The influence of national culture on entrepreneurial processes

A comparison between British and Dutch novice entrepreneurs

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Preface

This thesis is submitted to the faculty of Management and Governance of the University of Twente, in fulfilment of the requirements for the degree of Master of Science in Business Administration, with a specialization in International Management.

My thanks and appreciation goes out to my graduation committee Martin Stienstra MSc. and Dr. Rainer Harms for their guidance, insights and consideration towards this thesis. I also like to thank mister Christopher Hall for his guidance and for giving me the opportunity to work from The Hive at Nottingham Trent University. He has been a great help in gathering all the data needed among British students.

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Management summary

The focus of this research is on understanding the influence that national culture could have on entrepreneurial processes. The aim is to find out whether novice entrepreneurs in two different countries have different approaches towards entrepreneurial processes. The method of causation and effectuation developed by Saras D. Sarasvathy is the leitmotiv in this research, combined with theory on national culture. When entrepreneurs use causational reasoning, they take a certain effect as given and focus on selecting means to create a particular effect, whereas when entrepreneurs use effectual reasoning, they start with a given set of means and allow objectives to emerge over time from the varied imagination and diverse aspirations of the entrepreneurs. With the last approach the interaction with other people is also important and could have influence.

Although entrepreneurship has gotten more attention over time, the focus of entrepreneurial research has always been on economical causes and elements and the influence of culture has been a less researched subject. The last decades economies have become global and opportunities that cross boarders keep increasing. That makes it important to know how entrepreneurs from different countries think and react. A possible influence on entrepreneurial differences between countries could be the underlying cultural values. Culture provides a communally held set of customs and meanings, many of which are adopted by an individual, becoming part of personality and influencing interaction with all facets of the environment. Because entrepreneurs grow up within a social background these cultural values should have an influence on their processes.

Within this research a comparison between the United Kingdom and the Netherlands is done. The research is based upon the cultural values and the entrepreneurial processes that entrepreneurs apply. The national cultures of the United Kingdom and the Netherlands are conceptualized by means of the cultural dimensions defined by the scientist Hofstede. His original values are used and the participating entrepreneurs are asked to fill out a questionnaire to see if differences exist. The data on the entrepreneurial processes is gathered through a case. This case is executed by all the participating entrepreneurs through a think aloud protocol. The use of the think aloud
protocol means that the participating entrepreneurs keeps talking out loud while executing the case. In this way the best insight in their thinking process should be acquired. Furthermore all the participating entrepreneurs are asked to fill out a survey to test the dimensionality of causation and effectuation.

Because the Dutch and British cultures are much alike it is hard to find solid evidence for an influence of culture on effectual entrepreneurship. Only three out of fourteen elements showed a significant difference. Although there are implications for an influence of entrepreneurship hard evidence could not be delivered.
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1. Introduction and design of the research

1.1 Background
Entrepreneurship and the entrepreneurial processes have always had my attention and interest. Also entrepreneurship and the entrepreneurial processes play and have played an important role in western economies and in the growth and innovation in these economies. According to Cuervo et al. (2007) entrepreneurship is an important element for economic progress and this importance comes forth in different ways: a) by identifying, assessing and exploiting business opportunities, b) by creating new firms and/or renewing existing ones by making them more dynamic, and c) by driving the economy forward through innovation, competence, job creation and by generally improving the wellbeing of society. The last decade governments also start to acknowledge this and they start promoting entrepreneurship. For example the United Kingdom government started the Entrepreneurship Week in 2004 which has now become the Global Entrepreneurship Week with millions of participants (UK government).

Within higher education entrepreneurship is still in the process of earning its place and is a relatively new academic field of study. More and more universities start, just as the University of Twente, with an entrepreneurship program. This means that the overall opinion is changing from “you are an entrepreneur or you are not” to “entrepreneurship is a learnable trade”. And in my opinion it is also important for people who don’t start their own company, but work in other companies, to learn some of the trades of an entrepreneur. Like for example to recognize opportunity and no when to take risks. So entrepreneurship research is a new and exciting field of study where not a lot is know yet.

The last few years the study and teaching of entrepreneurship, and the role played by professors that are teaching and researching entrepreneurship are of growing importance. This is for example illustrated by the rapid growth in courses and chairships in entrepreneurship in the United States (Finkle, Kurato, & Goldsby, 2006).
According to Cuervo et al. (2007) the creation of a country’s wealth and dynamism depends on the firms within the country and their competitiveness, and this, in turn relies on the capabilities of its entrepreneurs and managers. The importance of entrepreneurship is underlined by the fact that Cuervo thinks that wealth depends on entrepreneurship. If we then look at how the wealth is distributed around the world it can be expected that western countries like the Netherlands bring forth a lot of good entrepreneurs.

The last decade entrepreneurial processes have also become more and more important in business literature and research. A search on the online academic article website Scopus, with the term entrepreneurial processes gives almost 1000 results over the last four years. The total web result was well over 300.000 results (Sciverse, 2012).

For this research the focus will be on entrepreneurial processes. According to Bygrave and Hofer (1991): “the entrepreneurial process involves all the functions, activities, and actions associated with the perceiving of opportunities and the creation of organizations to pursue them”. According to the research of Sarasvathy, (2001) these thinking processes are different from the thinking processes of the non-entrepreneurial employee. There are different definitions of the entrepreneur and entrepreneurship which will be covered in more detail in the second chapter of this research. An entrepreneur can be described as a person who has, on his own, or with a small number of partners set up a new company or developed new technology.

Entrepreneurship research was originally focused on the attributes of entrepreneurship and success factors related to new venture performance. Recently, the focus of the field has changed to the study of entrepreneurial opportunities (Busenitz, et al., 2003). Entrepreneurship researchers nowadays begin with the acknowledgment that the most important phenomena to them – namely, opportunities – occur in the absence of markets (Venkataraman, 1997).

There are a lot of different views assigned to entrepreneurship and the entrepreneur as can be seen in chapter two. Entrepreneurial processes are a subdivision of entrepreneurship research. The research that has been done with regard to

A lot of perspectives exist with regard to entrepreneurial processes. Moroz and Hindle (2011) did a research in which they evaluate all the models of entrepreneurial processes that exist up to now, this research is done for a better understanding of the entrepreneurial process by finding commonalities, that are useable for scholars and practitioners. At the time of their investigation they found 32 models among which the models mentioned above. The purpose of this research was to find something generic and something distinct among all these entrepreneurship processes. This means something that binds all these models and something that sets them apart from other processes. The conclusion of the review done by Moroz and Hindle (2011) is that the field of entrepreneurial research is highly diversified and that there is a need for a clear understanding of what exactly is mend with the study and practice of entrepreneurship. Some of these models have cultural elements within them but they do not look into the influence culture could have on entrepreneurial processes.

The generics and distinctions among entrepreneurship processes was a question first asked by Hinkle and Klyver (2007), in a research looking for the link between mass media attention and the number of start-up businesses. Here Hinkle and Klyver also mention the possible influence of culture on entrepreneurial processes.

In their definition of entrepreneurial processes, Bygrave and Hofer (1991) say it involves functions, activities and actions, which are influenced by many factors. Several authors have written about these influences. The influences of political and institutional factors are mentioned by Baker et al. (2005), and Gartner (1985). Another influential factor on entrepreneurship that is recognized by Hayton et al. (2002) is national culture.
Sarasvathy (2001) in her model does not look towards culture as an influence on the entrepreneurial process. In fact Sarasvathy’s research took entirely place in the United States with cooperation of American managers. She found out some interesting things but never regarded national culture as an influential factor. This makes it interesting to look towards the influence that national culture could have on entrepreneurship in this research in more detail.

Borders in the worldwide business environment cease to exist more and more, due to countries concluding treaties as for example the European Union and the North American free trade agreement. And also for technological reasons such as the Internet which has improved communication on a worldwide scale immensely. These developments make the influence national culture has on international entrepreneurship more existent, because entrepreneurs come into contact with entrepreneurs with other cultures more and more. For entrepreneurs in order to understand these differences and be able to react to them it is important to recognize these differences and commonalities. In this research, because of time restrictions entrepreneurs that act international will not be the focus point. Because the majority of entrepreneurs start locally and on a small scale, the focus point will be novice entrepreneurs from different countries. This does not make it any less interesting to see if differences in entrepreneurial processes among entrepreneurs exist and if these differences could be explained by the influence of national culture.

As McGrath and MacMillan (1992) identified there is also a basic set of beliefs that are able to distinguish entrepreneurs from non-entrepreneurs. These basic sets of beliefs are not dependent on culture. For example entrepreneurs believe that they are more willing to take initiative, and are more open to change. These perceived differences may be linked to entrepreneurial activity.

The concept of culture is described in a lot of different ways. After decades of research in the field, it is still hard to give a precise definition of culture because of its many forms and elements (Cohen, 2009). Hofstede (2001) defines culture as, the differences between groups or categories of people through collective programming of the mind. This means that culture is a pattern of learned behavior, which influences daily life,
and therefore also the decisions entrepreneurs take. So it can be expected that national culture influences entrepreneurial processes, because the entrepreneurs executing these processes grow up within a social background. They are influenced by the underlying values of their culture Hayton et al. (2002) so that entrepreneurial behavior between countries differs. Hofstede (2001) states that countries differ, for example, on hierarchy, individualism, and uncertainty. It is important to understand the influence national culture has on entrepreneurship. Not only for our entrepreneurs doing business but also for educating our future entrepreneurs and managers.

At this moment in business schools around the world the main teaching form for entrepreneurial courses is a causational way. In the research of Sarasvathy (2001) it is proven that expert entrepreneurs make more use of an effectual reasoning. So it is interesting to see if there are differences between Dutch and English novice entrepreneurs and if these can be explained by cultural influences/differences. If empirical proof can be found of a cultural influence on entrepreneurial processes this will be a great contribution to effectuation theory. Effectuation is a fairly new topic in entrepreneurship research (Sarasvathy 2001).

For the future of entrepreneurship teaching at universities and schools around the world it is vital that a better understanding is created about entrepreneurs and entrepreneurial processes. The last decades the importance of entrepreneurship has grown substantially at universities around the world and in research by scholars. A lot is already known about the entrepreneur and his characteristics. Also a lot is known and said about national culture but the researches that combine the factors national culture and entrepreneurship are still very limited. In a world where international contacts are becoming easier every day and because of that also more frequent it is important to realize that differences between entrepreneurs could arise because of different cultural backgrounds. That is why this research will focus on the influence national culture could have on entrepreneurial processes.

1.2 Research objectives
As explained in the background paragraph a gap is identified. The gap mentioned is: whether or not differences in national culture can be significant and can be used to
explain a difference in the use of effectual or causal reasoning among entrepreneurs? This question is the empirical question that will be addressed in this thesis.

The objectives to be achieved:

1. To discover whether entrepreneurial processes, and in specific the use of causal and effectual reasoning in decision making, differs between novice entrepreneurs from different countries.
2. To identify the differences in the cultural dimensions of Hofstede between the entrepreneurs of different countries, and see if these differences can explain a difference in the approach of entrepreneurial processes between these countries.

If differences between the entrepreneurial processes used by novice entrepreneurs from the researched countries can be discovered, and this can be put in a relationship to the culture they live in, the implications for business schools can be influential.

1.3 Research Question
In order to achieve these objectives, the central research question of this thesis will be:

To what extent is there a difference between novice entrepreneurs from different countries in the preference of effectual/causal logic in entrepreneurial processes? If so can these differences be explained by the influence of national culture on these processes?

In answering this central research question a sequential method is used and the central question is subdivided in the following research questions.

1. What different entrepreneurial processes can be distinguished?
2. The differences between causal and effectual reasoning?
3. What is national culture and how can it influence entrepreneurial processes?

After these questions have been answered in the theoretical part of this dissertation. These questions will be compared to the case results gathered in two countries. This will make it possible to address the central research question in the conclusion
chapter. Hopefully this will give some conclusive and useful information that can be used in future entrepreneurial research and teaching.

1.4 The methodology of the research
The work in this research is based on the think aloud protocol from the work of Ericsson and Simon (1981). This is an excellent model for analyzing thought processes, because the researcher is accessing the thought process while the task is done. This decreases the chance of the information being ‘colored’ or adapted to the perceptions of the research subject.

1.5 Outline of the research
As noticed the first part of this thesis describes the reasons and motivation of this research and this is also where the research questions and the methodology of the research are explained.

In the second chapter of this thesis a solid theoretical base will be build which will be used for answering the four partial research questions above. The theoretical answers to these research questions will lead to hypotheses.

The third chapter of the research will be used for an explanation on the methodology used for gathering the data of the entrepreneurs and how this data will provide us with answers to the hypothesis formed in the second chapter.

The fourth chapter will give an extensive insight in the gathered data and the results and findings they provide. The data will be analyzed through the use of statistics to make well founded remarks about possible interesting findings.

In chapter five we finish this research by comparing the theoretical findings with the results that the gathered data provided us with. This will give us a conclusion and also further research options will be discussed. Finally possible limitations of the research will be addressed.
2. Literature review

This chapter is used to build a sturdy backbone for the research and to find answers to the questions that were developed in the first chapter. This is done through a review of published work of several authors. The literature is reviewed and analyzed to build a solid foundation for this research.

First the entrepreneur is researched, this will lead to the influence the entrepreneurial processes of effectuation and causation can have. The construct culture will be explored through the eyes of several authors. In the next part the influence culture could have on entrepreneurial processes will be analyzed. And finally the specifics of national culture and the influence this could have on entrepreneurial processes will be brought together.

2.1.1 Entrepreneurial processes

As explained in the first chapter the entrepreneur plays a crucial role in the economics of the world. But it is not yet explained what defines an entrepreneur. Before Schumpeter (1934) started writing about the entrepreneur the entrepreneur was only marginally mentioned in literature by for example Cantillon (1755) who introduced the concept of the entrepreneur as a risk bearer.

This changed when Schumpeter (1934) wrote his theory of economic development. And although Schumpeter thought that his theories would only work in a well-developed capitalist system. Schumpeter is widely seen as the first real author writing about the entrepreneur and his influence on the economy. He believed that entrepreneurs follow a path of creative destruction to replace products, systems, or theories across markets and industries which creates new products, systems, or theories.

According to Schultz (1971) entrepreneurship is one of the components of human capital. It is a skill relating to the processing of information. Entrepreneurship is the skill of judging what decision procedures should be taken rather than the routine managerial skill of taking decisions according to procedures. It is also the skill involved
in taking decisions in unexpected business situations where ordinary procedures do not apply.

Opposite to the theory of Schumpeter is the theory of Kirzner (1997), Kirzner found that the economy has the nature to get out of control and create a disequilibrium. At that moment opportunities would arise for entrepreneurs, if entrepreneurs would take advantage of these opportunities a new equilibrium would be created.

Shane (2003) studied both Kirzner and Schumpeter. He identifies several sources for both types of opportunities that precede the actions of the entrepreneur. He argues that Schumpeterian opportunities arise out of technological, political or regulatory and social or demographic changes. While Kirznerian opportunities are largely unusual and arise out of the errors and omissions of prior decision-makers, which have caused surpluses and shortages (Shane, 2003).

From the 80’s onward entrepreneurship became a more well known field of research and a lot of authors have been building on the views of Schumpeter and Kirzner when trying to describe the entrepreneur and entrepreneurship. Entrepreneurship is a process by which the entrepreneur chases chances without regard to the resources he presently controls (Stevenson & Jarillo, 1989). This is done through opportunity discovery, enactment, evaluation and exploitation to create future goods and services (Oviatt & McDougall, 2005). In this research Oviatt and McDougall (2005) look into the internationalization aspect of entrepreneurship but only focus on the entrepreneur and the economic circumstances when the entrepreneur is acting international. In this research we will look at entrepreneurs that act locally. To see if differences exist between entrepreneurs from different national cultures.

Casson (2010) said that entrepreneurial processes exist through entrepreneurs, so entrepreneurship is the fundamental concept. It is also the fundamental concept linking different academic disciplines – notably economics, sociology and history, – but if entrepreneurship is so important, why has its significance been overlooked? Two factors account for this problem:
"Mainstream economists have perceived entrepreneurship as a complicating factor in explanations of the way that markets work, and have therefore sought to avoid the subject”.

"There has been disagreement over the most appropriate definition of the entrepreneur”. (Casson, 2010)

As shown there are a lot of slightly different views on what exactly an entrepreneurial process is and how it should be defined. In the remainder of this thesis the work of Sarasvathy (2001) will become the central approach. And this research will evolve around the processes of effectuation and causation.

Sarasvathy’s (2001) model is created around the principles of effectuation and causation. In this article she mentions the fact that in classrooms around the world people are talking about decisions, and they are thought to follow certain steps. But as entrepreneurial activity becomes more important and problems arise for which no priors exist because the technology that the decision is about for example is new. Or it is unknown which market is to be captured, no existing techniques can be used. For example how do you hire people for a company that does not yet exist? According to Sarasvathy this is where people all over the world are struggling with as the world becomes more entrepreneurial. This is how Sarasvathy came to develop effectuation.

Sarasvathy defines causation and effectuation in the following way: “Causation processes take a particular effect as given and focus on selecting between means to create that effect. 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” (Sarasvathy, 2001, p.3)

It does not matter if effectuation or causation is used by an entrepreneur because the end goal remains the same in both cases. What distinguishes the effectual or causational approach is the set of choices. It is choosing between means to create a wanted effect, this is the effectual way where Sarasvathy speaks of the “one-to-many mapping” principle. Or the choice to choose between many possible effects and in this process using a particular set of means, this is what she calls “many-to-one” mapping.
To clarify this, the example of a chef cooking a meal is used. In the first the chef is ordered to cook a certain meal ordered by a client, and all he has to do is make a list, buy the ingredients and cook according to the recipe. This is a causational approach. The other possibility is that the chef is ordered to cook a meal, he then goes in to his kitchen and looks around to what he has in stock, with this he starts cooking and creating a dish. This can be described as the effectual approach. Both can deliver very tasty meals but the approach is totally different.

2.1.2 Opportunity recognition
Entrepreneurial activities start with opportunities and that is why a substantial amount of literature can be found on topics as opportunity recognition (Baron R., 2006), (Baron & Ensley, 2006), opportunity development (Blume & Covin, 2011) and discovery and creation (Edelman & Yli-Renko, 2010). Opportunities are within entrepreneurial processes considered the most important elements according to Johanson and Vahlne (2009).

The article of Johanson and Vahlne is a revisiting of their research of 1977 in which they developed the Uppsala internationalization process model. Before this time the internationalization decisions of companies were seen as calculated choices taking into account the companies own resources. Johanson and Vahlne suggest this is not the case. In their model choices are made more ad hoc, and most important are networks between entrepreneurs. *Insidership* in relevant networks is necessary and this gives the ability to learn and trust partners which are important conditions for doing business. In their earlier work not a lot was known about this subject and it is still a discussion if opportunities are created or discovered (Johanson & Vahlne, 2009) by successful entrepreneurs, and what makes these entrepreneurs successful in these processes. In their article Johanson and Vahlne (2009) refer to Kirzner (1997) who says that opportunity recognition is a process of ongoing business activities instead of specific opportunity seeking. The before mentioned Shane (2003) showed that prior knowledge seems to have a strong impact on discovery. This could also indicate that experienced entrepreneurs are better at finding opportunities. He suggests that entrepreneurs should focus on what they know instead of what research or others say. Blume and Covin (2011) thought that intuition might also be a factor that could
influence the entrepreneurial process. But then the question arises if intuition is not strongly influenced by experience.

The main body of entrepreneurship research is based upon the rational decision making models used in neoclassical economics. Most entrepreneurship researchers have assumed that individuals participate in rational goal driven behaviours when pursuing entrepreneurial opportunities (Perry et al. 2011).

For opportunity recognition two theories have been developed: the discovery theory and the creation theory (Alvarez & Barney, 2007). With discovery theory it is stated that opportunities are created by influence of outside forces that induce changes to an industry or market, this is the before mentioned Kirznerian approach. Opportunities are objective and observable, so opportunities just simply exist. The creation theory states that opportunities are created by entrepreneurs. These entrepreneurs perform actions, react to things, or act on their own to produce new products or services. This does not happen through outside forces but through the entrepreneurs self (Alvarez & Barney, 2007). Johanson and Vahlne (2009) point out that opportunity development, which is the next step includes elements of both these approaches, so none is more important.

2.2 School of planning versus school of learning.
The ‘school of planning’ implies that planning generally improves effectiveness of human action and facilitates goal achievement (Ansoff, 1991). Planning is the thinking of activities that are needed for a certain goal and organising them to achieve this goal. This is a causational approach. In causational reasoning a certain effect is given and causational reasoning focuses on selecting between means to create that particular effect. It is either selecting between means to achieve those effects or to create new means to achieve specified goals (Sarasvathy 2008). In most business schools around the world this goal-driven model of decision making is the entrepreneurial decision model that is taught. These models make up the main body of entrepreneurship research (Perry et al. 2011).

Entrepreneurial processes have an influence on the type of opportunities that are eventually discovered (Sarasvathy 2001). In earlier studies it is stated that an
entrepreneur has the right characteristics and surroundings or they do not. Later Sarasvathy (2008) states that in the latter developed entrepreneurial theories, potential entrepreneurs have to develop strategies and abilities for recognizing identifying and exploiting high probable opportunities.

Sarasvathy (2001) called this goal-driven decision making a causation model. As an example of a true causational model the business plan is used, making a business plan is a primary deliverable for entrepreneurship studies that should improve the way a company makes predictions and prepares for challenges in the future (Chandler et al. 2011).

There are a lot of advantages in doing a planned approach, a company can anticipate to information gaps and close them. While this is done resource assumptions can be tested without expending, resource flows can be optimized, and bottlenecks can be avoided. Furthermore, planning enables firms to control goal achievement and when deviations occur they can be identified immediately (Delmar & Shane, 2003).

On the other side of the spectrum we have the ‘school of learning’. Scholars on this side of the spectrum focus on a more adaptive and incremental approach to the entrepreneurial processes. As Mintzberg (1994) explained, effective strategies can be emergent patterns that do not necessarily follow a predefined, explicit or formal planning. This way of thinking opposes the way of the ‘school of planning’, in that they state that being flexible and focus on learning, instead of planning, is how a company should deal with high degrees of environmental uncertainty (Hough & White, 2003). This has again links with Kirzner (1997) and his opportunity recognition model. It is also argued that in the face of dynamic external conditions, formalized and predictive behaviour might create internal rigidities. When a firm is committed to plans and regulations it can cause a negative effect which can result in lower performance and lower degrees of adaption to external changes (Haveman, 1992).

Brinckmann et al. (2010) in their research of the planning and performance relationship state that planning is beneficial, but that also other factors as newness of the firm involved, this can be seen as the experience factor of Johanson and Vahlne.
(2009), and the cultural environments of the firms impact this relationship. They propose a “concomitant and dynamic approach that combines planning and learning”.

As mentioned in chapter 1.2. Moroz and Hindle (2011) did a review of all existing entrepreneurial processes and identified 32 existing theories. A few of the well cited are: opportunity discovery (Kirzner, 1997), effectuation (Sarasvathy, 2001), bricolage (Baker & Nelson 2005), and non-linear thinking (Groves et al. 2011).

Of these models effectuation questions the universal applicability of causation-based models of entrepreneurship to the entrepreneurial process (Perry et al. 2011) and effectuation does not only make a distinction between effectual and causational logic, but is making a comparison by using five separate dimensions (Sarasvathy 2001, 2008). In the next paragraph effectuation will be looked at in more detail.

2.3 Effectuation
The effectuation model by Sarasvathy is a relatively new model on decision making in the field of entrepreneurship. According to Sarasvathy (2001) effectual reasoning starts with a given set of means and allows objectives to emerge over time from the varied imagination and diverse aspirations of the entrepreneurs and the people they interact with. The model of Sarasvathy is based on the work of several scholars, and the most notable points are: March’s ideas on exploration and the challenge to pre-existent goals, Mintzberg’s gathering of evidence against planning and prediction, Weick’s emphasis on enactment and living forward, and Knight’s uncertainty point to an unknown future.

All these theories have been integrated to form the model of effectual reasoning. In the effectual reasoning model the most important point is the fact that sometimes predictions are not possible, for example in a non-existing market. If predictions are not possible the entrepreneur needs other ways than causal reasoning, to guide his activities (Sarasvathy, 2001).

Effectual reasoning starts with a given set of means and allows objectives to emerge over time from the different imaginations and aspirations of the entrepreneurs and the people they interact with. So there are no set of goals, just a given set of causes.
These causes are the characteristics that the entrepreneur has and circumstances the entrepreneur is in. The entrepreneur then chooses among different effects that can be reached with these means (Sarasvathy, 2001).

The characteristics of entrepreneurs form this main set of causes that combined with contingencies create an effect that is not predefined. This effect gets created as an essential part of the effectuation process (Sarasvathy, 2008). The model of effectuation is also connected with theories regarding opportunity recognition. In this way it is shown that effectuation entrepreneurs appear to involve more than just the identification and pursuit of an opportunity. It includes the creation of the opportunity as part of the implementation of the entrepreneurial process (Sarasvathy, 2001).

The effectual logic identifies more potential markets, focuses more on building the venture as a whole and pays less attention to predictive information. It worries more about making do with resources on hand to invest only what they could afford to lose and emphasize on stitching together networks and partnerships (Dew et al. 2009). This results in five categories of differentiation:

i. **Future orientation**: the causal approach towards this is predictive control or predictive logic and the relationships between past and future an example of this is a business plan. The effectual approach is non-predictive control and a creative way of shaping the future.

ii. **Action**, this starts with who you are, what you know and whom you know. The causal approach towards this is to be goal oriented. The effectual way is to be means oriented, hereby the first questions are, who am I?, Who do I know?, and What do I know? Experience tends to play a role in this concept.

iii. **Risk**: expected return is the factor the causal thinking entrepreneur will focus on in this category. While the effectual way of thinking involves affordable loss as the focus point.

iv. **Outsiders**: this category is defined by competitive analysis as the causal way of approaching this and partnerships as the effectual way to reduce risk.
v. **Contingencies**: hereby the causal entrepreneur will try to avoid contingencies by careful planning. The effectual thinking entrepreneur on the other hand will try to leverage these contingencies and see them as challenges.

Causation and effectuation are two different approaches that apply to the entrepreneurial process (Sarasvathy, 2008). At the same time causation and effectuation can occur both in certain decision making processes. And a good entrepreneur will know when to use which approach.

### 2.4 Culture

#### 2.4.1 Culture

The word culture derives from the Latin word ‘colere’. If translated this would mean ‘to build’, ‘to care for’, or ‘to cultivate’, and therefore culture is usually referred to something that is derived from, or created by the intervention of humans. (Dahl, 2004)

Culture is one of the intangible aspects that people use to describe a (sub)group of people in for example a nation, a club or a region. It is often used in everyday language to describe a number of quite distinct concepts. The word is often used to describe concepts such as ‘organisational culture’ as well as ‘arts and culture’. (Dahl, 2004)

‘Culture’ acquires most of its later modern meanings in the writings of the eighteenth-century German thinkers. A contrast between ‘culture’ and ‘civilization’ is usually implied by these authors. From this period two meanings of culture emerge: culture as the folk-spirit having a unique identity, and culture as free individuality or cultivation of inwardness. Although the first one is still what we think that culture should achieve, ‘the full “expression” of the unique or “authentic” self, the last meaning of the word culture is predominant in our current use of the term “culture” (Velkley, 2002).

Culture is a multi-layer concept consisting of artifacts, practices, attitudes, values, and basic assumptions (e.g., (Trompenaars, 1993) ; (Hofstede, 2001)). Culture can also be explained as “patterned ways of thinking, feeling and reacting acquired and transmitted mainly by symbols, constituting the distinctive achievement of human groups, including their embodiments in artifacts; the essential core of culture consists of traditional ideas and especially their attached values” (Kluckhohn, 1951, p86).
Culture could also 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). What all of these concepts have in common is the suggestion that culture is an entity that is hard to capture in words and which involves a number of collective and shared artefacts, behavioural patterns, values or other concepts which taken together form the culture of a country as a whole (Dahl, 2004).

When looking at the mental programming of the mind there are three levels. At the one end you have human nature, this is what all human beings have in common. Aspects that fall in this category are the feelings a person could have like anger, rage, love or the need to associate with others. What a person does with these feelings is modified by culture (Hofstede, 2001). At the other end are the personal traits. These traits could be inherited or learned for example from experiences in life. These traits do not have to be shared with others in the culture (Hofstede, 2001). Culture comes in the middle and is influenced by these two personal influences.

Organizational researchers define culture as a real and existing. It is a system of beliefs and values with deterministic relations among the constituent parts. According to this approach it is possible to accurately measure, observe and investigate culture as an objective phenomenon. However, because culture is a hard to quantify concept it cannot be described solely in terms of mathematical language. The analysis should be in search of meaning (Geertz, 1974). Interpretive analysis of culture requires an empathic approach in which the attempt is made to understand culture holistically and from the perspective of the participants, rather than through objective analysis by surveys and questionnaires. The results of interpretive studies have been described as ‘thick’ (Geertz, 1974).

A number of scholars have tried to describe and quantify culture. According to Hofstede (1980) culture is a set of shared values, beliefs and expected behaviours. Hofstede quantified culture in his system by developing a questionnaire with questions and assigning scores to certain answers. These scores are only useable in comparison to scores from other groups of participants and not on their own. According to Kroeber and Kluckhohn (1952): Culture is a set of explicit and implicit patterns that are acquired
for behaviour and are transmitted through symbols. This defines the distinctive achievements of human groups. Important within this is the embodiment of artefacts. The core of culture is traditional ideas and their values. Culture systems are products of action and at the same time conditional elements of future actions.

Spencer-Oatey (2000) extends the concept of culture. She introduces a number of additional factors apart from values and resultant behaviour/artefacts, including a description of the functions that ‘culture’ performs: *Culture is a fuzzy set of attitudes, beliefs, behavioural norms, and basic assumptions and values that are shared by a group of people, and that influence each member’s behaviour and his or her interpretations of the ‘meaning’ of other people’s behaviour* (Spencer-Oatey, 2000, p.4).

Also culture provides a communally held set of customs and meanings, many of which are adopted by the person, becoming part of the personality and influencing interactions with the social and physical environment (Dake, 1991).

So there are a lot of slightly different descriptions that try to capture the concept culture, but what all these descriptions have in common is the fact they talk about a concept that is created and developed through human behaviour, which is a complex whole that includes knowledge, beliefs, art, moral, custom and other abilities and habits attained by humans as a member of society (McCort & Malhotra, 1993).

### 2.4.2 The concept of national culture

On a more basic level ‘culture’ has been used to describe how a group of people work, for example implied by organisational culture. This concept of culture implies not only the shared working process but also the shared values that underpin the way of working (Dahl, 2004). But within the broad concept of culture there are more levels.

- **National level**: The country a person is living in.
- **Ethnic/religious level**: The background group people belong to.
- **Gender level**: If you are a boy or a girl.
- **Generation level**: People that have grown up in different era’s.
- **Social class level**: The education level or profession a person is in.
Organizational level: The socializing of the workplace a person is in.

However for this research the focus will solely be on national culture and the cultural differences that exist between different nations.

2.4.3 Cultural values

National culture manifests in different ways. The most important are through symbols, heroes, rituals and values (Hofstede, 2001). These values are often represented as a onion. On the outer layer you will find the symbols that are attached to a culture, these are most easily copied by other cultures and are more easily changed over time. The next layer is the layer of heroes. This are (imaginary) people that play a role in the culture and are used to set models for behaviour. The next layer is the layer of the rituals, these are seen as social essential, it is for example the way in which people of a certain culture greet each other. At the core and the most important layer are the values. A person acquires these in the early stages of his live, for example if something is good or evil. Values are the hardest things to copy for other cultures and are almost impossible to disappear.

The onion figure is used by both Hofstede and Hampden-Turner & Trompenaars (1993). In the Hampden-Turner model there are three layers, in the centre is the implicit culture, the assumptions about existence. The middle layer is build up of norms and values. And the outer layer which is called the explicit layer consists of the products and artefacts that symbolize the basic values and assumptions of life (Hampden-Turner & Trompenaars, 1993).

Concluding it can be said that each culture has his own hard to copy core values. The question arise how to compare different cultures to see for example what the differences are in these core values. In the literature different authors us cultural dimensions to compare different cultures.

2.4.4 Dimensions of national culture

The cross-cultural literature provides us with several conceptual frameworks based on various orientations/dimensions along which cultural values can be analyzed and compared (e.g., Kluckhohn and Strodtbeck, 1961), (Hall 1976), (Hofstede 1980), (Trompenaars, 1993) (Hampden-Turner and Trompenaars, 1994), (Schwartz, 1992)) All
these frameworks intend to provide us with an operational and simplified model of culture. A dimension can be defined as “an aspect of a culture that can be measured relative to other cultures” (Hofstede et al., 2005). However, they have different scopes, represent distinct traditions and focus upon different methodological paradigms (Yeganeh et al., 2009).

Many authors have used different dimensions as independent variables an overview of these authors is given in the next paragraphs.

2.5 Reviewing the national culture - literature
In international research national culture has been a major research topic for years, not always in a good way, because sometimes national culture has been used as a scapegoat if research differences between countries where hard to explain otherwise. Especially the last two decades national culture has become more important in international research, because a lot of companies have started to go international and started to get into contact with culture’s different from their home business environment. Reasons for this where outsourcing to cheap labour countries, the possibilities of internet and increasing possibilities in transport.

The definition mentioned above by Kroeber and Kluckhohn (1952) implies the existence of a larger ‘culture’ of the different cultures that make up one’s society’s culture. Using this concept, it is implied that one can distinguish between the culture of the society of which one forms part- and the culture of another society at large of which one does not form part. This concept is the usage of the word ‘culture’ when talking about, for example the ‘Dutch’ culture. (Dahl, 2004) In this way national culture is defined.

The last four decades several scholars have developed cultural theories. Other scholars have been reviewing these theories and have been giving overviews of the main concepts of these theories (Dahl, 2004) (Fink et al., 2006). In this research the start will be with Kluckhohn and Strodtbeck who made first attempts to quantify the aspects of culture.
2.5.1 Kluckhohn and Strodtbeck

Kluckhohn was one of the first scholars that tried to quantify various aspects of culture by doing research in the American Southwest among five communities. Their model for analyzing culture is based on three principal assumptions: 1) There is a limited number of common human problems for which all people must find some solutions. 2). Despite the variability there is a range of possible solutions and 3). All alternatives of all solutions are present in all societies at all times but are differentially preferred (Kluckhohn & Strodtbeck, 1961). Their framework includes six major orientations: relationship to nature, relationships among people, time orientation, human activity, human nature, and conception of space.

Kluckhohn and Strodtbeck (1961) shaped and guided later research. This makes it possible to find considerable similarities between the elements of their framework and models proposed by Hall (1976), Hofstede (1980), and Trompenaars (1993). Hofstede for example repeats the relationship principle in his individualism versus collectivism and power distance concepts (Hofstede, 1980). And Trompenaar does this in his individualism versus communitarianism and equality versus hierarchy dimensions (Trompenaars, 1993).

The model of Kluckhohn and Strodtbeck (1961) is based upon cultural orientations that are modelled in a way that a high preference for one orientation means a low preference for the other orientation (Thomas D., 2002). This characteristic may allow a better understanding of cultural phenomena in the area of organizational research (Maznevski et al., 2002).

Although the research was done in the Midwest of the United States only, Kluckhohn claimed there were significant cultural differences among them. (Kluckhohn & Strodtbeck, 1961). A major limitation with this framework is the lack of objective and measurable yardsticks for cultural orientations (Yeganeh et al., 2009). (Maznevski et al. 2002) developed the Cultural Perspectives Questionnaire to overcome this problem, this instrument has been tested in a few studies and is quite reliable although there is no ranking among cultural orientations, and it is not developed by Kluckhohn and Strodtbeck (1961) themselves.
2.5.2 Hall
Edward T. Hall was an American anthropologist and cross cultural researcher who developed theories in furthering better understanding of intercultural communication. He identified three elements which are essential in understanding and study of cultural orientations: context, space and time. With context there can be a high and low context cultures, a high context communication is one in which most of the meaning is in the context while very little is in the transmitted message. For space he developed the concept of proxemis. Proxemis can be defined as “the interrelated observations and theories of man’s use of space as a specialized elaboration of culture” (Hall, 1966). Hall believed that that the value in studying proxemis comes from its applicability in evaluating not only the way man interacts with others in his daily life, but also “the organization of space around him in houses and buildings” (Hall, 1963). For instance, in most western cultures, people preserve a personal space and do not touch each other unless they have an intimate relationship. The time concept describes the ways cultures structure their time. Northern European cultures for example tend to be more monochromic, which means “one thing at a time”, where Aboriginal and Native Americans have typical polychromic cultures, here ‘talking stick’ meetings can go on for as long as somebody has something to say. Although the research of Hall has only a sample size of 180 which is low compared to other frameworks. This is mainly due to the fact that his framework is developed through many years of observation. In his book “Beyond Culture”, Hall (1963) states that for an effective communication on an intercultural level people need to go beyond culture. Hall’s work represents a classic model relying on three significant elements that correspond mainly to cognitive systems: conception of time, space and communication patterns. This cognitive-based characteristic differentiates Hall’s agenda from other cultural typologies that rely mainly on value systems (Yeganeh et al., 2009). The biggest concern with Hall’s elements is that they are not mutually exclusive and seem subjective. For instance, the notions of high/low context and monochromic/polychromic are conceptually overlapping. Furthermore, Hall’s framework does not distinguish any ranking between its elements and does not provide objective measurements for cross-cultural comparisons (Yeganeh et al., 2009). Hall’s framework might be most useful in comparisons between unrelated cultures and not so much in related cultures.
2.5.3 The Globe project (House et al.)

Robert J. House is a scholar with a huge citation score. In the Google scholar citation counter the citations count almost 30,000. The research project the conducted was to replicate and expand the research of (Hofstede, 1980). It was a massive project that took place in 62 countries (House, 2004). Because of the similarities between the research of Hofstede and House they are often compared in research reviews (Smith, 2006) (Shi, 2011).

Although the GLOBE research of House and others is in a way a replication of the research of Hofstede, Hofstede and House had a lot of criticism on each other’s research. In a review of Javidan et al. (2006) they explain why GLOBE used a set of cultural values and practices to measure national cultures and try to show that the criticism of Hofstede on the Globe project is not appropriate.

The data in the GLOBE project was acquired through 160 scholars who conducted focus groups and individual interviews with managers to discuss their views on outstanding leadership behaviour (Javidan et al., 2006).

The GLOBE project identifies nine culture level dimensions: performance orientation, assertiveness orientation, future orientation, human orientation, institutional collectivism, family collectivism, gender egalitarianism, power distance, and uncertainty avoidance (House, 2004). As can be seen in the culture level dimensions by House (2004) some of these bear a great resemblance to the initial 4 dimensions by Hofstede (1980). This is a logical result from the fact that the GLOBE project took a theory-based approach which is based on the research of Kluckhohn and Strodtbeck (1961) and Hofstede (1980). This is also why the model according to Yeganeh et al. (2009) appears robust from empirical standpoint; however, it does not offer any conceptual novelty. Furthermore they say that some of the GLOBE dimensions are not broad enough to be considered as pure cultural values, and the model falls short in applicability as it only deals with work-related values.

Yeganeh et al. (2009) also mention the fact that in contrast to other cultural models, the GLOBE claims to differentiate between societal values (as it should be) and societal practices (as it is). Apparently this distinction relies on the assumption that culture is a
multilayer concept represented by artefacts and practices at the surface and by attitudes, values and basic assumptions at the core (e.g., Trompenaars, 1993; Hofstede 2001). Globe uses this distinction mainly to see if differences exist between these two which would indicate changes in culture in the future.

2.5.4 Hampden-Turner and Trompenaars
Trompenaars (1993) and his colleagues’ framework for cultural analysis is based upon a 10 year long study among 15,000 questionnaires distributed among managers in 28 countries. Their view on culture is the way in which groups of people solve problems. This is done through three issues, relationship with others, time and the environment. These are split up in seven cultural orientations, universalism versus particularism, communitarianism versus individualism, neutral versus emotional, defuse versus specific cultures, achievement versus ascription, human-time relationship, and human-nature relationship. Five of these are related to relationships between humans and the other two are concerned with time and environment.

In the model of Trompenaars (1993) the definition of culture is common for national and organizational culture and the two concepts are not distinguished from each other. The elements have also similarities with those presented by Kluckhohn and Strodtbeck (1961) and Hofstede (1980). The difference between Hofstede and Trompenaar is the fact that Trompenaar does not consider cultural dimensions linear and divided.

The problem with the model of Trompenaars and Hampden-Turner is that the exclusiveness of the model is low. Some of the cultural orientations have blurry borders. This shortcoming decreases the applicability in cross-cultural research. Trompenaars’ model measures the intensity of cultural values, however, it is not appropriate to measure or compare the relative importance of every cultural value with respect to other values (Yeganeh et al., 2009).

There are a lot of similarities between the model of Trompenaars (1993) and Hofstede (1980) except for the fact that Trompenaars’ model offers some additional dimensions, but apart from the overlap Trompenaars’ model does not provide a practical approach
to measure culture in an adequate way. Together with the fact of the blurry borders makes this model less applicable for this research.

2.5.5 Schwartz
Schwartz (1992) did his research in 63 countries where he used schoolteachers and college students as his research subjects. In his model he describes three pairs of value types: conservatism versus autonomy, hierarchy versus egalitarianism and mastery versus harmony (Schwartz 1992, 1994). These three combinations make up for seven separate value types: conservatism, intellectual autonomy, affective autonomy, hierarchy, egalitarianism, mastery and harmony.

The work of Schwartz is based upon other authors in this paragraph; however the measure instrument is different. This may have two consequences: “it does eliminate, at least potentially, the chance of situational variables having a strong impact on respondents. On the other hand, it does open the argument that when asked about values rather than outcomes respondents may be inclined to choose a more utopian answer, which in turn may not reflect their actual behaviour” (p.18) (Dahl, 2004).

According to Yeganeh et al. (2009) the model of Schwartz offers many advantages that make it suitable for empirical research. Because his value types are comprehensive, relatively mutually exclusive and wasteful. His model is the only one that offers insight into structure of value types. This is very useful in empirical research to produce visible figures of the values and their possible relationships (Yeganeh et al., 2009). So it can be useful in research. However the values of Schwartz are build from 56 separate value parts which makes it hard to reproduce correctly.

2.5.6 Hofstede
Hofstede is one of the most cited scholars and his work has been of major influence in the cultural research field. According to Harzing’s “Publish or Perish” citation index (Harzing, 2007) well over 50.000 times. He did his research while working at IBM and realising the cultural differences among employees working for the same company.

Although Hofstede makes a distinction between national culture and organisational culture because he thinks they are totally different. Family, living environment and school provide the mental software where national culture is part of. This mental
programming takes place during the first ten years of our life (Hofstede, 1980). Hofstede’s framework is especially useful as it decreases the complexities of culture into five comparatively easily understood cultural dimensions (Dahl, 2004). These cultural dimensions are individualism versus collectivism, uncertainty avoidance, power distance, masculinity versus femininity (Hofstede, 1980), and the later added long term orientation (Hofstede, 2001). This last dimension was to show the difference between the Eastern dedication in development and application of innovation versus the Western pressure for truth and immediate result. The scores on these dimensions indicate the fundamental values of a society, which forms the core of a national culture.

Hofstede’s typology is not only widely used because of his large empirical database his research is built on. Hofstede based his typology also on an extensive literature review and was inspired by Kroeber and Parsons (1958) and Kluckhohn and Strodtbeck (1961). So Hofstede’s typology integrates ideas from literature and presents a coherent framework for comparing world cultures. The major strength contributing to its popularity is the simplicity of five clear cut dimensions, and because the collected data is interval, it is possible to analyze the results using many quantitative techniques (Yeganeh et al., 2009).

Triandis (2004) claims it has become the standard against which new work on cultural differences is validated.

There has also been major criticism on the research of Hofstede which will be addressed in the next paragraph.

2.5.7 The Hofstede discussion

The work of Hofstede (1980) has been and is very frequently used by other scholars there has also been a lot of criticism on his theory. This varies from the way Hofstede did his research to the constructs of his cultural values. In this part a short oversight will be given of the major critics and a short overview of the discussion between McSweeney (2002) and Hofstede. McSweeney is mainly worried of the many flaws in the research methodology by Hofstede (1980).
2.5.7.1 Hofstede criticism
When talking about the work of Hofstede (1980), Ailon (2008) is one of the most cited critiques. Ailon used the model of Hofstede to mirror it against itself, using the value dimensions that it explicates as a means for revealing the underlying values that it implicitly endorses. In her article Ailon (2008) illustrates how the cultural milieu that Hofstede grew up in bounds his book but at the same time builds and serves this milieu’s power and status in relation to the other cultures it claims to represent. Hofstede said about this that Ailon misinterpreted his book (Hofstede & Ailon, Dialogue, 2009).

Ailon (2008) also mentions the fact that your own cultural background will always influence the model you are creating. “In this sense Culture’s Consequences bears witness to the discursive pressures and imaginative temptations that guide Western thought about its own identity in the global realm. To claim privilege but deny privileging; to celebrate globalization but channel thought about it along national definitions of belonging (Ailon, 2008).

Ferguson (1994) wrote: the countries studied are not distributed evenly across the dimensions, and although the general distribution pattern repeatedly runs along the line separating the West and “the Rest” it is easily obscured by the shifting statistical values and graphic constellations. Like much research in the field, the findings “do not attach themselves in any linear or inevitable way to men, whites or managers” but are nonetheless quite evidently issued “from within an interpretive domain that is implicitly male/masculine, white/western and bourgeois/managerial” (Ferguson, 1994)

One of the main heard criticisms is the fact that the study is outdated (Soares et al, 2007), (Venaik & Brewer, 2008), and (Tung & Verbeke, 2010). As a reaction to the data being outdated, Hofstede (2002), as a reaction to (McSweeney, 2002) who also mentioned this point, replied:

*The dimensions found are assumed to have centuries-old roots; only data which remained stable across two subsequent surveys were maintained; and they have since been validated against all kinds of external measurements; recent replications show no loss of validity (Hofstede, 2002, p.2).*
Minkov and Hofstede (2011) replied: “he has always defended the opinion that cultures do evolve but they tend to move together in more or less one and the same cultural direction. Therefore the cultural differences between them are not necessarily lost, and these differences are what the dimensions describe”.

2.5.7.2 Hofstede versus McSweeney
The debate between Hofstede and McSweeney was extensive, but it generally focused on a single question: Does Hofstede really capture what he claims to capture? In other words, does his work reflect “true” cultural differences? McSweeney evaluated the research methodology extensively and concluded it has many flaws. One of these flaws mentioned by McSweeney is the quantity of the respondents in each country and the homogeneity assumption by Hofstede (McSweeney, 2002). Although Hofstede used around 117,000 test subjects, in only six of all countries he had more than 1000 respondents.

The response of Hofstede to this was: “if a sample is really homogeneous with regard to the criteria under study, there is very little to gain in reliability over an absolute sample size of 50. So I could therefore have done my research on 40(countries) X 50 (respondents per country) X 2 (survey rounds) - or 4000 respondents in total – and obtained almost equally reliable results (Hofstede, 1980(p.65)), cited by (McSweeney, 2002), p.94)

McSweeney (2002) claimed that “the ongoing unquestioning acceptance of Hofstede’s national culture research by his evangelized entourage suggests that in parts of the management discipline the criteria for acceptable evidence are far too loose. The forementioned homogeneity assumption might not be a valid condition at all. Those 50 respondents, of one single organization, all the respondents in the Hofstede research are employees of IBM, might not be representative for the whole population. He states that it is not right to assume that members of the same occupation each share an identical world-wide occupational culture, since national culture could cause national differences in occupational or organizational cultures.

Hofstede (2002) replied in the following words: “What was measured were differences between national cultures. Any set of functionally equivalent samples from national
populations can supply information about such differences. The IBM set consisted of unusually well matched samples for an unusually large number of countries. The extensive validations in the following chapters will show that the country scores obtained correlated highly with all kinds of other data, including results obtained from representative samples of entire national populations (p.2).

2.6.1 Comparing dimensions of national culture
In the paragraphs above the different cultural dimensions used by the different authors are explained. For this research project we will make use of cultural dimensions to compare two countries. To decide which cultural dimensions to use the dimensions above combined with the pro’s and con’s will be considered here. The dimensions of Kluckhohn and Strodtbeck (1961) will not be used because their model is the ground on which a lot of the later models are build. So more recent and better developed dimensions are available. Furthermore this model lacks objective and measurable yardsticks for cultural orientations (Yeganeh et al., 2009). Hall’s framework will also not be used because the main focus is on communication and this covers only a small aspect of culture. Also the elements of Hall are not mutually exclusive and seem subjective.

The dimensions of Hampden-Turner and Trompenaars will not be used because it is based on imagination and not on statistical evidence (Minkov, 2011). Another shortcoming is the fact that some of the dimensions have blurry borders, this decreases the applicability in cross-cultural research (Yeganeh et al., 2009). The model of Hampden-Turner and Trompenaars has a lot in common with the model of Hofstede, except for some extra dimensions, however the model of Hampden-Turner and Trompenaars does not provide a practical approach to measure culture in an adequate way.

The dimensions by Schwartz (1992) will not be used because of his extensive use of different values. With a total of 56 initial values it will be hard to reproduce this research. Also the method for acquiring data used by Schwartz may create utopian answers and not actual behavior (Dahl, 2004).
This leaves us with the cultural dimensions of Globe and Hofstede. They will be compared more extensively. This will give a good overview of the differences between them so a well funded choice for the leading cultural dimensions in this research can be given.

2.6.2 Arguments in support and against Hofstede
The method of Hofstede was first published in 1980. Since then this method has been replicated and criticized a lot. Ailon (2008) is a well cited critic who says that the Western mindset that Hofstede has is of great influence on the model and by applying his model to other cultures problems could arise. The countries studied are not evenly distributed across the dimensions. The findings do not attach themselves linearly to men, whites or managers, but are nonetheless issued from an interpretive domain that is male/masculine, white/western and bourgeois/managerial (Ferguson, 1994). Another argument is the fact that the data is too old to be of value. Hofstede replied to this that his dimensions have ‘centuries-old roots’ and that recent replications show that his data is still valid. McSweeney focused on the question if the work of Hofstede captured what it claims to capture. McSweeney called the quantity of the respondents, in each country to low, although 117.000 in only six countries above 1000, to make the homogeneity assumption by Hofstede true. Hofstede replied to this that current criteria only forced him to have a sample size of at least 50 for each country to obtain almost equally reliable results (Hofstede, 1980).

Another argument is that some of the 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). This research has been replicated several times in different years and also timing has been taken into account. Also the work of Hofstede has been analyzed again and most of the results could be confirmed (Sondergaard, 1994). Hofstede is also supported by the fact that his work is still used widely in recent researches, this can also be seen in the amount of citations of his research, well over 54.000 in June 2010 according to ‘Publish or Perish’ (Tung and Verbeke, 2010).

2.6.3 Arguments in support and against GLOBE
GLOBE and Hofstede are compared very often, but in fact the GLOBE study used some terms of Hofstede’s earlier research, although the meaning of the terms is different.
GLOBE did not clearly mention that the meaning of for example the terms ‘values’, ‘practices’ and ‘organizational culture’ is different. This makes comparing more difficult (Hofstede, 2010). Hofstede also found the way in which GLOBE compares organizational and national culture totally wrong. The same type of questions are used by GLOBE to measure national and organizational culture, the only difference is the start of the question with ‘in this society’ or ‘in this organization’. Hofstede argues that there is a big difference between organizational and national culture and this cannot be measured with the same questions (Hofstede, 2010).

The GLOBE model appears to be empirically robust, however it does not offer any conceptual novelty, and some of the GLOBE dimensions are not broad enough to be considered as pure cultural values, and the model falls short in applicability as in only deals with work-related values (Yeganeh et al., 2009). GLOBE claims to differentiate between societal values (as it should be) and societal practices (as it is). This distinction apparently relies on the assumption that culture is a multilayer concept represented by artefacts and practices at the surface and by attitudes, values and basic assumptions at the core (Trompenaars, 1993; Hofstede, 2001).

All and all both studies have had their critiques. The GLOBE study is more recent, this means that less time has gone by to fully analyze it, so more critiques could still arise. In short it can be said that there are advantages and disadvantages to each study. If you look for example at validity, generalizability and the samples that were used. The choice has to be made, which dimensions will be used to analyze the cultural dimensions of the two countries in this research. The GLOBE study can be seen as an extension of the Hofstede study, with the re-using of some of the Hofstede dimensions under different names and even more are added. This adding of dimensions could also be confusing instead of giving more clarity. After analyzing all the pros and cons of these two studies it is decided that the research of Hofstede will be leading in this research. His work could still be seen as the most well-known research regarding cultural differences and the many replications have shown that his work is still valuable (Søndergaard, 1994).
2.7 Hofstede’s cultural dimensions
Although there are a lot of critical replies with regard to the theory of Hofstede it is still chosen as the best method with regard to measuring cultural influences. And at the same time the cultural dimensions of Hofstede are easily understandable for a great audience. Triandis (2004) calls the work of Hofstede the standard that is used to validate new work on cultural differences.

According to Kirkman et al. (2006) the work of Hofstede has been remarkable influential, another advantage is that the work of Hofstede has been validated (Shi, 2011). This makes it useable.

A plus is the fact that Hofstede himself thought about these critiques and answered to them in his book (Hofstede, 2001, p.73) and in a couple of articles he has written or co-written (Hofstede & Ailon, Dialogue, 2009) (Minkov & Hofstede, 2011), and his discussion with McSweeney.

As written before Hofstede’s theory exists out of five dimensions and they will shortly be explained hereafter by using his book (Hofstede, 2001).

**Power distance index** (PDI). Measures the distribution of power and wealth between people in a nation, business or culture. The PDI seeks to demonstrate the extent to which subordinates or ordinary citizens submit to authority. The PDI figure is lower in countries or organizations in which authority figures work closely with those not in authority, and is higher in countries or organizations with a more authoritarian hierarchy. But it also suggests that a society’s level of inequality is endorsed by the followers as much as by the leaders. Power and inequality are fundamental facts and business and individuals that have contact with others with a huge difference in PDI score should take this into account.

**Individualism** (IDV) is the opposite of collectivism, which is the degree to which individuals are integrated into groups. In individualistic societies, the stress is put on personal achievements and individual rights. People are expected to stand up for themselves and their immediate family, and to choose their own affiliations. In individualistic societies there is also more importance attached to freedom, and the
The purpose of education is learning how to learn. In contrast, in collectivist societies, individuals act predominantly as members of a lifelong and cohesive group or organization. People in collectivistic societies have large extended families which are used as a protection in exchange for unquestioning loyalty. In countries that score high on collectivism training and skills have more importance and the purpose of learning is how to do.

**Masculinity** (MAS). Refers to the distribution of emotional roles between the genders which is another fundamental issue for any society to which a range of solutions are found. The opposite of masculinity is femininity, in cultures with high MAS competitiveness, assertiveness, materialism, ambition and power are core values, whereas feminine cultures place more value on relationships and quality of life. In masculine cultures, the differences between gender roles are more dramatic and less fluid than in feminine cultures where men and women have the same values emphasizing modesty and caring. As a result of the taboo on sexuality in many cultures, particularly masculine ones, and because of the obvious gender generalizations implied by Hofstede’s terminology, this dimension is often renamed by users of Hofstede’s work, e.g. to Quantity of Life versus Quality of Life.

**Uncertainty Avoidance Index** (UAI) “a society’s tolerance for uncertainty and ambiguity”. It reflects the extent to which members of a society attempt to cope with anxiety by minimizing uncertainty. People in cultures with high uncertainty avoidance tend to be more emotional. They try to minimize the occurrence of unknown and unusual circumstances and to proceed with careful changes step by step by planning and by implementing rules, laws and regulations. In contrast, low uncertainty avoidance cultures accept and feel comfortable in unstructured situations or changeable environments and try to have as few rules as possible. There is no problem with an uncertain future, people in these cultures tend to ‘wake up and see what the day brings’. People in these cultures tend to be more pragmatic, they are more tolerant of change. Uncertainty avoiding countries may also be less innovative than uncertainty accepting societies (Shane, 1995).
Long term orientation (LTO) is the opposite of short term orientation. This is the later added cultural dimension and was first found in a study among students in 23 countries, using a study designed by Chinese scholars, and was first called Confucian dynamism, it describes societies time horizon. Long term oriented societies attach more importance to the future. They foster pragmatic values oriented towards rewards, including persistence, saving and capacity for adaptation. Long term orientation can also be linked to the use of alliances and/or partnerships. In short term oriented societies, values promoted are related to the past and the present, including steadiness, respect for tradition, preservation of one’s face, reciprocation, and fulfilling social obligations. Planning horizon tends to be short and business is particularly focused on short term quarterly goals and quick results (Hofstede, 2001).

Theoretically all five of these cultural dimensions can be used to make a comparison between the cultures of two countries. They will be compared to the results of the case and this could give conclusive answers on our questions.

2.8 The influence of national culture on entrepreneurial processes
As mentioned before entrepreneurial activities are considered an important source of technological innovation (Schumpeter, 1934) and economic growth (Birley, New ventures and employment growth, 1987). It is interesting to find out if national culture could have influence on these entrepreneurial activities and to what degree entrepreneurial behaviour is found desirable by the cultural values of a country. Hayton et al. (2002) explained that the influence of national culture on entrepreneurship is of considerable theoretical and practical value. Entrepreneurship can be observed in every country in the world, but at the same time big differences can be observed. One of the reasons can be that cultural variables influence the profile of environmental conditions favouring entrepreneurship in different countries (Baughn & Neupert, 2003).

Hayton et al. (2002) found out that the cultural values of a country influence the degree in which the people of that country regard the entrepreneurial features of being a risk taker and an independent thinker as desirable. If society values this kind of behaviour radical innovation will be more widespread. While opposite cultures do not
like risk taking and entrepreneurial behaviour, they promote group interest and control over the future. This can be observed in the Eastern Asian countries.

Differences in entrepreneurial activity can be explained by cultural and religious factors (Thomas & Mueller, 2000) and cultural values, such as individualism and collectivism, can be linked to the level of inventiveness in a society (Shane, 1992). Already in the research of Thomas and Mueller (2000) it is shown that the potential for and frequency of entrepreneurship can be associated to a great extent with cultural values. In this research it is also pointed out that there is a great role for culture in entrepreneurial research because there is a greater regard for entrepreneurship in some countries than other countries.

Entrepreneurship is more common in some cultures than in others. It can be concluded that cultures which encourage risk taking together with independency have higher entrepreneurial activities. This will account for the percentage of entrepreneurs in a society but do entrepreneurs from different countries also set up businesses differently? A predictable set of values are shared by entrepreneurs who are different in comparison with those shared by non-entrepreneurs (McGrath and MacMillan, 1992). It is argued that these differences are results of the different backgrounds and personality of entrepreneurs. It can still be expected that entrepreneurs reflect the dominant values of their national culture. An example is the difference between the American entrepreneur, a really individualistic person, and the Asian entrepreneur, who relies more on familial ties while setting up their business (Thomas and Mueller, 2000).

2.9 Hypotheses
In order to answer the research question about the influence of national culture on entrepreneurial processes it is important to make a link between the constructs entrepreneurship and culture. The entrepreneurial model that is focussed on is effectuation by Sarasvathy (2001). Because the model of effectuation by Sarasvathy is relatively new there is little research regarding the influence of culture on the model of effectuation versus causation.
The cultural dimensions that will be used in this research are the ones that can be linked to causation or effectuation. Afterwards analysis will be performed to see if the influences found are significant. The cultural dimensions are combined upon the theoretical framework, elaborated per hypothesis in the following part. The hypotheses are based on theory and in the research part will be tested by the gathered data to get a comprehensive research.

The principles of causation and effectuation are identified by Sarasvathy (2001) and will be used in this research.

2.9.1 Goal Driven opposed to Means Based
If an entrepreneur has a causal approach it is expected that he or she is more goal-driven, while effectual entrepreneurs tend to be more means-based (Sarasvathy, 2008). This is linked with the cultural element of individualism of the Hofstede (2001) constructs. Hofstede states that within cultures that score high on individualism there is more importance attached to freedom, and the purpose of education is learning how to learn, while in countries that score high on collectivism, training and skills have more importance and the purpose of education is learning how to do. These entrepreneurs will use their existing knowledge to achieve constantly new goals and during the achievement of these goals new treads are learned to achieve even more different goals which were not achievable on the start, this process of learning through learning is continuous. This is characteristic for a means based culture the key feature is the way in which work has to be carried out, people identify with the how.

So an entrepreneur from a country with a higher score on individualism is expected to have a more means based approach.

**Hypothesis 1:** The more individualistic a culture is, the more means based the entrepreneur will be.

2.9.2 Expected Return versus Affordable Loss
Where causal models are more focused on the expected returns, effectual reasoning begins with an entrepreneur determining how much he is willing to lose (Sarasvathy, 2001). In the case this is done through multiple problems in which costs play a role. The entrepreneur is asked to make a decision so it can be expected that the decision is
influenced by the costs that decision invokes. The ‘affordable loss as opposed to expected returns’ category creates more creative entrepreneurs as they have to bring a product to the market with limited financial resources (Sarasvathy, 2001). This means that entrepreneurs need stakeholders who invest in the new firm. In the case most of the time the decisions involve new stakeholders who need to invest in the firm and the decision is to take them onboard or not.

When linked to the cultural dimension of uncertainty avoidance, elements of uncertainty avoidance can be linked to expected return. Hofstede (2001) states that countries that score high on uncertainty avoidance feel threatened by uncertainty and have found many ways to deal with uncertainty. If a country scores low on uncertainty avoidance they do not feel threatened. This means that entrepreneurs from these cultures will find expected returns more important. In more uncertainty avoiding countries people tend to keep risk as minimal as possible, so there the focus will be more on the ‘maximum’ affordable loss.

**Hypothesis 2: The less uncertainty avoiding a culture is, the more focused on expected returns the entrepreneur will be.**

### 2.9.3 Competitive Analysis versus Use of Alliance or Partnerships

Sarasvathy (2001) mentioned that causational logic is frequently taught in academic programs with regard to entrepreneurship, therefore models in strategic management emphasize detailed competitive analysis. While the focus is on competitive analysis with causal thinking entrepreneurs, effectual entrepreneurs tend to be more focused on the use of alliances or partnerships (Sarasvathy, 2008). The effectual entrepreneur uses these partnerships to reduce and/or eliminate uncertainty. So decisions about whether or not to create alliances or partnerships give an indication about the preferences of the entrepreneur.

When linked to the cultural dimension of ‘Long term orientation’, elements of long term orientation can be linked to the use of alliances or partnerships. In a short term oriented culture values promoted are related to the past and the present, including steadiness and respect for traditions and a short term view (Hofstede, 2001). If entrepreneurs are from a culture with a short term oriented culture. This drives a
respect for history and tradition as well as a focus on quick results in the future. Planning horizons tend to be short and business particularly is focused on short term quarterly goals and quick results. This means that partnerships are less important, because the results of partnerships tend to be in the far future.

This means that it can be expected that entrepreneurs in the a short term oriented culture will have the more causational approach of competitive analysis which makes it easier to focus on short term results. Competitive analysis makes it possible for the entrepreneur to make quick and more detailed calculations for the expected profits.

**Hypothesis 3: The more short term oriented a culture is, the more focused on competitive analysis the entrepreneur will be.**

### 2.9.4 Existing Market Knowledge versus Exploration of Contingency

Causal entrepreneurs tend to be more focused on existing market knowledge, whereas effectual entrepreneurs tend to be more focused on exploration of contingencies (Sarasvathy, 2001). Unexpected situations are seen as opportunities and/or resources by effectual entrepreneurs, since they do not have pre-set goals to which they want to stick (Sarasvathy, 2008). If there are a lot of unexpected situations it is expected that the effectual entrepreneur will look for contingencies where he or she could get an edge. This is a process without end because unexpected situations will lead to other unexpected situations.

When linked to the cultural dimension of uncertainty avoidance, which has to do with the way that a society deals with the fact that the future can never be known: should we try to control the future or just let it happen? This ambiguity brings anxiety with it and different cultures have learnt to deal with this anxiety in different ways (Hofstede, 2001). If a country for example has a very low score on uncertainty avoidance it can be expected that they have no problems with an uncertain future and they tend to ‘wake up and see what the day brings’. Entrepreneurs from such cultures are comfortable in ambiguous situations. Therefore it can be expected that in uncertain situations they do not see this as a threat but more as an opportunity. And they are less dependent on pre-set plans.
Hypothesis 4: The less uncertainty avoiding a culture is, the more focused on exploration of contingency the entrepreneur will be.

2.9.5 Emphasis on Analysis of Data versus Distrusting of Opposing (market) Research
This is not one of the original elements that come forth in the model developed by Sarasvathy (2001), but it came forward a lot of times in analyzing the data so it was decided to add this element.

Questions that could be asked to an entrepreneur are: *How will you find out this information?* or *What do you think of this information?*. This is done to test how the entrepreneurs want to acquire information and/or what they think of given information. Causal entrepreneurs tend to have an emphasis on analysis of data and follow what the data predicts, whereas effectual entrepreneurs tend to distrust or oppose (marketing) research (Sarasvathy, 2008). Effectual entrepreneurs do not care for predictions of the future and therefore are flexible to react to opportunities, while entrepreneurs who think causational prefer to have predictions and plans for the future to detail, from which they can choose (Sarasvathy, 2001).

If we link this element to the cultural element of individualism, elements of high individualism can be linked to the element of distrusting/opposing (marketing) research. In individualistic cultures autonomy is important and individual decisions are encouraged and considered superior, while this is not the case in collectivistic cultures. Members from collectivistic cultures rate security as more important, and group decisions are considered better (Thomas & Mueller, 2000).

Hypothesis 5: The more individualistic a culture is, the more opposing or distrusting marketing research the entrepreneur will be.

2.9.6 Predictions of the Future versus Non-Predictive Control
All the effectual sides of the five effectual versus causal confrontations above embody techniques of non-predictive control, which can be explained as reducing the use of predictive strategies to control uncertain situation (Sarasvathy et al. 2008). Predictions of the future tend to be made on a base of analysis and trying to know what will happen. It can be argued that this element looks a lot like competitive analysis versus
use of alliances or partnerships but I regard them as different. This element will again be linked to individualism to see if similarities occur between the British and the Dutch who are both individualistic according to Hofstede.

As explained before it is expected that individualistic cultures focus less on security and have less problems with insecurity. This means that individualistic cultures should prefer non-predictive strategies. A high scoring culture should focus more on non-predictive control.

**Hypothesis 6: The more individualistic a culture is, the more preferring non-predictive control the entrepreneur is.**

Now six hypotheses, that bring culture and entrepreneurial processes together, were developed and it is expected that these hypotheses, which will be tested in chapter four, give a good indication towards the central research question. The central research question is:

*To what extent is there a difference between novice entrepreneurs from two different cultural backgrounds in the preference of effectual/causal logic in entrepreneurial processes? If so can these differences be caused by the influence of national culture on this?*

An answer towards this research question should be provided by the information we acquire through the analysis of our data and the developed hypotheses.
3. Methodology

3.1 Introduction
This chapter outlines the methodology of the research. Unfortunately it is impossible to do this research on a worldwide scale with a lot of countries so a choice had to be made with regard to the countries/cultures that would be compared in this research. For several reasons this research is conducted with a sample of entrepreneurs from the Netherlands and the United Kingdom.

First the think aloud protocol will be explained and the impact that language and/or culture could have on the research. After that the operationalization of the research will be explained. This means the case, who to select and why this selection. And last but not least the method of analysis, the VSM method and the questionnaire used on basis of Chandler et al., (2011) and the biographical information. To explain the validity and reliability of the research.

3.2 Data collection and the Think Aloud Protocol
The research that is done is of qualitative and quantitative exploratory nature. And it aims to explain to what extent national culture influences entrepreneurial processes. Because this research is an exploratory research the focus will be on gathering information and developing ideas about a relatively less researched problem or context. The information will be gathered through a think aloud process with a case. And the development of ideas has been done through a literature research. The value of this exploratory research could be that it clears ground for other kinds of research, or that interesting ideas or differences between better studied topics are discovered. The prime purpose will always be to develop a better understanding of the topics and the relation between the topics that are not studied together in a comprehensive research.

The think aloud case used in this research is originally set up by Sarasvathy (2008) and can be found in her book ‘Effectuation: Elements of Entrepreneurial Expertise’. The case consist of ten entrepreneurial decision making problems while setting up a coffee
corner at their university. This is different from the original case but appeals better to the starting entrepreneur who was recently (or is) a student.

Ericsson and Simon (1984) did an extensive study on the think aloud protocol and said that differences can occur between information retrieved at the time of a verbal report and information gathered during the performance of tasks. This occurs because the information is accessed during different times. The human brain has a short and a long term memory and not everything from the short term memory will be stored in the long term memory or will be altered over time. That is why Ericsson and Simon propose to collect concurrent verbal reports that coincide in time.

Because it is as explained very hard to measure if national culture has any influence on the entrepreneurial process. There is also the problem of acquiring solid and useful information. In this case the Think Aloud Protocol (TAP) is selected to acquire the desired data. One of the big advantages of the TAP is the fact that you are catching the cognitive thinking patterns of the test subject while he is doing the case. With interviews afterwards where you for example try to find out how the participants set up their own company it will be very hard to compare this information for twenty plus subjects and there is always the realistic change that the information they give is ‘colored’ or adapted to be their own conceptions.

According to Sarasvathy (2008) there is evidence for the fact that TAP’s are a fruitful method for studying the decision making processes of entrepreneurs. The essential logic behind the use of the TAP method is summarized as: ‘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 researcher to look directly inside the black box of cognitive processing, because of the structure of the brain’s short term memory system’ (Sarasvathy, 2008). The quantity of behaviour that can be observed with a subject thinking aloud during a task is greatly increased in comparison with a subject working under silent conditions (Ericsson and Simon, 1981).
The business case used in this research can be found in appendix A. In this case a set of typical decision problems within the entrepreneurial process is provided. In this research the case used in the United Kingdom is provided.

In this research both British and Dutch participants are used. For both groups of participants the case is designed in their mother tongue. While English is not the mother tongue of the researcher some problems could occur in doing the research with the British participants in the next paragraph some of the implications this could have are explained.

3.3 The impact of language and culture on the think aloud protocol

Specific problems could arise when one of the participants is speaking English while it is not his mother tongue, or as in this research where the researcher did not have English as mother tongue. Verluyten (2005) said the following, if some of the participants are native speakers of English, the problem is compounded, because they may not be sufficiently aware that the non native speakers skills in English, even if they are quite fluent in it, are always more limited than their own. A number of simple precautions can be taken by both native and non-native speakers to limit the risk of miscommunication with non-native speakers these include the following: speak slowly and clearly and eliminate background noise as much as possible. This is all done here by creating an environment as silent as possible and by recording the conversations, which makes it possible to listen as slowly and as much as needed.

Verluyten his second tip is to avoid long sentences and complicated syntax such as many subordinate clauses, double or triple negatives and counterfactuals. This is harder to accomplish because any hints in this way could influence the thinking patterns so the choice was made to not inform the participants that these problems might arise.

Repeat the same information more than once, paraphrasing it in a different way or with different words. Summarize periodically what has been said and discussed and check for understanding frequently. This advice was well followed before the start of the case but during the case kept to a minimum to avoid disturbing the thinking patterns of the subject. In case of not understanding of course it was asked to explain
but this happened only a couple of times during all the cases as can be read in the transcripts.

Avoid idiomatic expressions, proverbs and expressions that refer to culture specific features. For the written part of the case I paid attention to this. Of course it was impossible to make sure that the test subjects were also not doing this to avoid interfering with their thinking patterns.

3.4 Operationalization
In this part the case that is used will be analyzed and the sample of entrepreneurs will be explained in short as well as why this sample is chosen.

3.4.1 The Case “Coffee, Inc.”
The case that is used for this research (see appendix A) is based upon the case used by professor Sarasvathy (2001; 2008) for her research regarding entrepreneurial processes. The case by Sarasvathy has been slightly altered, in the first instance by the supervisors of the EPICC project, and later by the researcher. In the introduction of the case it is stated why the entrepreneur takes up the project and what triggered him to do this.

The alteration by the supervisors was done to prevent cultural biases and too much focus on technology.

In this case the entrepreneur is asked to start his own coffee company at campus of the university. Starting this new company involves all kinds of decisions. In the case the subject is taken from the start up fase and problems and possibilities that arise there, to building the company into a successful coffee company and all the possible problems that could arise in this process. And finally the exit from the project were another difficult choice has to be made.

For this project some extra alterations were made especially for the English subjects. That is why the English and Dutch case are slightly different and the English case is slightly different from the provided English case, but this is only done to give the subjects a better feel of specifics in the case. For example all the prices are mentioned in pounds. The differences between the provided English/ Dutch case and the English
the case used in this research are mentioned below as are the reasons and the influence this could have. For obvious reasons the whole case is made to resemble the English market so all prices are in pounds and mentions of the country are altered to the United Kingdom. Also the prices of a cup of coffee have been upped a bit to better resemble the current prices on the English market.

1. In the second problem some of the figures have been altered. First I adapted the figures of total coffee sales and special coffee sales to the English market. To make it better understandable for the English participants. These figures came from an article in the online Telegraph (Telegraph) Also the names of the concurrent branches have been altered to the English markets together with the prices and the turnovers of the mentioned companies (Costa Coffee) (Starbucks) (Caffenero)

2. In the ninth question some extra information was given to the participants in The United Kingdom, because of the difference in schooling systems between the Netherlands and The United Kingdom they often did not understand what the options where and what the creation of a schooling program was about. I found this out after talking to some English people and discussing afterwards with the first two participants. The extra information was only meant to clarify the options and what was asked. And at no moment meant to present a preferable answer.

3.4.2 The sample
The case study for this research was done among students who are currently getting a bachelor degree or have at least a bachelor degree. Which makes the subjects viable for comparison and because they are all well educated this could also be seen as a control variable. The researcher tried to achieve at least a sample size of 20 entrepreneurs per country. According to Nielsen (1994) even a small number of subjects will provide rich an extensive data for analysis by the means of this think aloud method. Studies using the think aloud method as a collection method have focused on rich and in-depth data, as in foremost qualitative research and the sample sizes have been quite small (Lundgrén-Laine & Salanterä, 2010)
The Hive is a project started by Nottingham Trent University in Nottingham to guide starting entrepreneurs in the development and starting of their own company (Nottingham Trent University, 2012). They provide not only classes and expertise but also offices for the starting entrepreneurs.

On the website they describe it as: “The Hive is Nottingham Trent University’s purpose-built Centre for Entrepreneurship and Enterprise. We support the creation of new businesses as well as fostering the delivery of entrepreneurship education into the curriculum across the University. Although primarily for students and graduates of NTU, we offer help to anyone with a viable business idea, or staff who need help embedding enterprise into their curriculum”.

For this research over forty entrepreneurs were approached for their co-operation in this research eventually twenty-two agreed to co-operate and work through the think aloud protocol.

The characteristics of the units of analysis, which are individuals, the twenty two British entrepreneurs were found on location in the United Kingdom and the five were current or past students of Twente University. They should all be a (student) entrepreneur, which means they are entrepreneurs that are still studying or finished their degree a maximum of ten years ago.

The five Dutch respondents that were interviewed by me are the last five in the SPSS file. The other seventeen were supplied by Bode (2012) and are taken from his study regarding the entrepreneurial processes of Dutch students. Twenty were provided but I used 17 random cases out of his sample to make the Dutch and the British sample size the same. The twenty two English respondents were gathered during a case study in Nottingham in The United Kingdom. These respondents were or are all starting entrepreneurs who are following a course in the Hive for starting up a new business.

Because all the participants to the study are or were in universities where entrepreneurship is a major attention point it can be expected that they have a certain level of being an entrepreneur. Twente University is a university with a high amount of spinoffs each year and entrepreneurship is motivated throughout the university and
the courses (Lazzeretti & Tavoletti, 2005). For Nottingham Trent University the same goes and The Hive is a good example of helping young entrepreneurs in their first steps towards successful business ownership.

Furthermore all the starting entrepreneurs are in their first business and/or started their entrepreneurial activities less than ten years ago. So they are all novice entrepreneurs. For this research, that is important, because routines and patterns can influence a decision making process (Read et al., 2003). In this way it can be assumed that all the entrepreneurs have the same starting conditions. And important variables such as age, literacy, work experience, and education are controlled (Mueller & Thomas, 2001).

3.4.3 National culture of the United Kingdom
Because Hofstede (1980) is the author of choice for the comparison of national cultures in this part we will analyze the culture of the UK with the five dimensions of Hofstede as the driving factors.

It is not easy to define British culture. A lot of people tend to look at it in terms of traditions and symbols, others will describe it in terms of the component institutions as the education system or the parliamentary system. The Royal Family has always been a binding factor for British with different religions and traditions. The recent Olympic Games in the United Kingdom and especially the opening and closing ceremony give a good look at what defines British culture. It is a balance between tradition and modernity.

The UK is a developed island country, liberal democracy and major power. It is a true Anglo-Saxon culture with high individualism, low power distance, and low uncertainty avoidance. The religion in the UK is predominantly Christian and it is composited of four countries – England, Northern Ireland, Scotland and Wales – but ruled by one central government which is settled in London. Each of these separate ‘countries’ have had their influence on British culture. The wider culture of Europe has also influenced British culture, and Humanism, Protestantism and representative democracy are developed from broader Western culture.
The culture of the British is strongly influenced by the fact that they were a colonial power and the later passage through post-colonialism. Because Great Britain was once a world power, regional and local affiliations have also always played a role, for example the affinity that people from a certain region or town have with each other. This has his effect on the scores of for example individualism which is very high for the British.

The UK is prominent in science and technology and has been described as a world cultural capital (Calder, 2007). This has to do with their high individualism which makes it possible for every individual to become what he wants. High individualism stands according to Hofstede (2001) also for personal achievement, this is why sport is an important part of British culture and numerous sports originated in the country.

The UK has had a profound effect on the socio-economic and cultural conditions in the world. For example the Industrial Revolution originated in the UK, and as a result of the British Empire, significant British influence can be observed in the language, culture and institutions of a wide assortment of countries, including Australia, Canada, India and the United States. These countries in turn keep being the UK’s closest allies (Kirchner & Sperling, 2007)

The scores of the UK on the five dimensions of Hofstede are the following.

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Score</th>
</tr>
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<tbody>
<tr>
<td>Power Distance Index</td>
<td>35</td>
</tr>
<tr>
<td>Individualism</td>
<td>89</td>
</tr>
<tr>
<td>Masculinity</td>
<td>66</td>
</tr>
<tr>
<td>Uncertainty Avoidance Index</td>
<td>35</td>
</tr>
<tr>
<td>Long Term Orientation</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 1. Hofstede scores for the UK

The PDI score for the UK is only 35. A few of the reasons for the low score are for example the fact that in the UK there is the rule of law. The British society is based on the idea that everybody should abide to the same rules, whatever someone’s status or wealth. No one is above the law not even the government. A PDI score of 35 looks a bit
low for the British society where historical classes still play a role. There is still the importance of birth rank on the one hand and a deep seated belief that where you are born should not limit how far you can travel in life.

The IDV score for the UK is with 89 very high; this has to do with the fact that individuals in the UK have a great personal freedom. British feel that there should be a presumption, always and everywhere, against state influence. Eccentricity should be tolerated when no one else is harmed; this means that everybody has the personal freedom to be who he wants to be. The UK shares this high score with some of the countries it ‘spawned’ like Australia and the United States of America. Children in the UK are taught from a young age that they can become anything they want and they have to think for themselves to find their unique purpose in life. The route to happiness is through personal fulfilment. The many scandals in the last decade with people within banks for example who have been enriching themselves is also partly due to this “ME” culture.

A masculinity score of 66 indicates that British society is driven by competition, achievement and being successful, this starts already in the schooling systems where the being the best is valued and this continues throughout organisational behaviour with huge bonus systems for the well performing employees. This might seem a bit strange because the British culture is also well known for its modesty and feeling for understatement which collides with the underlying success driven value system in the culture. What makes it also hard to understand is the fact that the British not always say what they mean, people in the UK live in order to work and have a clear performance ambition.

An uncertainty avoidance score of just 35 indicates that the British are quite happy to wake up not knowing what the day brings and are happy to change plans as new information comes to light. It can be expected that the British are never surprised by unexpected things they just accept them and see how they can best fit it in with the rest of their plans. This should also rub off on the way they handle projects, the end goal is clear for them but how they get there is not detailed and the process is fluid and flexible in adapting to a changing environment. Most importantly the combination
of a highly individualistic and curious nation is a high level of creativity and strong need for innovation. For one they are the starting point of the industrial revolution. This can be seen throughout the society in both its humour, heavy consumerism for new and innovative products and the fast highly creative industries it thrives in as advertising, marketing and financial engineering.

With a score of 25 on long term orientation the UK is a very short term oriented society which drives a great respect for history and tradition but at the same time a focus on quick results in the future. As mentioned in the uncertainty avoidance part the planning horizon of the British tends to be short and businesses are focused on quick results and quarterly goals. This is also where it all went wrong in the financial world there was more focus on hitting goals and less on the fact if everything they did was feasible in the distant future. The British do not believe in giving up something now to have a greater reward in the future. The proverb “a bird in the hand is worth two in the bush” clearly demonstrates this principle. As mentioned this can also be seen in the business environment: the structure of the London Stock Exchange illustrates this, the focus here is relentless on quarterly results to drive stock valuations. This creates an even bigger focus on short term results. The London Stock Exchange is a true product of British culture.

Great Britain also has a history with economist writing about entrepreneurship. These economist saw entrepreneurs as suppliers of capital. But also among these economist also different views existed. Adam Smith saw the entrepreneur as an accumulator of money and an agent of slow progress. Bentham saw the entrepreneur as an agent of economic progress. What the British writers have in common is that they see the entrepreneur as a capitalist.

3.4.4 Setting and execution
In this research project it is tried to create optimal and equal circumstances when doing each of the cases with the subjects. Also it is tried to make the circumstances for each test person the same to reduce the influence of other influences on the tests. In order to make participants feel at ease, it is important that the room where the case is
conducted is as quiet as possible and a glass of water is available for the subject (Van Someren et al., 1994).

All the tests were conducted following the same steps:

- Agreeing with the test subject for working through a case for at least two hours. Two hours is too long for this case but in this way it was made sure that none of the test subjects were feeling rushed.
- Finding a quiet and relaxing space to sit down with as little distraction as possible. A glass of water was also provided.
- Explaining the project and making sure that the subject understands that there are no wrong or right answers but the test was for analyzing thinking patterns. And also explaining that I have to tape the subject’s monolog and how this is done.
- Asking the subject if there are any questions up front.
- Giving the subject explanations of the case in which it is stated what is expected of him. And let him read this information for himself.
- Asking the subject again if there are any questions or remarks.
- Handing over the case and tell him again that it is of the upmost importance to speak out all his or her thoughts.
- Starting the recording and encouraging them to speak out loud.

This was harder for the Dutch subjects that participated than for the English. The most important difference and the clear advantage the researcher had when doing the case with the Dutch subjects was the fact that Dutch is the native language so differences in understanding are less and are more easily taken out of the way. The disadvantage when doing the case with the Dutch participants was the fact that they were visited on the location of their preference. So there was no control of the surrounding and their where slight differences in the set up. Although in all instances the meeting was held in a quiet and separate office. For the English cases a personal office was assigned to me, so I could do all the cases in the same environment.
3.5 Method of analysis
The cases done by the entrepreneurs were done one at a time and recorded. This recording was done to give the researcher the change to find, and not missing any, relevant factors regarding the research. Later these recordings were processed in transcripts. The typing out of these transcripts was done as exactly as possible and also done in the native language of the entrepreneur. Typing out this type of complete protocols is usually unavoidable to be able to apply coding procedures that are reliable (Van Someren et al., 1994).

After typing out the protocols they need to be analyzed. The goal of the analysis is to construct a mapping between the psychological model and how the mental process appears in the protocols. This mapping will take the form of a coding scheme (Van Someren et al., 1994).

For this coding a scheme is needed. The transcripts will be coded according to the coding scheme in appendix B. This is the model based on Sarasvathy which is directly derived from the theory. The coding scheme used is similar to the aspects of causation and effectuation identified by Sarasvathy (2008). But the coding scheme has been slightly altered, the sixth dimension: “Emphasis on analysis of data versus Distrusting or opposing (marketing) research” has later been added because this description fitted well by answers that were given by the entrepreneurs often. The seventh coding dimension is causal versus effectual and has been added as an overarching category for the choices that were hard to fit in any of the other dimensions. That are the dimensions were the coding will be focused up. And these dimensions are linked to the Hofstede (2001) cultural dimensions.

After coding an extra security step is build in by letting two others code the same protocols, this was done to get a greater inter-rater reliability to make sure the coding was done as correctly as possible. According to Fleiss et al. (2003) “the interrater reliability reached without training seemed to be modest, yet values between .40 and .75 could be considered fair to good agreement beyond chance”(p.604).

After these steps the data needs to be analyzed and this will be done by means of parametric tests, which make inferences about the parameters of the distribution. This
parametric method can produce accurate and precise estimates and the sample statistic which is obtained is used to estimate the population parameter. In this analysis bivariate as well as multivariate methods are applied. The first parametric test which will be used is the ANOVA-test. The ANOVA-test is a powerful approach to analyze data. The ANOVA is concerned with differences between means of groups, not differences between variances. This means that the results of the ANOVA-test only tell you if there is a difference between the two groups, it tells nothing about the difference. In this research the ANOVA-test is used in a two sample test of the null-hypothesis and the two samples are independent. This test can be used because the two researched groups are separate groups and mean and standard deviation of the population on causation and effectuation are unknown. The ANOVA-test is useful for small samples and fits with the developed hypotheses in the research. The test that will be executed will be one tailed. Furthermore, the observation within the sample need to be independent and the scores need to be normally distributed. Normality is tested by means of the Shapiro-Wilk test of normality. In case the outcome of the Shapiro-Wilk test is significant, the sample is not normally distributed and a non-parametric test instead of a parametric test needs to be used. As non parametric test the ‘Mann Whitney U test’ will be used in this research, and as a parametric test the ‘independent samples t test’ (Field, 2009).

Data can be investigated and understood with simple statistics, but much of it requires more complex, multivariate statistical techniques to transform these data into knowledge. Multivariate analysis techniques are popular because they enable people to create knowledge and thereby improve decision making in organizations. Multivariate analysis refers to all statistical techniques that concurrently analyze several measurements on individuals or objects under research. Multivariate methods are extensions of univariate analysis and bivariate analysis. A multiple regression provides a means of performing in a single analysis, what once took multiple univariate analyses to achieve (Hair et al., 2010).

3.5.1 The VSM model
In this research we are going to make a comparison between Dutch entrepreneurs and British entrepreneurs. It is tried to find out if there is a difference in the
causal/effectual approach towards problems encountered during the start up of a company. And if these differences can be explained by differences in national culture. Hofstede’s dimensions and national scores on these dimensions are used for this research. However, it is good not to rely totally on these scores (Taras et al., 2010). If we use the scores of Hofstede we are assigning the country scores to our individuals so it is better to use primary data (Taras et al., 2010).

In the manual of the VSM model it is stated that you need at least 20 respondents, with an ideal number of 50 respondents. It is even better to use more than one respondent sample per country, such as different gender groups, or different social classes. In this research there are only highly educated entrepreneurs used, therefore it is tried to collect the data of the entrepreneurs used in this research. Unfortunately this was decided after the research was done in the UK. This is the reason that only six entrepreneurs from the UK have replied to the request to fill out the VSM questionnaire. To avoid pressing the views of these six up on the rest of the sample it is decided to go with the Hofstede score’s for the UK.

For the Dutch sample goes the same, my five respondents did fill out the VSM questionnaire, but unfortunately there were no VSM scores in the data of the other 20 Dutch entrepreneurs. Because this dataset is again very small also for the Dutch entrepreneurs the Dutch scores from Hofstede will be used.

The scores from the VSM models conducted will be calculated to see if there are strong differences between the Hofstede scores and scores awarded by the British entrepreneurs. The scores will be calculated using the formulas in appendix D.

3.5.2 Biographical information and the Questionnaire
All the entrepreneurs are also asked to fill out an extra questionnaire with questions about their background this is to get an insight in the entrepreneurs that participated in this research. Through these questions an insight is gotten with regard to the family background and study background of the entrepreneurs as well as some extra information about their business or business idea. The questionnaire also has seventeen separate questions which are used to check if the entrepreneur uses the amount of effectuation or causation, in building his own business, as he says in the
case. This information can be used to check the validity of the answers given in the case, by the entrepreneurs.
4 Results
In this chapter the data that was gathered through the TAP is analyzed by means of a statistical parametric test and the data of the survey by means of an exploratory factor analysis. The results will be shown here and an explanation will be given towards the hypothesis and the statistically significance of the hypothesis. First a short overview is given of the use of causation and effectuation by both the Dutch and the British entrepreneurs. Finally the results of the survey and correlation matrixes will be discussed. In the next chapter a conclusion will be given with regard to these results.

4.1 Analysis
All the collected data is put in SPSS and excel for analysis. This makes it possible to compare the entrepreneurs of both countries. Before we start with the analysis that should give answers to the hypotheses some statistics about the British sample are given and a comparison is made between the Dutch and the British use of causation/effectuation and a comparison with a causation/effectuation distribution within each question.

When looking at the sample of British entrepreneurs we find that there are a percentage of 54,5% males in the sample while in Great Britain there are slightly more women with 31 million opposed to 29 million men. The distribution of religion in the sample size is 36,4% Christians and 50% atheist as the two biggest groups while in Great Britain the overall scores are 71,6% Christians and 15% atheists. This can in the eyes of the researcher easily be explained with the fact that the sample group consists of young people and the amount of believers has been deteriorating vastly over the last decades in all western societies.

All the subjects in this research have a high educational level with 90% that have a bachelor degree or higher and 10% that is still trying to acquire there bachelor degree. And the average age of the sample is 25.6 years old. In the sample most of the entrepreneurs have studied something business related with just over 40% and a fairly big group has studied something which fits in the category of culture and arts or textile with 22.7%. This has to do with the fact that Nottingham Trent University is well known for its art department and has quite a few studies that fall in this group.
On the five points Likert scale question: *To what degree did you start your enterprise because you wanted to become independent or increase your income?* The sample scored an average of 4.27 which means that main reason for starting a business is to gain more wealth.

In total the researcher found a total of 954 uses of causational or effectual behaviour in the twenty two Dutch samples. The twenty two British samples had a total of 951 uses of causational or effectual behaviour. Dutch entrepreneurs choose in 51,5% of the time for a causational reasoning to a certain problem and British entrepreneurs in 52,9% of the time which is pretty equal. This can be seen in figure 1. In general this means that British and Dutch entrepreneurs are equally focused on causal and effectual reasoning. However, when a single entrepreneur is using an ‘extreme’ amount of causal or effectual logic this could strongly influence the total percentage of causal logic used for that country.

This can be avoided by looking at each entrepreneur separately and in this case award one point for entrepreneurs that use more causal reasoning and zero points for an entrepreneur that uses more effectual reasoning. When applying this technique, out of the British sample of 22 entrepreneurs 13 scored a 1 on causal logic and for the Dutch entrepreneurs also 13 scored a 1 on causal logic. This also implies that the British and Dutch entrepreneurs are equal in their preference for effectual and causal reasoning.
Secondly a comparison was made between the British and Dutch entrepreneurs with regard to the different problems of the case and the amount of causal/effectual responses to each of the problems.

This figure shows the percentages of causational versus effectual choices on the different problems. On most problems the Dutch entrepreneurs choose a more effectual approach. In this figure it is not clear which causal or effectual choices are made. It can be seen that on the first two questions the approach is causational and later in the case the effectual approach takes over.
Figure 3: Distribution of causation and effectuation of British entrepreneurs

This figure shows the percentages of causal versus effectual choices that the British entrepreneurs make in the case. When comparing the two figures it can be seen that the differences between the British and Dutch are not that big, but on certain questions slight differences arise as for example in problem 8 where the British take a more causational approach while the Dutch tend to be slightly in favor of an effectual approach. Next to these two comparisons, a comparison was made between the British and Dutch entrepreneurs considering all the causal and effectual elements. This resulted in the following table:

<table>
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<th>R</th>
<th>B</th>
<th>K</th>
<th>P</th>
<th>Z</th>
<th>X</th>
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<tbody>
<tr>
<td>Dutch</td>
<td>28%</td>
<td>78%</td>
<td>48%</td>
<td>54%</td>
<td>65%</td>
<td>59%</td>
<td>65%</td>
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<td>28%</td>
<td>68%</td>
<td>68%</td>
<td>60%</td>
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<td>72%</td>
<td>22%</td>
<td>52%</td>
<td>46%</td>
<td>35%</td>
<td>41%</td>
<td>35%</td>
</tr>
<tr>
<td>British</td>
<td>72%</td>
<td>32%</td>
<td>32%</td>
<td>40%</td>
<td>61%</td>
<td>23%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Table 2. Division of causal/effectual on concepts of Sarasvathy

This table shows that there are differences on some of the constructs while others have equal distributions whether we look at the British or the Dutch.

When looking at the Shapiro-Wilk test in appendix 2 it becomes clear that the following elements are not significant (normally distributed) with an $\alpha>0.05$, and
therefore these will be tested with an independent sample t-test: means based, expected return, exploration of contingency, and effectual. The other elements have
significant score, and therefore will be tested with the Mann Whitney U test. The results of these test are shown in table 3.

### Test Statistics

<table>
<thead>
<tr>
<th>Test Statistic</th>
<th>Goal driven</th>
<th>Affordable loss</th>
<th>Competitive analysis</th>
<th>alliance</th>
<th>market knowledge</th>
<th>predictions</th>
<th>non-predictive</th>
<th>emphasis on data</th>
<th>Distrusting</th>
<th>Causal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mann-Whitney U</td>
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<td>37,000</td>
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<td>Wilcoxon W</td>
<td>85,000</td>
<td>103,500</td>
<td>85,500</td>
<td>9,950E1</td>
<td>82,500</td>
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<td>1,040E2</td>
<td>8,250E1</td>
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<tr>
<td>Z</td>
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<td>-1,506</td>
<td>-1,162</td>
<td>-1,714</td>
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<td>-1,993</td>
<td>-0,78</td>
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</tr>
<tr>
<td>Asymp. Sig. (2-tailed)</td>
<td>0.129</td>
<td>0.908</td>
<td>0.132</td>
<td>0.675</td>
<td>0.087</td>
<td>0.879</td>
<td>0.118</td>
<td>0.321</td>
<td>0.937</td>
<td>0.084</td>
</tr>
<tr>
<td>Exact Sig. [2*(1-tailed Sig.)]</td>
<td>0.143a</td>
<td>0.912a</td>
<td>0.143a</td>
<td>0.684a</td>
<td>0.089a</td>
<td>0.912a</td>
<td>0.123a</td>
<td>0.353a</td>
<td>0.971a</td>
<td>0.089a</td>
</tr>
</tbody>
</table>

a. Not corrected for ties.
b. Grouping Variable: C

Table 3. Mann Whitney U test.
As can be seen in the table’s and figures on the starting pages of this chapter there are some differences between Dutch and British entrepreneurs in the use of causal and effectual reasoning. To test whether these differences are significant or not, an independent samples t-test or Mann Whitney U test for comparing the difference between means is used to derive a ‘p-value’. When the p-value is smaller than 0,05 the difference is significant which results in a rejection of the Null-hypothesis (i.e. H0: μ British - μ Dutch = 0). The P-values, which have to be divided by two, of all the
elements shown in table X. It can be derived from table X that only three of the total fourteen elements show a significant difference between the use of causal and effectual reasoning between Dutch and British entrepreneurs.

Based on the percentages given in table X and the p-values (Sig.) given in table X I will discuss the results of the six hypotheses which were set up in paragraph 2.8.

4.1.1 Hypothesis 1
The more individualistic a culture is, the more means-based the entrepreneur will be.

Considering the fact that British novice entrepreneurs are equally means based compared to Dutch novice entrepreneurs. The British score on the ‘goal-based’ vs. ‘means-based’ element, 28% and 72% which is exactly the same as the Dutch. This is not in line with the Hypothesis which can be rejected. It was expected that the British who have a more individualistic culture would use more effectual logic on this element. Due to the percentages in table X, hypothesis 1 can be rejected. After conducting the independent sample t test, a p-value of 0.007 is derived. Because \( p < 0.05 \), there is a significant difference between the two means.

4.1.2 Hypothesis 2
The less uncertainty avoiding a culture is, the more focused on expected returns the entrepreneur will be.

The Dutch have an uncertainty avoidance score of 53 which is quite a bit bigger than the score of the British, who score 35. If we then turn our attention to the score on expected returns it can be seen that the Dutch score 78% on expected returns while the British score 68%. This is not in line with the hypothesis, which can be rejected. It was expected that the British who are less uncertainty avoiding, would use more causal logic on this element. After conducting a independent sample t test, a p-value of 0.223 is derived. Because \( p > 0.05 \) there is no significant difference between the means.

4.1.3 Hypothesis 3
The more short term oriented a culture is, the more focused on competitive analysis the entrepreneur will be.
The Dutch have a long term orientation score of 44 while the British score only 25. So the British are the more short term oriented culture. When we look at table X we see that the British score 68% on the element of competitive analysis which is a lot more than the 48% score of the Dutch. This is in line with the Hypothesis. Then we look at the Mann Whitney U test, which is conducted to see if there is a significant difference for the ‘competitive analysis’ element. Competitive analysis has a p-value 0.066. With p>0.05, there is no significant difference between the two means. Therefore hypothesis 3 can be rejected.

4.1.4 Hypothesis 4

The less uncertainty avoiding a culture is, the more focused on exploration of contingency the entrepreneur will be.

As we have seen score the Dutch 53 on uncertainty avoidance and the British 35. We expect the British to be more focused on the ‘exploration of contingency’ element. But the British score only 40% on this element while the Dutch score 46%. This is not in line with the hypothesis, which now can be rejected. It was expected that the British who are less uncertainty avoiding would be more focused on the ‘exploration of contingency’ element. The Mann Whitney U test, which is conducted to check whether there is a significant difference for the ‘exploration of contingency’ element, has a p-value of 0.066. With p>0.05 there is no significant difference between the two means. This would also reject hypothesis 4.

4.1.5 Hypothesis 5

The more individualistic a culture is the more opposing or distrusting marketing research the entrepreneur will be.

As seen before the British have the more individualistic culture. When we look at the ‘opposing or distrusting marketing research’ element we expect the British to score higher, because they are more individualistic. When we look to table X it can be seen the Dutch score higher on ‘opposing or distrusting marketing research’ with 41% against 23% for the British. So hypothesis 5 is also rejected because this is not in line with the hypothesis. When we look at the table with the Mann Whitney U test, we see
that the p-value for ‘distrusting or opposing market research’ is 0.466. With p>0.05 there is no significant difference between the two means.

4.1.6 Hypothesis 6

Hypothesis 6: the more individualistic a culture is, the greater the preference for non-predictive control will be in the entrepreneur.

The British have the highest score on individualism and when we look at table X they also have the highest score for non predictive control with 61% versus 35% for the Dutch entrepreneurs. This is in line with the hypothesis. When we look at the Mann Whitney U test for the ‘non-predictive control’ element we find a p-value of 0.59. With p>0.05 there is no significant difference between the two means. Therefore hypothesis 6 can be rejected.

4.2 Comparison between Questionnaire and case results

The results of the case were also compared with the outcome of the questionnaire, for the questionnaire see appendix C. The questionnaire should give an indication about the use of causal or effectual logic in setting up their own company. It was expected to see similarities in the dominance of causal logic, or effectual logic over the other between the outcome of the questionnaire and the results of the case. In Tables 5 and 6 the results of this test are shown.

The questionnaire used consists of 17 different questions. The first 9 questions are set up in a way that the more a respondent disagrees with the statement, the more effectual reasoning he is using. The more the entrepreneur agrees with the statement, the more causal reasoning is used. For questions 10 to 17 this is exactly the other way around. Therefore, question 10 to 17 are scored opposite to the first 9 questions. To make the tilting point at zero the average of the first 9 questions is lowered with three and the average of the 10th till the 17th question is lowered by three and multiplied by -1. So effectually the participants fill in scores that vary from -2 to 2 instead of 0 to 5.

In this way we can calculate a total over the both parts and a combined total. When the sum of the scores is above 0 the entrepreneur uses a more causal logic. And when
the sum is below zero the entrepreneur favours a more effectual logic. The last two columns we see the percentages of causal and effectual logic derived from the case.

When the number in the combined column is above zero it is expected that the entrepreneur shows more causal logic in his case and vice versa. Of all the participants in the UK half of the sample size has a number above zero on the questions and a preference for causality according to the case. One has a negative result and an effectual preference. Two of the participants have a positive result on the questionnaire and a fifty/fifty, causal/effectual preference. Six of the participants should have a causal preference according to the questionnaire but they have an effectual preference according to the case, although with two of these participants the preference according to the case is very small. Normally you would do a factor analysis over figures like this but in this case the sample size is too small to do this so I have to work with these figures.

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<td>4</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>0,56</td>
</tr>
<tr>
<td>e19</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>5</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>-0,11</td>
</tr>
<tr>
<td>e20</td>
<td>3</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>5</td>
<td>4</td>
<td>2</td>
<td>0,67</td>
</tr>
<tr>
<td>e21</td>
<td>5</td>
<td>4</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>2</td>
<td>0,56</td>
</tr>
<tr>
<td>e22</td>
<td>4</td>
<td>1</td>
<td>4</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>-0,22</td>
</tr>
</tbody>
</table>

Table 5 first 9 questions of the extra questionnaire
4.3 Value Survey Module scores compared

In appendix D the formulas are given for calculating the Hofstede VSM scores. Because it is possible to get an answer below 0 or above 100. At the end of each formula a constant is added or subtracted. For countries to be compared the same constant has to be used in calculating the scores for both countries. Using the same constant for both countries does not influence the comparison between the countries.

In this case we calculated the Dutch scores with the formulas and used constants to make these scores equal with the scores provided with the Hofstede website for country scores (Hofstede G., Geert Hofstede). After that the same constants were used on the British scores to see if there are any strong differences between the scores provided by Hofstede and the scores of the participants in this case.

<table>
<thead>
<tr>
<th>Scores Value Survey Module the Netherlands</th>
<th>Score</th>
<th>Hofstede score</th>
<th>Constant</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDI</td>
<td>-17</td>
<td>38</td>
<td>55</td>
</tr>
<tr>
<td>IDV</td>
<td>77</td>
<td>80</td>
<td>3</td>
</tr>
<tr>
<td>MAS</td>
<td>-21</td>
<td>14</td>
<td>35</td>
</tr>
<tr>
<td>UAI</td>
<td>-84</td>
<td>53</td>
<td>137</td>
</tr>
</tbody>
</table>
Table 7: Dutch VSM scores and calculation of constant

<table>
<thead>
<tr>
<th>Scores Value Survey Module Great Britain</th>
<th>Score</th>
<th>Constant</th>
<th>Score</th>
<th>Hofstede score</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDI</td>
<td>2</td>
<td>55</td>
<td>57</td>
<td>35</td>
</tr>
<tr>
<td>IDV</td>
<td>64</td>
<td>3</td>
<td>67</td>
<td>89</td>
</tr>
<tr>
<td>MAS</td>
<td>6</td>
<td>35</td>
<td>41</td>
<td>66</td>
</tr>
<tr>
<td>UAI</td>
<td>-63</td>
<td>137</td>
<td>74</td>
<td>35</td>
</tr>
<tr>
<td>LTO</td>
<td>3</td>
<td>40</td>
<td>43</td>
<td>25</td>
</tr>
</tbody>
</table>

Table 8: British VSM scores and scores compared to official Hofstede scores

As shown in table 8 the scores that were acquired through the questionnaires taken from the British differ substantially from the scores provided by Hofstede. For example the score for individualism is now lower with the British then with the Dutch respondents. And the score for uncertainty avoidance has more than doubled to 74. This makes the score for uncertainty avoidance now greater for the British. Masculinity and individualism have also strongly decreased when calculating the scores in this manner.
Chapter 5 Discussion, conclusions, limitations and further research

5.1 Discussion
In the earlier stages of this research it is already mentioned that there is evidence for a growing body of entrepreneurship articles in management journals. This lends support to the view that entrepreneurship is emerging as a distinct domain (Alvaro et al., 2007). As the world is becoming one big 24 hour economy in a fast pace, and with this development the chances and opportunities for entrepreneurs come and go faster and on a bigger scale. Therefore it is important, not only for the entrepreneurs, to understand how entrepreneurs from different countries differ. A possible source for this difference among entrepreneurs might be the underlying cultural values that each of these entrepreneurs have.

Sarasvathy (2001) developed the concept of causation and effectuation and in this research we tried to link this concept to the concept of culture, and tried to discover if their where any significant influences of culture on the entrepreneurial process with regard to causational or effectual thinking. Hayton et al. (2002) already wrote that culture is depicted as a moderator of the relationship between contextual factors and entrepreneurship. It is also good to notice that the choice between an effectual or causal reasoning does not only depend on the entrepreneur but is also dependent on the situation.

During this thesis the possible influence that national culture could have on the entrepreneurial processes and the use of causal and effectual reasoning that are involved with entrepreneurial processes in specific are researched. Based on the results that were gathered in the analysis it can be concluded that there is no hard evidence for an influence of culture on the entrepreneurial processes between Dutch and British entrepreneurs on the six possibilities researched. The use of effectual reasoning is for Dutch and British novice entrepreneurs both about 50% and although there are some differences in culture, these differences do not seem to influence the
preferences of the novice entrepreneurs for either effectual or causal approaches, towards problems arising when starting up a new company.

Based on the results produced in chapter four I will now discuss the outcomes on the six hypotheses. First I need to mention that from the start of the analysis of the hypotheses it was already clear that it was well possible that none of the hypotheses would be accepted. This is on one side because the Dutch and British cultures have quite a bit resemblance. But after analysis of the significance of the causal versus effectual elements it became clear that only three out of the fourteen elements assigned to causal or effectual reasoning were significantly different.

The first hypothesis was: The more individualistic a culture is, the more means based the entrepreneur will be. It was expected that the British novice entrepreneurs would score a higher percentage on the ‘means based’ element as the Dutch, because the British culture is more individualistic with a Hofstede score of 89 versus 80 for the Dutch. This was not the case, because both the British and the Dutch scored 72% on the ‘means based’ element. This made that the first hypotheses was rejected. This was unfortunate, because the ‘means based element is one of the few that is significant with a p-value of 0.007. When we look at the VSM scores that where acquired through a few of the entrepreneurs in the sample it was shown that for these entrepreneurs the individualism score was lower for the British then for the Dutch. Unfortunately only a very small group of British entrepreneurs filled out the VSM research, so the chance that one entrepreneur could have significant influence on either countries score is too big to take these scores serious. Also this would have changed nothing for the hypothesis because the case protocol showed that the Dutch and the British were equally in favor of effectuation/causation.

The second hypothesis was: The less uncertainty avoiding a culture is, the more focused on expected returns the entrepreneur will be. When we look at the results in chapter four it is shown that according to Hofstede the Dutch are more uncertainty avoiding, but the British are less focused on expected returns. Although the VSM score provided by the small sample of the participants suggests that the uncertainty avoidance of the British is higher. This score has no real value but it could well be that
the uncertainty avoidance with this sample size is bigger because they are all young people just out of university or still in university. This means they do not have real stability in their lives yet and because of that try to avoid uncertain situations. With this last VSM score the hypothesis would be supported by the scores of the British and Dutch on expected returns. Unfortunately the difference is not significant so no solid conclusion can be made.

The third hypothesis was: *The more short term oriented a culture is, the more focused on competitive analysis the entrepreneur will be.* When we look at the results we see that the hypothesis is carried by the results from the TAP. Which is a good indication for an influence, unfortunately the element of competitive analysis is just short of being significant with a p-value of 0.066. The LTO scores of the British and the Dutch calculated with the self supplied scores are almost equal. But it is very good possible that one of the Dutch respondents is taking this down or one of the British is influencing this in an upward trend.

The fourth hypothesis was: *The less uncertainty avoiding a culture is, the more focused on exploration of contingency the entrepreneur will be.* In chapter four it is shown that this hypothesis is rejected in the first instance with a higher score for the Dutch on the element of exploration of contingency. But with the self found VSM scores the story becomes different here the UAI score for the British is almost tripled with a score of 74 which would make the hypothesis correct although it could not be proven with significance. As mentioned before it could well be that the sample of novice entrepreneurs from Great Britain is more uncertainty avoiding but the score provided by them could also be non-representative.

The fifth hypothesis was: *The more individualistic a culture is, the more opposing or distrusting marketing research the entrepreneur will be.* Looking at chapter four we again see that the difference between the Dutch and the British is not significant, so the hypothesis could never have been accepted with certainty. And according to Hofstede the British should also have the more individualistic culture. The scores from the self executed VSM model contradict this. And I must say from my own experience I did not find the British individualistic at all when I was there. But this could also have
to do with the people I met. As Nottingham Trent University is a university with a lot of social studies.

The sixth hypothesis was: *The more individualistic a culture is, the greater the preference for non-predictive control will be with the entrepreneur.* This hypothesis is according to chapter four true. The British having a higher individualism in their culture according to Hofstede and they also have a preference for non-predictive control. But again there was no significant difference between the results of the two groups according to the Mann Whitney U test for the non-predictive control element.

With this research the influence of culture on the entrepreneurial process could not be proven to exist between the British and the Dutch culture. Although there are some indications in the hypotheses that some of the cultural aspects do have an influence on entrepreneurial processes. Unfortunately only three out of the fourteen elements where statistically significantly different from each other. Another factor of attention where the Hofstede scores. For this research I was only able to get the VSM results from five Dutch respondents and six British respondents so this is far too little to draw any conclusions from these figures. But there are indications that the scores of British novice entrepreneurs are different from the scores provided by Hofstede although the manual of VSM08 says that scores are not comparable to published scores and the initial scores are of IBM employees. As the sample size here is only five and six and not the required fifty for a homogeneous sample it would be good to look in to this in a next study.

### 5.2 Significance for theory

As from this research no hard conclusion could be drawn on the influence of culture on entrepreneurial processes the significance for theory is low. Again it needs to be mentioned that the differences in culture between the British and Dutch are low to start with, so it was expected from the start that there was a chance that no real proof could be given for an existence of cultural influence on entrepreneurial processes. Although the study gives some indications of possible difference that exist between British and Dutch entrepreneurs that are influenced by culture. These differences need to be fully explored and this research could be a first step towards exploring these
differences. The results of the VSM module, although statistically irrelevant, show the
importance of collecting primary data even if country scores are already available. The
findings in these scores disagree with the statement of Minkov and Hofstede (2011)
that cultures do evolve but tend to move more or less in one and the same cultural
direction. Our initial findings show that major shifts can be expected with a more
extensive VSM research. Because of the low amount of respondents there can be no
certainty with regard to the values collected but can be an interesting point for future
research.

5.3 Significance for practice
The significance for practice lies in my opinion mostly in the teaching of
entrepreneurship at universities in both countries. It is my opinion that the influence
of their schooling plays a big role on these novice entrepreneurs. I had the feeling that
a lot of them where trying to think back to what they had learned at university when
answering the questions. This cannot be proven because no expert entrepreneurs
where used in this research. For future research it could be interesting to also make a
comparison between expert and novice entrepreneurs to see if there are differences
that are not induced by culture but more by experience. Furthermore it is important
for entrepreneurs to know that although differences cannot be proven with the
construct culture, differences do exist between Dutch and British entrepreneurs. Dutch
entrepreneurs who want to expand to the UK need to keep this in mind and the same
goes for British entrepreneurs.

5.4 Conclusion
Considering the results, gathered in the UK and in the Netherlands, provided in chapter
four. I am able to give an answer to the main research question:

To what extent is there a difference between novice entrepreneurs from the
Netherlands and from the United Kingdom in the preference of effectual/causal logic in
entrepreneurial processes? If so can these differences be caused by the influence of
national culture on this?

Although the scope of this research is limited, the answer to the main question in this
study is that differences although small exist between Dutch and British entrepreneurs
with regard to the preference of effectual or causal logic. Because the cultures in the
UK and the Netherlands are not so different it was expected that the differences in
effectual or causal approach towards entrepreneurial processes would be only
marginal. In fact entrepreneurs from both countries are about 50/50 in their effectual
causal reasoning. When we look at the hypotheses it can be seen that only two out of
six are in line with the expectations and of these two, none could be proven to be
significant. So it can not been proven that these differences are induced by national
culture, other factors that were not researched here could also have an impact on the
differences that were found in the research.

5.5 Limitations and future research
As with all studies, due to design choices and circumstances this study has limitations.
First of all, culture may not be the only influential force on the entrepreneurial
processes researched. Other factors may play a role like the composition of the sample
group. And even the fact that people that are willing to cooperate in a research like
this might be different than the people that are not willing to cooperate. This makes it
impossible to assign the differences found with certainty to the effects of culture.

Using the model of Hofstede might have some limitations due to the critiques of for
example McSweeney (2002). However, Hofstede has countered these critiques and
therefore I decided that the Hofstede model is appropriate for this thesis.

For future research it is advised to do this study every few years to overrule
for example the economical state of a country. Another point of interest is the VSM
model, for future research it would be interesting to see if the differences that were
found with this small sample size are really there. And which implications this might
have for the research. This might also give new insights to the hypotheses designed in
this research.

Using the think aloud method in this research has some advantages and some
disadvantages. An advantage of the method is the fact that it does not disturb the
thought process of the entrepreneur, also there is no delay in the gathering of the data
and it is expected that the entrepreneur will feel more at ease after some time in the
process. Compared to other observation methods the think aloud method has also as
advantage that it links the thinking process of the subject with the coexisting perceptions, this means that information in the working memory of the entrepreneur is accessed, research has shown that this data provides more insights into the decision steps as through a retrospective method.

The think aloud method also has some limitations. First of all it is possible that data out of the think aloud method is invalid and incomplete due to memory errors. Also information could be altered due to interpretation of the question by the subject or by interpretation of the information given by the researcher. Also the researcher can never be sure if the participant is saying everything aloud or is just verbalizing part of his thoughts. And last there is the chance that the thinking aloud will interfere with the thinking pattern of the subject.

Another possible limitation is the use of novice entrepreneurs, while Sarasvathy (2001) used experienced entrepreneurs for her research. So for future research it would be interesting to find sample groups existing of experienced entrepreneurs and novice entrepreneurs. It might be possible that cultural influences differ even between these groups, with experienced entrepreneurs giving more importance on experience and less on their cultural values.

Lastly, a gap can occur between theory and practice. As mentioned before in this research novice entrepreneurs are used and sometimes I wondered if they gave answers that they expected would be right instead of focussing on what they would do. This happened mainly in the later parts of the case where issues as hiring management and going corporate where addressed. Because for this case novice entrepreneurs where used, most of them have never encountered these issues and they might find it hard to imagine these things. So for future research it would again be interesting to do the same research with experienced entrepreneurs who have encountered these problems before. Than a comparison can be made between these novice and expert entrepreneurs to see if differences occur.
References


**Appendices**

**Appendix A: Think Aloud Protocol United Kingdom**

The case
Introduction

In the following experiment, you will solve ten decision problems. All these problems arise in the context of building a new company for an imaginary product. A detailed description of the product follows in this introduction.

Before you start on the product description and the problems, I do need one act of creative imagination on your part. I request you to put yourself in the role of the lead entrepreneur in building this company -- i.e., you have very little money of your own to start this company, but you have about five years relevant working experience in the area.

Description

Since some time, you have been thinking of starting a coffee-corner at your university. Your inspiration for this came from the fact that when you, as a student, wanted to get a fresh cup of coffee, there was no possibility. You did not like the coffee from the machines which are available in the university buildings. Next to that, you had to pay an amount of money which was in no relation to the quality of the coffee. You have been working in a coffee corner in your hometown for 5 years so you know what goes around.

You saw the success of other coffee corners, but since these were from expensive franchisers, you thought that it should be possible to start your own. In several reports in newspapers and magazines you read that there is an increasing demand for drinking coffee in your home country.

You have taken all possible precautions regarding intellectual property. The name of your company is Coffee, Inc.
Problem 1: Identifying the market

Before we have a look at some market research data, please answer the following questions -- one at a time:

1. Who could be potential customers for your coffee corner, and why?

2. Who could be potential competitors of your coffee corner, and why?

3. What information would you seek about potential customers and competitors -- list questions you would want answered.

4. How will you find out this information -- what kind of market research would you do?

5. What do you think are the growth possibilities for this company?
Problem 2: Defining the market

In this problem you have to make some marketing decisions.

Based on secondary market research (published sources, etc.), you estimate that there are three major segments who are interested in drinking coffee at your coffee corner:

<table>
<thead>
<tr>
<th>Segment</th>
<th>Estimated total size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td>40,000</td>
</tr>
<tr>
<td>Staff members</td>
<td>20,000</td>
</tr>
<tr>
<td>Visitors (annually)</td>
<td>10,000</td>
</tr>
</tbody>
</table>

- The estimated value of regular coffee sales in your home country is well over £2 billion.
- The estimated value of specialized coffee sales £0.5 billion.

Both are expected to grow at a minimum rate of 5% p.a. for the next 5 years.

The following are the results of the primary (direct) market research that you have completed.

Survey #1 – Students, staff members and visitors were asked via questionnaires to express their interest in a coffee corner. Also, they were asked to indicate what they were willing to spend on coffee.

In total, 1000 people were asked and 500 filled out the questionnaire.
## Willing to pay (£)

<table>
<thead>
<tr>
<th>Willing to pay (£)</th>
<th>Students (%)</th>
<th>Staff members (%)</th>
<th>Visitors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,50 – 0,75</td>
<td>52</td>
<td>26</td>
<td>45</td>
</tr>
<tr>
<td>0,75 – 1,00</td>
<td>30</td>
<td>38</td>
<td>32</td>
</tr>
<tr>
<td>1,00 – 1,25</td>
<td>16</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>1,25 – 1,75</td>
<td>2</td>
<td>9</td>
<td>8</td>
</tr>
<tr>
<td>1,75 – 2,50</td>
<td>0</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Survey #2 -- The prices of coffee, offered during lunch breaks in between lectures*

<table>
<thead>
<tr>
<th>Willing to pay (£)</th>
<th>Students (%)</th>
<th>Staff members (%)</th>
<th>Visitors (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0,50 – 0,75</td>
<td>65</td>
<td>21</td>
<td>51</td>
</tr>
<tr>
<td>0,75 – 1,00</td>
<td>25</td>
<td>49</td>
<td>42</td>
</tr>
<tr>
<td>1,00 – 1,25</td>
<td>10</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>1,25 – 1,75</td>
<td>0</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>1,75 – 2,50</td>
<td>0</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

*Survey #3 -- Focus Group of educators (high school and community college teachers and administrators)*

Staff members of the university who participated in the focus group found the plan of the coffee corner very interesting – but indicated that the range of coffee could potentially be expended before they would be willing to spend £1,50 or more. With the current offer, they would be willing to pay £1,00 – £ 1,25 and would demand a bonus system in which they could save up for discounts after a certain amount of coffee drunk.

Both at the lunch and the focus group, participants are very positive and enthusiastic about the coffee corner. They provide you with good feedback on specific features and also extend suggestions for improvement. But the staff members are particularly
keen on going beyond the regular coffee aspect; they make it clear that much more diversity would be required in trying to market the product to them. They e.g. indicate that there are companies which might be capable of printing advertisement on cups for discounts on the coffee.

Based on all your market research, you arrive at the following cost estimates for marketing your product.

<table>
<thead>
<tr>
<th>Method</th>
<th>Cost Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet</td>
<td>£200 upfront + £50 per month thereafter</td>
</tr>
<tr>
<td>Newspapers</td>
<td>Relatively cheap -- but ads could cost £500 upfront</td>
</tr>
<tr>
<td>Cinema</td>
<td>£2000 to £4000 per month, with £1000 upfront</td>
</tr>
<tr>
<td>Commercials on Local TV</td>
<td>£5000 to £10.000 upfront</td>
</tr>
<tr>
<td>Direct advertisement elsewhere (think of sport-canteens, handing out lighters with advertisement, etc.)</td>
<td>Involves recruiting and training ‘sales representatives’</td>
</tr>
</tbody>
</table>

**Competition**

None of the following four possible competitors sell cheap quality cups of coffee in the centre of your hometown - you are unique in this respect.

<table>
<thead>
<tr>
<th>Company</th>
<th>General price level per cup of coffee</th>
<th>Turnover</th>
<th>Where to be found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Starbucks</td>
<td>£ 2,75</td>
<td>£400 million</td>
<td>Large cities / global</td>
</tr>
<tr>
<td>Costa Coffee</td>
<td>£ 2,50</td>
<td>£530 million</td>
<td>Large cities / mostly UK</td>
</tr>
<tr>
<td>Caffe Nero</td>
<td>£ 2,00</td>
<td>£140 million</td>
<td>Large cities / UK</td>
</tr>
</tbody>
</table>

The coffee corner companies are making a net return of 25% on sales.

At this point, please take your time and make the following decisions: (Please continue thinking aloud as you arrive at your decisions)

1. **Which market segment/segments will you sell your product to?**
2. **How will you price your product?**
3. **How will you sell to your selected market segment/segments?**
Problem 3: Meeting Payroll

You have started the company on a shoestring, using face to face promotion as your primary source of marketing. You are six months into marketing your product. You have priced the products at the low end of the surveys at 1.00 – 1.50 English £. You have about 3000 customers per month. Based on numerous suggestions provided by your customers, you believe you can start selling special coffees in the range of 2.00 – 2.50 English £. This would especially be the case when you would redesign the interior of the coffee corner to make it into a more upscale coffee corner.

You have invested the last of your savings and maxed out your credit cards in order to make sure you have the coffee asked for in stock -- You need this to participate in a competition on where ‘Architecture meets Catering’, where you will get a lot of exposure.

You have four employees -- and you are out of cash to meet the next payroll. You estimate a need of 30,000 English £ to survive the next three months and to come up with a super cool store-design to be able to participate in the competition. You have the following four options:

1. Borrow from your boy/girlfriend’s parents -- they are not overly wealthy, but could probably get their hands on 30,000 English £ if they need to
2. Borrow from some old friends from the university and your old student job
3. Convince your parents to take out a(n extra) mortgage on their house
4. Convince your employees to wait out the period

Which of these options would you choose? Why?
Problem 4: Financing

Your store design has won the first prize in the new talent category at the ‘architecture meets catering’ competition. This in turn has led to inquiries from large coffee suppliers such as Nestlé B.V. to market the concept (with full multi-media exposure) nationally. You estimate that it will take you six months to develop the concept in more detail and about three months after that to actually roll it out on three main channels -- web, national newspapers and national TV. The coffee will be priced at 3.00 English £ per unit. You estimate that you will need 150,000 English £ to break-even (by the third quarter of the second year) -- this includes enhancing the concept, putting in place excellent (support) staff, full blown advertising and web links, and the development of a small direct sales staff for selling on site.

You estimate the following sales projections for the first five years (You are at the beginning of Year 1 now):

<table>
<thead>
<tr>
<th>Year</th>
<th>Sales</th>
<th>Profits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>£100,000</td>
<td>&lt;0</td>
</tr>
<tr>
<td>2</td>
<td>£150,000</td>
<td>£20,000</td>
</tr>
<tr>
<td>3</td>
<td>£300,000</td>
<td>£40,000</td>
</tr>
<tr>
<td>4</td>
<td>£500,000</td>
<td>£200,000</td>
</tr>
<tr>
<td>5</td>
<td>£1M</td>
<td>£300,000</td>
</tr>
</tbody>
</table>

You have three financing options:

*Option 1*

A venture capitalist who specializes in start-up companies in catering and adjacent areas, is willing to finance you £150,000 for 48% of your company.

*Option 2*

A friend of the family who has extensive experience in catering is eager to go into partnership with you -- for 33% of the company. He is able to invest £150,000 but wants to work for the company at a base salary of £40,000 per year. He agrees to accept a minimum level of £30,000 for the first two years to keep his family going and defer the rest to when the company starts making money. You like and respect this man and have no personal feelings against him.

*Option 3*

You can continue the company with internal cash flow -- grow at a much slower pace.

1. Which option would you choose? Why?

2. If the venture capitalist is also willing to take only 33% of the company, which option would you choose?
Problem 5: Leadership/Vision

You have found the financing and have signed a contract with two major coffee suppliers to market your product. You have hired new staff and moved into new premises. A national newspaper is doing a series of stories on local entrepreneurs and wants to do a story on you -- you know that this interview would be a defining moment in the development of your company and you see this as an opportunity to convey to the world (and to your new employees) your vision for your company’s future. This newspaper article series has been very successful; it routinely gets picked up by other national papers and TV networks. One of the reasons for its success is its headline which consists of a one-line quote that captures the entrepreneur’s vision for the company -- to be achieved by the year 2012.

You have come up with several possibilities for the one-liner:

1. Starbucks is the past - Coffee inc is the future.
2. We aim to have at least a thousand employees by the year 2014.
3. The fastest growing coffee caterer.
4. Invest in coffee inc — Enjoy the English tradition.

Which one of the above do you choose? Why? If you do not choose any of them and want to come up with an alternative idea, please do so.
Problem 6: Product Re-development, Part One

You are almost at the end of your 5th year of operation -- you have just managed to break-even (later than you were expecting). You have opened the doors to all three segments (students, staff & visitors). Sales, while they are steady and continuous, are rather ‘colourless’ and you start doubting whether you will ever reach your growth targets.

You decide to conduct a serious market research initiative in order to find out how to grow your sales. You organize focus groups with both existing customers and potential new customers. The main problem seems to be the "great deviation" between the regular coffee and the specialized products. Over 90% of the participants in your focus groups find the regular products very interesting. But when it comes to the specialised coffees, there is a clear division of opinion. The participants who primarily enjoy the regular coffees almost never bother to go and buy more expensive coffees and wonder why all that ‘elite stuff’ is there; and those who are primarily interested in the specialised coffees think that the regular products downgrade the atmosphere.

How do you respond to this feedback?
Problem 6: Product Re-development, Part Two

You go back to the origins and think of a concept which could provide solutions to both parties. You come up with a solution in which you have 1 existing shop and 1 new shop. Shop number 1 (the existing shop) is for more regular coffees, the new shop is for exclusive coffees and teas. With the exclusive shop one should think of specialized Asian, South American and African coffee specialties, which would result in a total amount of 30 different types of coffee. Teas will come in a variety of 20 types. Also, exclusive cupcakes and pastries are sold. Next to this, customers can also borrow books, read newspapers and have access to free wireless internet. In the regular coffee booth, you plan to sell 8 different regular coffees, like plain cappuccino, espresso, etc. and add 5 regular teas (e.g. China Blossom and Rooibos) and a limited variety of donuts and muffins.

You first start to promote the idea with the exclusive shop with a variety of 15 different coffees and 15 different teas, and also a smaller variety of cupcakes and pastries than you eventually will include. This together with free newspapers and free wireless internet is what you show to the focus group. It turns out that especially the exclusive shop is being received very enthusiastically and customers are willing to pay 2 to 2.5 times as much as asked previously.

One of the requirements, however, is that you have to extend to what you had in mind (the 20 teas, 30 coffees, the books, newspapers and free wireless internet). You have to decide whether to undertake this massive concept change or to focus completely on one of the two concepts. If you choose to extend, this will cost you as much as 200.000 English £ and a separate marketing effort.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Sales (£M)</td>
<td>0.10</td>
<td>0.50</td>
<td>1</td>
<td>6</td>
<td>12</td>
<td>18</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>Actual Sales (£M)</td>
<td>0.14</td>
<td>0.48</td>
<td>0.84</td>
<td>2.8</td>
<td>4.2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Which of the two options do you choose? Why?

Assuming you have decided to go in for the extension, you have to choose one of the following three options:

1. Undertake the redesign effort in-house -- Estimated Cost: £250.000

2. Out-source the redesign to the new company within your home-country--Estimated Cost: £ 200.000

3. Out-source the redesign to the new company outside your home-country--Estimated Cost: £ 100.000

Which option do you choose? Why?
Problem 7: Growing the Company, Part One

You are almost at the end of the 6\textsuperscript{th} year of business. You are now running two types of shops—under the umbrella of Coffee inc.

- \textit{Plain Coffee} (sales between 1.00 – 3.00 English £) where you sell a limited amount of regular coffees and teas and a basic amount of donuts, muffins and chocolates

- \textit{Exquisite} (sales between 3.00 – 15.00 English £) where you offer the ‘complete picture’

Your number of outlets and therewith the new coffee shop managers has grown to twenty from the original three and you are continuing to expand your sales force and develop an even better concept of \textit{Exquisite} for more upscale areas in town. Greg Thomas, who is an excellent salesman (dealing with the regular coffees previously) and has led the sales team since Day One, has clearly not kept up with the issues of growing the company -- he is definitely not the person to lead the new \textit{Exquisite}. How will you deal with this situation?

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Estimated Sales (£M)</td>
<td>0.10</td>
<td>0.50</td>
<td>1</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Actual Sales (£M)</td>
<td>0.14</td>
<td>0.48</td>
<td>0.84</td>
<td>2.8</td>
<td>4.2</td>
<td>8.6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Would you:

1. Fire him?

2. Hire a new sales manager to head the sales team and put him back in his old position? If so, would you consult with Greg before doing so? How would you break the news to him?

Please feel free to elaborate on any other way of dealing with the situation.
Problem 7: Growing the Company, Part Two

Although the company has been growing for a while now, you are trying to keep the entrepreneurial spirit of the company alive. But you have started to notice that your partner is fostering a more “corporate ambiance” -- long and unnecessary meetings, complicated organization charts, colourful expense accounts, “consultants” to “optimize market potential”, and so on. When you try to discuss this with him, he argues that it is time for the company to go “corporate” -- that such a “professional” image would actually be good for the bottom line.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Estimated Sales (£M)</td>
<td>0.10</td>
<td>0.50</td>
<td>1</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Actual Sales (£M)</td>
<td>0.14</td>
<td>0.48</td>
<td>0.84</td>
<td>2.8</td>
<td>4.2</td>
<td>8.6</td>
<td>20</td>
<td>27.5</td>
</tr>
</tbody>
</table>

How will you deal with this situation? Do you think it is time for Coffee Inc. to go “corporate”? 
Problem 8: Hiring Professional Management

You are now in the 8th year of your company. You are doing very well -- surpassing growth targets and building reliable market share. Your sales are £27.5 Million and you project a growth rate of at least 25% per year for the next three years.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised Estimated Sales (£M)</td>
<td>0.10</td>
<td>0.50</td>
<td>1</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Actual Sales (£M)</td>
<td>0.14</td>
<td>0.48</td>
<td>0.84</td>
<td>2.8</td>
<td>4.2</td>
<td>8.6</td>
<td>20</td>
<td>27.5</td>
</tr>
</tbody>
</table>

Your Board’s advice is to hire professional management to run the company so you can focus on issues of new growth and new strategic initiatives. Assuming you have already developed a short list of three high-potential candidates to interview for the position of Chief Operating Officer (COO), how would you prepare for the interview?

List questions you would ask, techniques you would use, and critical issues you would take into account in hiring this person.
Problem 9: **Goodwill**

At this point, you are approached by the principal of an inner city school in your area, who also works with 10 similar schools -- she believes that *Exquisite* could be a perfect learning environment for her students in her Catering study program.

She requests you to work with a couple of really enthusiastic teachers to develop some elementary learning materials for the students to work with at the *Exquisite* shops. The project would mean not only an investment of £100,000 (approx.) for modifications, but also a substantial chunk of your time for about six months during development and then about 10 sessions of guest lectures and classroom participation per year for a couple of years at least.

Note: Your sales are £27.5 Million and you project a growth rate of at least 25% per year for the next three years.

**Will you take the initiative for this project?**

If not, why not?

If yes, would you:

a) Donate the product?

b) Sell it at cost?

c) Sell it at your regular profit margin?

Why?
**Problem 10: Exit**

You are now in the 10th year of your company -- *Exquisite* is a great success and thanks to your new targeted strategies, even *Plain Coffee* is growing satisfactorily. You have acquired three other profitable catering concepts. You reached £45 Million in sales and project that you will reach £70 Million within a year. At this time you face two possible directions for your company:

**Direction 1**

Your accountants and bankers think that this is a good time for you to take the company public. The Initial Public Offering (IPO; new stocks) market is booming and catering is in a solid upward trend. They estimate you should make an initial public offering of 2 million shares at £30 per share. The company has a total of 12 million shares outstanding.

**Direction 2**

At this point in time, Starbucks approaches you and makes an offer for your company -- it seems they have decided to get in on the more exclusive segment and have decided to enter the arena through acquisitions -- they see you as a perfect fit for their strategy and offer you £300 Million.

<table>
<thead>
<tr>
<th>Year</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revised</strong> Estimated Sales (£M)</td>
<td>0.10</td>
<td>0.50</td>
<td>1</td>
<td>6</td>
<td>12</td>
<td>6</td>
<td>12</td>
<td>20</td>
<td>30</td>
<td>45</td>
</tr>
<tr>
<td><strong>Actual Sales (£M)</strong></td>
<td>0.14</td>
<td>0.48</td>
<td>0.84</td>
<td>2.8</td>
<td>4.2</td>
<td>8.6</td>
<td>20</td>
<td>27.5</td>
<td>38</td>
<td>70</td>
</tr>
</tbody>
</table>

**Which of the above two directions do you choose? Why?**
Appendix B: EPICC Coding Scheme

<table>
<thead>
<tr>
<th>Causal</th>
<th>Effectual</th>
</tr>
</thead>
<tbody>
<tr>
<td>G - Goal-driven</td>
<td>M - Means-based</td>
</tr>
<tr>
<td>R - Expected returns</td>
<td>L - Affordable loss</td>
</tr>
<tr>
<td>B - Competitive analysis</td>
<td>A - Use of alliances or partnerships</td>
</tr>
<tr>
<td>K - Existing market knowledge</td>
<td>E - Exploration of contingency</td>
</tr>
<tr>
<td>P - Predictions of the future</td>
<td>C - Non-predictive control</td>
</tr>
<tr>
<td>Z - Emphasis on analysis of data</td>
<td>D - Distrusting or opposing (marketing) research</td>
</tr>
<tr>
<td>X - Causal (no subcategory given)</td>
<td>N - Effectual (no subcategory given)</td>
</tr>
</tbody>
</table>

Coding scheme used for analyzing the protocols. Based on the model of Sarasvathy with an added sixth element: “Emphasis on analysis of Data versus Distrusting or opposing (marketing) research”, and a seventh element to cover all the choices that wouldn’t fit in any of the other six.
Appendix C: Biographic and testing questionnaire

Biographic information questionnaire

Name of Interviewer:    ____________________________
Name of Interviewee:    ____________________________
Email for future contact: ____________________________
Number of interview:    ____________________________

Student of  ____________________________ (discipline, eg. Business Administration),
Level  ____________________________ (Bachelor, Master, PhD; other)
_____________________________ (Name of University) in
_______________________ (City)  
_____________________________ (Name of Country)

Years of university education:  ___________  (years)

Years of working experience:  ___________  (years)

Years of working experience with entrepreneurship/leadership component OUTSIDE own company ________ (years)

Date of birth:  ____________________________
Sex:    male / female
Place of birth:  ____________________________
Country of birth:  ____________________________
Nationality:  ____________________________
Religion:  ____________________________
Marital status:  single / living together / married
Children:  yes / no
International experience: _____________ years

As ___________________________ (Student/ worked / raised as a kid / ............. other)

In _____________________________________________________________________________ (City, country)

Family background: at least one parent employed in private company / employed as public servant / entrepreneur

Parents income (in rel. to country average): lower quartile / middle half / upper quartile

Student company questionnaire

Code number interview: ______________________________

Name of Student Company: ________________________________

Website of Company: ________________________________

Short description of student company (what business are you in):
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________
_____________________________________________________________________________

Founding date: ________________________________

Founding place: ________________________________

Number of founders (including entrepreneur): ________________________________

Current # FTE (including all founders): ________________________________

Annual turnover in £: ________________________________

1. To what degree did you start your enterprise because you had no other option for work?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>Somewhat</th>
<th>To a large extent</th>
<th>Absolutely</th>
</tr>
</thead>
</table>
2. To what degree did you start your enterprise because you wanted to become independent or increase your income?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>A little</th>
<th>Somewhat</th>
<th>To a large extent</th>
<th>Absolutely</th>
</tr>
</thead>
</table>

Please answer the following questions reflecting on your own company.

Have a look at the following statements. Now, indicate to what extent you agree or not agree to the statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Do not agree</th>
<th>Agree little</th>
<th>Agree somewhat</th>
<th>Mostly agree</th>
<th>Fully agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>We analyzed long run opportunities and selected what we thought would provide the best returns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We developed a strategy to best take advantage of resources and capabilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We researched and selected target markets and did meaningful competitive analysis</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We designed and planned business strategies</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We organized and implemented control processes to make sure we met objectives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We had a clear and consistent vision for what we wanted to do</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We designed and planned production and marketing efforts</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The ultimate product/service that I used to launch this business was quite similar to</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>my original conception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our decision making has been largely driven by expected returns</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The ultimate product/service that I used to launch this business was quite different from my original conception</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>It was impossible to see from the beginning where we wanted to end</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We have allowed the business to evolve as opportunities have emerged</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We evaluated the set of resources and means we had at our disposal and thought about different options</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We experimented with different products and/or business models</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We started out very flexibly and tried to take advantage of unexpected opportunities as they arose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>We used a substantial number of agreements with customers, suppliers and other organizations and people to reduce the amount of uncertainty</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Our decision making has been largely driven by how much we could afford to lose</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix D: Value Survey Module formula building

Formulas used for calculating Value Survey Model scores.

In the following formulas $m_{XX}$ is the mean of the question used in this formula. $C_{(xx)}$ in the formulas stand for a constant that can be added, when the constant added is the same for both countries it does not affect the comparison between countries. It can be used to shift the PDI scores between 0 and 100.

The index formula for Power Distance Index is:

$$PDI = 35(m_{07}-m_{02}) + 25(m_{23}-m_{26}) + C_{(pd)}$$

The index formula for Individualism is:

$$IDV = 35(m_{04}-m_{01}) + 35(m_{09}-m_{06}) + C_{(ic)}$$

The index formula for Masculinity Index is:

$$MAS = 35(m_{05}-m_{03}) + 35(m_{08}-m_{10}) + C_{(mf)}$$

The index formula for Uncertainty Avoidance Index (UAI) is:

$$UAI + 40(m_{20}-m_{16}) + 25(m_{24}-m_{27}) + C_{(ua)}$$

The index formula for Long Term Orientation is:

$$LTO = 40(m_{18}-m_{15}) + 25(m_{28}-m_{25}) + C_{(ls)}$$
## Appendix E: Tests of Normality

### Tests of Normality

<table>
<thead>
<tr>
<th></th>
<th>Kolmogorov-Smirnov(^a)</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>df</td>
</tr>
<tr>
<td>Goal driven</td>
<td>0.187</td>
<td>20</td>
</tr>
<tr>
<td>Means based</td>
<td>0.142</td>
<td>20</td>
</tr>
<tr>
<td>Expected return</td>
<td>0.192</td>
<td>20</td>
</tr>
<tr>
<td>Affordable loss</td>
<td>0.256</td>
<td>20</td>
</tr>
<tr>
<td>Competitive analysis</td>
<td>0.362</td>
<td>20</td>
</tr>
<tr>
<td>alliance</td>
<td>0.184</td>
<td>20</td>
</tr>
<tr>
<td>market knowledge</td>
<td>0.300</td>
<td>20</td>
</tr>
<tr>
<td>contingency</td>
<td>0.130</td>
<td>20</td>
</tr>
<tr>
<td>predictions</td>
<td>0.202</td>
<td>20</td>
</tr>
<tr>
<td>non-predictive</td>
<td>0.213</td>
<td>20</td>
</tr>
<tr>
<td>emphasis on data</td>
<td>0.264</td>
<td>20</td>
</tr>
<tr>
<td>Distrusting</td>
<td>0.244</td>
<td>20</td>
</tr>
<tr>
<td>causal</td>
<td>0.286</td>
<td>20</td>
</tr>
<tr>
<td>effectual</td>
<td>0.149</td>
<td>20</td>
</tr>
</tbody>
</table>

\(^a\) Lilliefors Significance Correction

∗. This is a lower bound of the true significance.