concept of entrepreneurship. Comparing the different entrepreneurial process models shows that the thoughts on entrepreneurial processes are very fragmented. There is not one single harmonized model of entrepreneurial processes (Moroz & Hindle, 2011).

Looking at the entrepreneurial process models explained in appendix 1, Sarasvathy is the only one of the four authors who made a difference explicitly between types of entrepreneurs and non-entrepreneurs which indicates there could be differences in thinking, just as Brinckmann et al. (2010) mentioned by explaining the concept of planning and learning. Therefore a link can be made between the theory about the planning and learning school and the concept of effectuation and causation. When an entrepreneur uses predefined plans, like with the planning approach, a link can be made with the concept of causation. When an entrepreneur makes no plans in advance and makes decisions more based on own experience a link can be made between the learning approach and the concept of effectuation. The other entrepreneurial models explained in appendix 1 do not elaborate on this topic as much as Sarasvathy does and no clear links could be made between the other models and different ways of thinking of an individual. Hence, from now on the model of Sarasvathy is used as the leading model of entrepreneurial processes in this project.

2.1.4 Causation and Effectuation

Causation and effectuation are two different types of entrepreneurial processes. “Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means” and “causation processes take a particular effect as given and focus on selecting between means to create that effect” (Sarasvathy, 2001, p.245). When the causation type of process is used existing opportunities are discovered and exploited, however with the effectual type of process new opportunities are exploited (Wiltbank et al., 2006).

When Sarasvathy conducted her research her subjects had to make different decisions during a business case to solve some problems which can occur while starting up a new venture. People could make these decisions using a causation or effectuation type of process. When the causation type of process is used, the following steps are leading during decision making:

- A goal which is given in advance must be achieved or a decision has to be made which is well structured;
- There are alternative means and causes which can be found through the decision process;
- There are limitations on possible means because of the environment;
- There are criteria set up in advance to select between different means, for example expected return (Sarasvathy, 2001).

When people make decisions which involve effectuation, then the steps are a bit different during the decisions making process:

- There is a given set of means available;
- Through the decision process a set of effects or possible operationalizations can be generated;
- There are limitations and opportunities for possible effects because of the limited means available, the environment and contingencies;
- There are criteria set up to select between effects, for example affordable loss (Sarasvathy, 2001).

Looking more in-depth at the concept of effectuation, Sarasvathy (2001) developed four core principles which characterize the effectuation process. These principles and a short explanation can be found in table 2. In addition to these principles, with effectuation new firms prefer to limit potential losses than strive for maximum returns because the profit potential for a company is uncertain. Entrepreneurs might also prefer to limit costs related to market analysis. Therefore, entrepreneurs are more likely to focus, in the early stages of development, on the business aspects which are controllable (alliances, partnerships) instead of focusing on prediction and planning (Sarasvathy, 2001; Wiltbank et al., 2006).

Principles	Explanation
1. Affordable loss rather than expected return	The effectuation approach focuses on the affordable loss and will experiment with as many strategies as possible with the given means. In opposite of the causation approach where strategies are selected to maximize the potential returns.
2. Strategic alliances rather than competitive analyses	The effectuation approach emphasizes strategic alliances to reduce and eliminate uncertainty. With the causation approach the focus is on competitive analysis.
3. Exploitation of contingencies rather than exploitation of preexisting knowledge	Within the effectuation approach contingencies will be exploited that arise unexpectedly. As opposed to causation, where preexisting knowledge is seen as a competitive advantage
4. Controlling an unpredictable future rather than predicting an uncertain one	With effectuation the focus is on the controllable aspects of an unpredictable future. In opposite of the causation approach where the focus is on predictable aspects of an uncertain future.

Table 2: Four principles effectuation theory (Sarasvathy, 2001).

Furthermore, with effectuation specific means are given to create an effect and with causation an effect is given and means must be selected to create that effect. But what are these means? This could be different for different situations but in general entrepreneurs have three 'means' which could be categorized: They know what they are, what they know and whom they know (Sarasvathy, 2001). Knowing what they are is related to the identity of the entrepreneur, like their taste and abilities. What they know could be knowledge gained from education, training or experience and whom they know is related to the social and professional network of an entrepreneur.

Causation and effectuation are two different types of processes but when does an entrepreneur use which process? Causation processes could especially be used in cases where events can be analyzed and understood, for example natural phenomena (Sarasvathy, 2001). By understanding these phenomena they could be partly controlled. But when must be dealt with human action, effectuation processes are more useful because some contingencies cannot be analyzed or predicted but only exploited. It is important to emphasize that Sarasvathy does not argue that effectuation processes are better or more efficient than causation processes. It are two different processes with their own characteristics which could be used in different situations.

The results of the research of Sarasvathy are based on data gathered from Western entrepreneurs. The influences of culture have not been taken into account. This research project is focused on Malaysia which is an Asian country and perhaps the use of causation or effectuation is different in that part of the world. Therefore it is important to make a link with cultural factors that could influence the use of these processes. The concept of culture is further elaborated.

2.2 Culture

Before making a link between the theory of entrepreneurship and culture, first the concept of culture and related subcategories are explained.

2.2.1 Definitions of culture

Computers and robots are systems which could be programmed to let them act in a specific way. But is this also possible for human beings? Each person carries specific patterns of thinking, feeling and acting; because of the things a person learns throughout their lifetime (Hofstede, 2001). Especially in the early childhood persons are sensitive to learn and adapt. As soon as these patterns of acting and thinking are in a person's mind it is very difficult to unlearn these things. These patterns of thinking, feeling and acting are called 'mental programs', like programming a computer (Hofstede, 2001). The basis of these mental programs comes from the environment where a person grows up. Their family, the neighborhood, at school and the work environment are all places where a specific 'mental program' of a person could be created. The mental programs could also be defined as 'culture' (Hofstede, 2001). But what is exactly culture?

Culture could be explained as "patterned ways of thinking, feeling and reacting, acquired and transmitted mainly by symbols, constituting the distinctive achievements of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional ideas and especially their attached values" (Kluckhohn, 1951, p.86). Furthermore, culture could also be defined as the "relatively stable set of inner values and beliefs generally held by groups of people in countries or regions and the noticeable impact those values and beliefs have on the peoples' outward behaviors and environment" (Peterson & Anand, 2004, p.17). In addition, culture could be described as "the collective programming of the mind which distinguishes the members of one group or category of people from another" (Hofstede, 2001, p.9).

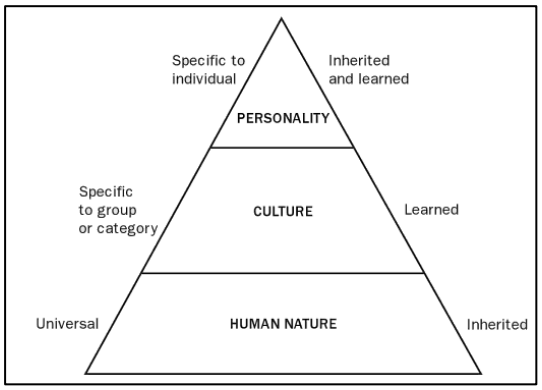

Figure 2: Three levels of uniqueness in mental programming (Hofstede et al., 2005, p4)

Three levels of uniqueness in mental programming are shown in figure 2. Culture could be distinguished from human nature and individual's personality (Hofstede, 2001). Human nature is what all human beings have in common. Different aspects that belong to this level are feelings that a person could have; like anger, love and happiness and the need to associate with others. What a person subsequently does with these feelings is modified by culture (Hofstede, 2001). On the other hand the personality of a person consists of personal traits that do not need to be shared with other people. These traits could be inherited or learned for example because of personal experiences (Hofstede, 2001).

2.2.2 National culture

Different definitions and explanations of culture have been given. Within the broad concept of culture there are different levels which could be clarified. Culture can be divided into:

- *National level:* the country where a person lives or migrated to;
- *Ethnic / religious level:* most nations consists of culturally different groups;
- *Gender level:* depends if a person is born as a girl or boy;
- *Generation level:* separates grandparents from parent, from children;
- *Social class level:* is associated with educational opportunities and with a person's occupation or profession;
- *Organizational level:* the way employees have been socialized by their work organization (Hofstede et al., 2005).

For this research project the focus is on the national level because Malaysia is compared with the Netherlands. Furthermore, later on also some ethnic levels are explained because Malaysia consists of different ethnic groups. However, the main focus is the national level. National culture can be seen as the broadest level of culture a person can be a member of (Hofstede et al., 2005).

2.2.3 Cultural values

Looking at the national culture of a country there are different ways how a culture could manifests itself. The most important ways are through symbols, heroes, rituals and values (Hofstede, 2001). Figure 3 illustrates these four ways. The values are the deepest manifestations of culture. They are acquired already early in a person's live, like the values if something is good or evil. After ten to twelve years a person receives, most of the time unconsciously, information from his environment which includes the

rituals, heroes and symbols (Hofstede, 2001). Rituals are considered as social essential, such as paying respect to others. Heroes are people (can also be imaginary) who serve as models for behavior. The most superficial layer are the symbols. Only people who share a specific culture recognize these symbols like words and pictures (Hofstede, 2001). Furthermore, symbols are on the outermost layer because they could easily be copied by other cultures and values are the deepest layer because values cannot easily be copied by other cultures and cannot easily disappear.

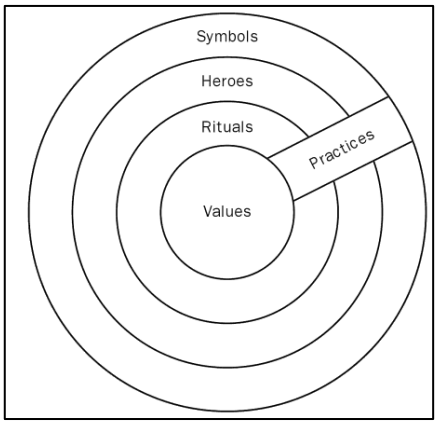

Figure 3: The onion: Manifestations of culture at different levels of depth (Hofstede, 2001, p11)

Not only Hofstede used the example of an onion to describe the manifestations of culture. Trompenaars & Hampden–Turner (1998) used a similar onion like model to explain culture. “Culture comes in layers, like an onion. To understand it, you have to unpeel it layer by layer” (Trompenaars & Hampden-Turner, 1998, p.6). In their onion model there are three layers. The deepest layer is the core of culture or also called the implicit culture, which are the assumptions about existence. One of the most basic values where people strive for is survival. The middle layer consists of norms and values and the outer layer is called the explicit layer which consists of the products and artifacts which symbolize the more basic values and assumptions about life (Trompenaars & Hampden-Turner, 1998). Both Hofstede and Trompenaars use the onion principle to explain that culture consists of different layers and that the deepest layer consists of the core values of a culture. The core values cannot easily be copied by other cultures or cannot easily disappear in contrary to the outside layer which consists most often of aspects that can easily be changed or copied by other cultures.

Shortly summarized it can be said that each culture has its own core values which cannot easily be copied by other cultures. But how can different cultures be compared with each other to see what are the differences in for example these core values? In the literature cultural dimensions are used as an aspect of culture which could be measured to compare different cultures like Malaysia and the Netherlands.

2.2.4 Cultural Dimensions

Cultural dimensions are the most widely used explanatory variables in the cross-cultural literature (Fink, Neyer & Kölling, 2006). A quick check on Scirus.com was done at April 2005 by Fink et al. (2006) to find out how many hits cross cultural value dimensions got. In 2005 it were 4,931 hits. The same check was done in December 2011, by the researcher of this project, and with the same keywords 359,590 hits were found. An indication of the importance that scholars assign to this topic is increasing.

A dimension can be defined as “an aspect of a culture that can be measured relative to other cultures” (Hofstede et al., 2005, p.23). In addition, cultural dimensions “are constructs of values which can be measured along quantitative scales” (Fink et al., 2006, p.41). Many researchers have used different dimensions as independent variables during their research. To give a good overview about the different cultural dimensions in the literature, the dimensions used by different researchers are shortly summarized in appendix 2.

2.2.4.1 Comparing different cultural dimensions

The table in appendix 2, shows that different researchers used different dependent and independent variables when explaining cultural dimensions. For this research project a few cultural dimensions are used to compare the Malaysian culture with the Netherlands. To decide which dimensions could be used the different dimensions of different authors are taken into consideration. The cultural dimensions of Hall & Hall will for example not be used because they are mainly focused on communication. It is possible to compare the culture of Malaysia with the Netherlands based on these communication dimensions, but this will only cover a small aspect of culture and will therefore not be used. Dimensions which cover more aspects of culture are needed. The dimensions of Kluckhohn & Strodtbeck (1961) will not be used because aspects of their dimensions are also used in later created dimensions and therefore more recent and more developed dimensions are available. In addition, the cultural dimensions of Kluckhohn & Strodtbeck were an example for further research (Fink et al., 2006).

The dimensions of Trompenaars will not be used because they are not based on empirical research and therefore it is difficult to describe them to different countries (Hofstede, 1996). In addition, Trompenaars research is based on imagination and not on statistical evidence (Minkov, 2011). Another shortcoming of the research of Trompenaars is that the survey he used not covered many aspects of national culture (Hofstede, 1996). Furthermore, the cultural dimensions of Hofstede and GLOBE could be used. Before deciding which cultural dimensions will be used in this project, the pros and cons of both studies are extensively explained. Summarizing the pros and cons of both studies gives a good overview about the differences between the two well-known cultural studies in the literature and afterwards can be decided which cultural dimensions will be leading in this project.

2.2.4.2 Arguments in support and against Hofstede

The first book of Hofstede was published in 1980. Since then many people have replicated his study but also criticized it. Ailon critically looked at the way the different cultural dimensions were tested and one of the main arguments against the work of Hofstede is that his value dimensions analyze value orientations from a Western mindset. “Applying them to other cultures demands caution” (Ailon, 2008, p.901).

Another argument that was given is that surveys are not a suitable instrument to measure cultural differences (Jones, 2007). Hofstede (1998) responded to this argument that he did not only use surveys to measure these differences. Furthermore, Hofstede makes conclusions also for countries where nations are reunited with another nation, like Hong Kong and China. Why will the results measured in Hong Kong be true for the entire Chinese nation (McSweeney, 2002)? This indicates the measurement precisions is not that precise. Another argument is that his data is too old to be of value. Hofstede (1998) argued that his dimensions have 'centuries-old roots' and that recent replications show that his data is still valid.

It is also argued that some outcomes of the study could be biased because of the timing of the survey. The political influence of a country could influence the results (Jones, 2007). Several replications of his research have been conducted in different years so also timing has been taken into account. In addition to this, a new analysis of the work of Hofstede is conducted and most of the results could be confirmed (Sondergaard, 1994). Another argument in support of Hofstede is that his research is still widely used and still holds nowadays (Chand & Ghorbani, 2011). That his research is still widely used can also be seen in the amount of citations his research received. In June 2010, according to 'Publish or Perish' his work received 54.000 citations (Tung & Verbeke, 2010). If the research of Hofstede received so many citations, it can be called 'super-classic' (Baskerville, 2003, Durden & Ellis, 1993).

2.2.4.3 Arguments in support and against GLOBE

The results of the GLOBE study and Hofstede are often compared with each other, but what must kept in mind is that the GLOBE study used some terms of Hofstede's earlier research but the meaning of the terms is different. For example the terms 'values, 'practices' and 'organizational culture'. GLOBE did not clearly mention that the meaning was different which makes comparing these terms more difficult (Hofstede, 2010). GLOBE and Hofstede do not measure the same thing (Smith, 2006). Another important argument is the comparison between organizational and national culture. GLOBE uses the same type of questions to measure national and organizational culture. They only put 'in this society' and 'in this organization' in front of the question to make a difference between national and organizational culture. But there is a big difference between organizational and national culture and this cannot be measured with the same type of questions (Hofstede, 2010). One of the criticisms against the GLOBE study is the way they aggregate the data from the individual to the national level. It is furthermore argued to which extent both studies control for differences in national wealth (Smith, 2006) and according to Hofstede (2010) only he did. The way GLOBE formulated their questions is also a point of criticism. The type of questions and answers were too difficult to answer for the respondents (Hofstede, 2010).

Another argument against the GLOBE study is that GLOBE used 'as is' questions, which create national stereotypes. The questions asked by the GLOBE study do not deal with the personally desired issues. Besides the type of questions, the GLOBE study used a sample which only consisted of managers. Only using managers will not show a 'real' picture about a country (Hofstede, 2010). It would have been better if employees from different levels answered the questions, to make the answers more reliable and make it easier to generalize.

After all, the GLOBE study is less criticized in comparison with the study of Hofstede, a reason could be that there are fewer controversial issues. Furthermore, the GLOBE study is more recent; researchers have therefore not fully analyzed it (Venaik & Brewer, 2008). Shortly summarized it can be said that each study has its advantages and disadvantages if you look for example at validity, generalizability and the samples which were used. For this research project considerations has been made which study will be 'leading' to analyze the cultural dimensions in Malaysia and the Netherlands. The GLOBE study can be seen as an extension of the Hofstede study because some of the dimensions of Hofstede are re-used under another name and even more dimensions are added. But using more dimensions could also be seen as confusing. Hence, after analyzing the pros and cons of the research of Hofstede and GLOBE is decided that the research of Hofstede will be leading. His work could still be seen as the most well-known research project about cultural differences and the many replications have shown that his work is still valuable (Chand & Ghorbani, 2011; Sondergaard, 1994).

2.2.5 Cultural Dimensions of Hofstede

Geert Hofstede conducted his research at IBM between 1967 and 1973 and analyzed the employee values scores. Since 2001 already 76 countries were analyzed based on extensions of his study. The IBM data represents the 'dimensions of culture'. Hofstede used the following cultural dimensions in his research:

- Power distance
- Individualism versus collectivism
- Masculinity versus femininity
- Uncertainty avoidance
- Long term versus short term orientation

Malaysia and the Netherlands were also part of the IBM study. Each cultural dimension is further explained based on the scores of Malaysia and the Netherlands. Figure 4 illustrates the five dimension scores for Malaysia and the Netherlands.

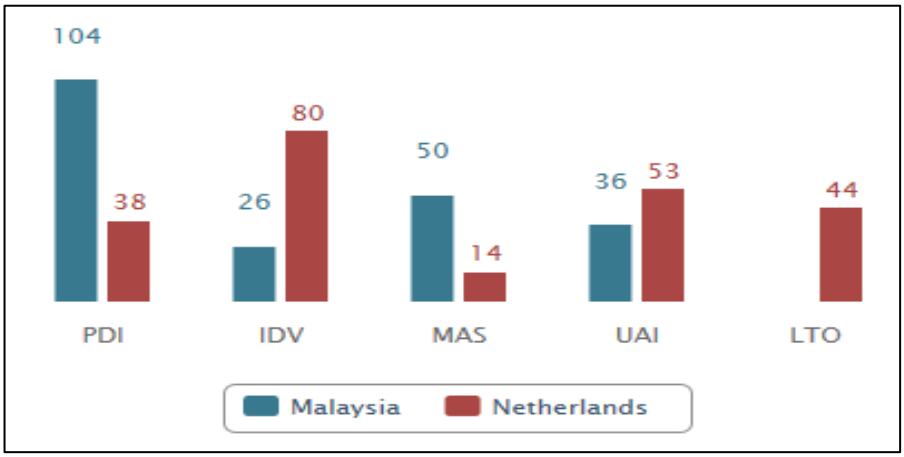

Figure 4: Scores five dimensions IBM research for Malaysia and the Netherlands (Hofstede et al., 2005)

2.2.5.1 Power distance within Malaysia and the Netherlands

Power distance is explained based on the value system of the less powerful members. Power distance could be defined as "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede et al., 2005, p.46). In this definition institutions are basic elements of society and organizations are workplaces. The power distance index scores explain the dependence relationships in countries. Subordinates depend on their bosses in countries with a large power distance. In small power distance countries the level of dependence is much lower (Hofstede et al., 2005). Malaysia has a score of 104 for the power distance dimension, which is very high. This means there is a large emotional distance between the boss and subordinates. This high score also indicates that the people accept a hierarchical order. People in a company have their own place and this is accepted. Subordinates just listen to what them is told and most organizations have a centralized structure. In addition, most of the businesses in Malaysia are very hierarchical which indicates that the people accept a hierarchical order (World Business Culture, 2012). In comparison with the Netherlands, which has a score of 38, which is low. Having a low score for power distance means that in the Netherlands in general people are more independent, have equal rights and hierarchy is only present for convenience.

2.2.5.2 Individualism versus collectivism within Malaysia and the Netherlands

When talking about individualism and collectivism the self-image of people is important. Do people talk about "I" or "we"? Individualism could be defined as "societies in which the ties between individualism are loose: everyone is expected to look after himself and his or her immediate family" (Hofstede et al., 2005, p.76). Collectivism is defined as "societies in which people from birth onward are integrated into strong, cohesive in–groups, which throughout people's lifetimes continue to protect them in exchange for unquestioning loyalty" (Hofstede et al., 2005, p.76). Malaysia has a score of 26, which indicates it is a collectivist society. Being in a collectivist society means you have a long-term commitment with a group. This group

can be for example family. Loyalty is one of the most important aspects of this society. It is important to take responsibility for other group members. The Netherlands has a score of 80, which is really high in comparison with Malaysia. In individual societies like the Netherlands, people are expected to take care of themselves. The relationship between an employer and employee is a contract which is based on mutual advantage.

2.2.5.3 Masculinity versus femininity within Malaysia and the Netherlands

What motivates people is an important question to find out if people live in a more masculine or feminine society. Do people for example always want to be the best or is liking what you do more important? A masculine society could be defined as "when gender roles are clearly distinct: men are supposed to be assertive, tough and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life" (Hofstede et al., 2005, p.120). They speak about a feminine society when "emotional gender roles overlap: both men and women are supposed to be modest, tender and concerned with the quality of life" (Hofstede et al., 2005, p.120). Malaysia has a score of 50, which is a bit in the middle but can still be considered as a masculine society which means a society where people live in order to work and where competition and performance is important. This behavior already starts at school when people are still young. The Netherlands has a score of 14 which indicates a feminine society. In feminine societies people keep their life and work balanced. Looking at the work environment, managers are supportive to their people and employees are involved in decision making. An example is the differences in writing an application letter. In feminine societies, like the Netherlands, most of the people only write down the basic information and do not try to sell themselves. In a masculine society like Malaysia, most people write down every grade and every quality they have, to make themselves look better.

2.2.5.4 Uncertainty avoidance within Malaysia and the Netherlands

This dimension indicates how a society deals with an unknown future. Uncertainty avoidance could be defined as "the extent to which the members of a culture feel threatened by ambiguous or unknown situations" (Hofstede et al., 2005, p.167). If there is a high uncertainty avoidance people need predictability. What must kept in mind is that uncertainty avoidance is not the same as risk uncertainty (Hofstede et al., 2005). Malaysia has a score of 36 which indicates the uncertainty avoidance is low. These societies have a more relaxed attitude. People in these societies think there should be no more rules than necessary. Innovation is not seen as something which is threatening. The Netherlands has a score of 53 and therefore can be said this country prefers to avoid uncertainty. In countries with a high uncertainty avoidance, people need rules. People try to work hard and security is an important factor for individual motivation.

2.2.5.5 Long term orientation within Malaysia and the Netherlands

The fifth dimension is related to the teachings of Confucius. Long term orientation could be defined as "the fostering of virtues toward future rewards – in particular, perseverance and thrift" (Hofstede et al., 2005, p.210). Short term orientation could be defined as "the fostering of virtues related to the past and present- in particular, respect for tradition, preservation of face, and fulfilling social obligations" (Hofstede et al., 2005, p.210). The dimension indicates if a culture is more future- or historical oriented. Unfortunately no data is available for Malaysia on this fifth dimension. The top positions with this dimension are occupied by East-Asian countries like China, Hong Kong, Taiwan, Japan, Vietnam and Singapore (Hofstede et al., 2005). Although there is no data for Malaysia, for this dimension Malaysia could be seen as one of these East-Asian countries that score high on long term orientation. The Netherlands has a score of 44. This score makes the Netherlands a culture focused on short term orientation. Characteristics of cultures with a short term orientations have great respect for traditions and have a small propensity to save.

The culture of Malaysia and the Netherlands is analyzed based on the different cultural dimensions. But what does this really mean? For example, Malaysia is a collectivistic country and the Netherlands an individualistic country, but do these cultural findings have any influence on the use of effectual or causational processes? The entrepreneurial process models in the literature and in specific the concept of effectuation of Sarasvathy do not take the influence of national culture into account. No link is made between the influences of national culture on these processes. Therefore needs to be examined if there is indeed a correlation between the two concepts.

2.3 Link between culture and entrepreneurship

Before analyzing if there is a correlation between the two concepts it is important to understand if culture could have any influence on entrepreneurship in general. If culture has no influence on for example entrepreneurial actions it is also questionable if entrepreneurial processes could be influenced by cultural factors. Therefore the two main concepts are combined to get more in-depth knowledge about the influence of culture on entrepreneurship in general. For example are decisions and beliefs of entrepreneurs influenced by culture? With the use of causation and effectuation processes, an entrepreneur also makes different types of decisions. So although there is no information available about the influence of culture on entrepreneurial processes in specific, receiving some brief general knowledge could be helpful to make this link between the two concepts in a later stage.

2.3.1 Influence of culture on entrepreneurship

Cultural values indicate the degree to which a society thinks that entrepreneurial behavior is desirable. Entrepreneurial behavior could be seen as taking risks and independency. Some cultures encourage such behavior and encourage radical innovations and entrepreneurship but some cultures do not. These cultures try to control the future and do not show much entrepreneurial activities (Hayton et al., 2002). Furthermore, the cultural dimensions of Hofstede are frequently used in literature to identify the association with entrepreneurship. One of the associations that are made is that in general entrepreneurship is more common in cultures that are high in individualism, low in uncertainty, low in power-distance and high in masculinity (Hayton et al., 2002). However, it is also argued that across cultures entrepreneurs score high in power distance, individualism and masculinity and low in uncertainty avoidance (McGrath et al., 1992a). There is a different opinion about the dimension 'power distance' and entrepreneurship.

Cultures that encourage a higher need for autonomy, achievement and self-efficacy have a strong work ethic and are more willing to take risks. Therefore these cultures have a higher firm-formation rate in comparison with cultures that do not encourage these values (Davidsson & Wiklund, 1997). It is also possible that psychological characteristics of individuals within a population are influenced by culture which could create a larger amount of entrepreneurs (Davidsson & Wiklund, 1997). Therefore it could be said that, culture is an important factor because it influences the beliefs, values and motives of individuals (Hayton et al., 2002).

In some cultures entrepreneurship is more common than in other cultures. Shortly summarized it could be concluded that cultures which encourage risk taking and independency have higher entrepreneurial activities. But besides the differences in entrepreneurial rates, do entrepreneurs from different cultures use the same approach when setting up a new business? Is there for example one typical entrepreneur who is applicable in different cultures? An entrepreneur is perceived differently in important ways from non-entrepreneurs and it is argued that these differences are results of the different backgrounds and personality of entrepreneurs. A predictable set of values are shared by entrepreneurs who are different in comparison with those shared by non-entrepreneurs (McGrath et al. 1992b). In addition to this, despite the difference between entrepreneurs and non-entrepreneurs it can be expected that entrepreneurs reflect the dominant values of their national culture. So perhaps some entrepreneurs share universal characteristics, some will be more cultural specific (Thomas & Mueller, 2000). An example is the idealized American entrepreneur, who is characterized by individualism in comparison with an Asian entrepreneur, who relies more on familial ties while setting up their business (Thomas & Mueller, 2000).

Furthermore, already more than 100 years ago the differences in entrepreneurial activity were explained by cultural and religious factors (Weber, 1904). In addition to this, the formation of a business could vary from society to society (Shapero & Sokol, 1982). Within the different cultures there are different beliefs about the desirability and feasibility to start a new venture. “These different beliefs help determine which actions will be seriously considered (because they are desirable) and which will be implemented (because they are feasible). Hence, beliefs frame entrepreneurial activity” (McGrath et al., 1992b, p.117).

2.3.2 Influence of the Malaysian culture on entrepreneurship

The theory of national culture in general is extensively explained so far, but this project is focused on the culture of Malaysia. Because Malaysia is a country which consists of several ethnic groups it is important to elaborate on this a bit further because the presence of the different ethnic groups could perhaps also be of influence on the use of entrepreneurial processes.

Malaysia could be roughly divided into three basic ethnic groups: the Malays, Chinese and Indians. The Malays are the dominant majority in Malaysia and the Indians and Chinese are the minority groups (Liu et al., 2002). The Chinese and Indians came to Malaysia after a period of trade between the countries. Especially the Chinese owned a lot of agricultural and mining land, which created a distribution of wealth in the country (Drabble, 2000). Because of the different ethnic groups, there are also different religions in Malaysia. The Islam is the official state religion of Malaysia which resulted in Islamic laws (Tey, 2011). But besides the Islam also other religions like Hinduism and Buddhism could be found in Malaysia. The question can be asked if the culture of Malaysia that consists of these different ethnic groups has any influence on the use of causation or effectuation type of processes.

There is a lack of information available to what extent cultures with different ethnic groups have any influence on entrepreneurial processes. But previous research found that links can be made between religion and different work attitudes (Harpaz, 1998; Niles, 1999) and religion plays an important role in the society in all aspects of life (Parboteeah et al., 2009). Furthermore, in many countries, religion has a degree of influence on the cultural characteristics of their people and institutions (Tayeb, 1997) and people rely a lot on their religion when they have to make difficult decisions (Madlin, 1986; Parboteeah et al., 2009). Therefore it is possible that Muslim entrepreneurs would make different decisions than Buddhist entrepreneurs based on their religious background. Hence, it is expected that being part of an ethnic group can be of influence on the type of entrepreneurial process that is used.

In the theoretical framework the concepts of entrepreneurship and culture were extensively explained and therefore an answer on both subquestions is given. Furthermore, after researching both concepts, several links could be made between the concept of culture and entrepreneurship but a gap is found between national culture and the influence on entrepreneurial processes in specific. Moroz & Hindle (2011) analyzed 32 different entrepreneurial process models and some of the models consisted of cultural elements but none of them analyzed if culture could be of influence on entrepreneurial processes. To combine both theories and find out to what extent being part of a culture and relying on a specific religion could indeed influence the type of entrepreneurial process, several hypotheses are developed.

3. Hypotheses

To be able to provide more in-depth information about the possible influence of national culture on entrepreneurial processes, five hypotheses are developed. The first three hypotheses focus on the differences between Malaysian and Dutch student entrepreneurs to find out if different dimensions of national culture have any influence on causation or effectual processes. To test if there is indeed a correlation, a link is made between several cultural dimensions of Hofstede and principles of Sarasvathy. Not all the dimensions of Hofstede and principles of Sarasvathy could be used. It is important that the relationship between the dimension and principle is based on theory and that they are not just linked to each other when there is no clear correlation between them. Therefore is tried to make the best fit between the dimensions and principles based on theory, to be able to develop a hypotheses which can contribute in removing the gap in the literature. Furthermore, it is important to mention that when is spoken about principles, the elements of the principles are meant, like being goal-driven or means-based.

The first three hypotheses are focused on the differences between the Malaysian culture and the Dutch culture. Because Malaysia consists of several ethnic groups with different religions it is important to look more in-depth at the concept of religion because important links have been made between religion and different work attitudes and people often turn to their religion when they have to make difficult work related decisions. Furthermore, religion is taken into account because one of the criticisms on the research of Hofstede is that he assumed the domestic population as a homogeneous whole. But this is not always possible, because most nations consist of different ethnic groups (Nasif et al., 1991; Redpath, 1997). This is especially the case in Malaysia. Malaysia consists mainly of three ethnic groups: the Malays, Chinese and the Indians. The Islam is the largest religion within Malaysia with a percentage of 60,4% and the second largest religion group is Buddhism with 19,2% (CIA, 2012). The question can be asked if there are for example differences between Muslims and Buddhists when looking at entrepreneurial processes. A comparison is made between the Muslim student entrepreneurs and the Buddhist student entrepreneurs in Malaysia because those are the two largest religions in Malaysia and also because the Islam and Buddhism are two opposite religions of each other. The Islam can be categorized as a Western religion and Buddhism is a typical Eastern religion (Hofstede et al., 2005).

Shortly summarized, the first three hypotheses are focused on the differences between the Malaysian culture and the Dutch culture and the last two hypotheses look more in-depth at the concept of religion. Out of the Malaysian sample the Muslim and Buddhist subjects are used to make a comparison between the two religions.

3.1 Hypothesis 1: Power distance and goal-driven

A comparison could be made between a high and low power distance. In countries with a high power distance subordinates depend on their bosses (Hofstede et al., 2005). A high power distance also indicates that the people accept a hierarchical order and centralization. Employees have their own place in the organization and this is accepted. In addition, individuals from a culture with a high power distance believe that differences in power and status are important (Kirkman & Shapiro, 2001). A small power distance indicates that a decentralized strategy is used and people should have equal rights. These cultures prefer a decision making process based on consultancy (Sue-Chan & Ong, 2002).

When people accept a hierarchical order it could be expected that these people also prefer to work with predefined goals. People need structure and regulations and when goals are set they know what to do and what is expected from them. Defining goals could have a positive effect; especially when the goals are really specific it could have a motivational effect which could even lead to a higher performance (Locke & Letham, 1990). An entrepreneur does not have a boss that tells them what to do, but by making clear goals that could be a way to have some structure and know what to do. In addition, goals are the basis for taking actions for the entrepreneur (Dew et al., 2009). The goals are set in advance and the focus of the entrepreneur is to select between means to reach that goal (Sarasvathy, 2001). For example an entrepreneur set goals related to the growth of the company and he select between means to reach that growth. Therefore it is expected that:

The more a culture relies on hierarchy and centralization, the more an entrepreneur will be goal-driven.

This suggests that countries with a high power distance would make more use of causation type of processes than countries with a low power distance. Malaysia has a score of 104 for the dimensions power distance, in comparison with a score of 38 for the Netherlands (Hofstede, 2001). The high score indicates that Malaysia is a country with a high power distance. In addition, most of the businesses in Malaysia are very hierarchical (World Business Culture, 2012). Therefore it is expected that Malaysian entrepreneurs like to have some structure and work with clear goals which are the basis for their actions. The Netherlands scores low on power distance and as a consequence, it is expected that Dutch people do not accept hierarchical approaches and they do not want to make goals in advance as a basis for taking actions. Hence, it is expected that Malaysian entrepreneurs are more goal-driven than Dutch entrepreneurs.

3.2 Hypothesis 2: Uncertainty avoidance and exploiting contingencies

When starting a new venture, important decisions need to be made which consist of a high degree of uncertainty (Lee & Peterson, 2000; Brinckmann et al., 2010). How will entrepreneurs deal with this degree of uncertainty? Will they try to avoid it or accept it? If an entrepreneur wants to capture emerging opportunities in an uncertain environment, he should quickly respond to this (Mosakowski, 1997; Mintzberg & Waters, 1985). It is possible to make plans to try to predict the uncertain environment, but this is more beneficial for cultures with a low uncertainty avoidance (Brinckmann et al., 2010). A reason could be that entrepreneurs in countries with a high uncertainty avoidance stick to their predetermined plans. Hence, it can limit entrepreneurs in their flexibility and openness to unpredicted events (Vesper, 1993), which as a consequence limits their performance (Brinckmann et al., 2010). Furthermore, countries with a low uncertainty avoidance may see unpredicted events as an opportunity. However, in countries with a high uncertainty avoidance, these unforeseen events can be seen as a threat to the performance. In addition, when there is a low uncertainty avoidance, people are more open for the unknown future. They do not need predictability.

When people do not need to predict the future, they are more willing to exploit contingencies that could arise unexpectedly which relates to an effectuation type of process. Effectuators do not see uncertainty as a disadvantage but as a resource and process (Sarasvathy, 2008). Unexpected contingencies could be seen as a surprise but this does not mean it is always something bad, whether it is something good or bad it could be used as input for the new venture creating process (Shackle, 1953). In addition, uncertain and unexpected events could be seen as an opportunity for the entrepreneur. Therefore it is expected that:

The more a culture accepts that uncertainty is a normal feature of life the more an entrepreneur will try to exploit contingencies.

This suggests that countries with a low uncertainty avoidance would make more use of effectuation type of processes than countries with a high uncertainty avoidance. Malaysia has a score of 36 for the dimensions uncertainty avoidance, in comparison with a score of 53 for the Netherlands (Hofstede, 2001). Therefore, Malaysia scores low on uncertainty avoidance. A possible reason is that Buddhist and Hindu countries score in general medium to very low on the uncertainty avoidance dimension (Hofstede et al., 2005) and these religions are also part of the Malaysian culture. Because the Netherlands is a country with a high uncertainty avoidance, it is expected that Dutch entrepreneurs do not see uncertainty as a normal feature of life. Hence, it is expected that the Malaysian entrepreneurs easier accept that uncertainty is a normal feature of life and they will try more to exploit contingencies that can arise unexpectedly than Dutch entrepreneurs.

3.3 Hypothesis 3: Collectivism and use of alliances

Cultures could also be divided into collectivistic and individualistic countries. In an individualistic country people focus on their own personal goals. In collectivistic countries, people often subordinate their personal goals to collective goals. The collective for example is a family or a workgroup (Triandis, Brislin & Hui, 1988). In addition, in collective countries people do not mind to sacrifice personal interests for the sake of a group (Bond & Wang, 1983; Wagner, 1995). People in collectivistic countries do not even see differences between in-group goals and personal goals (Bontemp, Lobel & Triandis, 1988). People in collectivistic countries make long term commitments with their family, friends or workgroups and loyalty is one of the most important aspects of this society. In individualistic countries people learn to think in terms of "I" instead of collectivistic countries, where people learn to think in terms of "we". In individual countries the relationship between an employer and employee is a contract which is based on mutual advantage.

In countries with a high collectivism it could be expected that the people are more willing to cooperate with other people than in individualistic countries. Collectivistic people emphasize the value of cooperation instead of relying on competition which is more the case in individualistic countries (Diaz-Guerrero, 1984, Cox, Lobel & McLeod, 1991). Furthermore, a positive relation is found between collectivism and cooperation (Triandis, Leung, Villareal, & Clack, 1985; Wagner, 1995). Individuals in a collectivistic country prefer cooperation to decrease conflicts (Leung, 1988). When individuals are loyal to other group members and do not want to compete but are willing to work together, it could be assumed that they are also open for the use of alliances. Entrepreneurs will try to find partners to cooperate together and exploit new ideas. Partners want to make commitments and participate actively in the company (Sarasvathy, 2008). Therefore it is expected that:

The more a culture relies on being part of a group the more an entrepreneur will make use of alliances.

This suggests that countries with a high collectivism would make more use of effectuation type of processes than individualistic countries. Looking more in-depth at the scores of collectivism and individualism, Malaysia has a score of 26, which indicates it is a collectivist country. In general, Asians could be seen as people who live in countries with a collectivistic and cooperative orientation (Cox et al., 1991). On the other hand, the Netherlands could be categorized as an individualistic country with a score of 80 (Hofstede, 2001). It is expected that because Malaysia is a collectivistic country, entrepreneurs want to cooperate with other people and will therefore try to make use of alliances. In comparison with Dutch entrepreneurs, who are more individualistic and are less willing to cooperate with partners.

3.4 Hypothesis 4: The Islam and being goal-driven

The government of Malaysia implemented an Islamization process in the country. This process makes the Islamic values the basic values to follow from the institutional to the individual level (Tayeb, 1997). The Islam could be categorized as a typical hierarchical religion (LaPorta et al., 1997). Looking at the cultural dimensions of Hofstede and the relation with different religions, it could be said that there is a high correlation between the Islam and the dimension 'power distance' (Taylor, 2003). This means a culture where laws, rules, control and regulations are leading. However there are differences between Muslim countries; it could be presumed that the Islamic population in Malaysia encourages a hierarchical strategy because in general, the Islam could be categorized as a typical hierarchical religion. In addition, the Islam could also be categorized as a religion with a high authoritarianism (Fish, 1962; Midlarsky, 1998) and a religion of laws (Tessler, 2002). Muslims follow the Islamic code of law, called the Shari 'a. Hence, the Islam is a religion that regulates the behavior of Muslims in their everyday life (Greif, 2006; Platteau, 2008).

Relying on a hierarchical religion, with a high authoritarianism means that inequalities in power and wealth are allowed (Taylor, 2003). In Muslim countries, most of the time decisions are not made together (Muna, 1980; Tayeb, 1997). A boss makes the decisions and he does not consult subordinates. A reason could be that in Muslim countries, joint decision making is seen as an indication of weakness (Muna, 1980). People with a hierarchical religion, who rely on having laws like the Shari 'a, therefrom is expected they need some structure and control and this could be obtained by setting up clear goals in advance. Therefore it is expected that:

The more a culture relies on the Islam religion, the more an entrepreneur will be goal-driven.

Entrepreneurs, who follow a hierarchical religion like the Islam, rely on rules and laws. When goals are made in advance people know what to do and what is expected from them. Looking at the Buddhist religion, it is expected these entrepreneurs make more decisions based on meditation sessions and recommendations of other people (Cullen & Parboteeah, 2008). This is more related to the effectuation type of process where people rely on their own means. When using an effectuation type of process you could also make goals and plans, but these could be unmade or revised through interaction with other people in daily life (Sarasvathy, 2001). Muslim people would not easily revise or unmade their goals because they made goals to have some structure and control and try to hold on to these goals. Hence, it is expected that Muslim entrepreneurs are more goal-driven than Buddhist entrepreneurs in Malaysia.

3.5 Hypothesis 5: Buddhism and the use of alliances

Buddhism is the "wide and multifaceted religious tradition that focuses primarily on the reality of world suffering and on the ways one can be freed from such suffering" (Cullen & Parboteeah, 2008, p.115). Buddhist people see craving and desires as the biggest cause of suffering. They believe that being greedy in business could jeopardize the activity of a firm (Parboteeah et al., 2009). The ultimate goal for Buddhist is nirvana which could be achieved through meditation. In Buddhism laziness could be seen as a negative trait and should always be discouraged (Cullen & Parboteeah, 2008). Hence, one of the work ethics prescribed by Buddhism is that people should always put forward their best efforts (Niles, 1999). Taking initiative, striving and persistence are qualities that are deeply encouraged within Buddhism (Parboteeah et al., 2009).

Furthermore, looking at cultural dimensions, Asian countries have in general a high score on long-term orientation (Hofstede et al., 2005). People growing up in a long-term oriented religion, like Buddhists, are considered to be linked in a web of inter-relatedness and ideas could be openly shared because the Buddhists are part of a social network. In Buddhist societies, having a personal network of acquaintances is needed if you want to be successful (Hofstede et al., 2005). In addition, Buddhists strive for cooperation and teamwork. Commitment to other group members is important and will decrease egoistic assertiveness because when societies become more complex it is important people can cooperate efficiently with each other (Pye, 1985). Buddhists are not guided by the rule of law but by their ethics, like harmony and being loyal to other people (Suen, Cheung & Mondejar, 2007). Therefore it is expected that:

The more a culture relies on the Buddhist religion, the more an entrepreneur will make use of alliances.

Buddhists have no problems with adapting elements from different religions. They believe there is not one 'truth' (Hofstede et al., 2005). It is expected that Buddhist entrepreneurs have no problems with adapting ideas or suggestions from partners. Buddhist entrepreneurs will look for partners to exploit new ideas. It is expected that the Muslim entrepreneurs make less use of alliances because the Islam is a typical hierarchical religion (LaPorta et al., 1997). In hierarchical countries people have their own place in the organization and this is accepted. It is expected Muslim entrepreneurs use a more centralized approach without equal rights. One person makes the decisions and subordinates follow orders. A Muslim entrepreneur will therefore not easily ask advice from other people. Joint decision making could even be seen as an indication of weakness within the Muslim religion (Muna, 1980). Hence, it is expected that Buddhist entrepreneurs would make more use of alliances in comparison with Muslim entrepreneurs in Malaysia.

4. Methodology

The methodology chapter elaborates on the sample which is used, how data is collected by conducting a think aloud case and how the hypotheses are statistically tested. In addition, also information is provided about the additional survey research and how the correlation between the survey and think aloud method is analyzed.

4.1 Sample

For this research project a sample is used that consists of Malaysian student entrepreneurs and Dutch student entrepreneurs. The Dutch database consists of 22 student entrepreneurs which were interviewed during the pilot study by the different members of the EPICC project. The other subjects of this research project are the 22 Malaysian student entrepreneurs. Student entrepreneurs are students who are still studying and have their own company or they are recently graduated and have their own company. For this project, a heterogeneous sample is used. The 22 Malaysian student entrepreneurs studied for example at different universities and different type of studies like business, law and technology studies. Furthermore, the student entrepreneurs have different educational levels. 23% of the entrepreneurs are following a master study and 77% a bachelor study. The age of the student entrepreneurs lies between 19 and 28 with an average age of 24. The average years of working experience is 3 years and furthermore, 32% of the student entrepreneurs have some international experience. Looking at some family background details, 73% of the entrepreneurs have at least one parent employed in a private company, 18% have at least one parent employed as entrepreneur and 9% has at least one parent employed as a public servant. In addition, 82% of the parents of the student entrepreneurs have a middle half income and 18% can be classified into a higher income.

Furthermore, the student entrepreneurs have different ethnic backgrounds. Malaysian, Chinese and Indian student entrepreneurs are all part of the research project. Only using one group would make it difficult to generalize, because Malaysia consists of different ethnic groups. Figure 5 reflects the different religions of the Malaysian student entrepreneurs. 23% consists of Buddhists, 32% are Muslim, 27% are Christen, 9% are Hindu and 9% are atheist. Based on the theory about the ethnic background could be expected that most of the Malaysian people are Muslim or Buddhist or Hindu. However, figure 5 shows that also Christian people are part of the sample.

For the first three hypotheses a comparison is made between the 22 Dutch and 22 Malaysian student entrepreneurs, this means in total 44 subjects are analyzed. For hypothesis 4 and 5, the religion of Malaysian student entrepreneurs is taken into account. A comparison is made between the 32% Malaysian student entrepreneurs

which are Muslim and the 23% Malaysian student entrepreneurs which are Buddhist. A large group in this sample also consists of Christians, but because originally this is not one of the main religions of Malaysia this group is not taken into account.

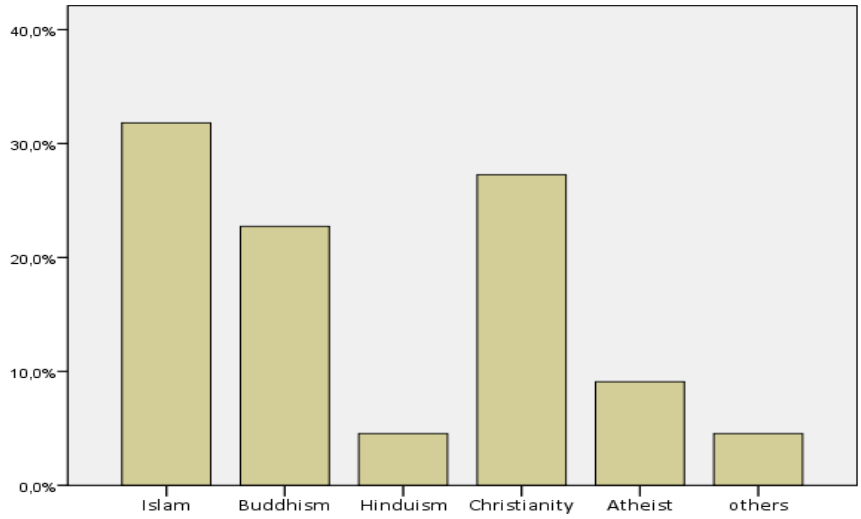

Figure 5: Religion of the Malaysian student entrepreneurs

The Dutch subjects made the think aloud case while thinking aloud in Dutch, their native language. On the other hand, the Malaysian subjects had to read and talk in English during this research project. English is not their main language, but all subjects could speak English fluently. Malaysian English is a form of English which is the second language in Malaysia. Most people speak English fluently as a result of the British colonialism a long time ago which still have influence nowadays. Although the subjects speak English fluently, what must kept in mind is that thinking aloud in a language which is not their native language can influence the results.

4.2 Operationalization

The research project consists of two different research methods which are a business case where the subject needs to think aloud and a survey research where the subject needs to fill in a questionnaire.

4.2.1 Think aloud method

The think aloud case is originally set up by Sarasvathy and can be found in her book ‘Effectuation: Elements of Entrepreneurial Expertise’. The case consists of 10 entrepreneurial decision making problems while setting up a new venture. In this project the type of venture the subjects need to set up is differently from the original case. The student entrepreneurs need to pretend they will start up a coffee corner in their university and need to solve the 10 decision making problems related to this start-up process.

4.2.1.1 Process of problem solving

The think aloud case consists of 10 decision making problems related to entrepreneurial activities. People frequently engage in problem-solving activities. Problem solving can be described as a cognitive process that is goal directed and requires effort and concentration of attention (van Someren, Barnard & Sandberg, 1994). Some problems that people need to solve are well defined and others are less well defined and the correctness of the solution is hard to measure. Solving problems is something that occurs in everyday life. For example what shall I wear today or what is the most efficient route to work? Sometimes problem solving is something where you are aware of and sometimes it goes on without noticing. In the last case people may not perceive their mental process of problem solving (van Someren et al., 1994). Besides focusing on the outcome of the problem solving, the process during problem solving is more important to focus on, to find out why people make decisions to solve a specific problem. What are for example underlying human reasoning or characteristics of differences in performance between people? In this project, the process is important to focus on to find out if national culture has any influence on the way the subjects solve the problems in the case.

The think aloud method is a verbal protocol which could be used to investigate the decision making process. When subjects need to solve problems, they have to make specific decisions to solve these problems. The data which is gathered during verbal protocols could be used to search for regularities in the decision making processes (Payne, Braunstein & Carroll, 1978).

4.2.1.2 Sequence of thoughts

Thinking could be seen as a sequential process because one thought lead to another (Ericsson & Crutcher, 1991). Nowadays thinking could be presented as a sequence of thoughts interspersed by periods of processing activity (Ericsson & Simon, 1998). This process is shown in figure 6 in the top portion 'silent thinking'. The main challenge is to gain information about the thoughts of a subject without altering the structure and course of the natural occurring thought sequences. The second part shows that the

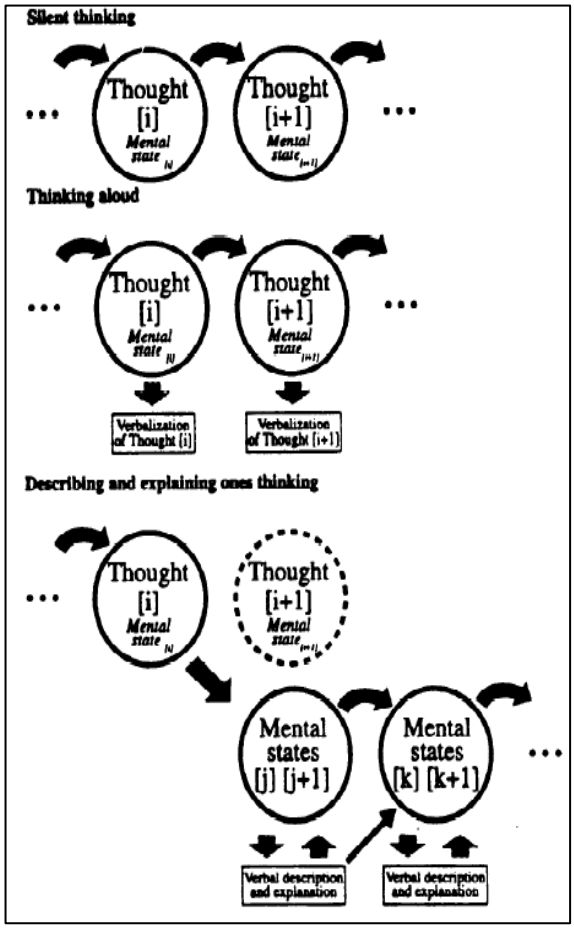

Figure 6: Relation between silent thinking and two different modes of verbalization of thoughts (Ericsson & Simon, 1998, p180)

spontaneous sequence of thoughts can be verbalized during thinking aloud without changing their sequence. The third option shows how a subject tries to describe and explain their thoughts which lead to a change in the sequence of thoughts and which finally lead to the intrusion of additional thoughts. In addition “there is a dramatic increase in the amount of behavior that can be observed when a subject is performing a task while thinking aloud compared to the same subject working under silent conditions” (Ericsson & Simon, 1993, Xiii).

If a researcher wants to find out exactly what is going on in the mind of the subject, the second step from figure 6 could be used, thinking aloud. A subject should not explain his thoughts but verbalize his thoughts. When structured techniques are used, the subject will give an interpretation of his thought, but with think aloud the ‘real‘ thoughts of the subject could be heard, because the subject tells what comes to mind directly (Ericsson & Simon, 1993). Furthermore, for this project it is important to find out what influences the decision making process of the student entrepreneurs. One way is to ask them directly about their experiences and they could explain how they normally solve such problems. A problem that arises is the fact that some people are good storytellers (Lounsbury & Glynn, 2001). This could lead to stories which may be subject to retrospective bias. Think aloud protocols could be used to get around this bias (Sarasvathy, 2008). Sarasvathy summarized the use of think aloud protocols as follows: “While retrospective recall allows subjects to make up good stories about how they believe they solve problems, and stimulus-response methods force researchers to deduce the subjects decision-making processes after the fact, concurrent verbalization allows the researchers to look directly inside the black box of cognitive processing, because the structure of the brain’s short term memory system” (Sarasvathy, 2008, p.12). Therefore the think aloud method is used to receive more information about the thinking process of the entrepreneurs.

Before the subjects start with the case, they first receive an introduction about what is expected from them. All the information is mentioned in the case but if the subjects think something is missing, they could make assumptions. The researcher is only there to lead the case and make sure the subjects keep on thinking out loud. In addition, the subject will not be interrupted while making a task because the subject should only concentrate on the task while thinking aloud.

4.2.1.3 Coding process

The think aloud sessions are recorded with a tape recorder. Two recorders are used, to make sure that there is a backup in case the first recorder is failing. From each recording a transcript is made. Transcribing means that the recording is reproduced as a written account using the actual words (Saunders, Lewis & Thornhill, 2007). If any interruptions occur, they could influence the problem solving process. Therefore it is

important to know what happened during the session and every step must be transcribed. Furthermore, it is important to know when the subjects get stuck during the problem solving process. Hence, it is advisable to write down silences between words by using for example dots (van Someren et al., 1994). Most of the time the subjects do not finish their sentences or they are not well-formed, so for the researcher it is important to be careful with giving their own interpretation. The tone of the sentence is not mentioned in the transcript, because this could decrease the reliability. Some people will hear for example anger and another person will think it sounds enthusiastic when they listen to the audio file.

The next step is coding the transcripts. Coding means assigning labels to the protocols based on a coding scheme (van Someren et al., 1994). For the coding process, the coding legend of Sarasvathy is used. The legend is reflected in table 4.

Causation legend	Effectuation legend
G: Goal driven	M: Means based
R: Expected return	L: Affordable loss
B: Competitive analysis	A: Use of alliances
K: Existing market knowledge	E: Exploitation of contingencies
P: Predictions of the future	C: Control by prediction
X: Causal	N: Effectual

Table 4: Coding legend (Sarasvathy, 2008, p.55)

Each transcript is analyzed and the codes from table 4 are assigned to different parts of the transcripts. For example if a subject explains he is making clear goals, the code 'G' could be assigned to that part and when a subject explains he makes use of partners then the code 'A' could be assigned. The researcher explains after each code, why this code is assigned to a specific part. This is done, because the coding process could be seen as subjective and when giving an explanation why is chosen for a specific code it will be more clear why that code is assigned. Furthermore, the objectivity of the coding process could be increased by using independent coders because independent coders will look at the transcripts with a more objective mind. For this project the researcher did the coding process itself but in some cases the opinion of other EPICC members is asked to find out if they will assign the same code. Furthermore, to increase the objectivity also the intercoder reliability is tested. The coding scheme is ambiguous when the intercoder reliability is low. Fortunately, after comparing the different codes the intercoder reliability is high which indicates the coding schemes are reliable.

4.2.2 Survey research

After conducting the think aloud case, the Malaysian respondents received an email with an online link for the questionnaire. The response rate was 100%. The questionnaire is designed by Chandler et al. (2011) which capture the causation and effectuation constructs of Sarasvathy. The questionnaire can be found in appendix 3. The questionnaire was originally conducted to test if causation and effectuation are two different constructs. Sarasvathy (2001) suggest that causation and effectuation are two different processes in the creation process of a new venture, which suggests there is a two-factor solution. In addition, the causation items should load on one factor and the effectuation items should load on the second factor (Chandler et al., 2011). What must kept in mind is that Chandler et al. (2011) focused on causation and effectuation in the new venture process and did not take other parts of the process into account, like making investments and market development.

The survey consists of 17 closed questions. The advantage of using closed questions is that a greater uniformity could be provided and could be more easily processed in comparison with open-ended questions (Babbie, 2010). A disadvantage is that people need to give a specific answer and maybe if an open question was used, they would say something different. However, the subjects have the chance the give open answers in the think aloud case. Furthermore, measuring the scales was done with five point Likert-type items from ‘strongly agree’ to ‘strongly disagree’.

4.3 Method of analysis

Each hypothesis is statistically tested by using a one-way ANOVA test or the Mann-Whitney U test. Furthermore, a multiple regression analysis is conducted to find out if the outcome of the dependent variable could be predicted by independent variables. In addition, for the survey and think aloud method an exploratory factor analysis is conducted to find out if causation and effectuation could be seen as two different constructs. Finally, the correlation between the two methods is measured to find out if subjects who score high on for example causation with the think aloud method also score high on causation with the survey research. The different methods of analysis are explained below.

4.3.1 Statistical analysis hypotheses

To decide which statistical test could be executed for each hypothesis, first is checked if there is a normal distribution. If there is no normal distribution a non-parametric test needs to be executed. In this case the Mann-Whitney U-test (also called the Wilcoxon Rank Sum test) is used. The Mann-Whitney U-test is a non-parametric statistical hypothesis test which could be used when the assumptions of a normal distribution are not fulfilled. To test the normal distribution the Kolmogorov-Smirnov test and the Shapiro-Wilcoxon are used. Both tests are used, to double check if the distribution is

normal or not. The Kolmogorov-Smirnov test and the Shapiro-Wilcoxon test give a p-value which indicates if there is a normal distribution. If the outcome is lower than the alpha of 5% then there is no normal distribution. If the p-value is higher than the alpha of 5%, then could be concluded there is a normal distribution.

If the distribution is normal, a parametric test could be executed. Because in this case the sample is relatively small, the amounts of tests which can be used are limited. For example a multivariate analysis of variance (MANOVA) cannot be used because therefore more than one dependent variable is needed (Carey, 1998). In this case there is only one dependent variable per hypothesis. Instead of a multivariate analysis a bivariate analysis is done. Examples of a bivariate analysis are the t-test and analysis of variance (ANOVA). If there is a normal distribution, the ANOVA test is used instead of a t-test because conclusions based on ANOVA tests are statistically better than using a t-test. Furthermore, using ANOVA instead of a t-test could reduce the probability of a type-I error. A type-I error means that the null-hypothesis is true, but you mistakenly reject it (de Veaux, Velleman & Bock, 2008). The purpose of the ANOVA technique is to predict a single dependent variable on the basis of one or more independent variables (Cardinal & Aitken, 2006).

There is a difference between a one-way and two-way ANOVA. With a one-way ANOVA only one dependent and one independent variable are used. With the two-way ANOVA more than one independent variable is used. An important assumption with the two-way ANOVA is that both sample sizes need to be equal. When comparing Malaysia with the Netherlands, this is no problem because for both countries 22 samples are used. When looking at religion which is compared in hypothesis 4 and 5, the sample size is unequal. Therefore, for hypothesis 4 and 5 the two-way ANOVA is not the appropriate test. When using one-way ANOVA, having an equal sample size is not a requirement. Besides the unequal sample size for all hypotheses only one dependent and one independent variable are used. Therefore a one-way ANOVA is conducted when there is a normal distribution.

4.3.2 Regression analysis

A multiple regression analysis is used to analyze the relationship between a dependent variable and several independent variables (Hair et al., 2009). Causation and effectuation are used separately as dependent variable to find out if some independent variables could predict the outcome of the dependent variable. Before deciding which variables could be used as independent variables, the size of the variables should be taken into account. It is recommended to have between 15 and 20 observations per independent variable (Hair et al., 2009). The total sample size is 35, because besides the data of the 22 Malaysian student entrepreneurs at the time of conducting the research, for only 15 Dutch student entrepreneurs additional

background information was available, which gives a total of 35. Having 35 observations means 2 independent variables could be used. If more independent variables are used the generalizability of the results could decrease (Hair et al., 2009).

Already a pre-selection could be made to decide which independent variables could be used. Gender is not taken into account, because the sample consists of almost only men. Age is also not used as an independent variable because all the subjects were student entrepreneurs with an age between 19 and 28. Years of international experience are not taken into account because only a few students have international experience. Furthermore, years of education is not used as an independent variable because subjects could interpret this differently. Some will also mention years of high school while others only count the years of their last study. In addition, marital status is not taken into account since almost all the subjects are single. Income of subject's parents is also not used as an independent variable because almost all parents have a middle half income. The remaining options are religion, years of working experience, education level and family background. For the different variables, dummy variables are made to make them metric. A correlation analysis is conducted to decide which independent variables could be selected based on the highest correlation with the dependent variable (Hair et al., 2009).

The regression analysis is analyzed by looking at the correlation outcomes and if the outcome is statistical significant. A correlation outcome can lie between -1 and 1. When the outcome is nearby -1, a negative correlation is found and nearby +1 a positive correlation is found. In addition, also the R^2 is measured which indicates how much of the variance in the dependent variable could be accounted for by the independent variables.

4.3.3 Exploratory factor analysis

Causation and effectuation are two different approaches to new venture creation (Sarasvathy, 2001). Hence, it could be expected that there is a two factor solution where the causation items should load on one factor and effectuation items should load on the second factor (Chandler et al., 2011). An exploratory factor analysis for the survey and think aloud method is conducted to explore the underlying dimensionality of the items. In addition, an exploratory factor analysis could explain the variance in the observed variables in terms of underlying latent factors (Habing, 2003). In this case, the factor analysis explores the underlying dimensionality between the 17 questions of the survey research and the 12 items of the think aloud method. Both methods are analyzed to find out if causation and effectuation are indeed two constructs or if they are multidimensional. When a construct refers to different dimensions which are related and are treated as a single theoretical concept, then a construct could be called multidimensional (Law, Wong & Mobley, 1998).

First, the factorability of the data needs to be assessed (Chandler et al., 2011). Therefore the Bartlett's test of sphericity and the Kaiser-Meyer-Olkin (KMO) are used. The Bartlett's test of sphericity is a test statistic used to examine if each variable correlated perfectly with itself and does not correlate with other variables. The Bartlett test is significant if the p-value is lower than the alpha of 5%. The KMO measure of sampling adequacy examines if the factor analysis is appropriate. The analysis is appropriate if the outcome lies between 0,5 and 1. A disadvantage is that this method is arbitrary and easily leads to over- and underfactoring. Hence, not only the KMO measure is used to determine if the factor analysis is appropriate, but also the Bartlett's test of sphericity. Furthermore, also the Cronbach's alpha is measured to determine the internal consistency of the items. When the outcome is higher than 0,7 the internal consistency is accepted. In addition, a parallel and scree analysis is used to determine the number of factors which must be extracted from the data. A parallel analysis is used to indicate how many factors could be used based on the number of eigenvalues. Only using a parallel analysis could be arbitrary and therefore also a scree analysis is used. The scree analysis shows a number of plotted points which indicate the number of factors.

For the survey and the think aloud method a factor analysis is conducted to check which items load on one factor. If the causation elements load on one factor and also the effectuation elements load on another factor, it is clearer that causation and effectuation are two different constructs. Afterwards all the items that load on one factor could be computed together. On the other hand, if the items do not load on one factor, for example causation and effectuation items both load on factor 1; this means the items cannot be computed together. The final objective is to find out if there is a correlation between the methods and when causation and effectuation items are computed together it is not possible anymore to see which items measure causation and which items measure effectuation and as a consequence no correlation could be analyzed between the two methods. Therefore, if the results of the factor analysis show that causation and effectuation items are multidimensional and load together on different factors, for each method need to be decided which items could be retained to make sure only items are included that measure causation and effectuation. If it is clear which items should retain, a correlation matrix could be conducted for the survey and think aloud method.

4.3.4 Correlation between survey and think aloud method

After analyzing the underlying dimensionality between the causation and effectuation elements it is possible to analyze if there is a correlation between the two methods to find out if a person scores high on for example causation with the survey, he will also scores high on causation with the think aloud method. It is important to first find out which items could be retained before analyzing the correlation to make sure only the

items that measure causation and effectuation are included. Especially when the outcome of the factor analysis shows that causation and effectuation are multidimensional, it is important to analyze if some items need to be removed because they do not correlate with the other items.

Analyzing the items is done for the survey research and the think aloud method. The questionnaire consists of 17 questions, wherefrom the first 9 should measure causation elements (Chandler et al., 2011). Therefore, the reliability and correlation between these 9 questions is analyzed. If there is a high Cronbach's alpha it could indicate the items are internally consistent. Furthermore, a positive correlation is expected between the 9 causation items. If the output of the correlation analysis indicate some items have a negative correlation it could be an indication these items should be removed. In addition, the correlation analysis explains what will happen with the Cronbach's alpha if one of the items would be removed. If the analysis shows an increase of the Cronbach's alpha it could be another indication that the item should be removed because it does not correlate with the other items. If it is clear which items could be retained, the retaining items are computed into one variable. This variable consists of items that should measure for example only causation.

These steps are also followed for question 10 till 17 of the questionnaire which should measure effectuation. For these questions is decided if there is a positive correlation between the questions to decide which items should be retained to measure effectuation. Furthermore, for the think aloud method the items being goal-driven, expected return, competitive analysis, market knowledge, predictions of the future and the item causal are analyzed to find out if there is a positive correlation between them. These items are related to causation. For the items that are related to effectuation the items means-driven, affordable loss, use of alliances, exploiting contingencies, control by prediction and the item effectual are analyzed. Also for these items the reliability and the correlation between the items is analyzed to decide if there are items which should be removed.

After is clear which items should be retained for the survey and the think aloud method it is time to analyze the correlation within and between the two methods. First a negative correlation is expected between the causation items of the survey and the effectuation items of the survey. If a person scores high on causation it is expected this person will score low on effectuation and vice versa. In addition, also a negative correlation is expected between the causation and the effectuation items of the think aloud method. When looking at the two methods, a positive correlation is expected between the causation items of the survey and the causation items of the think aloud method. It is expected that if a person scores high on causation with the survey he will also score high on causation with the think aloud method. In addition, also a positive

correlation is expected for the effectuation items between the two methods. These correlations are first analyzed by using a scatterplot. A scatterplot could be used to identify a relationship between two variables. In addition, also a correlation matrix is performed to analyze if the methods are statistically significant with an alpha level of 5%. A one-tailed significance level is used, because a specific direction of the correlation is expected, namely positive or negative.

5. Results

Before looking at the results of the statistical tests, the different proportions per principle for Malaysian student entrepreneurs and Dutch student entrepreneurs are given. Figure 7 shows the differences per causal principle between Malaysian and Dutch student entrepreneurs based on the outcomes shown in appendix 4. On average the Malaysian student entrepreneurs have a higher score on causation, but for some principles the Dutch student entrepreneurs score higher on causation. For example Malaysia scores higher on predictions of the future and competitive analysis, but the Netherlands scores a bit higher on expected returns and using existing market knowledge. In figure 8, the effectual proportions per principle are given. It cannot clearly be said that Malaysian or Dutch student entrepreneurs score higher on effectuation; also this figure shows differences per principle. For example the Netherlands has a higher score on control by prediction but Malaysia scores higher on exploitation of contingencies.

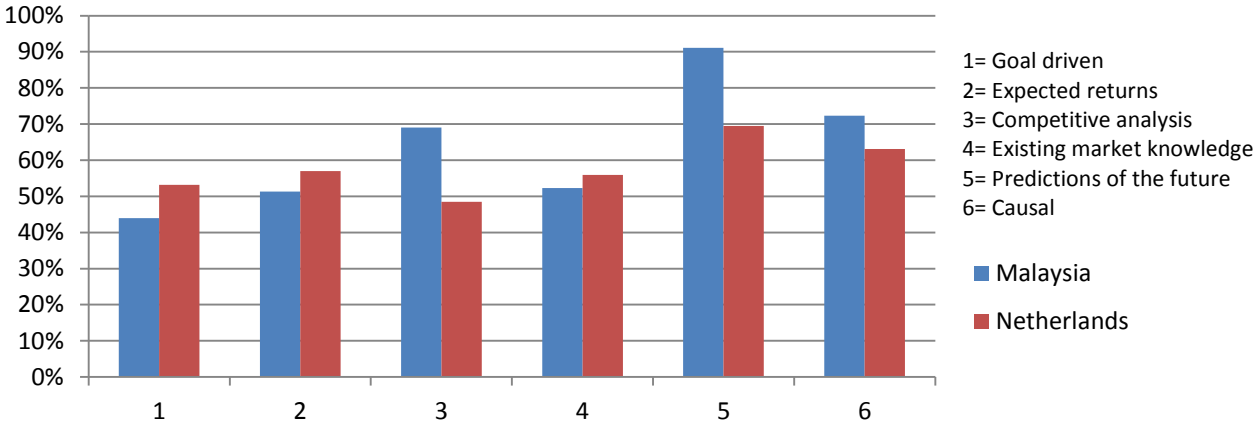

Figure 7: Causation proportions between Malaysia and the Netherlands per principle

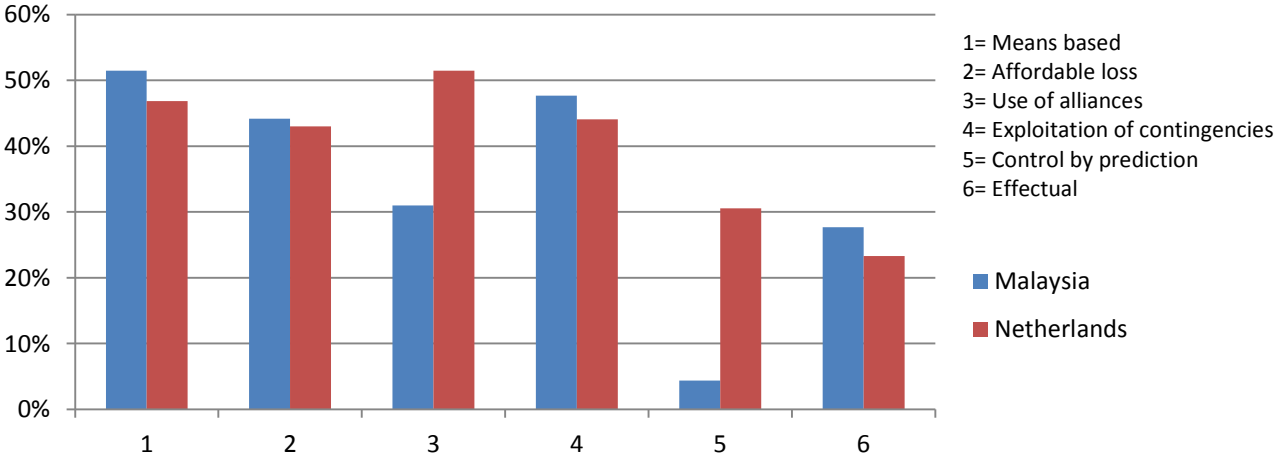

Figure 8: Effectuation proportions between Malaysia and the Netherlands per principle

Based on the results shown in figure 7 and figure 8, no clear conclusion could be made yet that student entrepreneurs in Malaysia use more causation or effectuation processes than student entrepreneurs in the Netherlands because the outcomes are close to each other. In addition, some hypotheses expect a causation type of process and some an effectuation type of process used by Malaysian entrepreneurs. Perhaps the results could provide more insight if one type of process is used.

5.1 Results hypotheses

The five hypotheses are statistically tested to find out if there are differences between Malaysian and Dutch student entrepreneurs and between Malaysian student entrepreneurs with a different religion. For each hypothesis is explained if there is a normal distribution and the outcomes of the statistical test are given.

5.1.1 Hypothesis 1

The more a culture relies on hierarchy and centralization, the more an entrepreneur will be goal-driven.

Figure 7 shows that Dutch student entrepreneurs score higher on goal-driven than the Malaysian student entrepreneurs which is not in line with the theory. Looking at the proportions, the Malaysian student entrepreneurs have a proportion of 0,44 for goal driven and the Dutch 0,53. Furthermore, the Kolmogorov-Smirnov test and the Shapiro-Wilcoxon test both give a value which is lower than the alpha of 5% (0,000 and 0,001). Therefore it can be concluded that there is no normal distribution and a Mann-Whitney U test is conducted. The Mann-Whitney U test gives a p-value of 0,019. This value is lower than the alpha of 5% and therefore it fails to reject the hypothesis.

5.1.2 Hypothesis 2

The more a culture accepts that uncertainty is a normal feature of life the more an entrepreneur will try to exploit contingencies.

Figure 8 shows that Malaysian student entrepreneurs score slightly higher on exploiting contingencies than the Dutch student entrepreneurs which is in line with the theory. Looking at the proportions, the Malaysian student entrepreneurs have a proportion of 0,48 and the Dutch 0,44. The Kolmogorov-Smirnov test and the Shapiro-Wilcoxon test both give a value which is lower than the alpha of 5% (0,000 and 0,003). Hence it can be concluded that there is no normal distribution and a Mann-Whitney U test is conducted. The Mann-Whitney U test gives a p-value of 0,001, which is lower than the alpha of 5% and therefore it fails to reject the hypothesis.

5.1.3 Hypothesis 3

The more a culture relies on being part of a group the more an entrepreneur will make use of alliances.

The Malaysian student entrepreneurs have a proportion of 0,31 for the use of alliances. On the other hand, the Dutch student entrepreneurs have a proportion of 0,51, which is not in line with the theory. Furthermore, the Kolmogorov-Smirnov test and the Shapiro-Wilcoxon test both give a value which is lower than the alpha of 5% (0,000 and 0,001). Therefore it can be concluded that there is no normal distribution and a Mann-Whitney U test is conducted. The Mann-Whitney U test gives a p-value of 0,001, which is lower than the alpha of 5% and therefore it also fails to reject the third hypothesis.

5.1.4 Hypothesis 4

*The more a culture relies on the Islam religion, the more an entrepreneur will be goal-*driven.

For the fourth hypothesis the Muslim student entrepreneurs and the Buddhist student entrepreneurs from the Malaysian sample were compared with each other. Looking at the proportions, for the Buddhist student entrepreneurs the proportion that is goal driven is 0,48 in comparison with 0,52 for the Muslim student entrepreneurs, which is in line with the theory. The Kolmogorov-Smirnov test and the Shapiro-Wilcoxon test give a value of 0,098 and 0,174. Both levels are higher than the alpha of 5%, which indicates there is a normal distribution. Because the distribution is normal, a one-way ANOVA test is conducted. The ANOVA test gives a p-value of 0,2895 which is higher than the alpha of 5% and therefore the fourth hypothesis can be rejected.

5.1.5 Hypothesis 5

The more a culture relies on the Buddhist religion, the more an entrepreneur will make use of alliances.

Looking at the proportions, for the Buddhist student entrepreneurs the proportion that makes use of alliances is 0,35 in comparison with 0,20 for the Muslim student entrepreneurs. This is in line with the theory, which stated that Buddhists will make more use of alliances than Muslims. The Kolmogorov-Smirnov test and the Shapiro-Wilcoxon test give a value of 0,101 and 0,059. Both levels are higher than the alpha of 5%, which indicates there is a normal distribution. Because the distribution is normal, a one-way ANOVA test is conducted. The ANOVA test gives a p-value of 0,1585 which is higher than the alpha of 5% and therefore the fifth hypothesis can also be rejected.

5.2 Results multiple regression analysis

Based on the outcome of the correlation matrix is decided to use education level and family background as independent variables. These variables have the highest correlation with the dependent variable. First is analyzed if the two independent variables could predict the outcome of the dependent variable of causation. The results show that for the two independent variables a weak negative correlation could be found (-,255). Furthermore, R^2 has an outcome of 0,068 which means that 6,8% of the variance in causation could be explained by family background and education level.

Using effectuation as the dependent variable, the results show that a weak positive correlation could be found (,204). Furthermore, R^2 has an outcome of 0,111 which means that only 11,1% of the variance in effectuation could be explained by family background and education level.

5.3 Results exploratory factor analysis

A KMO and Bartlett's test of sphericity is conducted to test the factorability of the data. The results give a KMO value of 0,406, which is low. However, looking at the KMO for causation and effectuation separately, then a value of 0,655 and 0,625 can be found which is higher than 0,5. The Bartlett's test of sphericity has a p-value of 0,013. The Bartlett test is significant, because the p-value is lower than the alpha of 5%. Based on these results the factor analysis could be seen as appropriate. Besides the KMO and Bartlett's test of sphericity, also the Cronbach's alpha is measured. The Cronbach's alpha is 0,70, which indicates the scale is internally consistent. Furthermore, a parallel- and scree analysis are conducted and the outcome of these tests suggests that three factors should be retained. The outcome of the exploratory factor analysis could be found in table 7 in appendix 5.

In addition, also for the think aloud method the factorability of the data is assessed. The KMO gives an outcome of 0,669 and the Bartlett's test of sphericity gives a p-value which is smaller than 0,0001. Both results indicate that the factor analysis could be seen as appropriate. Furthermore, the Cronbach's alpha has a score of 0,67 which is a bit low and therefore the scale is not internally consistent. The outcome of the parallel- and scree analysis indicates that three factors should be retained. The outcome of the exploratory factor analysis of the think aloud method could be found in table 8 in appendix 5. Table 7 and 8 both indicate that causation and effectuation items load on three different factors. Therefore causation and effectuation are both a multidimensional construct.

5.4 Results correlation between survey and think aloud

A reliability analysis is conducted for the first 9 causation questions from the questionnaire. The outcome of the Cronbach's alpha is 0,74. The correlation analysis shows that question 8 has a negative correlation with the other questions. This could already indicate this question does not fit with the other questions, because a positive correlation is expected. Furthermore, question 8 has the lowest correlation (0,269) in comparison with the other questions. And in addition, if question 8 would be removed the Cronbach's alpha will increase to 0,76. Therefore question 8 is removed. A reason why question 8 does not correlate with the other causation questions could be that is asked about a product or service which each subject could interpret differently. After question 8 is removed the remaining 8 questions are computed into one variable.

The same steps are followed for the survey question 10 till 17, which should measure effectuation. The reliability of the effectuation questions is 0,55, which is low. The correlation analysis shows that question 10 and 16, both have negative correlations. Furthermore, if question 10 and 16 would be removed the Cronbach's alpha will increase to 0,67, which is more than 0,10 higher than the Cronbach's alpha of all the effectuation questions together. Looking at the questions itself, what is remarkable is that question 10 is the same type of question as question 8 which was already removed in the causation part. Looking at question 16, the factor analysis already showed that question 16 load on factor 1. This was the only effectuation question that load on factor 1, besides some causation questions. Furthermore, question 13 has a low correlation with the other questions. If this item would be removed the Cronbach's alpha will increase to 0,74. Hence, also this question is removed. Looking at the question itself what could be noticed is that the type of question can be very confusing and perhaps therefore this question has a low correlation with the other effectuation questions.

Now is clear which questions of the survey measure causation and effectuation, the same steps are followed for the think aloud method. The think aloud method consists of 6 items related to causation and 6 items related to effectuation. The reliability for the causation items is 0,51, which is low. The correlation analysis shows that the sixth item 'causal' has a negative correlation with the other items. The other items all have a positive correlation with each other. Removing the sixth item will give a new Cronbach's alpha of 0,70, which is an extra indicator this item should be removed.

The same steps are followed for the effectuation items of the think aloud method. The reliability of the six items has a value of 0,51, which is low. The correlation analysis shows that the item 'exploiting contingencies' and 'effectual' could be removed. Both items have a negative correlation with the other questions. Removing both items

would give a new Cronbach's alpha of 0,67 which is still not very high but already more than 0,15 higher than the Cronbach's alpha of the six items together.

A next step is measuring the correlation for each method and also between the methods. The scatterplots in figure 9 and 10 in appendix 6 shows there is no negative correlation between the causation and the effectuation questions of the survey and between the causation and the effectuation items of the think aloud method. Furthermore, the scatterplot in figure 11 in appendix 6 shows that there is a positive correlation between the causation elements of both methods, but on the other hand no positive relation could be found between the two methods looking at effectuation, reflected in figure 12. In addition, the correlation matrix in table 9 shows there is a positive correlation for causation between the two methods, by looking at the correlation outcome of ,394 and a p-value of ,035, which is lower than the alpha of 5%. On the other hand, when looking at the construct effectuation at the survey and think aloud method, the outcome is not statistically significant with a p-value of ,162.

Correlations

		Survey method - Causation	Survey method - Effectuation	Think aloud method - Causation	Think aloud method - Effectuation
Survey method - Causation	Pearson Correlation	1	,297	,394*	-,142
	Sig. (1-tailed)		,090	,035	,264
	N	22	22	22	22
Survey method - Effectuation	Pearson Correlation	,297	1	,313	,220
	Sig. (1-tailed)	,090		,078	,162
	N	22	22	22	22
Think aloud method - Causation	Pearson Correlation	,394*	,313	1	,585**
	Sig. (1-tailed)	,035	,078		,000
	N	22	22	44	44
Think aloud method - Effectuation	Pearson Correlation	-,142	,220	,585**	1
	Sig. (1-tailed)	,264	,162	,000	
	N	22	22	44	44

*. Correlation is significant at the 0.05 level (1-tailed).

**. Correlation is significant at the 0.01 level (1-tailed).

Table 9: Correlation matrix between the survey and think aloud method

6. Conclusion

Based on the findings several conclusions could be made and an answer could be given on the research question. Furthermore, also conclusions could be made for the results of the regression analysis, exploratory factor analysis and the correlation between the survey and think aloud method.

6.1 Conclusion hypotheses

After analyzing the results it is possible to give an answer on the research question: *"To what extent does national culture influence the way in which entrepreneurs use a causal or effectual type of process in the development of a new venture?"*

From the results it could be concluded that two hypotheses could be rejected and three hypotheses fail to reject. In more detail, hypothesis 1, 2 and 3 where Malaysian student entrepreneurs were compared with Dutch student entrepreneurs, failed to reject. Based on theory it was expected that Malaysian entrepreneurs, who live in a culture with a high power distance, would be more goal-driven than Dutch entrepreneurs. This suggests that countries with a high power distance would make more use of causation type of processes than countries with a low power distance. The findings confirm these expectations. Growing up in a culture with a high power distance can indeed mean that an entrepreneur would be goal-driven and therefore makes use of a causation type of process.

Furthermore, based on the theory it was expected that a Malaysian entrepreneur who grows up in a culture which accepts that uncertainty is a normal feature of life, would try to exploit contingencies. In addition, Dutch entrepreneurs try more to avoid uncertainty and would therefore less try to exploit contingencies. This suggests that countries with a low uncertainty avoidance would make more use of effectuation type of processes than countries with a high uncertainty avoidance. The findings confirm the expectations. Growing up in a culture where uncertainty avoidance is low and where people are open for the unknown future, could indeed lead to the exploitation of contingencies and therefore an effectuation type of process is used.

It was furthermore expected that an entrepreneur who grows up in a collectivistic culture which relies on social networks and being part of a group, would make use of alliances. In addition, Malaysian entrepreneurs try to find partners to exploit new ideas. It was expected that Dutch entrepreneurs show the opposite behavior because the Netherlands could be seen as an individualistic country and do not rely on the use of alliances. This suggests that collectivistic countries would make more use of effectuation type of processes than individualistic countries. The findings confirm the expectations. Growing up in a culture with a high collectivism could indeed lead to the use of alliances and therefore an effectuation type of process is used.

Hypothesis 4 and 5, which focused on the religion of the Malaysian student entrepreneurs, were both rejected. From theory it was expected that Muslim entrepreneurs would be more goal-driven than Buddhist entrepreneurs and furthermore, Buddhist entrepreneurs would make more use of alliances than Muslim entrepreneurs. However, the findings could not confirm these expectations. As a consequence, being part of an ethnic group in Malaysia does not need to influence the type of entrepreneurial process used by the entrepreneur. However, this was only tested for the principle being goal-driven and use of alliances and only two religions were taken into account.

An overall conclusion could be made that the first hypothesis confirms that a causation type of process is used and the second and third hypothesis confirm that an effectuation type of process is used. It was expected that if the first hypothesis confirm a causation type of processes, the second and third hypotheses could not be confirmed because they suggest effectuation type of processes and vice versa. However, this was not the case. The results of the think aloud case already indicated that Malaysia scores high on causation elements but sometimes also scores high on effectuation elements. This corresponds with the results of the hypotheses. Based on the findings it could be concluded that national culture has some influence because there are differences between Malaysia and the Netherlands regarding the use of entrepreneurial processes, however it cannot be concluded that national culture influence the type of entrepreneurial process that is used, because both causation and effectuation processes are used. Hence, national culture does not influence as in the way that was expected.

The question could be asked if Malaysia actually has one national culture which is shared by all the ethnic groups. Within a culture people share the same values which cannot easily be copied by other cultures (Hofstede, 2001). Perhaps because of the presence of different ethnic groups the people in Malaysia do not share the same values and do not share one national culture. However, the results could not confirm that Muslim entrepreneurs use more causation type of processes than Buddhist entrepreneurs and vice versa. A possible reason could be that a Malaysian Muslim entrepreneur relies on the Islam values but can be influenced by the other religions because in daily life people from different ethnic groups for example work together. Hence, Malaysian people with different ethnic backgrounds could be influenced by each other. A Muslim entrepreneur could for example make more use of alliances nowadays because of influences of the Buddhist religion. These different influences could explain the outcome of the results of using both causation and effectuation type of processes.

It is also possible that the entrepreneurs do not always use one type of entrepreneurial process but combine elements of causation and effectuation in the development of a new venture. The same as is recommended to combine elements of the planning and learning approach (Brinckmann et al., 2010). Hence, it could be a good approach to gain for example market knowledge and conduct competitive analysis but in the meantime make sure you are flexible and can easily adapt to unexpected opportunities.

6.2 Conclusion regression analysis

From the results of the multiple regression analysis, it could be concluded that the independent variables family background and education level can only predict a very small amount of the outcome of using causation or effectuation processes. Only 6,8% of the variance in causation can be explained by family background and education level. The findings show a weak negative correlation, which could even mean that having at least one parent employed as entrepreneur and following for example a bachelor study, leads to less use of causation processes. A reason could be that when a student entrepreneur has at least one of his parents employed as entrepreneur, he already gained some experience from his parents. For example a student entrepreneur could learn how to do things the same or differently based on his parents which mean a student entrepreneur relies on his own means. Furthermore, when following a bachelor study a student gets more practical experience by for example following an internship than with a master study. A student entrepreneur could rely on his gained experience during his bachelor study when setting up a new venture which means he relies on his own means. Acting based on your own means can indicate an effectual type of process is used instead of causation which can explain the negative correlation. However, the variance in causation explained by family background en education level is very small.

Furthermore, the variance in effectuation which could be explained by family background and education level is a little bit higher with 11,1%, but is still very small. A weak positive correlation was found which means that that having at least one parent employed as entrepreneur and following for example a bachelor study can be of influence of using effectual processes. However this influence is very small. Family background and education level have a weak negative correlation on causation processes, but perhaps the correlation outcome shows a weak positive correlation with effectuation because the student entrepreneur will make decisions based on his own means as explained above, which relates to the use of effectuation type of processes.

6.3 Conclusion factor analysis and correlation matrix

From the results of the exploratory factor analysis there seems to be no evidence that causation and effectuation are two different constructs. The causation and effectuation items load on three different factors and both constructs can therefore be seen as multidimensional. The fact that causation and effectuation are multidimensional could also be an explanation why Malaysian and Dutch student entrepreneurs score on both processes because some questions and items consisted of causation and effectuation elements.

In addition, the results of the correlation matrix shows that first from the think aloud method and the survey research some questions and items had to be removed before they consist of only items that measure causation and effectuation. Based on the correlation matrix it could be concluded that after removing some items there is a positive correlation between the survey and think aloud method when measuring causation. On the other hand, no positive correlation was found between the survey and think aloud method when measuring effectuation. As a result, if an entrepreneur scores high on effectuation with the survey research, he would not also scores high on effectuation with the think aloud method.

As a consequence, the outcomes of the exploratory factor analysis and the correlation matrix could indicate that the current think aloud method and the survey research are not the right methods to test the use of causation or effectuation type of processes. This could also be an explanation why the results indicate that Malaysian and Dutch entrepreneurs in their answers use both type of entrepreneurial processes.

7. Discussion

Based on the results it could be concluded that Malaysian student entrepreneurs sometimes use a causation type of process and sometimes a more effectuation type of process. The use of both types of processes could be explained because of different reasons. The Malaysian student entrepreneurs, who were part of the sample, could indeed use elements of both types of processes but it is also possible that the survey and think aloud method are not valid. The exploratory factor analysis already indicated that causation and effectuation are multidimensional and only after removing some items a positive correlation for causation is found between the two methods. Furthermore, no positive correlation was found between the two methods regarding effectuation. This could indicate that the validity is low, which means both methods do not measure what they claim to measure.

Furthermore, the hypotheses are partly based on results from the research of Hofstede. What must kept in mind is that Hofstede only used Western developed measurements and constructs and therefore the results could be biased. Because could a non-western culture be captured with techniques based on a Western ideology (Noordin, 2009)? In this case Western instruments are used in an Asian country and could therefore be biased. Furthermore, based on the results of Hofstede, Malaysia is for example classified as a collectivistic country and the Netherlands as an individualistic country. These results are based on different replications of his study but it is possible the outcomes are not reliable when using student entrepreneurs as sample instead of IBM employees. Therefore it is questionable if the outcomes of the cultural dimensions still hold for Malaysia when student entrepreneurs were used as sample.

Another discussion point regarding the work of Hofstede is that in his research no differences are made between the ethnic groups within Malaysia. He assumed the domestic population as a homogeneous whole and therefore it is possible that the Malaysian IBM employees in his research were all from the same ethnic group. The results of hypothesis 4 and 5 did not confirm there were differences between the Muslims and Buddhist entrepreneurs but this could be because of the small sample size and only two religions were taken into account. Based on theory it is expected there are differences between the different ethnic groups and that entrepreneurs could make different decisions based on their religious background. Therefore there is a possibility that the work of Hofstede would not be reliable when conducting the research again and student entrepreneurs with different ethnic backgrounds are used as sample. However, also when the work of other authors was used this would have been a discussion point.

The content of the think aloud case and the coding process are also a discussion point. Some questions within the think aloud case already expect a sort of causation or effectuation type of answer. Perhaps the subject would normally not have thought about it, but because a question is asked a specific answer is given. For example questions about competitors and market research. Furthermore, looking at the coding process, the inter-reliability is tested, but coding is still a subjective method. Perhaps if all the transcripts were recoded the results could be different.

Another discussion point is the governmental help which was offered since Malaysia became independent. The British treated the ethnical groups differently. Especially the Chinese were involved in the business sector. Therefore the government of Malaysia tried to decrease the inequalities by setting up programs to get more Malays and Hindu people involved in business life and especially in entrepreneurship. Because of the governmental support, inequalities partly disappeared but a disadvantage is that some people will always have the feeling they became an entrepreneur because of governmental support. They did not became an entrepreneur because it was a dream or because of their own abilities (Hamidon, 2009). They just took the chance the government offered them. It is not known if the student entrepreneurs also have this feeling. Some of them were part of university programs related to entrepreneurship and decided to continue the company. Perhaps this could influence the results. The results might be different for student entrepreneurs who started up a company based on their dreams or experiences and for students who just became an entrepreneur because of a provided program.

7.1 Limitations

There are several limitations for this research project. A first limitation is the generalizability of the conclusions because they are made based on the sample of Malaysian student entrepreneurs who live in Peninsular Malaysia. Malaysia is divided into two parts and for this project only Peninsular Malaysia is taken into account. Perhaps different results would occur if also East-Malaysia was taken into account. In addition, the Malaysian student entrepreneurs used for this research project lived in Kuala Lumpur or cities outside Kuala Lumpur, but all in the same area of Malaysia. This could also decrease the generalizability.

A second limitation is the type of sample which was used. For this research project student entrepreneurs were researched with an average age of 24. Conclusions about the influence of national culture on entrepreneurial processes are based on the data available from entrepreneurs who are still studying or are recently graduated. Therefore using only this sample decreases the generalizability of the research. Perhaps when using a different sample, with for example expert entrepreneurs, different conclusions could be given.

A third limitation is the language. Because of the British influence most of the Malaysian people speak English fluently, but still Malaysia has its own native language called Bahasa. The subjects had to think aloud in English and this could be a limitation, because it is possible that the subjects would think differently in their own language. This could also lead to different results.

Another limitation is the small sample size. For comparing religions within the Malaysian sample, only a small sample could be used. Conclusions are made based on the results of the hypotheses, but making conclusions when using a small sample size can decrease the generalizability. Besides religion, also a comparison is made between Dutch and Malaysian student entrepreneurs. This sample is larger than with comparing religions (total of 44), but still this sample size could be seen as small.

7.2 Future research

It is recommended to investigate in future research if Malaysian student entrepreneurs with other religions, like Christianity and Hinduism, influence the type of entrepreneurial process that is used. In addition, there was only a small Hindu sample in this research project. The Hindus are also a minority group in Malaysia but it is recommended to collect more data from Hindu entrepreneurs in the future to investigate if Hinduism has any influence on the type of entrepreneurial processes used. The current Hindu sample was too small to make conclusions about that.

Furthermore, it is recommended to repeat this research so a larger sample size is available. Having a larger sample size would make the outcomes more reliable. Besides the size of the sample, it is recommended to collect data on different moments in time and in other areas besides Kuala Lumpur. When data is collected on different moments in time and in different areas, the results would be more reliable and the generalizability could increase.

In addition, when a sample is used which consist of different type of entrepreneurs, from different parts of Malaysia, it is recommended to conduct another multiple regression analysis. The type of entrepreneur, for example student or expert, could be used as independent variable. Furthermore, the area where an entrepreneur lives can also be used as an independent variable to test if the independent variables influence the use of causation or effectuation type of processes.

In this research project the cultural dimensions of Hofstede were used to make a link with the causation and effectuation processes of Sarasvathy. It is explained why was chosen for the use of these dimensions but it is recommended to use different cultural dimensions in future research to investigate if this would lead to different results. For example the dimensions of Trompenaars or the GLOBE study could be used.

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Appendix 1: Evaluation of entrepreneurial models

	Emergence (Gartner, 1985)	New value creation (Bruyat and Julien, 2000)	Effectuation (Sarasvathy, 2006)	Opportunity driven new means-ends frameworks (Shane, 2003)
New venture created	Yes	Unspecified	Yes	No
Profit oriented	Yes	Market based	Performance	Yes
Individual	Yes	Yes	Yes	Yes
Temporality	No	Yes	Yes	Yes
Opportunity	Yes	Yes	Constructing	Yes
Innovation	No	Partially	Creativity (inferred)	Yes
Risk/uncertainty	Yes	Yes	Yes	Yes
Epistemological approach	Interpretive / Phenomenological	Social Constructionist	Pragmatist	Teleological
Implications for theory	Retrospective framework for generalizing theory	Extant focus on issues important to theory	Challenges economic theory (endogeneity)	Basis for unifying theory
Implications for practice	Indirect	Indirect	Direct	Indirect
Generic and distinct?	No: Innovation / falsifiable	No: Innovation and function unclear	No: Contradictionary, over complex	No: Whole but not parts /falsifiable

Table 1: Evaluation of entrepreneurial process models (Moroz & Hindle, 2011, p29)

Appendix 2: Different cultural dimensions

Researcher	Dependent variable	Independent variable	Sample
Kluckhohn & Strodtbeck (1961)	Human problem solutions	*Five dimensions:* Human nature orientation Man–nature orientation Time orientation Activity orientation Relational orientation	106 persons: Navaho Indians, Pueblo Indians, Spanish American village, Texan and Oklahoman farming village, and a Mormon village
Hall & Hall (1960)	Communication at work	*Four dimensions:* Fast and slow messages High and low context Space Time	180 employees and managers in the field of economy
Hofstede (1980)	National cultural difference within one organization	*Four dimensions:* Power distance Individualism/collectivism Masculinity/femininity Uncertainty avoidance	Approximately 116,000 IBM employees
Trompenaars (1993)	Management-relevant problem solutions	*Seven dimensions:* Time status Achievement/status ascription Individualism/collectivism Universalism/particularism Emotional/neutral Specific/diffuse Man–nature relationship	15,000 employees in companies
Schwartz (1992)	Present and future in society	*Eleven dimensions:* Self-direction Stimulation Hedonism Achievement Power Security Conformity Tradition Spirituality Benevolence Universalism	Approximately 200 teachers and 200 students per country, in 20 countries
GLOBE House et al. (2004)	Business leadership present and future	*Nine dimensions:* Performance orientation Future orientation Assertiveness Humane orientation Gender egalitarianism Power distance Institutional collectivism In-group collectivism Uncertainty avoidance	questionnaire with seven-point scales and analysis of qualitative data with content analysis 17,000 middle managers in 61 countries

Table 3: Cultural dimensions from different researchers (Fink et al., 2006, p44)

Appendix 3: Questionnaire causation / effectuation

Please answer the following questions on the basis of reflecting on your own company.

Please have a look at the following statements. Now, circle 1 answer out of 5, in which you indicate you are totally agreeing with the statement.

1 = totally agree
2 = agreeing
3 = neither agreeing, nor disagreeing
4 = disagree
5 = totally disagree

1. I analyzed long run opportunities and selected what I thought would provide the best returns.	1	2	3	4	5
2. I developed a strategy to best take advantage of resources and capabilities	1	2	3	4	5
3. I researched and selected target markets and did meaningful competitive analysis	1	2	3	4	5
4. I designed and planned business strategies	1	2	3	4	5
5. I organized and implemented control processes to make sure we met objectives	1	2	3	4	5
6. I had a clear and consistent vision for what I wanted to do	1	2	3	4	5
7. I designed and planned production and marketing efforts	1	2	3	4	5
8. The ultimate product / service that I used to launch this business was quite similar to my original conception	1	2	3	4	5
9. My decision making has been largely driven by expected returns	1	2	3	4	5

10. The ultimate product/service that I used to launch this business was quite different from my original conception	1	2	3	4	5
11. It was impossible to see from the beginning where I wanted to end	1	2	3	4	5
12. I have allowed the business to evolve as opportunities have emerged	1	2	3	4	5
13. I evaluated the set of resources and means I had at our disposal and thought about different options	1	2	3	4	5
14. I experimented with different products and / or business models	1	2	3	4	5
15. I started out very flexibly and tried to take advantage of unexpected opportunities as they arose	1	2	3	4	5
16. I used a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty	1	2	3	4	5
17. My decision making has been largely driven by how much we could afford to lose	1	2	3	4	5

Appendix 4: Results analysis think aloud protocols

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	%
Causation																								
G	3	6	9	1	5	2	2	2	3	3	1	4	0	1	1	4	5	2	2	1	3	4	*64*	11%
R	3	5	4	2	2	1	1	1	2	2	1	1	0	2	0	1	2	4	0	1	0	1	*36*	6%
B	2	2	5	3	2	1	4	3	7	3	3	5	5	5	4	1	3	4	4	7	4	3	*80*	14%
K	12	9	16	7	8	6	3	4	4	7	4	2	3	5	6	4	12	8	6	5	9	8	*148*	26%
P	4	3	5	4	1	4	4	5	6	5	3	2	3	4	1	0	3	2	4	4	3	5	*75*	13%
X	9	9	6	1	2	6	4	4	9	10	4	6	10	12	15	10	18	9	6	5	7	10	*172*	30%
	33	*34*	*45*	*18*	*20*	*20*	*18*	*19*	*31*	*30*	*16*	*20*	*21*	*29*	*27*	*20*	*43*	*29*	*22*	*23*	*26*	*31*	**575**	**100%**
Effectuation																								
M	2	2	8	2	5	3	1	0	6	1	6	11	0	4	3	5	2	12	3	3	4	3	*86*	23%
L	2	2	1	0	1	1	0	1	1	0	1	2	0	2	2	1	1	2	1	2	3	2	*28*	8%
A	3	3	2	1	3	0	2	2	3	2	1	2	1	2	1	2	0	0	2	1	2	2	*37*	10%
E	11	4	9	3	9	7	4	5	7	10	8	8	6	6	3	3	3	3	9	3	4	6	*131*	36%
C	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	0	0	0	*5*	1%
N	1	2	0	0	1	0	1	3	0	2	6	11	6	8	4	2	5	9	8	2	5	4	*80*	22%
	20	*13*	*20*	*6*	*19*	*11*	*8*	*11*	*17*	*15*	*22*	*34*	*13*	*22*	*13*	*13*	*11*	*27*	*26*	*11*	*18*	*17*	**367**	
Total	**53**	**47**	**65**	**24**	**39**	**31**	**26**	**30**	**48**	**45**	**38**	**54**	**34**	**51**	**40**	**33**	**54**	**56**	**48**	**34**	**44**	**48**	**942**	**100%**
% Caus	62%	72%	69%	75%	51%	65%	69%	63%	65%	67%	42%	37%	62%	57%	67%	61%	80%	52%	46%	68%	59%	65%		
% Effect	38%	28%	31%	25%	49%	35%	31%	37%	35%	33%	58%	63%	38%	43%	33%	39%	20%	48%	54%	32%	41%	35%		

Table 5: Results Malaysian subjects

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Total	%
Causation																								
G	4	7	2	4	6	5	6	5	13	2	2	10	2	3	5	8	3	7	0	1	2	5	*102*	19%
R	1	4	1	1	3	1	13	9	8	5	1	4	0	5	3	9	11	2	1	5	2	2	*91*	17%
B	4	4	3	4	5	5	12	4	8	5	5	7	6	5	3	3	8	2	1	1	2	3	*100*	19%
K	3	6	3	1	3	2	16	10	7	1	3	6	6	2	9	11	10	3	1	1	2	0	*106*	20%
P	3	5	2	2	3	3	2	3	7	4	3	3	10	8	3	7	3	1	1	1	1	2	*77*	14%
X	3	2	0	1	2	4	3	1	1	6	4	0	1	0	5	10	0	2	5	4	2	6	*62*	12%
	18	*28*	*11*	*13*	*22*	*20*	*52*	*32*	*44*	*23*	*18*	*30*	*25*	*23*	*28*	*48*	*35*	*17*	*9*	*13*	*11*	*18*	**538**	**100%**
Effectuation																								
M	6	5	3	5	3	1	13	9	13	0	1	6	3	2	4	3	4	0	5	6	4	2	*98*	23%
L	4	2	2	4	1	2	4	3	4	6	2	9	2	5	2	0	7	3	0	0	1	0	*63*	15%
A	5	7	6	4	4	8	11	7	8	2	4	5	2	6	1	3	5	3	5	2	5	2	*105*	25%
E	1	1	2	1	2	3	9	11	3	8	2	1	3	2	6	7	1	4	1	1	2	5	*76*	18%
C	2	1	2	2	0	0	4	3	3	0	2	13	1	3	0	4	0	1	0	3	1	0	*45*	11%
N	0	0	3	0	0	0	6	7	6	0	0	0	0	0	0	1	0	0	3	3	2	3	*34*	8%
	18	16	18	16	10	14	47	40	37	16	11	34	11	18	13	18	17	11	14	15	15	12	421	
Total	**36**	**44**	**29**	**29**	**32**	**34**	**99**	**72**	**81**	**39**	**29**	**64**	**36**	**41**	**41**	**66**	**52**	**28**	**23**	**28**	**26**	**30**	**959**	100%
% Caus	50%	64%	38%	45%	69%	59%	53%	44%	54%	59%	62%	47%	69%	56%	68%	73%	67%	61%	39%	46%	42%	60%		
% Effect	50%	36%	62%	55%	31%	41%	47%	56%	46%	41%	38%	53%	31%	44%	32%	27%	33%	39%	61%	54%	58%	40%		

Table 6: Results Dutch subjects

Appendix 5: Exploratory factor analysis

Items	C/E	Factor 1	Factor 2	Factor 3
We analyzed long run opportunities and selected what we thought would provide the best returns	C			,792
We developed a strategy to best take advantage of resources and capabilities	C			,565
We researched and selected target markets and did meaningful competitive analysis	C		,611	
We designed and planned business strategies	C	,729		
We organized and implemented control processes to make sure we met objectives	C	,737		
We had a clear and consistent vision for what we wanted to do	C	,382		
We designed and planned production and marketing efforts	C			,497
The ultimate product/service that I used to launch this business was quite similar to my original conception	C	,823[a]		
Our decision making has been largely driven by expected returns	C	,371		
The ultimate product/service that I used to launch this business was quite different from my original conception	E			,235
It was impossible to see from the beginning where we wanted to end	E		,731	
We have allowed the business to evolve as opportunities have emerged	E		,616	
We evaluated the set of resources and means we had at our disposal and thought about different options	E			,634
We experimented with different products and/or business models	E		,569	
We started out very flexibly and tried to take advantage of unexpected opportunities as they arose	E		,749	
We used a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty	E	,567		
Our decision making has been largely driven by how much we could afford to lose	E		,734	

[a] Reverse coded

Table 7: Results exploratory factor analysis survey

Items	C/E	Factor 1	Factor 2	Factor 3
Goal driven	C	,637		
Expected return	C	,710		
Competitive analysis	C	,677		
Market knowledge	C		,821	
Predictions future	C		,411	
Causal	C		,452	
Means based	E			,635
Affordable loss	E	,741		
Use of alliances	E	,790		
Exploiting contingencies	E		,736	
Control prediction	E	,693		
Effectual	E			,830

Table 8: Results exploratory factor analysis think aloud method

Appendix 6: Scatterplots correlation survey and think aloud

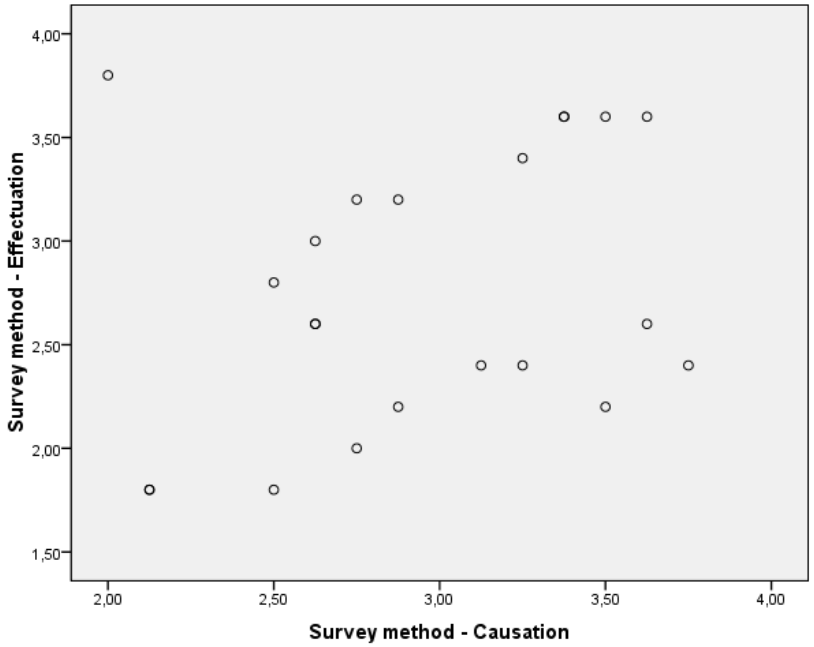

Figure 9: Scatterplot correlation causation and effectuation survey

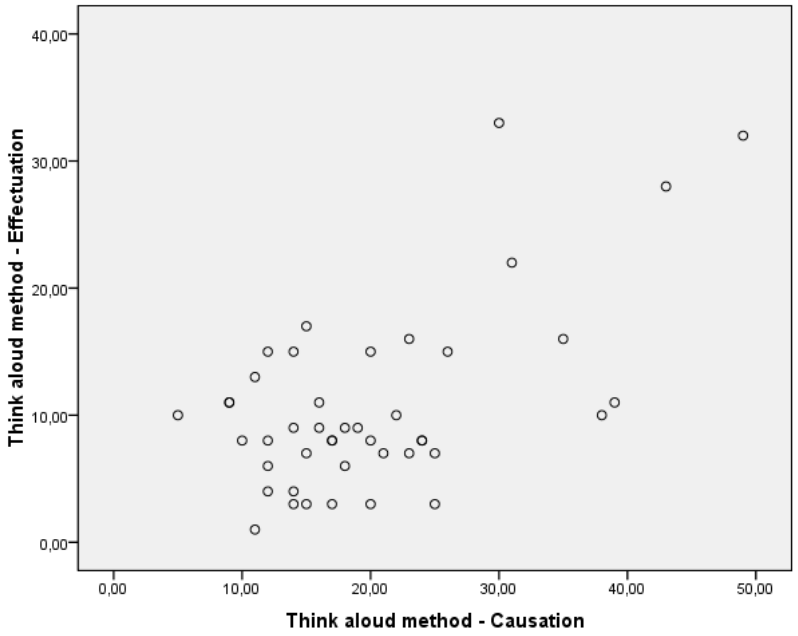

Figure 10: Scatterplot correlation causation and effectuation think aloud method

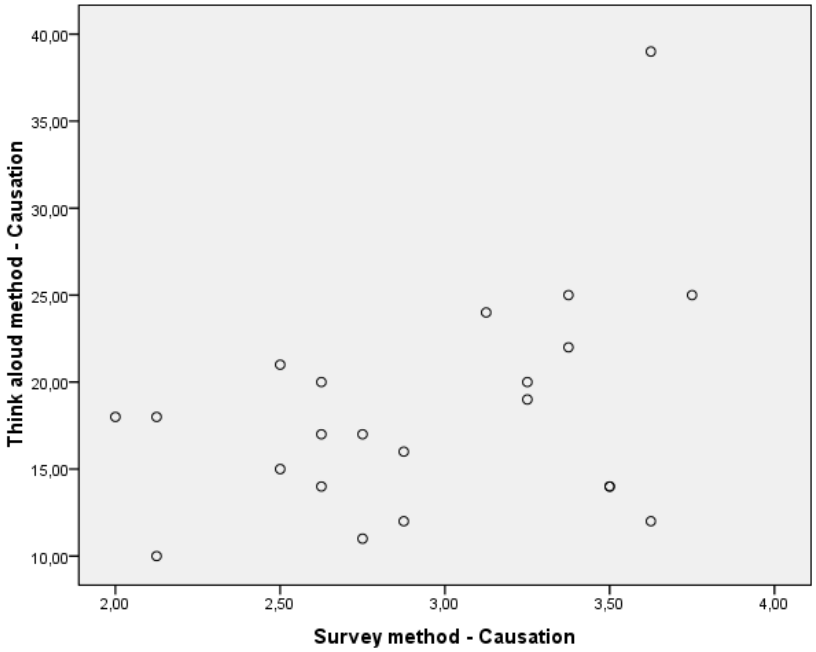

Figure 11: Scatterplot correlation causation between both methods

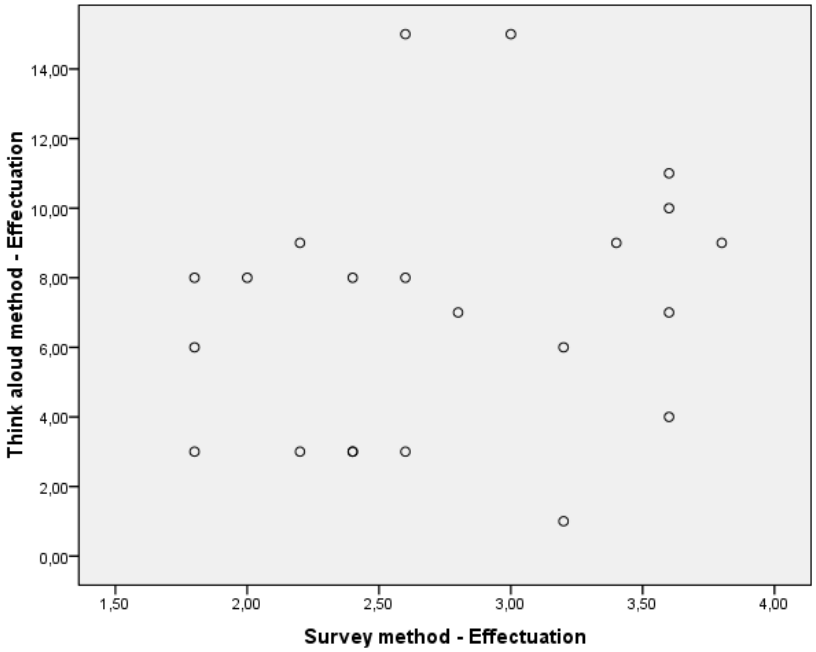

Figure 12: Scatterplot correlation effectuation between both methods