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At the Heart of the Entrepreneur

A study of entrepreneurial passion, culture & effectuation

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Master Thesis
March 2019

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Abstract

In today's ever-changing environment, entrepreneurship contributes towards economic growth, innovation and job creation. In order to determine individuals that have a potentially higher success rate of becoming an entrepreneur in an uncertain environment, this research focuses on the individual in the entrepreneurial processes; which decision-making process – causational or effectual – is used and how can this preference be predicted. There are individual differences in how to use or operate in different modes of processing, but does entrepreneurial passion influences the tendency of either effectuation or causation? Does this tendency differ between cultures? A questionnaire, covering validated scales of the dependent variables' entrepreneurial passion and cultural tightness-looseness and the independent variables effectuation or causation, was digitally transmitted to entrepreneurs. The analysis of the data has shown that sub-dimensions inventing, founding and developing of entrepreneurial passion are not significant related to effectuation or causation, nor is this relationship significant moderated by culture. However, culture does have some relationship with the dimensions of entrepreneurial passion. Future research should need to theoretically examine entrepreneurial passion and further build effectuation into a solid standalone theory.

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1. Introduction

1.1 Background

In an increasingly global economy, entrepreneurs play a vital role producing economic growth. Most capitalists would agree that innovations and entrepreneurship are beneficial for the continued long-term growth of a nation's economy (Schumpeter, 2000). An entrepreneur is someone who exercises initiative by organizing a venture to take benefit of an opportunity. The entrepreneur , as the decision maker, decides what, how, and how much a good or service will be produced (van Stel, Carree, & Thurik, 2005). Entrepreneurship is a way of thinking, a way of thinking that emphasizes opportunities over threats. When an entrepreneur creates a new venture it automatically yields new jobs, increase trade, and accelerate the process of innovative idea creation. Ultimately, this stimulates economic growth (Mitchell et al, 2000).

The relationship between entrepreneurship and economic growth has long been a topic of research. Starting with writing on pre-20th century, entrepreneurship is crucial to economic growth, shows that entrepreneurs adopt new production techniques, that they relocate resources to new opportunities, and introduce competition by penetration of new markets (van Stel et al., 2005). At the beginning of the 20th century Schumpeter (1911) theoretically established the "entrepreneur as innovator" as a key figure in a driving economic development and later he theorizes the creative destruction process (Schumpeter, 1942). In the mid-20th century, entrepreneurship lost its importance due to the overwhelming evidence of large-scale production which increases efficiency (van Stel et al., 2005). In the last two decades, the knowledge and information revolution revitalised the theoretical thinking of entrepreneurship to economic growth (van Stel et al., 2005). From this viewpoint, entrepreneurs serve as agents of change, bring new ideas to markets and stimulate growth by being innovative therefore aiming to be competitive (Schumpeter, 2000). As such, entrepreneurial activities are considered to be a driving force behind technological innovation (Schumpeter, 2000). Needless to say, entrepreneurs have an impact on the economy and society. Entrepreneurs can be found all over the world, people with or without experience and with different kinds of motivation and goals. Yet, the approach an entrepreneur takes in developing the new venture has been long subject to research (Fisher, 2012).

According to Shepherd, Williams, & Patzelt (2015) research should look at what the roll is of entrepreneurs in the continuous decision-making process when creating a new venture. However, fragmentation in the entrepreneurial decision-making process makes it difficult to identify future research opportunities to better understand when, why, where, and how individuals make key decisions in the entrepreneurial process. The entrepreneurial decision-making process includes decisions regarding opportunity assessment and exploitation, market entry and market exit. It also includes the heuristics and biases in the decision-making context, characteristics of the entrepreneurial decision maker, and the environment as decision context (Shepherd et al., 2015). In particular, research that is focused on understanding how individuals make decisions under conditions of uncertainty is of great relevance (Hammond, 1996; Tversky & Kahneman, 1974). A number of different theoretical perspectives describe the logic and behaviour of entrepreneurs in times of uncertainty (Fisher, 2012). These different theoretical perspectives can be divided into traditional and alternative views. The traditional theoretical perspectives (discovery approach (Alvarez & Barney, 2007), classic approach (Shah & Tripsas, 2007)) are all based on the causation approach. The causation approach is based on the entrepreneurial process of identifying opportunities, analysing, planning and then exploiting the opportunity predicted to be profitable. The causation approach uses the reasoning that planning is needed to be more effective and efficient. Also, using the planned approach eliminates more risks, as opportunities and decisions are carefully evaluated before implementing them. The planned approach gains its advantages by trying to predict to future based on information at hand. With the information at hand, and a sound plan, decisions can be made faster. In an uncertain and unstable context, a planned approach will help creating a stable new venture.

On the other hand, the alternative perspectives are entrepreneurial bricolage (Baker & Nelson, 2005), the creation perspective (Alvarez & Barney, 2007), user entrepreneurship (Shah & Tripsas, 2007) and in contrast to causation the effectuation approach (Sarasvathy, 2001). All these alternative perspectives belong to the emerging strategies approach. The contenders argue that following a plan will cause certain opportunities to be missed (Sarasvathy, 2001). The emerging strategies approach argues that since the environment is uncertain and unstable, it makes no sense of using a planned approach. When opportunities arise, flexibility is needed to act upon it. It is wiser to manage resources at hand than trying to predict the future in an ever-changing world. An advocate of the emerging strategies approach is Sarasvathy (2001) and her work on effectuation. The effectuation approach sees means or tools as something that an entrepreneur must act with, which causes it to be an intuitive approach. Due to the often highly uncertain, unpredictable and dynamic entrepreneurial environments, it is difficult to recognize and evaluate opportunities (Fisher, 2012). The effectuation approach focuses on short-term experiments and flexibility for environmental contingencies.

1.2 Context

Effectuation is still considered a relative new theory which is at a crossroad: many scholars consider it a viable theory while many others do not (Arend, Sarooghi, & Burkemper, 2015). According to the assessment of Arend et al. (2015), effectuation has the possibility to become a solid theory but there is still substantial work to be done. Arend et al. (2015) point out five, what they call, “directions” where work still needs to be done. These directions are address the why, specify the landscape, express interesting propositions and prescriptions, build on previous work (and obtain more data) and consider a radical refocusing of the approach.

The first direction ‘Address the Why’ addresses the issue that current research on effectuation “fails to address the causes, necessary timing, probabilities, and effects underlying the process” (Arend et al., 2015, p. 644). The main challenge for effectuation is to shift the perspective from what and how to why. The current perspective is focussed on what expert entrepreneurs do and how they act under conditions of uncertainty. This needs to shift towards why the decisions and actions of the expert entrepreneur are effective, efficient, and better than alternatives (Arend et al., 2015).

The second direction is to specify the landscape. Effectuation research has yet to determine the boundaries by making an explicit, clear, precise statement of assumptions of the problem space. This is needed so that there is basis for comparison among other alternatives. “At present in the effectuation literature, the exact characteristics of the uncertainties faced by the entrepreneur, the embodiments of the resources, the nature of the contingencies, and the reaction functions of the identifiable parties involved all remain underspecified” (Arend et al., 2015, p. 645).

The third direction is to express interesting propositions and prescriptions in the form of testable and nonobvious that are attractive to academics and practitioners. Arend et al. (2015) recommend further research in what problems effectuation tackles, where it outperforms alternatives, and under which conditions.

The fourth direction is to build on previous work (and obtain more data). To build a theory based on a phenomenon the proper way is to build on what already exists, in the literature and in the field. By building on other research and already existing theories of entrepreneurial activity it would move effectuation theory away from comparison-based logic (contrast of causation) towards a stand-alone model (Arend et al., 2015). By being stand-alone model its different assumptions, heuristics, mechanics, trade-offs and outcomes would be highlighted.

According to Arend et al. (2015) the fifth and last direction is to consider a radical refocusing of the approach. The focus of effectuation is on expert entrepreneurs and how they engage in the process. By already focusing on a particular group the research itself remains narrow. Arend et al. (2015) recommend that effectuation research should focus on how, when and by what process these experts did and did not use effectual decision-making. It should also include when it did and did not work. The

five research directions demonstrate that there is still a lot of work to be done on effectuation. Effectuation describes the actions of an entrepreneur's behaviour. Entrepreneurial behaviour is the action an individual undertakes within the entrepreneurial process.

1.3 Research question

An entrepreneur engages in the entrepreneurial process or activities regardless of the effectuation or causation approach. This entrepreneurial behaviour is the concrete enactment of the individual to achieve a defined task. Murnieks, Mosakowski, & Cardon (2012) have researched the relation between identity centrality, passion, and behaviour among entrepreneurs. Likewise, an emerging body of research indicates that passion—a strong inclination toward certain activities—plays an important role in behavior across a wide variety of disciplines. Integrating the research on passion in general with that conducted in entrepreneurship, this results that passion energizes motivation and inspires individuals to persist through the trials and tribulations associated with accomplishing difficult tasks.

Furthermore, scholars have developed robust theory explaining how passion may drive individual entrepreneurs to persist in their venture creations (Cardon et al., 2009). Also, empirical research exists to confirm the impact of an entrepreneur's passion on his or her actions (Shane, Locke, & Collins, 2003). Similarly, research contributes by suggesting that entrepreneurs' passion may be an important driver of increased entrepreneurial self-efficacy (Murnieks et al., 2012). This is in line with Cardon et al. (2009), as they similarly reaffirm the link between entrepreneurial passion and entrepreneurial behavior. Following the work of these researchers, at the individual level, entrepreneurs' passion should drive increased entrepreneurial behavior. However, even though passion among entrepreneurs is a significant factor in predicting behavior, the amount of variance in behavior predicted in the model is only 60%. Therefore, Murnieks et al., (2012) suggest that future research should focus on the many pathways through which passion is fueled and may in turn light the fires of entrepreneurial behavior.

One of the pathways for passion and entrepreneurial behavior is expressed by Mitchell et al. (2000), as they argue that culture must always be included in research when investigating entrepreneurial behaviour. According to Mitchell et al. (2000), in extensive research conducted over the past three decades, scholars have not reached agreement on explanations of entrepreneurial activity within cultures (Shane, 1996) let alone across cultures (McDougall & Oviatt, 1997). Furthermore, in a conceptual framework proposed by Busenitz and Lau (1996), social, cultural, and personal variables have been related to cognition. Whereas, cognition is related to entrepreneurial behaviour and can be linked to passion and motivation. To be clearer, passion is categorized as a motivational construct. It is important to note that although passion is related to motivation, it is still a separate construct. Motivation encompasses a broad array of psychological forces making individuals to exert effort (Brehm & Self, 1989; Gatewood, Shaver, Powers, & Gartner, 2002). Passion refers more specifically to intense, positive inclinations aimed at specific tasks. Therefore, based earlier research and the conceptual framework proposed by Busenitz and Lau (1996), culture should be included in the research about entrepreneurial behaviour.

The model of Busenitz and Lau (1996) suggests that the venture creation decision is influenced by cognition, which itself is influenced by cultural values, social context, and personal variables. Similarly, Sarasvathy (2001) saw effectuation and causation fundamentally as cognitive processes. By adopting Cardon et al. (2209) entrepreneurial passion constructs (inventing, founding, and developing), this research will be able to design a similar model that links culture, entrepreneurial passion, and preferences for either effectuation or causation. As passion is at the heart of an entrepreneur across all cultures, passion fuels entrepreneurial behaviour, therefore leading to the research question: *To what extent does cultural tightness-looseness moderate the relation between entrepreneurial passion and effectuation?*

1.4 Objectives of the study

To conclude, the purpose of this research will be to study the relationship between entrepreneurial passion and the preference for either causation or effectuation in the entrepreneurial decision-making process. Effectuation has the possibility to become a solid theory if it addresses its research directions (Arend et al., 2015). The research directions address the why, specify the landscape, express interesting propositions and prescriptions, build on previous work (and obtain more data) and consider a radical refocusing of the approach. This researches addresses the research directions of expressing interesting propositions and prescriptions and building on previous work (and obtaining more data). Moroz & Hindle (2011) argue that the theory of effectuation is the only model of entrepreneurial processes that shows a direct practical focus but lacks in showing that effectuation is a cognitive tool that exists in every entrepreneur. Thus, this research aims at investigating the relationship between the sub-dimensions of entrepreneurial passion (inventing, founding, developing) and the preference between either causation or effectuation. Also, the goal is to examine how culture moderates this relationship.

Based on the ever-changing environment, if effectuation leads to successful venture development and could be predetermined by an individuals' entrepreneurial passion, then there would be a high chance of predicting suitable individuals for entrepreneurship in situations of uncertainty. Furthermore, looking at cultures which might influence causation or effectuation through entrepreneurial passion, can be a basis for making entrepreneurial policies to stimulate economic growth. A clear understanding of the factors affecting how entrepreneurs make decisions in a new venture across cultures would be important to policy makers (enabling the means to encourage the entrepreneurs), to entrepreneurs themselves (what to do better), and to researchers (what needs to be further clarified).

1.5 Structure of the study

This paper proceeds as follows: In the first section, the theory and literature relating to effectuation, entrepreneurial passion and cultures is reviewed. Thereafter, the data and methods used in this research are described, and the findings that emerged from the analysis are reported. The final section outlines the implications, future research and limitation. At last the conclusion of this research is presented.

2. Literature review

2.1 Effectuation

Sarasvathy (2001) originally argued that experienced entrepreneurs do not approach the entrepreneurial process using the causation approach, i.e. the planned strategy of an entrepreneurial process, including recognizing an existing opportunity, planning, and gathering resources to create a sustainable competitive advantage (Chandler et al., 2011). Instead, the effectuation approach sees means or tools as something an entrepreneur must act with them therefore it is an intuitive approach. Due to the often highly uncertain, unpredictable and dynamic entrepreneurial environments, it is difficult to recognize and evaluate opportunities (Fisher, 2012). The effectuation approach focuses on short-term experiments and flexibility for environmental contingencies.

The concept of effectuation is contrasted with causation and is a collection of several sub-constructs or principles. Such principles were outlined already in Sarasvathy's (2001) original contribution, where she described effectuation using a set of criteria used in entrepreneurial decision-making. These principles differentiate effectuation from causation by considering the basis for taking action, the view of risk and resources, the attitude towards others and unexpected events and the view of the future (Alsos, Clausen, & Solvoll, 2014). These criteria were further developed and re-named in Sarasvathy (2008) into five main principles. Table 1 present an overview of the difference between causation and effectuation.

The first principle is the bird in hand in which that effectuation is action-orientated, and its focus is on the usage of available means, such as traits, knowledge, abilities and social networks. If an entrepreneur follows a goal-oriented approach, the entrepreneur thinks about what to do in order to achieve a goal. In contrast, putting the emphasis on creating a new venture with existing means, the entrepreneur follows a means-based approach which is typically for the effectual approach. Means can be described as the characteristics of the decision-makers, such as who they are, whom they know and what they know (Sarasvathy, 2001; Sarasvathy, Kumar, York, & Bhagavatula, 2013). These means available to the entrepreneur are its own capabilities and traits, their knowledge fields and their relationships in social networks (Sarasvathy, 2001).

The second principle is affordable loss whereby an entrepreneur will only make use of their financial resources which they can afford to lose. While the causation approach focuses on the principle of maximizing returns by selecting an optimal strategy. Resources will be purchased on the basis of a forecast for the future and a detailed risk calculation (Sarasvathy, 2001). On the other hand, focusing on available resources and committing in advance what they are willing to lose (Sarasvathy et al., 2013). For example, an entrepreneur using the effectuation approach might invests a part of their private savings and time on a project in which the entrepreneur has faith that it will be of value, irrespective of the actual profit (Wiltbank, Read, & Sarasvathy, 2006).

The third principle crazy quilt involves creating partnerships and pre-commitment of customers. The entrepreneurs follow the principle of pre-commitments from a network of self-selected stakeholders to form strategic alliances. Thus negotiating with many motivated stakeholders instead of selecting partners for achieving a given goal (Sarasvathy et al., 2013). The partnerships arise before clarifying which goals to pursue, in order to permit the stakeholders to co-decide on the goals and markets the venture will end up (Wiltbank et al., 2006). In contrast to the causation approach, which focuses on competitive analysis (Sarasvathy, 2008).

The fourth principle lemonade focuses on the embracing of possibilities instead of avoiding potential risks. In unexpected events, causation processes are preferable when pre-existing knowledge acts as a basis for competitive advantage. The effort to eliminate particularly painful surprises is very high. Entrepreneurs that follow the effectuation approach are more suitable in uncertain environments with exploiting contingencies (Sarasvathy, 2001). Instead of trying to avoid or manage surprises, an entrepreneur leverages them in order to appropriate contingencies. In contrast to causation, the

effectuation approach focuses more on the available resources, builds more partnerships and creates more ends (Wiltbank et al., 2006).

The fifth and last principle is the pilot in the plane is having control over available means and imagining possible ends (Wiltbank et al., 2006). Entrepreneurs following a causation process perceive the future as controllable if it is predictable. Thus, the focus is the determination of predictable factors in the future. On the other hand, entrepreneurs who try to control the future which is another term for controlling the unpredictable future in such a way that prediction will be not necessary (Sarasvathy, 2008; Sarasvathy et al., 2013).

To conclude, effectuation is contrasted with causation, i.e. the planned strategy of an entrepreneurial process, including recognizing an existing opportunity, planning, and gathering resources to create a sustainable competitive advantage (Chandler et al., 2011). Each of the effectuation principles has been presented with a corresponding causation principle (Sarasvathy, 2001). However, within entrepreneurial research there is yet to research a consensus on the operationalization of principles of effectuation and causation. Chandler et al (2011) present causation as a one-dimensional measure. Brettel, et al (2012) sees causation principles as mirroring effectuation principles. For the purpose of this study, Alsos et al. (2014) operationalization of effectuation and causation is used. Alsos et al. (2014) follows the argumentation of Sarasvathy (2008) and Perry et al. (2012) that effectuation and causation are not opposites but are representing different approaches that can be used at different times and in different situations. Therefore, effectuation and causation should not be measured as opposite ends of the same scale, but as separate scales. As effectuation and causation are contrasted which helps as comparison to explain theory, however, they are not opposites. Therefore, the focus of this study will on the preference between effectuation and causation.

Table 1: Overview of Causation and Effectuation

	Causation	*Effectuation*
Basis for taking action	Goal-oriented approach	Means-based approach
View of risk and resources	Focus on expected returns	Focus on affordable loss
Attitude towards others	Competitive analysis	Pre-commitments with stakeholders
Attitude toward expected events	Exploiting pre-existing knowledge	Exploiting contingencies
View of the future	Predicting the uncertain future	Controlling the unpredictable future

2.2 Entrepreneurial Passion

Chen et al. (2009) define entrepreneurial passion as “an entrepreneur's intense affective state accompanied by cognitive and behavioural manifestations of high personal value” (pp. 199). Following this definition, Chen et al. (2009) focused their study on the effects on how entrepreneurs’ display their acts of passion. In the study of Chen et al. (2009), the focus was on the specific context of entrepreneurs making business plan presentations to potential investors. Their research studied investors' perceptions of the affective, cognitive and behavioural manifestations of entrepreneurs' passion.

To capture affective manifestations of passion, Chen et al. (2009) asked investors to evaluate entrepreneurs' facial expression, voice and body language. For behavioural manifestations of passion, Chen et al. (2009) asked investors to evaluate entrepreneurs their commitment toward their ventures.

For cognitive manifestations of passion, Chen et al. (2009) requested investors to evaluate the preparedness that entrepreneurs displayed in their business plan presentation. Cardon et al. (2013) used the research of Chen et al. (2009), for its definition and its study of passion to increase their own understanding of the affective, cognitive and behavioural manifestations of entrepreneurs' passion.

Cardon et al. (2013) specifically focuses on entrepreneurs' experience of passion because entrepreneurs are the embodiment of the influence of their passion. As such, Cardon et al. (2013) continues Chen et al. (2009) theoretical focus on the affective aspects of passion, focusing on how entrepreneurs report the passion they experience. In addition, consistent with Cardon et al. (2009)'s model of the nature and experience of entrepreneurial passion, was used for defining entrepreneurial passion. Cardon et al. (2013) recognises that cognitive or behavioural manifestations are outcomes of the affective experience of passion, rather than part of the experience of passion.

To conclude, Cardon et al. (2013) uses Cardon et al. (2009)'s definition of entrepreneurial passion as "consciously accessible intense positive feelings experienced by engagement in entrepreneurial activities associated with roles that are meaningful and salient to the self-identity of the entrepreneur" (p. 517). Drawn from this theoretical perspective, to measure entrepreneurial passion requires consideration of three specific aspects: 1) passion involves the experience of intense positive feelings, 2) these feelings are experienced for activities that are central to the self-identity of the individual, and 3) the feelings and identity centrality are focused on three specific entrepreneurial domains (Cardon et al., 2013).

2.2.1 Domains of Entrepreneurial Passion

The first requirement for measuring entrepreneurial passion is to capture the experience of intense positive feelings. Intense positive feelings are central in research on passion in psychology, organizational behaviour and entrepreneurship (Cardon et al, 2013). When individuals are passionate about a subject, they cannot help but to think about it (Chen et al, 2009). Therefore, it is valid to include the intensity of positive feelings for entrepreneurial passion. Cardon et al. (2013) explains that entrepreneurial passion should not be a personality trait, but rather as an affective phenomenon that one may experience when engaging in or thinking about certain activities. Passion therefore consists of deeply experienced positive feelings for something that is important to the entrepreneur. As a result, passion is something that comes from within someone instead of temporary emotions felt when activated external stimuli (Thorgren & Wincent, 2015).

The second conceptual requirement for measuring entrepreneurial passion is the view that entrepreneurial passion's intense positive feelings concern activities associated with roles that are meaningful and central to the self-identity of individual (Cardon et al., 2013). The identity centrality refers to internalized expectations that individuals have about the characteristics they hold. Cardon et al. (2009) emphasizes that passion is both an intensity of feelings and a deep identity connection to the object of those feelings

The third and last requirement for measuring entrepreneurial passion is the relevance of passion's intense positive feelings and identity centrality toward tasks and activities specifically relevant to entrepreneurship (Cardon et al., 2013). Although the overall role of "being an entrepreneur" may be the object of passion (Murnieks & Mosakowski, 2007). Using a more refined approach, different entrepreneurs may have different experiences but three distinct roles are consistently found at the heart of the entrepreneurial process: 1) inventing new products or services, 2) founding new organizations, and 3) developing these organizations beyond their initial survival and successes (Cardon et al., 2013).

2.2.2 Dimensions of Entrepreneurial Passion

The sub-dimension of passion for inventing concerns activities associated with scanning the environment for new market opportunities, developing new products or services, and working with new prototypes (Cardon et al., 2013). Entrepreneurship is often associated as key drivers of economic

progress or societal landscape changes. Some entrepreneurs explore innovative ideas more in depth and more frequently than others. These entrepreneurs have the desire to deliver new solutions to the marketplace is often an important motivator for entrepreneurs. Individuals experiencing passion for inventing may actively seek out new opportunities, enjoy coming up with new product or service ideas, and take pleasure in inventing new solutions to important needs and problems. Such people enjoy playing around with new product designs and exploring the concrete applications of these designs. For instance, Steve Jobs (the Apple Macintosh, the iPod, and the iPhone) was known for the intense devotion, as he had showed towards finding and developing new products or services and exploring their commercial application (Cardon et al., 2013).

The next sub-dimension is passion for founding which relates to assembling the necessary financial, human, and social resources needed to create a new venture. The desire to start a venture is an important motivator for many entrepreneurs (Aldrich, Zimmer, & Jones, 1986). The founder role identity of a new venture can be both complex and central to an entrepreneur's own identity and esteem (Hoang & Gimeno, 2010). Entrepreneurs often have a need for achievement that manifests itself in the founding event. These entrepreneurs need a tangible representation that they have done "something" entrepreneurial (Katz & Gartner, 1988). Entrepreneurs who experience passion for founding primarily enjoy the process of founding a venture, and often develop identities that are intertwined with the venture identity (Cardon et al., 2009). For instance, individuals who launch several new ventures over the course of their career have high levels of passion for founding, these individuals are habitual entrepreneurs (Cardon et al., 2013). Some of these entrepreneurs are so passionate about launching that they soon entrust the management of their ventures to trusted aides or sell the business altogether, only to begin working on their next venture or invention. This phenomenon known as sequential entrepreneurship (Ronstadt, 1988). Some habitual entrepreneurs retain ownership and manage their ventures as part of a larger portfolio of businesses. Not all entrepreneurs passionate for founding will be habitual or portfolio entrepreneurs (Cardon et al., 2013).

The last sub-dimension is passion for developing which is associated with the growth and expansion of the venture after founding (Cardon et al, 2013). Many entrepreneurs are motivated not by a desire to found a venture, but by a conscious motivation to grow and expand a venture (Cliff, 1996). These individuals often display different strategies for organizational management than other their counterparts (Gundry & Welsch, 2001). These individuals also tend to rely on different management styles (Smith and Miner, 1983), and communicate with key stakeholders in a way that promotes the continued expansion of the venture (Baum & Locke, 2004).

While in many cases entrepreneurs who demonstrate high passion for developing do so in a venture, they have founded themselves, it is equally plausible that a non-founding entrepreneur could also experience high levels of passion for developing by stepping into an existing start-up and developing it into a more lasting, valuable, or sustainable venture. Entrepreneurs who experience passion for developing their ventures may enjoy activities such as increasing sales, hiring new employees, or finding external investors to fund such developments (Cardon et al., 2013).

To summarize, the three roles of inventing, founding and developing demonstrate the multi-dimensional nature of entrepreneurial passion across the domains of intense positive feelings and self-identity of the individual specifically relevant for entrepreneurship (Cardon et al., 2013). In practice, the experience of entrepreneurial passion towards these activities may vary due to different factors such as the contexts and challenge an entrepreneur faces at different stages of a firm's development. Furthermore, it may vary because of the life experience and background of an entrepreneur. This implies that the experience of entrepreneurial passion does not have to be uniform across all three domains: some entrepreneurs can be more passionate for some activities, and less so for others (Cardon et al., 2013). Therefore, this implies that the levels of entrepreneurial passion within and across the three domains may vary with an entrepreneur's gender, age, level of

education, or with the age of their current firm and number of firms they have founded in the past, among other factors. Thus, Cardon et al's. (2013) entrepreneurial passion should not be seen to cover the entire idea of entrepreneurship, it should also not be too narrowly focused on the details of entrepreneurs' venture.

2.3 Cultural Tightness-Looseness

Over the last twenty years, research on culture has increased within both the theoretical as empirical scope (Gelfand, Nishii, & Raver, 2006). What once was a cultural blind and cultural bond, today, virtually no area of culture has been untouched to understand cross-cultural differences (Gelfand et al., 2006). Culture has been studied numerous times – from micro processes such as work motivation, to meso processes such as conflict, group dynamics and leadership to macro processes such as organizational culture and national culture (Gelfand, Nishii, & Raver, 2006). The importance of studying culture cannot be underestimated, as research in cross-cultural differences is critical to helping organizations manage cultural differences as they continue to work in the global landscape.

Although the cross-cultural lens has been applied to different phenomena – individuals, organizations and nations - it is based on an underlying dominant paradigm within the researches. Culture can be understood through the "onion" metaphor (Hofstede, 2001). Hofstede (2001) indicates that culture manifests itself on four different layers (symbols, rituals, heroes and values) which illustrates itself as skins of an onion. Hofstede demonstrated that the layers of culture can be distinguished based on values. Most researches have relied upon values to explain cultural differences. Although not wrong, the use of values to explain cultural differences has an intuitive appeal. Values are broad construct that have been examined for decades (Gelfand et al., 2006). They also lend themselves to be easily measured on individual level where much of the cultural research resides. The dimensions of Hofstede (2001) are based upon values, but it remains a descriptive account of cultural differences (Gelfand, Raver, & Nishii, 2011).

According to Gelfand et al. (2006), many researchers have argued that research on cross-cultural differences is deeply focused on values. But values reflect a subjectivist bias as where culture is reduced to factors that exist inside a person's head. This internal focus on cross-cultural differences leaves out external influences on behaviour, such as cultural norms and constraints and social networks. Likewise, in psychology there is a debate on the role of personality and situations which determine behaviour. Cross-cultural research is mainly focused on a person's values and has not yet taken into account how external normal and constraints also help to explain cross-cultural differences in behaviour (Gelfand et al., 2006). Therefore, only focussing on internal values neglects the impact of external forces therefore at least half of the "cultural picture" remains unexplained. Culture is defined as beliefs, values, norms and assumptions that distinguish one group from another (Newman & Nollen, 1996). Even when the construct value includes attitudes and beliefs of people, the ability to explain cross-cultural differences in behaviour remains not fully explained. Gelfand demonstrates another perspective on culture which moves beyond the descriptive account and towards a neglected source of cultural variation that is major source of cultural conflict: the difference between nations that are tight or loose.

Before diving further into Gelfand's cultural theory of tightness-looseness, scholars from different fields have "long argued that the strength of social norms and sanctioning is an important component of the societal normative context (Gelfand et al., p.8, 2006)". These scholar from anthropology (Pelto, 1968), sociology (Boldt, 1978), and psychology (Berry, 1966) imply that social norms and sanctioning is a part of culture. Pelto (1968) was one of the first to theorize on tightness-looseness, arguing that tight and loose societies form a continuum. The continuum has extreme cases at either end and with varying degrees of tightness and looseness. Pelto (1968) research stems from the desire that within anthropology different and sometimes conflicting criteria were used for assigning the descriptive labels for the tight-loose societies. With tight-loose as a scale for the continuum, Pelto (1968) identified the Japanese society as formal and orderly therefore being tight. It is also tight because

norms were expressed very clearly, and sanctions were imposed on those who deviated from them. By contrast, Thai society is a loose one as Thais tend to be individualist and expressive. Within Thai society there is a lack of formality, order, and discipline, and there is a high tolerance towards deviating from the norms. Pelto (1968) also argued that societies that agriculturally based are tighter and societies that focus on hunting and gathering tend to be loose. In sociology, Boldt (1978) backs up this notion, "showing that agricultural societies have clearly defined role expectations that leave little room for improvisation, whereas hunting and fishing societies have ambiguous role expectations that enable individuals to exercise their own preferences" (Gelfand et al., p.8, 2006). Within psychology, "Berry (1966) showed that individuals in tightly-structured agricultural settings exhibited a reduced sense of separation of the self from others, as compared to individuals in loosely-structured hunting and fishing settings" (Gelfand et al., p.8, 2006). To sum up, early research in anthropology, sociology, and psychology showed the promise of tightness-looseness for understanding cross-cultural differences. Across the multiple fields, the above-mentioned scholars have demonstrated the importance of using external constraints (strength of norms and sanctioning) to examine cross-cultural differences.

Gelfand uses the early research in anthropology, sociology, and psychology to further build a cultural theory to explain the difference between nations that are tight or loose. Gelfand et al's. (2006) theory of tightness-looseness provides a roadmap for multiple levels of analysis. Gelfand et al. (2006) explains by following the recommendations for multilevel theory building, they demonstrate the linkage between societal tightness-looseness on individual and organizational level and advance top-down, bottom-up, and cross level propositions. "Culture is a complex phenomenon, necessitating multilevel and multidisciplinary perspectives to adequately capture its breadth and depth, and an exclusive focus upon cultural values is insufficient to capture this complexity. The multilevel theory of cultural tightness-looseness presented in [(Gelfand et al., 2006)] article begins to tip the balance towards a more complete view of cultural differences" (Gelfand et al., p. 34, 2006). Gelfand's cultural tightness-looseness has two key components: the strength of norms and the strength of sanctioning. Social norms component is about how clear and pervasive norms are within societies. The sanctioning component is about how much tolerance there is for deviance from norms within societies. The dimension of tightness-looseness is important in differentiating national culture. A tight culture has strong norms and a low tolerance towards deviant behaviour while a loose culture has weak norms and a high tolerance of deviant behaviour. "Tightness-looseness is part of a complex, loosely integrated multilevel system that comprises distal ecological and historical threats (e.g., high population density, resource scarcity, a history of territorial conflict, and disease and environmental threats), broad versus narrow socialization in societal institutions (e.g., autocracy, media regulations), the strength of everyday recurring situations, and micro-level psychological affordances (e.g., prevention self-guides, high regulatory strength, need for structure)" (Gelfand et al, 2011, p. 1100). The cultural tightness-looseness forms a scale for the continuum with extreme cases at either end and varying degrees of tightness and looseness.

3. Conceptual model

The foregoing theory and framework provide a foundation for the cross-cultural conceptual model of entrepreneurial passion model of effectuation as shown in Figure 1. By adopting the model of Busenitz and Lau (1996), which shows cognition influences venture creation decision and that the relation is influenced by culture. By replacing this study's constructs within their model, the model in this study shows that the entrepreneurial sub-dimensions (inventing, founding, and developing) are linked to the preference between effectuation and causation, and this relationship is influenced by culture. Also, the model shows that culture is linked to entrepreneurial passion. This model simplifies a much more comprehensive reality that includes social context and environmental factors (although these variables are not specifically examined as antecedents).

The model shows a one-way relationship between entrepreneurial passion and the preference between effectuation and causation. Cardon et al. (2009), confirms the link between entrepreneurial passion and entrepreneurial behavior. Furthermore, according to Cardon et al. (2009) scholars have developed robust theory explaining how passion may drive individual entrepreneurs to persist in their venture endeavors, meaning also their approach to their ventures. Thus, entrepreneurial passion influences the preference between causation and effectuation.

Within the same model, culture influences entrepreneurial passion and the relationship between entrepreneurial passion and the preference between causation and effectuation. This is due to the causality relation culture has with these constructs. As Newman & Nollen (1996) put it, culture is defined as beliefs, values, norms and assumptions that distinguish one group from another. Individuals together form the group and within this group a culture is formed. An individual themselves cannot create culture neither influence culture as it is something made up from all group members. Especially, national culture cannot be changed by a single person. An individual is born into a certain culture or adapts to the culture he or she lives in. Being in a culture shapes an individual to as how they perceive and react to the world. The culture of group in which the individual resides determines for a part the behaviour of the individual. Therefore, culture influences entrepreneurial passion and subsequently its relationship with the preference between effectuation and causation, but not the other way around. Additionally, culture is deeply embedded into society, is relatively resistant to change and has impact on the lives of individuals (Newman & Nollen, 1996). Thus, for an individual it is nearly impossible to change the culture of the group.

This conceptual model is cross-sectional. Since a cross-sectional model examines iterative relationships at a single point in time, it is not possible to isolate cause and effect. It is therefore not clear which sub-dimensions of entrepreneurial passion are in place prior to the effectuation approach, which ones are validated or reinforced in the process of effectuation, or which sub-dimensions of entrepreneurial passion are used during a specific decisional moment or during its implementation. Thus, although the hypotheses below are written in a way that could imply causality, this research acknowledges that the relationships are not casual, and they were not tested as such.

As Figure 1 illustrates, the preference for either effectuation or causation is an outcome variable that indicates whether an individual is triggered by entrepreneurial passion to choose between the effectuation approach or the causation approach. It is particularly relevant to entrepreneurial research for what drives an entrepreneur as it can affect his or her choices. Therefore, understanding how, what and why entrepreneurs make decisions relating to new venture creation, evaluation, and exploitation is critical to advancing our knowledge (Shane, 2003; Shane & Venkataraman, 2000).

3.1 Entrepreneurial Passion

Given the uncertain success of launching new products and services, and the challenges of developing new organizations with limited resources, passion can become a key driver of entrepreneurial action. Within entrepreneurial passion there are three distinct roles that different entrepreneurs may experience differently but are consistently found at the heart of the entrepreneurial process: 1)

inventing new products or services, 2) founding new organizations, and 3) developing these organizations beyond their initial survival and successes.

Individuals experiencing passion for inventing may actively seek out new opportunities, enjoy coming up with new product or service ideas, and love inventing new solutions to important needs and problems. Such people enjoy tinkering with new product designs and exploring the articulation of these designs in concrete applications. As these individuals seek new opportunities, they are less worried about the outcome and busier with exploring what they have invented. This leads to the following hypothesis: *Entrepreneurial passion sub-dimension inventing is significantly related to the effectuation approach."* (H1a).

Passion for founding which relates to assembling the necessary financial, human, and social resources needed to create a new venture. Some of the entrepreneurs are so passionate about launching that they soon entrust the management of their ventures to trusted aides or sell the business altogether, only to begin working on their next venture or invention — a phenomenon known as sequential entrepreneurship (Ronstadt, 1988). This falls in line with the effectuation principle of means based as the entrepreneur continuously use its means to create new ventures instead of seeing new ventures to completion, leading to the following hypothesis: "*Entrepreneurial passion sub-dimension founding is significantly related to the effectuation approach."* (H1b).

Passion for developing which is associated with the growth and expansion of the venture after founding (Cardon et al, 2013). For growth and expansion, a strong platform of trust is needed for agreeing to affordable loses, which needs partnerships and stakeholders to invest within the venture, leading to the following hypothesis: "*Entrepreneurial passion sub-dimension developing is significantly related to the effectuation approach".* (H1c).

The three roles of inventing, founding and developing demonstrate the multi-dimensional nature of entrepreneurial passion across the domains of intense positive feelings and self-identity of the individual (Cardon et al., 2013). In practice, the experience of entrepreneurial passion towards these activities may vary due to different factors such as the contexts and challenge an entrepreneur faces at different stages of a firm's development. It may also vary because of the life experience and background of an entrepreneur. This implies that the experience of entrepreneurial passion does not have to be uniform across all three domains: some entrepreneurs can be more passionate for some entrepreneurial activities, and less so for others (Cardon et al., 2013). This implies that the levels of entrepreneurial passion within and across the three dimensions may also vary. It also implies that an entrepreneur might engage in founding and developing but not in inventing. Thus, different sub-dimensions of entrepreneurial passion can interact, reinforce each other and be active at the same time when using the effectuation approach. Therefore, this leads to the following hypotheses: *The two-way interaction between inventing and founding is significantly related to effectuation. (H1d) and The two-way interaction between developing and founding is significantly related to effectuation. (H1e) and The two-way interaction between inventing and developing is significantly related to effectuation. (H1f)*

3.2 Cultural tightness-looseness

Societal tightness-looseness has two key components: the strength of norms and the strength of sanctioning. A tight culture has strong norms and a low tolerance towards deviant (Gelfand et al., 2006). Therefore, society might pressure an individual to conform to a standardized way of creating a new venture. A tight society having stronger norms would have more procedures to follow thus limiting the freedom of an entrepreneur. An entrepreneur might need to present a business propositions for a new venture to interested parties before being allowed to go ahead with the venture. While in loose cultures a greater tolerance towards deviant behaviour is accepted therefore an entrepreneur might be allowed more freedom in the pursuit of its venture idea. Thus, the specific entrepreneurial passion sub-dimensions inventing, founding, and developing are expected to differ by

culture. Therefore, leading to the dual hypotheses: *Cultural tightness is related to entrepreneurial passion sub-dimensions inventing, founding and developing. (H2a) And Cultural looseness is related to entrepreneurial passion sub-dimensions inventing, founding and developing. (H2b)*

As described above, culture may have an influence on entrepreneurial passion and entrepreneurial passion may have an influence on effectuation. It is therefore likely that entrepreneurial passion is a mediator between cultural tightness-looseness and the effectuation approach. This leads to the following hypothesis: *The relationship between cultural tightness-looseness and the effectuation approach is mediated by entrepreneurial passion. (H3)*

As a culture has unique values and norms, culture may also be expected to moderate the relationship between entrepreneurial passion and the effectuation approach. However, entrepreneurship theory has not developed to the point where the theory can a priori identify the specific aspects that are likely to vary, and why (Cardon et al., 2013). Thus, leading to the last hypothesis: "*The relationship between entrepreneurial passion and the effectuation approach is moderated by cultural tightness-looseness."* (H4)

Figure 1: Conceptual model

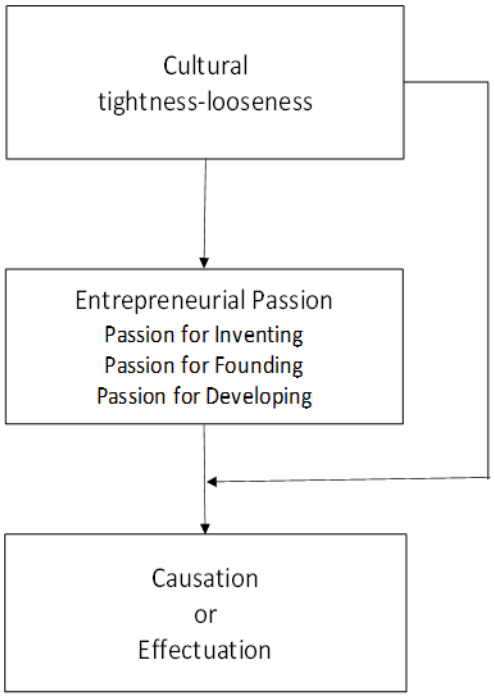


Figure 2: Conceptual model with hypotheses

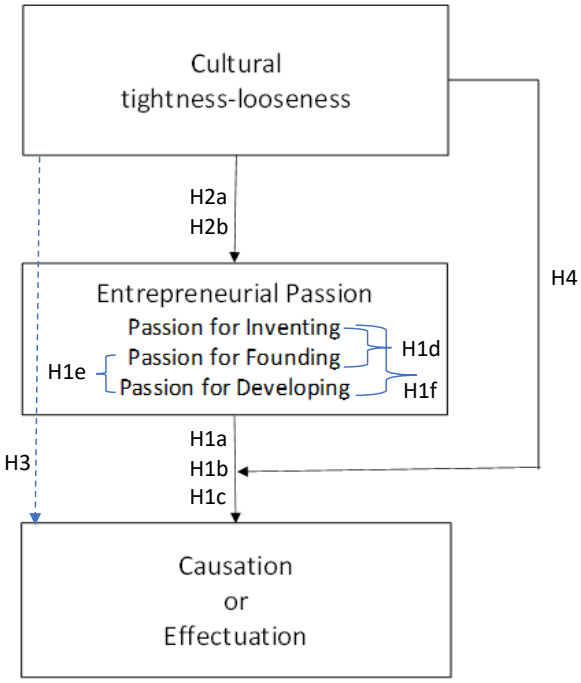


Table 2: Summary of Hypotheses
Hypothesis 1a: The sub-dimension inventing of entrepreneurial passion is significantly related to the preference on the effectuation approach over the causation approach.
Hypothesis 1b: The sub-dimension founding of entrepreneurial passion is significantly related to the preference on the effectuation approach over the causation approach.
Hypothesis 1c: The sub-dimension developing of entrepreneurial passion is significantly related to the preference on the effectuation approach over the causation approach.
Hypothesis 1d: The two-way interaction between inventing and founding is significantly related to the preference on the effectuation approach over the causation approach.
Hypothesis 1e: The two-way interaction between developing and founding is significantly related to the preference on the effectuation approach over the causation approach.
Hypothesis 1f: The two-way interaction between inventing and developing is significantly related to the preference on the effectuation approach over the causation approach.
Hypothesis 2a: Cultural tightness is related to entrepreneurial passion sub-dimensions inventing, founding and developing.
Hypothesis 2b: Cultural looseness is related to entrepreneurial passion sub-dimensions inventing, founding and developing.
Hypothesis 3: The relationship between cultural tightness-looseness and the effectuation approach is mediated by entrepreneurial passion.
Hypothesis 4: The relationship between entrepreneurial passion and the effectuation approach is moderated by cultural tightness-looseness.

4. Methods

4.1 Sample

In this research the start-up programme's or accelerators of all twelve universities or Applied Sciences of the Netherlands were approached to use their network to spread out the survey. Other start-up networks were also used to reach as many as possible start-ups. Start-ups were also directly contacted through the e-mail. The survey was administered in Dutch because it is the entrepreneur's native language. The original scales were translated from English to Dutch by an external company. Entrepreneurs, who are the founder of a start-up business up to five years and are higher educated, were asked to fill in a questionnaire. This research used Qualtrics, an online service which can be used to collect data. After a period of six weeks the data collection was stopped. The survey reached a total of 85 responds of which 43 were fully usable as the rest were only partially filled in. The response rate cannot be determined as networks were indirectly used, however, a rough estimate can be made that the survey reached about 800 entrepreneurs.

This research is part of a bigger research, where data in the United States of America and Malaysia was already been gathered. The data sets of the US (150 respondents), Malaysia (81 respondents) and the Netherlands were combined.

4.2 Measurement

The questionnaire contains questions on the effectuation and causation approach, passion and culture. Besides the items for the dependent and independent variables, the questionnaire contained control variables. Respondents must answer questions about their age, gender and work experience. Questions were also asked about revenue and profit but were made optional to fill in. Entrepreneurs were also asked if they are familiar with the term effectuation. During the data analysis, it will be investigated if some of these control variables have an influence of the effect between passion and the effectuation approach.

4.2.1 Causation and Effectuation

The effectuation and causation model by Sarasvathy (2001) was used. In order to measure an entrepreneurs' degree of effectuation and causation, a ten-item scale developed by Alsos et al. (2014) was included (Alsos et al., 2014). Alsos et al. (2014) critically analysed and improved Chandler et al. (2009) currently existing scale for the measurement of effectuation and causation. The scale was successfully tested for validity and reliability. Furthermore, this scale covers all five principles of effectuation and causation (Alsos et al., 2014). Additionally, the fact that it is a scale with only ten items leads to a minimization of the risk of survey fatigue (Porter, Whitcomb, & Weitzer, 2004). The respondent's answers will range on a 7-Point-Scale from 1 totally disagree to 7 totally agree, which will lead to an interval measurement. A value more above four means that the causation and effectuation approaches are used.

4.2.2 Entrepreneurial Passion

The entrepreneurial passion is the independent variable in this research. In order to measure the entrepreneurial passion of an entrepreneur, a fifth-teen item scale developed by (Cardon et al., 2013) was used. The survey included items for measuring entrepreneurial passion's intense positive feelings (12 items) and identity centrality (3 items) across the three domains of inventing, founding and developing.

In line with Cardon et al. (2009)'s entrepreneurial passion model, (Cardon et al., 2013) formulated items around the expression of intense positive feelings, with bases such as 'I greatly enjoy to…', 'I love to…', '…is exciting to me', or '…is thrilling'. Consistent with the notion that entrepreneurial passion's intense positive feelings are focused on the domains of passion for inventing, founding, and developing (Cardon et al., 2009). For inventing, items reflect activities such as 'figuring out new ways to solve unmet market needs' and 'searching for new ideas for products and services.' For founding,

items reflect activities like 'establishing a new company' or 'nurturing a new business through its emerging success.' Items for developing focus on activities related to growth in new ventures, including 'trying to convince others to invest in my business', 'finding the right people to market products and services to', and 'assembling the right people to work for my business.' For the identity centrality of founding, for instance, items were formulated like 'Being the founder of a business is an important part of who I am' and 'When they think about who I am, people who know me well say that at heart, I am a business founder.'

The entrepreneurial passion items were structured in which respondents had to express the extent of their agreement/disagreement with statements meant to characterize them on a seven-point Likert scale. The respondents of Malaysia and the USA received a seven-point Likert scale while the respondents of the Netherlands got a six-point Likert scale. This was adjusted within the dataset of the Netherlands before combining all the datasets. The adjustment was made by adding an extra Likert scale point (4 = neither agree nor disagree) to the responses.

4.2.3 Cultural Tightness-looseness

The Gelfand's cultural tightness-looseness construct is the moderating variable. Tightness-looseness (the overall strength of social norms and tolerance of deviance) was measured on a six-item Likert scale that assessed the degree to which social norms are pervasive, clearly defined, and reliably imposed within nations. The scale was developed and tested for reliability and validity by Gelfand et al. (2009). Example scale items include "There are many social norms that people are supposed to abide by in this country," "In this country, if someone acts in an inappropriate way, others will strongly disapprove," and "People in this country almost always comply with social norms." A value more towards one means that a country is more loose, while a value more towards six means a country is more tight.

4.3 Method of Analysis

The data the usable Dutch respondents was transferred into an IBM SPSS Statistic Database (version 25) and combined with the data sets of America and Malaysia. Although the questionnaire was put together by previous creating items which were already validated another control will take place. In order to control the reliability of the scales and to measure the internal consistency, the scales will be tested on Cronbach's alpha, which is the most commonly used scale reliability measure (Field, 2009). According to the rule of thumb, a Cronbach's alpha of 0.6 for testing the questionnaire is acceptable. As the original scales are translated from English to Dutch for the questionnaire it justifies the need to perform a reliability analysis.

Before testing the hypotheses, it needs to be investigated whether the data is normally distributed or not. The Shapiro-Wilk test is a test of normality and appropriate for small sample sizes (Field, 2009). A significance value below .05 indicates a deviation from the normal distribution. The Pearson or the robust Spearman (if non-parametric data) correlation coefficient will be applied in order to measure the strength of relationships between two variables. A value of 1 indicates a totally positive correlation, 0 means no correlation and a value of -1 state that there is a perfectly negative correlation (Field, 2009). A positive correlation coefficient denotes that as one variable changes, the other changes as well. This is also true for a negative correlation, but in this case the other variable changes in the opposite direction.

To test the hypotheses, a significance level of 0.05 determines if the output is significant. To investigate the relationship between the sub-dimensions inventing, founding and developing of entrepreneurial passion and the entrepreneurial decision-making process (effectuation), an analysis of variances will be conducted (ANOVA). Also, the Bonferroni Post Hoc test will be used to check for between-groups differences of the sub-dimensions of entrepreneurial passion. To investigate the relationship between culture and sub-dimensions of entrepreneurial passion, a linear regression analysis will be conducted. To investigate the mediating effect of entrepreneurial passion, a

correlation table will be used to see whether entrepreneurial passion or culture has a significant correlation with effectuation. If this is the case, a simple linear regression analysis will be used to investigate the mediator. If this is not the case, then there is no mediator effect and no further action will be taken. A simple linear regression analysis will be conducted to examine whether culture moderates the relationship between entrepreneurial passion and effectuation. A multiple regression analysis will be used to examine the relationship between all three variables as it is a logical choice when there are more predictor variables used (Field, 2009).

4.4 Control Variables

In order to identify whether the control variables age and gender are correlated with the sub-dimensions of entrepreneurial passion on entrepreneurial decision-making, a correlation analysis was conducted (Field, 2009). For the control variable gender dummy codes (1 and 0) will be used to split male and female.

5. Results

5.1 Scale Validation

The Cronbach alpha measures the reliability of the items for a construct and needs to be higher than .60 to be acceptable and should aim to be higher than .70 (Field, 2009).The Cronbach's alphas for the data in this research are .671 for the causation scale, .771 for the effectuation scale, .895 for entrepreneurial passion and .631 for cultural tightness-looseness. This indicates an at least acceptable reliability for all of the set of items. The Kaiser-Meyer-Olkin Measure of Sampling Adequacy verified the sampling adequacy for the analysis of all the constructs. The KMO for effectuation, causation, passion and culture were respectively .782, .695, .886 and 718. All the KMO scores lies above the acceptable threshold of .60 (Field, 2009). Bartlett's Test of Sphericity was also performed to see whether correlations between items were sufficienty different from zero. The Bartlett's Test of Sphericity for effectuation (10) = 343,459, $p < .001$, for causation (10) = 233,128, $p < .001$, for passion (78) = 1769,182, $p < .001$ and for culture (15) = 319,432, $p < .001$ are all acceptable as p-value should be lower than .05.

The Shapiro-Wilk and Kolmogorov-Smirnov test the normality of the data. With both tests the p-value of the constructs should be greater than .05 otherwise the data is not normally distributed. Only the construct effectuation is normally distributed, all the other constructs are not. However, looking at the skewness for all constructs, except passion for inventing, is less than 1.0 and greater than -1.0, therefore, referring to a normal distribution (Joh & Malaiya, 2013). The not normal distribution of the sub-dimension inventing of entrepreneurial passion needs to be considered when using ANOVA. ANOVA is a robust tool, when observing the F statistic which needs to be close to 1, the not normal distribution will not affect the ANOVA (Field, 2009).

5.2 Descriptive Statistics

From the combined sample of 279 entrepreneurs, 168 male and 111 respondents filled in the questionnaire. This leads to a percentage of 60,2 percent male and 39,8 percent female respondents. The age ranges from 19 to 66, with a mean of 32. When splitting the sample according to countries, for the Netherlands there are 35 male and 8 female respondents, for the USA 105 male and 50 female respondents and for Malaysia 28 male and 53 female respondents.

There is a higher mean of causational decision-making (Mean = 4,94, SD = .97) indicating that the respondents used more causational decision-making than effectual decision-making (Mean = 4,06, SD = 1,22). When splitting the sample according to countries, only the Netherlands has a slightly bigger preference for effectual decision-making than causational decision-making. The USA and Malaysia both prefer causational decision-making over effectual decision-making. The USA even presents a negative view towards to use of effectuation (Mean = 3,87, SD = 1,17). All countries exhibit high levels of passion with all the means of the sub-dimensions of entrepreneurial passion are above 5,20. All three countries, the Netherlands (Mean = 3,72, SD = .65), the USA (Mean = 4,09, SD = .79) and Malaysia (Mean = 4,19, SD = .71)¸ are more tight than loose on Gelfand's cultural looseness-tightness scale.

Table 3: Descriptive Statistics

Descriptive Statistics

Country		N	Mean	Std. Deviation
Netherlands	Effectuation	43	4,2512	1,12045
	Causation	43	4,1907	1,22510
	Culture	43	3,7209	,65740
	Passion	43	4,6726	,76906
	Valid N (listwise)	43		
USA	Effectuation	155	3,8684	1,17317
	Causation	155	5,1019	,86260
	Culture	155	4,0892	,78915
	Passion	155	6,0124	,84272
	Valid N (listwise)	155		
Malaysia	Effectuation	81	4,3580	1,28207
	Causation	81	5,0444	,83546
	Culture	80	4,1875	,71175
	Passion	81	5,9297	,60266
	Valid N (listwise)	80		

A spearman's rank-order correlation was run to determine the relationship between effectuation, causation, the sub-dimensions of entrepreneurial passion and culture (Table 3). There is a strong positive correlation in between the different sub-dimensions inventing, founding and developing of entrepreneurial passion and causation. There also is a strong positive correlation in between the different sub-dimensions inventing, founding and developing of entrepreneurial passion and culture. For example, the strong, positive correlation between passion for inventing and passion for founding, which is statically significant ($r_s = .533$, $p = .001$). Likewise, the positive correlation between passion for developing and culture, which is statically significant ($r_s = .205$, $p = .001$).

Looking at the dependent variable effectuation, it has no significant correlation with almost any of the other variables. Only with the variable causation there is a significant negative correlation ($r_s = -.175$, $p = .003$). There is no significant correlation with either entrepreneurial passion or culture therefore there is no mediating effect presence. With the Spearman's Rho statistical significance will be more dependent on the sample size than on the degree of correlation. Consequently, for large sample sizes with almost no collinearity, statistical significance may be high, and vice versa (Field, 2009). However, effectuation has no high correlation neither statistical significance with any of the other variables meaning that there is no relationship. This will be further examined in the rest of the analysis and later be discussed.

Table 4: Correlations

Correlations

			Age	Male	Effectuation	Causation	Passion	Passion for Inventing	Passion for Founding	Passion for Developing	Culture
Spearman's rho	Age	Correlation Coefficient	1,000								
		Sig. (2-tailed)	.								
		N	277								
	Male	Correlation Coefficient	-,037	1,000							
		Sig. (2-tailed)	,545	.							
		N	277	279							
	Effectuation	Correlation Coefficient	-,100	,145	1,000						
		Sig. (2-tailed)	,098	,015	.						
		N	277	279	279						
	Causation	Correlation Coefficient	,037	-,007	-,175	1,000					
		Sig. (2-tailed)	,536	,910	,003	.					
		N	277	279	279	279					
	Passion	Correlation Coefficient	,044	-,003	-,046	,435	1,000				
		Sig. (2-tailed)	,466	,958	,441	,000	.				
		N	277	279	279	279	279				
	Passion for Inventing	Correlation Coefficient	,089	-,065	-,008	,353	,828	1,000			
		Sig. (2-tailed)	,140	,276	,897	,000	,000	.			
		N	277	279	279	279	279	279			
	Passion for Founding	Correlation Coefficient	,020	,020	-,029	,364	,887	,599	1,000		
		Sig. (2-tailed)	,739	,745	,634	,000	,000	,000	.		
		N	277	279	279	279	279	279	279		
	Passion for Developing	Correlation Coefficient	,013	,031	-,068	,409	,879	,598	,712	1,000	
		Sig. (2-tailed)	,824	,607	,260	,000	,000	,000	,000	.	
		N	277	279	279	279	279	279	279	279	
	Culture	Correlation Coefficient	-,019	,018	,031	,285	,278	,229	,241	,226	1,000
		Sig. (2-tailed)	,757	,768	,607	,000	,000	,000	,000	,000	.
		N	277	278	278	278	278	278	278	278	278

5.3 Hypotheses testing

General analysis of variance (Table 4) was used to examine the relationships among the sub-dimensions inventing, founding and developing of entrepreneurial passion and effectuation, as posited in Hypotheses 1a-1f. As passion for inventing has a not normal distribution, the F statistic needs to be examined. In both table 5 and table it can be observed that the F statistic is close to one so no further action needs to be taken. Together, the three sub-dimensions of entrepreneurial passion explain 73,9 percent of the variance in effectuation (after age and gender are accounted for). However, as there are multiple coefficients in the model, it is better to examine the adjusted R-square for the fit of the model. The adjusted R-square statistic can take on any value less than or equal to 1, with a value closer to 1 indicating a better fit (Field, 2009). Negative values can occur when the model contains terms that do not help predict the response. As seen in Table 4, the adjusted R-square is -14,2 percent meaning that the terms do not predict the response.

Age and dummy variable male do have a significant relation with effectuation. There is no support for the Hypotheses 1a-1c, no significant direct effects were found for passion for inventing ($p = .917$), passion for founding ($p = .261$) and passion for developing ($p = .857$). To measure the two-way interaction between the sub-dimensions of entrepreneurial passion and their relationship with effectuation, again ANOVA was used. Again, no significant interaction effects were found for passion for inventing and founding ($p = .684$), passion for inventing and developing ($p = .845$) and passion for founding and developing ($p = .576$). As such, there is no significant relationship between two sub-dimensions of entrepreneurial passion and effectuation, therefore, hypotheses 1d, 1e and 1f are rejected. As all hypotheses are rejected due to no significant values, there is no need to perform the Bonferroni Post Hoc test.

Hypothesis 1a-1f stated a preference for effectuation over causation, to see if this was right a comparison should be made. Therefore, general analysis of variance (Table 5) was used again to examine the relationships among the sub-dimensions inventing, founding and developing of entrepreneurial passion and causation. As seen in Table 5, the R-squared is 84,9% and the adjusted R-square is 29,4%, meaning that 29,4 percent of the variance in the data explain for the relationship between causation and the entrepreneurial sub-dimensions for passion. None of the items show any significant values, therefore there is no significant difference between the sub-dimensions of entrepreneurial passion and the preference between effectuation and causation.

Table 5: ANOVA for Effectuation

Tests of Between-Subjects Effects

Dependent Variable: Effectuation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	297,989[a]	213	1,399	,838	,821	,739
Intercept	142,606	1	142,606	85,466	,000	,576
Age	3,939	1	3,939	2,361	,129	,036
Male	,519	1	,519	,311	,579	,005
Passion_Inventing	14,302	16	,894	,536	,917	,120
Passion_Founding	33,226	16	2,077	1,245	,261	,240
Passion_Developing	17,813	17	1,048	,628	,857	,145
Passion_Inventing * Passion_Founding	24,275	18	1,349	,808	,684	,188
Passion_Inventing * Passion_Developing	31,554	27	1,169	,700	,845	,231
Passion_Founding * Passion_Developing	36,839	24	1,535	,920	,576	,260
Passion_Inventing * Passion_Founding * Passion_Developing	,285	1	,285	,171	,681	,003
Error	105,120	63	1,669			
Total	4967,280	277				
Corrected Total	403,109	276				

a. R Squared = ,739 (Adjusted R Squared = -,142)

Table 6: ANOVA for Causation

Tests of Between-Subjects Effects

Dependent Variable: Causation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	222,793[a]	217	1,027	1,531	,027
Intercept	71,932	1	71,932	107,245	,000
Gender	,256	1	,256	,382	,539
Age	1,215	1	1,215	1,811	,184
Passion_Inventing	8,719	14	,623	,929	,535
Passion_Founding	10,698	15	,713	1,063	,409
Passion_Developing	17,429	16	1,089	1,624	,091
Passion_Inventing * Passion_Founding	12,631	16	,789	1,177	,313
Passion_Inventing * Passion_Developing	16,308	21	,777	1,158	,320
Passion_Founding * Passion_Developing	16,592	20	,830	1,237	,259
Passion_Inventing * Passion_Founding * Passion_Developing	,000	0	.	.	.
Error	39,573	59	,671		
Total	7036,200	277			
Corrected Total	262,366	276			

a. R Squared = ,849 (Adjusted R Squared = ,294)

A linear regression analysis was used to examine the hypothesized relationships relating to cultural tightness-looseness and the sub-dimensions inventing, founding and developing of entrepreneurial passion. To examine the relationship, the regression analysis has been performed three times, each time using a different sub-dimension of entrepreneurial passion. Furthermore, the data file has been split into countries. Also to keep in mind, Gelfand et al.'s (2006)s cultural tightness-looseness scale goes from 1 to 6 in which 1 is a very culturally loose country and 6 is a very culturally tight country. All three countries are more tight than loose with the Netherlands (m = 3,72), Malaysia (m = 4,19) and the USA (m = 4,09).

The three regression models explain nearly nothing about the variance in the data. All the models explain about 4 percent of the variance in the data. However, the Netherlands has the highest percentage for the adjusted R square when compared to the other countries, with 30,5 percent of the variance in the data explain for the relationship between culture and passion for developing.

The first regression analysis is that of culture and passion for inventing. For the Netherlands and the USA, there is a significant relationship between culture and passion for inventing (respectively p = .029 and p = .044). However, for Malaysia there is no significant value (p = .113). The second regression analysis is that of culture and passion for founding. Again, the Netherlands and the USA have significant values and Malaysia does not (respectively p = .022, p = .049 and p = .167). The third regression analysis is that culture and passion for developing. Only the Netherlands has a significant value for the relationship between culture and passion for developing (p = .001), the USA and Malaysia do not have significant values (respectively p = .167 and p = .059).

While there are some significant values among the three regression analysis, the results are probably affected by the low number of respondents, therefore Hypothesis 2a is rejected. Although extensive examination and interpretation of all differences of the countries is perhaps necessary for theory development, such a process is beyond the scope of this study. As all three countries are more tight than loose, hypothesis 2b cannot be tested within this research.

Table 7: Linear Regression of Passion for Inventing

Coefficients[a]

Country	Model		Unstandardized Coefficients		Standardized Coefficients		
			B	Std. Error	Beta	t	Sig.
Netherlands	1	(Constant)	3,277	1,034		3,167	,003
		Culture	,619	,274	,333	2,262	,029
USA	1	(Constant)	5,663	,349		16,216	,000
		Culture	,134	,084	,128	1,593	,113
Malaysia	1	(Constant)	5,215	,422		12,360	,000
		Culture	,203	,099	,225	2,043	,044

a. Dependent Variable: Passion_Inventing

Table 8: Linear Regression of Passion for Founding

Coefficients[a]

Country	Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
Netherlands	1	(Constant)	3,845	,815		4,718	,000
		Culture	,513	,216	,348	2,380	,022
USA	1	(Constant)	5,076	,456		11,139	,000
		Culture	,217	,109	,158	1,982	,049
Malaysia	1	(Constant)	5,002	,610		8,207	,000
		Culture	,200	,144	,156	1,396	,167

a. Dependent Variable: Passion_Founding

Table 9: Linear Regression of Passion for Developing

Coefficients[a]

Country	Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
Netherlands	1	(Constant)	1,714	,811		2,112	,041
		Culture	,947	,215	,567	4,410	,000
USA	1	(Constant)	5,176	,469		11,032	,000
		Culture	,156	,113	,112	1,388	,167
Malaysia	1	(Constant)	4,690	,615		7,631	,000
		Culture	,278	,145	,212	1,920	,059

a. Dependent Variable: Passion_Developing

In the examination of Hypothesis 3, a linear regression analysis including the moderator culture was used. The moderator was made by using the Z scores of passion and culture. Although there were no correlations between passion and effectuation and culture and effectuation. Also, the sub-dimensions of entrepreneurial passion did not yield any significant values with effectuation. Still the moderator was made to test the hypothesis. Looking at the model summary (Appendix 11), the Netherlands model explains 18 percent of the variance in the data, the USA model explains 9,8 percent and the Malaysia model explains 9,7 percent. All these scores are very low and do not accurately explain the reality. This is confirmed when looking at the adjusted R-squared (respectively 4,4, 6,1 and 2,1 percent), considering the terms used the models explains even less about the fit of the data. Also, when the moderator is included in the model compare when it is not, the adjusted R-squared drops in percent. In the ANOVA table, it reports how well the regression equation fits the data in predicting the dependent variable. Only in the USA the models are significant as $p < 0,05$. The Netherlands and Malaysia models do not show any significant values.

In the examination of Hypothesis 3, *The relationship between entrepreneurial passion and the effectuation approach is moderated by cultural tightness-looseness,* no conclusive evidence is found for support of the moderating effect of cultural tightness-looseness. Before looking at the moderating itself, it can be observed that within the USA the sub-dimension inventing of entrepreneurial passion is significant ($p = .035$). The same sub-dimension within the Netherlands is close to significance ($p = .065$), it is not yet significant probably due to the small sample size ($n = 43$). The moderators themselves within any country is not significant (Netherlands $p = .704$, USA $p = .337$ and Malaysia $p = .534$). When comparing the model of the moderator with the model without the moderator, there are

no changes worth mentioning. Since the moderators are not significant and there is no effect on the other variables, hypothesis 3 is rejected. Meaning that the relationship between entrepreneurial passion and the effectuation approach is not moderated by cultural tightness-looseness.

Table 10: Overview of Hypotheses testing

	SIGNIFICANCE LEVEL		**HYPOTHESES**
	Effectuation	Causation	
H1A	.975	.535	Rejected
H1B	.772	.409	Rejected
H1C	.501	.091	Rejected
H1D	.730	.313	Rejected
H1E	.959	.320	Rejected
H1F	.965	.259	Rejected
H2A	(INV, FND, DEV)		
- **NETHERLANDS**	.029, .022, .001		Accepted
- **USA**	.113, .049, .167		Partially accepted
- **MALAYSIA**	.044, .167, .059		Partially accepted
H2B			Neither rejected nor accepted
H3			
- **NETHERLANDS**	.923		Rejected
- **USA**	.337		Rejected
- **MALAYSIA**	.534		Rejected
SIGNIFICANT IF P = < .05			

6. Discussion

6.1 Implications

This study was conducted to answer the research question; *To what extent does cultural tightness-looseness moderate the relation between entrepreneurial passion and effectuation?* To address this question, this research was based on a cross-sectional, cross-cultural, model of entrepreneurial passion on the effectuation approach. The study demonstrated that entrepreneurial passion does not explain the variance in the data and shows low significant values. The sub-dimensions inventing, founding and developing of entrepreneurial passion do not significantly relate to effectuation. Further, the Dutch culture is significantly related to the sub-dimensions of entrepreneurial passion. This is most likely caused and biased due to the low number of respondents. The American and Malaysian culture are respectively only significantly related to passion for founding and passion for inventing. Also, the relation between culture and effectuation is not mediated by entrepreneurial passion. Furthermore, culture does not significantly moderate the relation between entrepreneurial passion and effectuation. Although this study did not test causality and the measured hypotheses are all rejected due to nearly no significant values, the results do show some promise for discussion.

Within this study, entrepreneurial passion has several items for discussion; the focus group, the relationship between passion and effectuation and the construct itself. The first item of discussion is that the focus group of this study consisted of entrepreneurs which are already likely to be highly passionate. This can be seen due to their high passion scores across all the sub-dimensions causing skewness to the left. This raises the question whether non-entrepreneurs would exhibit the same or different results regarding effectuation, if the non-entrepreneurs would be placed in the same situation as the entrepreneurs.

The second item of discussion is the relationship between passion and effectuation. The sub-dimensions of entrepreneurial passion, therefore passion itself, are not significantly related to effectuation, because most likely a direct effect does not exist. This study has shown that entrepreneurial passion is not a mediator. Although literature would suggest it is a mediator, entrepreneurial passion does not have a direct effect on and is neither significant correlated with effectuation. Entrepreneurial passion is correlated with causation, so passionate entrepreneurs just do not use the effectuation approach. Being more passionate could have a positive influence on a certain variable which in turn can influence effectuation. In other words, passion can become a moderator or influence a mediator which then influences effectuation.

The third item of discussion is the construct entrepreneurial passion itself. Entrepreneurial passion measures the domains intense positive feelings and self-identity across the dimensions of inventing, founding and developing (Cardon et al., 2013). This means that entrepreneurial passion will always be positive, and meaningful to the self-identity of the entrepreneur. This results in that most likely all entrepreneurs will exhibit high scores on a seven-point Likert scale. This probably stems from that passion refers to intense, positive inclinations aimed at specific tasks (Murnieks & Mosakowski, 2007). Passion and entrepreneurial passion are quite the same as they both are aimed at specific tasks. Passion is something universal and all human being are to some degree passionate about a certain, there is no being that is unpassionate in life. This in turn causes that the construct will always have a hard time achieving a normal distribution and will thus be positively skewed. Therefore, measuring and using entrepreneurial passion becomes difficult. Cardon et al. (2013) current seven-point Likert scale ranges from positive to negative, while in practise this will nearly never be the case. The Likert scale should maybe be revised so it demonstrates passionate entrepreneurs to highly passionate entrepreneurs.

Within entrepreneurship research there is a real and continuous need for additional theory building (MacMillan & Katz, 1992). And in line with the assessment of Arend et al. (2015), effectuation has the possibility to become a solid theory but there is still substantial work to be done. In this study, no

significant relation has been examined with effectuation. According to literature, this could be due to that effectuation is used by expert entrepreneurs and the datasets uses mainly novice entrepreneurs who use the causation approach (as demonstrated in the results). Literature presents effectuation in contrast to causation, however, the question arises whether both approaches could be used at the same time? Could there be compatibility between the approaches? Or should they be completely separated from each other? Effectuation and causation cannot be seen as polar opposites, they rather represent orthogonal approaches (Perry, Chandler, & Markova, 2011). Arend et al. (2015) directions of address the why, specify the landscape and consider a radical refocusing of the approach, effectuation should maybe be viewed less as in contrast of causation. It should be further developed towards a stand-alone theory, so that it may become a solid theory. In this way, effectuation and causation can be used simultaneously from which entrepreneurs will greatly benefit. Also, depending on the situation an entrepreneur might even be inclined to use different approaches due to external constraints. In fact, in practise entrepreneurs are probably already using both theories. As example, an entrepreneur could analyse competitors as well as make partnership with stakeholders. Effectuation is now too narrowly focused to perceive both theories as mutually exclusive.

Cultural tightness-looseness was tested whether it would significant relate to the sub-dimensions of entrepreneurial passion. All three countries are cultural tight and only the Netherlands showed significant values but the problem of a low number of respondents remains. Therefore, it is hard to interpret the results what the influence of tight cultures is on entrepreneurial passion. This study does not find differences between tight and loose cultures in the levels of passion for inventing, founding and developing as it was unable to test loose cultures. Nevertheless, this study can hypothesize about the likely impact of loose cultures on the sub-dimensions of entrepreneurial passion. A loose culture has weak norms and a high tolerance of deviant behaviour, therefore, it will probably strong significant effect with all sub-dimensions of entrepreneurial passion as people are freer to follow their dreams. The freedom of societal constraints will allow entrepreneurs to express themselves more passionately in their commitment to new venture creation.

6.2 Future Research

For the entrepreneurship literature regarding effectuation, causation, culture and passion, this study suggests several items that need investigation. In this study, entrepreneurial passion was not a mediator, but it could be possible that entrepreneurial passion influences a mediator which influences the effectuation approach. Research could study the effects of a mediator such as cognition or entrepreneurial behaviour in relation to effectuation. Another area is to examine how tight-loose culture influence passion and/or moderate the relationship with effectuation. What are the differences and similarities? Do the differences have a theoretical opposite in the same way that the similarities appear to? Effectuation is particularly relevant in environments in which uncertainty is high, it may be interesting to examine the link between country-specific characteristics and the decision-making behaviour of founders (Smolka et al., 2016). Finally, scholars need to theoretically examine entrepreneurial passion and further build effectuation into a solid standalone theory. Can entrepreneurial passion and effectuation provide theoretical and practical guidelines for entrepreneurs in the digitalized world and globalization process?

6.3 Limitations

As with all empirical work, this research acknowledges that there are limitations present in this study. This model was tested in the Netherlands, the USA and Malaysia. The study is limited due to that passion for inventing does not have a normal distribution. This influences the use of ANOVA and linear regression analysis. Although ANOVA is a robust tool and the F statistic compensates for the not normal distribution (Field, 2009), the results are still probably affected. Another limitation is related to the sample. Respondents come from many countries, and while we control for international differences by grouping them together in country clusters, unaccounted for cultural differences may still be present in our data. Also, the number of Dutch respondents is low (n=43). Next, the Cronbach's

alphas of the causation scale is below .700 which questions the strength of the reliability, although above .600 is still acceptable (Field, 2009).

All three countries score tight on Gelfand et al. (2006) cultural tightness-looseness scale. For this reason, the relationship of cultural looseness on the sub-dimensions of entrepreneurial passion could not be tested. Also, a comparison between loose and tight cultures could not be made. In Gelfand et al. (2011) original study, both the Netherlands (3.3) and the USA (5.1) score as a loose country. In Gelfand et al. (2011) study it is unclear how the scores are made but both countries are considered to be loose cultures. Therefore, this study is limited whether the respondents of the Netherlands and the USA accurately represent their cultures.

Some caution is warranted in the interpretation of the results in this study. The results in this study are somewhat conservative, however, since the study did not examine the effects of regional economic, industry, or venture type, or of other contextual influences on the model of entrepreneurial passion, culture and effectuation used in the analysis. Thus, less variance may have been explained than might otherwise have been possible.

7. Conclusion

To conclude, the aim of this study was to advance the understanding of the relationship of the sub-dimensions (inventing, founding and developing) of entrepreneurial passion and the preference between causation and effectuation. The aim was also to see whether cultural would moderate this relationship. This study did not yield any significant results which indicated any of these relationships. Therefore, entrepreneurial passion does not relate to the effectuation approach and cultural tightness or looseness does also affect the relationship. However, this study does present interesting propositions for the theoretical as practical domain and for future entrepreneurial research.

Theoretically, the domain of the constructs of passion for inventing, founding and developing needs to be enriched and/or possibly revised and the constructs need to be more thoroughly examined. The theory of effectuation should be changed into a standalone theory instead of it continuously being compared to causation. Also, effectuation theory should better define when, how and why it is used. Practically, this study's findings, although no significant findings were found, suggest that entrepreneurs and policy makers should consider whether a country is culturally tight or loose. Norms and values differ between tight and loose culture so entrepreneurs should adapt accordingly. Additionally, entrepreneurs should work with passionate people as passion is the fuel of an entrepreneur. Researchers should further develop effectuation as it holds much promise and investigate how it all fits in the cross-cultural entrepreneurial decision-making process.

With the rise of the global economy and information age, entrepreneurship is a key factor to economic growth. The way entrepreneurs behave and make entrepreneurial decisions is at the heart of entrepreneurial research, however what drives entrepreneurs in different cultures should be included. Although this study yields no significant results due to its limitations, it does offer interesting suggestions for future cross-cultural entrepreneurial research. The result is an exciting field with innumerable opportunities for scholars that are based in the study of the ventures and entrepreneurs that offer the promise of growth, new jobs, increased trade, and innovation. This study suggests a way to move forward to address at least some of these opportunities.

Acknowledgements

I would like to thank the entrepreneurs for their participation in the survey who supported my work in this way and helped me get results of better quality. Also, I would like to thank my supervisors Martin Stienstra and Bjorn Kijl for their support, cooperation and feedback. I would like to thank my friends for accepting nothing less than excellence from me. Last but not the least, I would like to thank my family for supporting me spiritually throughout writing this thesis and my life in general.

References

Aldrich, H., Zimmer, C., & Jones, T. (1986). Small Business Still Speaks with the Same Voice: A Replication of 'The Voice of Small Business and the Politics of Survival. *The Sociological Review*, *34*(2), 335–356.

Alsos, G., Clausen, T., & Solvoll, S. (2014). Towards a Better Measurement Scale of Causation and Effectuation. *Academy of Management Meeting*, 1–41.

Alvarez, S., & Barney, J. (2007). Discovery and creation: Alternative theories of entrepreneurial action. *Strategic Entrepreneurship Journal*, *1*, 11–26.

Arend, R. J., Sarooghi, H., & Burkemper, A. (2015). Effectuation as Ineffectual ? Applying the 3E Theory-Assessment Framework to a Proposed New Theory of Entrepreneurship. *Academy of Management Review*, *40*(4), 630–651.

Baker, T., & Nelson, R. (2005). Creating something from nothing: Resource construction through entrepreneurial bricolage. *Administrative Science Quarterly*, *50*(3), 329–366.

Baum, J. R., & Locke, E. A. (2004). The Relationship of Entrepreneurial Traits, Skill, and Motivation to Subsequent Venture Growth. https://doi.org/10.1037/0021-9010.89.4.587

Berry, J. W. (1966). Temne and Eskimo perceptual skills. *International Journal of Psychology*, *1*, 207–299.

Boldt, E. D. (1978). Structural tightness and cross-cultural research. *Journal of Cross-Cultural Psychology*, *9*, 151–165.

Cardon, M. S., Gregoire, D. A., Stevens, C. E., & Patel, P. C. (2013). Measuring entrepreneurial passion: Conceptual foundations and scale validation. *Journal of Business Venturing*, *28*(3), 373–396. https://doi.org/10.1016/j.jbusvent.2012.03.003

Cardon, Wincent, Singh, & Drnovsek. (2009). The Nature and Experience of Entrepreneurial Passion. *The Academy of Management Review*, *34*, 551–532. Retrieved from https://www.jstor.org/stable/pdf/27760017.pdf

Chandler, G. N., Detienne, D. R., Mckelvie, A., & Mumford, T. V. (2009). Causation and effectuation processes: A validation study. https://doi.org/10.1016/j.jbusvent.2009.10.006

Chen, X., Yao, X., & Kotha, S. (2009). Entrepreneur Passion and Preparedness in Business Plan Presentations : A Persuasion Analysis of Venture Capitalists ' Funding Decisions. *Academy of Management Journal*, *52*(1), 199–214.

Cliff, J. E. (1996). Does one size fit all? Exploring the relationship between attitudes towards growth, gender, and business size. *Journal of Business Venturing*, *13*, 523–542. Retrieved from

Field, A. (2009). *Discovering Statistics Using SPSS*. CA: Sage Publications. Retrieved from http://ejournal.litu.tu.ac.th/pdf/fllt_journal_volume_2.pdf#page=132

Fisher, G. (2012). Effectuation, causation, and bricolage: A behavioral comparison of emerging theories in entrepreneurship research. *Entrepreneurship: Theory and Practice*, *36*(5), 1019–1051. https://doi.org/10.1111/j.1540-6520.2012.00537.x

Gelfand, M. J., Nishii, L. H., & Raver, J. L. (2006). On the nature and importance of cultural tightness-looseness. *Journal of Applied Psychology*, *91*(6), 1225–1244. https://doi.org/10.1037/0021-9010.91.6.1225

Gelfand, M. J., Raver, J. L., & Nishii, L. (2011). Differences between tight and loose cultures: A 33-nation study. *Science*, *332*(6033), 1100–1104. https://doi.org/10.1126/science.1197754

Gundry, L. K., & Welsch, H. P. (2001). *THE AMBITIOUS ENTREPRENEUR: HIGH GROWTH STRATEGIES OF WOMEN-OWNED ENTERPRISES*. *Journal of Business Venturing* (Vol. 16). Retrieved from https://pdfs.semanticscholar.org/35a2/b62c231fc07e345f4b80ec7a1d1c81257247.pdf

Hammond, P. (1996). *Consequentialist decision theory and utilitarian ethics*. Ethics, Rationality, and Economic Behavior.

Hoang, H., & Gimeno, J. (2010). Becoming a founder: How founder role identity affects entrepreneurial trainsitions and persistence in founding. *Journal of Business Venturing*, *25*, 41–53.

Hofstede, G. (2001). *Cutlure's consequences: comparing values, behaviors, institutions, and organizatioon across nations*. Thousand Oaks: Sage Publications.

Joh, H., & Malaiya, Y. K. (2013). Modeling Skewness in Vulnerability Discovery. https://doi.org/10.1002/qre.1567

Katz, J., & Gartner, W. (1988). Properties of Emerging Organizations. *The Academy of Management Review* , *13*(3), 429–441. Retrieved from https://www.jstor.org/stable/pdf/258090.pdf

MacMillan, I., & Katz, J. (1992). Idiosyncratic Milieus of Entrepreneurial Research: The Need for Comprehensive Theories. *Journal of Business Venturing*, *7*(1), 1–8.

Mitchell, R. K., Smith, J. B., Seawright, K. W., & Morse, E. a. (2000). Cross-cultural cognition and the venture creation decision. *Academy of Management Journal*, *43*(5), 974–993. https://doi.org/10.2307/1556422

Moroz, P., & Hindle, K. (2011). Entrepreneurship as a Process: Toward Harmonizing Multiple Perspectives. *Entrepreneurship: Theory and Practice*, *36*(4).

Murnieks, C. Y., & Mosakowski, E. M. (2007). *WHO AM I? LOOKING INSIDE "THE ENTREPRENEURIAL IDENTITY" Frontiers of Entrepreneurship Research* (Vol. 27).

Murnieks, C. Y., Mosakowski, E. M., & Cardon, M. S. (2012). Pathways of Passion: Identity Centrality, Passion, and Behavior Among Entrepreneurs. *Journal of Management*, *40*(6), 1583–1606.

Newman, K. L., & Nollen, S. D. (1996). Culture and Congruence: The Fit between Management Practices and National Culture. *Source Journal of International Business Studies*, *2789139145*(4), 753–779. Retrieved from http://www.jstor.org/stable/155511

Pelto, P. (1968). The difference between 'tight' and 'loose' societies. *Transaction*, *5*, 37–40.

Perry, J. T., Chandler, G. N., & Markova, G. (2011). Entrepreneurial Effectuation: A Review and Suggestions for Future Research. https://doi.org/10.1111/j.1540-6520.2010.00435.x

Porter, S. R., Whitcomb, M. E., & Weitzer, W. H. (2004). *5 Multiple Surveys of Students and Survey Fatigue*. *NEW DIRECTIONS FOR INSTITUTIONAL RESEARCH*. Retrieved from https://onlinelibrary.wiley.com/doi/pdf/10.1002/ir.101

Ronstadt, R. (1988). The corridor principle. *Journal of Business Venturing*, *3*, 31–40. Retrieved from https://ac.els-cdn.com/0883902688900286/1-s2.0-0883902688900286-main.pdf?_tid=24422c9a-379f-4d34-883d-f51c2e4c58cb&acdnat=1549277970_9d85f7442137df75270859cadc02158f

Sarasvathy, S. (2001). Toward Causation and Effectuation : A Theoritical Shift From Inevitability to Economic Entrepreneurial Contingency. *The Academy of Management Review*, *26*(2), 243–263. https://doi.org/10.2307/259121

Sarasvathy, S. D. (2008). *Effectuation: elements of entrepreneurial expertise*. Celtenham, UK: Edward Elgar Publishing.

Sarasvathy, S., Kumar, K., York, J. G., & Bhagavatula, S. (2013). An Effectual Approach to International Entrepreneurship: Overlaps, Challenges, and Provocative Possibilities. https://doi.org/10.1111/etap.12088

Schumpeter, J. A. (1942). *Capitalism, Socialism, and Democracy*. New York: Harper & Row.

Schumpeter, J. A. (2000). Entrepreneurship as Innovation. *Entrepreneurship: The Social Science View*, 51–75.

Shah, S., & Tripsas, M. (2007). The accidental entrepreneur: The emergent and collective process of user entrepreneurship. *Strategic Entrepreneurship Journal2*, *1*, 123–140.

Shane, S. (2003). *The individual-oppportunity nexus approach to entrepreneurship*. Aldershot, UK: Eward Elgar.

Shane, S., & Venkataraman, S. (2000). The Promise of Entrepreneurship as a Field of Research. *The Academy of Management Review*, *25*(1), 217–226. Retrieved from https://www.jstor.org/stable/pdf/259271.pdf

Shepherd, D. A., Williams, T. A., & Patzelt, H. (2015). Thinking About Entrepreneurial Decision Making: Review and Research Agenda. *Journal of Management*, *41*(1), 11–46. https://doi.org/10.1177/0149206314541153

Shteynberg, G., Gelfand, M. J., Kim, K., Mayer, D. M., Leslie, L. M., Knight, A. P., & Roberts, C. M. (2009). Peering Into the "Magnum Mysterium" of Culture The Explanatory Power of Descriptive Norms. *Journal of Cross-Cultural Psychology*, *40*, 46–69. https://doi.org/10.1177/0022022108326196

Smolka, I., Verheul, K., Burmeister-Lamp, P., & Heugens, K. (2016). Get It Together! Synergistic Effects of Causal and Effectual Decision-Making Logics on Venture Performance. *Entrepreneurship: Theory and Practice*. https://doi.org/10.1111/etap.12266

Thorgren, S., & Wincent, J. (2015). Passion and habitual entrepreneurship. *International Small Business Journal*, *33*(2), 216–227. https://doi.org/10.1177/0266242613487085

Tversky, A., & Kahneman, D. (1974). Judgment under uncertainty: Heuristics and biases. *Science*, *185*, 1124–1131.

van Stel, A., Carree, M., & Thurik, R. (2005). The Effect of Entrepreneurial Activity on National Economic Growth. *Small Business Economics*, *24*, 311–321. https://doi.org/10.1007/s11187-005-1996-6

Wiltbank, R., Read, S., & Sarasvathy, S. (2006). What to do next? The case for non-predictive strategy. *Strategie Management Journal*, *27*(10), 981–998.

Appendix A: Entrepreneurial passion constructs

Enduring nature of EP: entrepreneurs' responses across time.

Domain of EP and item #	Original item	October 2009		April 2011		Paired *t*-test	Pearson *r*	Cohen's *κ*
		Mean	SD	Mean	SD			
IPF-inv$_1$	It is exciting to figure out new ways to solve unmet market needs that can be commercialized.	2.61	0.57	2.46	.30	−.23	.86***	.96
IPF-inv$_2$	Searching for new ideas for products/services to offer is enjoyable to me.	2.34	0.41	2.44	.55	.15	.89***	.95
IPF-inv$_3$	I am motivated to figure out how to make existing products/services better.	2.64	0.37	2.32	.56	−.48	.88***	.94
IPF-inv$_4$	Scanning the environment for new opportunities really excites me.	2.49	0.31	2.37	.39	−.24	.85***	.95
IC-inv$_1$	Inventing new solutions to problems is an important part of who I am.	2.63	0.78	2.49	.56	−.15	.83***	.94
IPF-fnd$_1$	Establishing a new company excites me.	2.27	0.34	2.69	.32	.90	.87***	.93
IPF-fnd$_2$	Owning my own company energizes me.	2.23	0.73	2.31	.37	.10	.89***	.94
IPF-fnd$_3$	Nurturing a new business through its emerging success is enjoyable.	2.70	0.37	2.44	.78	−.30	.80***	.94
IC-fnd$_1$	Being the founder of a business is an important part of who I am.	2.35	0.37	2.41	.40	.11	.87***	.95
IPF-dev$_1$	I really like finding the right people to market my product/service to.	2.48	0.69	2.51	.78	.03	.86***	.94
IPF-dev$_2$	Assembling the right people to work for my business is exciting.	2.34	0.57	2.4	.30	.09	.79***	.93
IPF-dev$_3$	Pushing my employees and myself to make our company better motivates me.	2.61	0.72	2.46	.49	−.17	.82***	.94
IC-dev$_1$	Nurturing and growing companies is an important part of who I am.	2.34	0.37	2.30	.56	−.06	.86***	.94

Note. IPF = intense positive feelings; IC = identity centrality; inv = inventing; fnd = founding; and dev = developing.
*** p<.001.

Appendix B: Descriptive statistics

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	168	60,2	60,2	60,2
	Female	111	39,8	39,8	100,0
	Total	279	100,0	100,0	

Gender

Country			Frequency	Percent	Valid Percent	Cumulative Percent
Netherlands	Valid	Male	35	81,4	81,4	81,4
		Female	8	18,6	18,6	100,0
		Total	43	100,0	100,0	
USA	Valid	Male	105	67,7	67,7	67,7
		Female	50	32,3	32,3	100,0
		Total	155	100,0	100,0	
Malaysia	Valid	Male	28	34,6	34,6	34,6
		Female	53	65,4	65,4	100,0
		Total	81	100,0	100,0	

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Effectuation	279	1,40	7,00	4,0695	1,21533
Causation	279	1,40	7,00	4,9448	,97181
Passion_Inventing	279	1,00	7,00	6,0688	,87663
Passion_Founding	279	1,75	7,00	5,8961	1,01670
Passion_Developing	279	2,00	7,00	5,7384	1,07376
Valid N (listwise)	279				

Descriptive Statistics

Country		N	Minimum	Maximum	Mean	Std. Deviation
Netherlands	Effectuation	43	2,00	6,80	4,2512	1,12045
	Causation	43	1,40	7,00	4,1907	1,22510
	Passion_Inventing	43	1,00	7,00	5,5814	1,22265
	Passion_Founding	43	3,00	7,00	5,7558	,96900
	Passion_Developing	43	2,25	7,00	5,2384	1,09782
	Culture	43	2,33	5,17	3,7209	,65740
	Valid N (listwise)	43				
USA	Effectuation	155	1,40	6,60	3,8684	1,17317
	Causation	155	3,20	7,00	5,1019	,86260
	Passion_Inventing	155	4,00	7,00	6,2090	,82536
	Passion_Founding	155	1,75	7,00	5,9629	1,08180
	Passion_Developing	155	2,00	7,00	5,8161	1,10675
	Culture	155	1,50	5,50	4,0892	,78915
	Valid N (listwise)	155				
Malaysia	Effectuation	81	1,40	7,00	4,3580	1,28207
	Causation	81	3,00	7,00	5,0444	,83546
	Passion_Inventing	81	3,20	7,00	6,0593	,63910
	Passion_Founding	81	3,00	7,00	5,8426	,90782
	Passion_Developing	81	2,00	7,00	5,8549	,92522
	Culture	80	2,67	6,00	4,1875	,71175
	Valid N (listwise)	80				

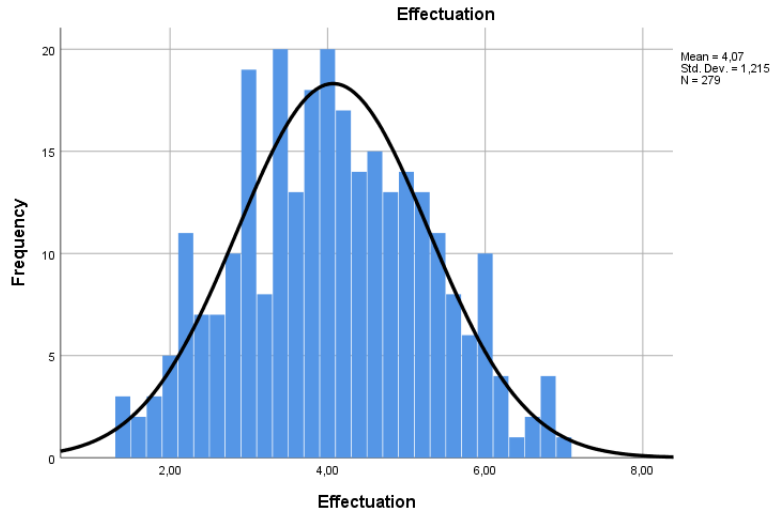
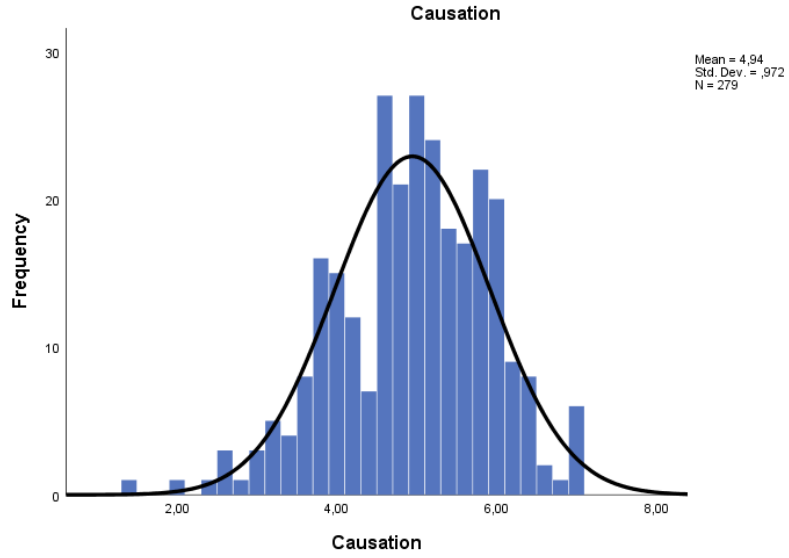

Effectuation
Mean = 4,07
Std. Dev. = 1,215
N = 279
Frequency
Effectuation

Figure 2


Causation
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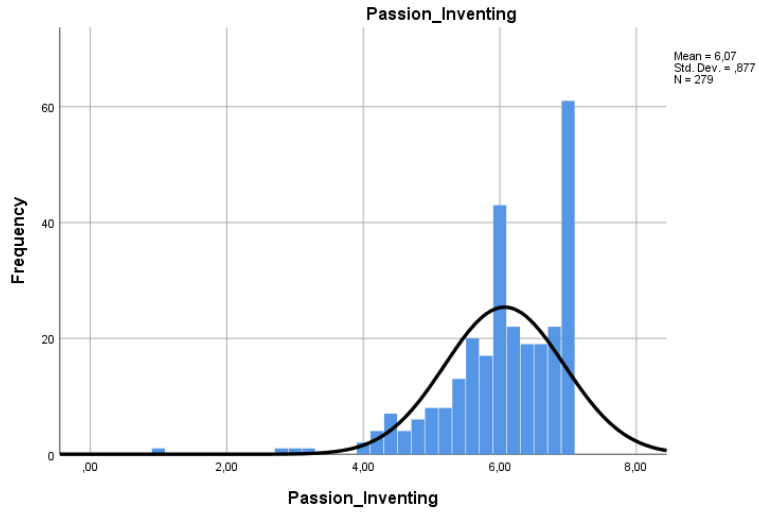
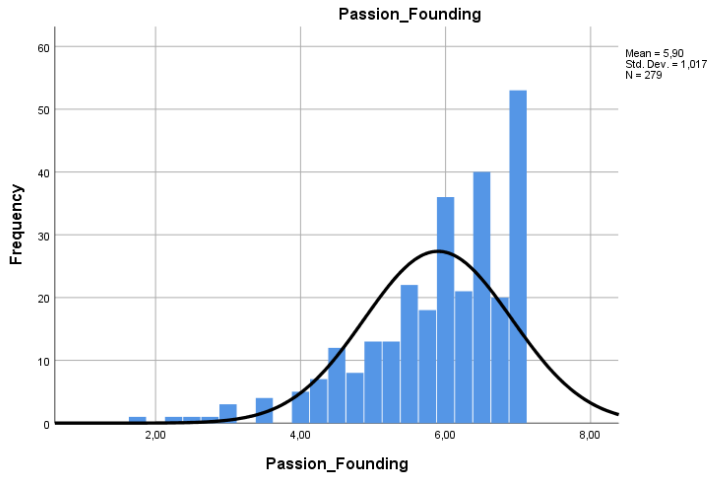
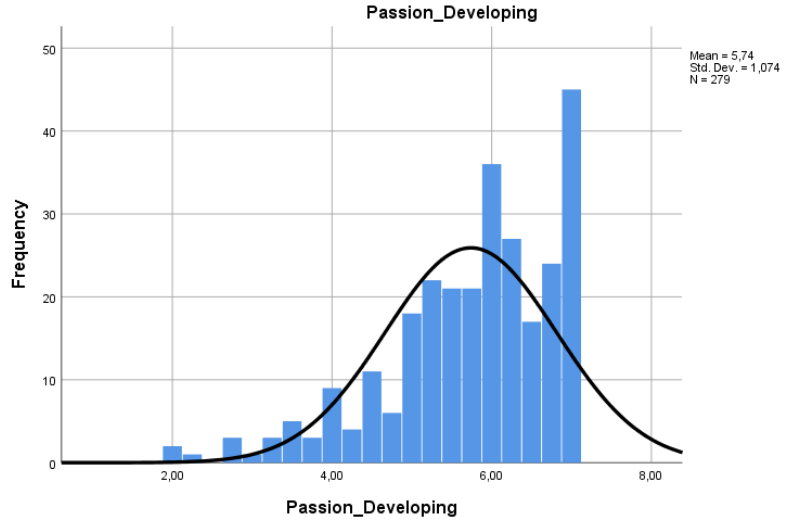
Std. Dev. = ,972
N = 279
Frequency
Causation


Passion_Inventing
Mean = 6,07
Std. Dev. = ,877
N = 279
Frequency
Passion_Inventing





Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Effectuation	,051	278	,077	,990	278	,048
Causation	,084	278	,000	,982	278	,002
Passion_Inventing	,145	278	,000	,872	278	,000
Passion_Founding	,149	278	,000	,890	278	,000
Passion_Developing	,129	278	,000	,913	278	,000
Culture	,084	278	,000	,986	278	,007

a. Lilliefors Significance Correction

Appendix C: Correlations

Correlations

			Effectuation	Passion_Inventing	Passion_Founding	Passion_Developing	Culture
Spearman's rho	Effectuation	Correlation Coefficient	1,000	,037	,007	-,041	,031
		Sig. (2-tailed)	.	,533	,914	,496	,607
		N	279	279	279	279	278
	Passion_Inventing	Correlation Coefficient	,037	1,000	,533**	,513**	,188**
		Sig. (2-tailed)	,533	.	,000	,000	,002
		N	279	279	279	279	278
	Passion_Founding	Correlation Coefficient	,007	,533**	1,000	,653**	,199**
		Sig. (2-tailed)	,914	,000	.	,000	,001
		N	279	279	279	279	278
	Passion_Developing	Correlation Coefficient	-,041	,513**	,653**	1,000	,205**
		Sig. (2-tailed)	,496	,000	,000	.	,001
		N	279	279	279	279	278
	Culture	Correlation Coefficient	,031	,188**	,199**	,205**	1,000
		Sig. (2-tailed)	,607	,002	,001	,001	.
		N	278	278	278	278	278

**. Correlation is significant at the 0.01 level (2-tailed).

Appendix D: Analysis of variance

Tests of Between-Subjects Effects

Dependent Variable: Effectuation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	297,989[a]	213	1,399	,838	,821	,739
Intercept	142,606	1	142,606	85,466	,000	,576
Age	3,939	1	3,939	2,361	,129	,036
Male	,519	1	,519	,311	,579	,005
Passion_Inventing	14,302	16	,894	,536	,917	,120
Passion_Founding	33,226	16	2,077	1,245	,261	,240
Passion_Developing	17,813	17	1,048	,628	,857	,145
Passion_Inventing * Passion_Founding	24,275	18	1,349	,808	,684	,188
Passion_Inventing * Passion_Developing	31,554	27	1,169	,700	,845	,231
Passion_Founding * Passion_Developing	36,839	24	1,535	,920	,576	,260
Passion_Inventing * Passion_Founding * Passion_Developing	,285	1	,285	,171	,681	,003
Error	105,120	63	1,669			
Total	4967,280	277				
Corrected Total	403,109	276				

a. R Squared = ,739 (Adjusted R Squared = -,142)

Tests of Between-Subjects Effects

Dependent Variable: Causation

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	222,793[a]	217	1,027	1,531	,027
Intercept	71,932	1	71,932	107,245	,000
Gender	,256	1	,256	,382	,539
Age	1,215	1	1,215	1,811	,184
Passion_Inventing	8,719	14	,623	,929	,535
Passion_Founding	10,698	15	,713	1,063	,409
Passion_Developing	17,429	16	1,089	1,624	,091
Passion_Inventing * Passion_Founding	12,631	16	,789	1,177	,313
Passion_Inventing * Passion_Developing	16,308	21	,777	1,158	,320
Passion_Founding * Passion_Developing	16,592	20	,830	1,237	,259
Passion_Inventing * Passion_Founding * Passion_Developing	,000	0	.	.	.
Error	39,573	59	,671		
Total	7036,200	277			
Corrected Total	262,366	276			

a. R Squared = ,849 (Adjusted R Squared = ,294)

Appendix E: Regression analysis I

Model Summary[b]

Country	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Netherlands	1	,333[a]	,111	,089	1,16682	,783
USA	1	,128[a]	,016	,010	,82127	1,790
Malaysia	1	,225[a]	,051	,039	,62852	1,623

a. Predictors: (Constant), Culture

b. Dependent Variable: Passion_Inventing

ANOVA[a]

Country	Model		Sum of Squares	df	Mean Square	F	Sig.
Netherlands	1	Regression	6,965	1	6,965	5,115	,029[b]
		Residual	55,821	41	1,361		
		Total	62,785	42			
USA	1	Regression	1,711	1	1,711	2,536	,113[b]
		Residual	103,197	153	,674		
		Total	104,907	154			
Malaysia	1	Regression	1,650	1	1,650	4,176	,044[b]
		Residual	30,812	78	,395		
		Total	32,462	79			

a. Dependent Variable: Passion_Inventing

b. Predictors: (Constant), Culture

Coefficients[a]

Country	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Netherlands	1	(Constant)	3,277	1,034		3,167	,003
		Culture	,619	,274	,333	2,262	,029
USA	1	(Constant)	5,663	,349		16,216	,000
		Culture	,134	,084	,128	1,593	,113
Malaysia	1	(Constant)	5,215	,422		12,360	,000
		Culture	,203	,099	,225	2,043	,044

a. Dependent Variable: Passion_Inventing

Model Summary[b]

Country	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Netherlands	1	,348[a]	,121	,100	,91932	,929
USA	1	,158[a]	,025	,019	1,07165	1,995
Malaysia	1	,156[a]	,024	,012	,90794	2,149

a. Predictors: (Constant), Culture

b. Dependent Variable: Passion_Founding

ANOVA[a]

Country	Model		Sum of Squares	df	Mean Square	F	Sig.
Netherlands	1	Regression	4,785	1	4,785	5,662	,022[b]
		Residual	34,651	41	,845		
		Total	39,436	42			
USA	1	Regression	4,513	1	4,513	3,930	,049[b]
		Residual	175,711	153	1,148		
		Total	180,224	154			
Malaysia	1	Regression	1,605	1	1,605	1,947	,167[b]
		Residual	64,300	78	,824		
		Total	65,905	79			

a. Dependent Variable: Passion_Founding

b. Predictors: (Constant), Culture

Coefficients[a]

Country	Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
			B	Std. Error	Beta		
Netherlands	1	(Constant)	3,845	,815		4,718	,000
		Culture	,513	,216	,348	2,380	,022
USA	1	(Constant)	5,076	,456		11,139	,000
		Culture	,217	,109	,158	1,982	,049
Malaysia	1	(Constant)	5,002	,610		8,207	,000
		Culture	,200	,144	,156	1,396	,167

a. Dependent Variable: Passion_Founding

Model Summary[b]

Country	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Netherlands	1	,567[a]	,322	,305	,91508	1,293
USA	1	,112[a]	,012	,006	1,10343	2,019
Malaysia	1	,212[a]	,045	,033	,91548	2,145

a. Predictors: (Constant), Culture

b. Dependent Variable: Passion_Developing

ANOVA[a]

Country	Model		Sum of Squares	df	Mean Square	F	Sig.
Netherlands	1	Regression	16,287	1	16,287	19,450	,000[b]
		Residual	34,332	41	,837		
		Total	50,619	42			
USA	1	Regression	2,347	1	2,347	1,927	,167[b]
		Residual	186,288	153	1,218		
		Total	188,635	154			
Malaysia	1	Regression	3,090	1	3,090	3,686	,059[b]
		Residual	65,372	78	,838		
		Total	68,462	79			

a. Dependent Variable: Passion_Developing

b. Predictors: (Constant), Culture

Coefficients[a]

Country	Model		Unstandardized Coefficients		Standardized Coefficients		
			B	Std. Error	Beta	t	Sig.
Netherlands	1	(Constant)	1,714	,811		2,112	,041
		Culture	,947	,215	,567	4,410	,000
USA	1	(Constant)	5,176	,469		11,032	,000
		Culture	,156	,113	,112	1,388	,167
Malaysia	1	(Constant)	4,690	,615		7,631	,000
		Culture	,278	,145	,212	1,920	,059

a. Dependent Variable: Passion_Developing

Appendix F: Regression analysis II

Model Summary[d]

Country	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
Netherlands	1	,112[a]	,013	-,037	1,14087	
	2	,421[b]	,177	,066	1,08298	
	3	,425[c]	,180	,044	1,09569	2,494
USA	1	,243[a]	,059	,047	1,14550	
	2	,304[e]	,092	,062	1,13634	
	3	,313[f]	,098	,061	1,13662	1,908
Malaysia	1	,220[a]	,049	,024	1,25315	
	2	,303[b]	,092	,029	1,24933	
	3	,311[c]	,097	,021	1,25459	1,758

a. Predictors: (Constant), Male, Age

b. Predictors: (Constant), Male, Age, Passion_Inventing, Passion_Developing, Passion_Founding

c. Predictors: (Constant), Male, Age, Passion_Inventing, Passion_Developing, Passion_Founding, Moderator

d. Dependent Variable: Effectuation

e. Predictors: (Constant), Male, Age, Passion_Developing, Passion_Inventing, Passion_Founding

f. Predictors: (Constant), Male, Age, Passion_Developing, Passion_Inventing, Passion_Founding, Moderator

ANOVA[a]

Country	Model		Sum of Squares	df	Mean Square	F	Sig.
Netherlands	1	Regression	,664	2	,332	,255	,776[b]
		Residual	52,063	40	1,302		
		Total	52,727	42			
	2	Regression	9,332	5	1,866	1,591	,187[c]
		Residual	43,395	37	1,173		
		Total	52,727	42			
	3	Regression	9,508	6	1,585	1,320	,274[d]
		Residual	43,219	36	1,201		
		Total	52,727	42			
USA	1	Regression	12,507	2	6,253	4,766	,010[b]
		Residual	199,448	152	1,312		
		Total	211,955	154			
	2	Regression	19,557	5	3,911	3,029	,012[e]
		Residual	192,398	149	1,291		
		Total	211,955	154			
	3	Regression	20,754	6	3,459	2,677	,017[f]
		Residual	191,201	148	1,292		
		Total	211,955	154			
Malaysia	1	Regression	6,094	2	3,047	1,940	,151[b]
		Residual	119,349	76	1,570		
		Total	125,443	78			
	2	Regression	11,502	5	2,300	1,474	,209[c]
		Residual	113,941	73	1,561		
		Total	125,443	78			
	3	Regression	12,116	6	2,019	1,283	,276[d]
		Residual	113,327	72	1,574		
		Total	125,443	78			

a. Dependent Variable: Effectuation

b. Predictors: (Constant), Male, Age

c. Predictors: (Constant), Male, Age, Passion_Inventing, Passion_Developing, Passion_Founding

d. Predictors: (Constant), Male, Age, Passion_Inventing, Passion_Developing, Passion_Founding, Moderator

e. Predictors: (Constant), Male, Age, Passion_Developing, Passion_Inventing, Passion_Founding

f. Predictors: (Constant), Male, Age, Passion_Developing, Passion_Inventing, Passion_Founding, Moderator

Coefficients[a]

Country	Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
Netherlands	1	(Constant)	4,019	,552		7,275	,000
		Age	,009	,017	,083	,525	,602
		Male	-,215	,447	-,076	-,481	,633
	2	(Constant)	2,068	1,165		1,774	,084
		Age	,011	,017	,100	,661	,513
		Male	-,170	,446	-,060	-,381	,706
		Passion_Inventing	,362	,191	,395	1,893	,066
		Passion_Founding	-,115	,248	-,100	-,465	,645
		Passion_Developing	,101	,211	,099	,478	,636
	3	(Constant)	1,827	1,337		1,366	,180
		Age	,012	,017	,109	,702	,487
		Male	-,115	,474	-,040	-,242	,810
		Passion_Inventing	,383	,202	,418	1,903	,065
		Passion_Founding	-,124	,252	-,107	-,491	,626
		Passion_Developing	,119	,219	,116	,542	,591
		Moderator	,079	,207	,069	,383	,704
USA	1	(Constant)	4,485	,284		15,785	,000
		Age	-,021	,008	-,217	-2,716	,007
		Male	,201	,199	,080	1,008	,315
	2	(Constant)	4,001	,778		5,142	,000
		Age	-,022	,008	-,225	-2,829	,005
		Male	,274	,203	,109	1,351	,179
		Passion_Inventing	,288	,138	,203	2,091	,038
		Passion_Founding	-,080	,122	-,074	-,657	,512
		Passion_Developing	-,142	,124	-,134	-1,145	,254
	3	(Constant)	3,873	,790		4,904	,000
		Age	-,022	,008	-,228	-2,864	,005
		Male	,301	,205	,120	1,471	,143
		Passion_Inventing	,294	,138	,207	2,127	,035
		Passion_Founding	-,067	,123	-,062	-,543	,588
		Passion_Developing	-,142	,124	-,134	-1,142	,255
		Moderator	,091	,095	,077	,963	,337
Malaysia	1	(Constant)	3,625	,722		5,021	,000
		Age	,011	,022	,054	,485	,629
		Male	,558	,298	,210	1,872	,065
	2	(Constant)	4,271	1,734		2,463	,016
		Age	,013	,022	,067	,581	,563
		Male	,515	,301	,194	1,713	,091
		Passion_Inventing	-,375	,240	-,191	-1,566	,122
		Passion_Founding	,257	,179	,186	1,433	,156
		Passion_Developing	,014	,168	,010	,081	,936
	3	(Constant)	3,978	1,804		2,205	,031
		Age	,014	,022	,070	,607	,546
		Male	,504	,302	,190	1,665	,100
		Passion_Inventing	-,342	,247	-,174	-1,386	,170
		Passion_Founding	,261	,180	,189	1,449	,152
		Passion_Developing	,019	,169	,014	,109	,913
		Moderator	,083	,132	,073	,624	,534

a. Dependent Variable: Effectuation