The Influence of the Cultural Dimension Tightness/Looseness on the Decision-Making of Entrepreneurs: A study of the Netherlands, Germany and Indonesia

Author: Jouke Gardien

University of Twente
P.O. Box 217, 7500 AE Enschede
The Netherlands

ABSTRACT:

The increased attention to entrepreneurship has resulted in more research orientated towards entrepreneurial decision making. In the last decade, the theory of effectuation has been a topic of discussion among many researchers in the field of entrepreneurial decision making, The theory suggests that entrepreneurs can apply effectual and causal decision making. Individuals applying effectual logic begin with a given set of means and choose between possible effects that they can create with those means. Individuals applying causal logic select a desired effect and try to change the means they have in order to create that effect. The theory further suggests that the underlying beliefs of entrepreneurs influence the decision to use effectual or causal logic. It is theorized that these underlying beliefs are influenced by the tight of loose cultural background of the entrepreneurs. In tight nations, strong norms and values and low tolerance for deviant behavior of these norms and values have emerged as a result of ecological and historical factors. In loose nations, there consist weak norms and values and a high tolerance for deviant behavior of these norms and values. For this paper, novice entrepreneurs from the Netherlands, Germany and Indonesia were asked to fill in a questionnaire consisting of questions about causation, effectuation and cultural norms. Using this data, this paper provides a quantitative analysis of the influence of the tight or loose background of novice entrepreneurs on the decision to apply effectual or causal decision making. Entrepreneurs from tight countries were expected to apply more effectual decision making and entrepreneurs from loose societies were expected to apply more causal decision making. The results of this study show that both causal and effectual decision making are used by entrepreneurs in tight and loose nations. Furthermore, the discussion provides insight in the practicality of the theory of effectuation.

Supervisors: M.R. Stienstra MSc; Michel Ehrenhard Dr

Keywords

Novice entrepreneurs, Entrepreneurial Decision-Making, Effectuation, Causation, Culture, Tightness, Looseness

Enschede, the Netherlands.

1. Introduction

Startups have become an important part of modern society, contributing to job creation (Decker, Haltiwanger, Jarmin, & Miranda, 2014), macroeconomic growth (Audretsch & Acs, 1994) and innovation (Freeman & Engels, 2007). Furthermore, successful startups even change entire cities they make their homes and potentially connect other small and medium enterprises (HongHong, 2008). The environment startups operate in changed drastically over the last decades. The Global Entrepreneurship Monitor (GEM) analyses the level of entrepreneurship in a wide basket of countries. The environment entrepreneurs are operating in is becoming more inviting. The data of GEM indicates that entrepreneurs worldwide are gaining more finance, receive higher governmental support though beneficial tax regulations and assistance by local governments, receive more entrepreneurial education, gain more access and benefit more from national research, enter new markets more easily, operate in a better commercial, physical, service and professional infrastructure and are more encouraged by social and cultural norms to conduct actions leading to new businesses over the last decades (GEM, 2016). Due to these developments, the study of entrepreneurship rapidly gained interest in the academic world (Busenitz, et al., 2003).

The study of entrepreneurship is relatively young and 'borrows' concepts from other fields or research (e.g. the cognitive processes of entrepreneurs are mostly studied using frameworks from the field of psychology (Baron & Ward, 2004; Mitchell, 2004). Bygrave (1989, p. 7) argues that '*Entrepreneurship begins with a disjointed, discontinuous, nonlinear (and usually unique) event that cannot be studied with the methods developed for studying smooth, continuous, and linear (and often repeatable) processes'*. Brinkmann et al. (2010) point out that entrepreneurship research engages in an intense debate about the value of business-planning. Some researchers believe planning is crucial for the survival and development of new firms while other researchers argue that entrepreneurs should just 'storm the castle', focusing on learning, strategic flexibility and controlling resources.

Sarasvathy (2001) is one of the researcher who argues that entrepreneurs should storm the castle. She believes that primitives such as 'markets' and 'products' and institutions such as 'firms', 'economy' and 'industries' all started with human imagination and human aspirations. She argues that researchers have so far mainly tried to explain entrepreneurship as the outcome of mindless forces, stochastic processes or environmental selection rather than the creation of artifacts by people attempting to make the most out of uncertain financial assets. The most important agent in entrepreneurship is an effectuator: someone who seizes uncertain opportunities and exploits everything at hand to create what he/she wants to create. Sarasvathy's theory of effectuation provides insight regarding the reasoning behind entrepreneurial decision making during the early stages of startups. The theory suggests that entrepreneurs using an effectual approach take who they are, what they know and whom they know, their set of means, as given and try to create an effect using that set of means. That is in contrast with a causational approach, where an entrepreneur takes an effect as given and focuses on their means to create that effect.

Effectuation has been presented as a new paradigm with regard to entrepreneurship. However, according to Arend (2015), scholars have noted several deficiencies in the research on which effectuation is based. Arend indicated that previous research shows that expertise is the only variable for justifying the use of the effectuation process. Baron (2009) believes there are other factors explaining why entrepreneurs think differently than other people that are currently not considered in the theory of effectuation. The state of a research program can be regarded as nascent, intermediate, or mature (Edmondson & McManus, 2007). The study of effectuation is shifting from the nascent state towards the next stages. Perry, Chandler and Markova (2012) mention that effectuation research has not grown as fast as expected. They encourage researchers to study effectuation, believing that *'effectuation holds much promise for the entrepreneurship literature'* (Perry, et al., 2012, p. 838). Brinckmann et al. (2010) mention that cultural influences on business-planning (the causational approach) can address the question whether business planning is indeed an internationally useful approach. Analyzing cultural influences contributes to insights regarding how individuals from different environments respond to business-planning efforts. This study seeks to increase our understanding of how culture influences entrepreneurial behavior by connecting the dimension tightness/looseness to the theory of effectuation.

Research indicated that national culture influences entrepreneurial processes (Kreiser, Marino, Dickson, & Weaver, 2010) and therefore also the decisions that entrepreneurs take. It can be expected that national culture influences entrepreneurs' decisions during the entrepreneurial process and also the choice to use the theory of effectuation. Gelfand (2011) introduced a model that illustrates the differences between cultures that are tight and cultures that are loose. In contrast with the value perspective, as represented by Hofstede (2010), Trompenaars and Hampden Turner (1997) and House, Chhokar and Brodbeck (2007), Gelfand (2011) uses a standardized score for explaining differences between cultures. Using values, such as dimensions for culture, has been questioned by numerous scholars. Values do not have the explanatory power in understanding cultural differences (Ip & Bond, 1995). Furthermore, values reflect a subjectivist bias, where culture is reduced to factors that exist inside the

individuals head (Earley & Mosakowski, 2002; Gabrenya, 1999; Morris et al., 2000). Finally, external influences on behavior, such as norms and constraints, social networks and components of the larger social structure are not included when studying culture using values/dimensions (Gelfand and Nishii, 2006).

In her model, Gelfand (2011) rates 33 nations on a tightness score. When cultures have strong norms and a low tolerance of deviant behavior, that culture is considered tight and when cultures have weak norms and a high tolerance of deviant behavior that culture is considered loose. The tightness or looseness of cultures influences people's experience of everyday situations. In tight cultures, this could lead to psychological adaptations, such as conformity and risk avoidance, whereas in loose cultures people tend to be more risk seeking and open to change (Gelfand, 2006). The tight or loose cultural background of an entrepreneur can therefore influence the decision to choose a causation or effectuation approach when starting his or her business.

The theory of tight/loose cultures has been connected to other fields of research, such as effective leadership (Aktas, Gelfand, & Hanges, 2016), cross cultural differences (Guan, 2015) and entrepreneurial activity (Harms & Groen, 2016). This study connects the theory of tight/loose cultures to the theory of effectuation. The relationship between a tight/loose cultural background and the usage of the entrepreneurial strategy of causation or effectuation will contribute to understanding how entrepreneurs make decisions. I will address the following research question: *To what extent does the cultural dimension tightness-looseness has an influence on the usage of a causation or effectuation strategy by an entrepreneur?*

The next section of this paper will describe the theoretical framework providing a detailed description of the concepts of effectuation, causation and the dimension tightness-looseness. Subsequently, the hypotheses tested in this paper are drafted and motivated. The methodology used to test these hypotheses is explained in the subsequent section, contributing to the readers understanding of the statistical methods used in this study. Thereafter, the results of this research are provided. Finally, the discussion on the results is given and the limitations of this study are discussed.

Practical relevance of this study

The results of this research can be used in business, for example by young entrepreneurs planning their strategies to develop their ideas into a startup and sequentially into a business. Entrepreneurs doing business with entrepreneurs from other nations can use the results of this paper to increase their understanding of the decision making of their business associates. Furthermore, this study contributes to the field of effectuation and can be taught in business courses on universities and in business courses.

2. Theoretical framework

Theory of effectuation

Sarasvathy's theory of effectuation seeks to explain on what logic entrepreneurs take decisions when creating new firms. Sarasvathy (2001) argues that entrepreneurs begin with three categories of 'means': who they are (identity), what they know (knowledge) and whom they know (networks). Entrepreneurs use these means to create effects. Effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with that set of means. On the contrary, causation processes take a particular effect as given and focus on selecting between means to create that effect. The end goal that an entrepreneur is trying to reach remains the same, whether an entrepreneur applies the process of effectuation or causation. The distinguishing characteristic between causation and effectuation is in the set of choices: choosing between means to create a particular effect versus choosing between many possible effects using a particular set of means. Entrepreneurs do not stick to one of the two approaches, both causation and effectuation are integral parts of human reasoning that can occur simultaneously, overlapping and intertwining over different contexts of decisions and actions (Dew, Sarasvathy, Read, & Wiltbank, 2009).

According to Sarasvathy (2001), human life abounds in contingencies that cannot easily be analyzed and predicted, but only be seized and exploited. The difference between risk and contingencies is that when dealing with risk, probabilities and distributions are known and when dealing with contingencies, the probabilities and distribution are unknown. Entrepreneurs that believe they are dealing with a measurable or a relatively predictable future, tend to gather and analyze information before making a certain decision. Entrepreneurs that believe they are dealing with an unpredictable future, seek to gather information through other ways, such as experimenting. Sarasvathy (2001) believes that the underlying beliefs about future phenomena that impact entrepreneurial decisions can be deduced by looking at the heuristics and logical approaches they use when making decisions. Five principles related to effectuation and causation address these underlying beliefs. I will briefly describe each principle.

Table 1: Five principles of effectuation and causation

	Effectuation	Causation
Approach	Means-orientated	Goal-orientated
Risk	Affordable loss	Expected returns
External parties	Strategic Alliances	Competitive Analyses
Exploitation focus	Contingencies	Preexisting knowledge
Future Orientation	Controlling the future	Prediction the future

Approach: Means-orientated vs Goal-orientated

Every individual has assets and skills that can be categorized in three means, who I am (Identity), what I know (knowledge) and whom I know (network) (Sarasvathy S. D., 2001). An entrepreneur using an effectuation strategy, focuses on creating something new with the means he has available to him. What will be created is not definite from the start and potentially changes when the means available to him change during the process. An entrepreneur using a causation strategy, would focus on changing the means available in order to achieve a goal that is definite.

Risk: Affordable loss vs Expected returns

When entrepreneurs decide to invest, there is no way of knowing for sure what return they will get on their investments. However, the entrepreneur does know exactly what he/she can lose, namely the total amount that they invest (Knight, 1921). Entrepreneurs have to decide what they are willing to lose (their affordable loss) in order to take the plunge into entrepreneurship (Dew, Sarasvathy, Read, & Wiltbank, 2009).

There exist three differences between effectuation and causation in terms of risk taken. Firstly, effectuation focuses on what entrepreneurs can afford to lose, causation focuses on maximizing returns (Sarasvathy S. D., 2001). Secondly, using an effectual approach, entrepreneurs experiment with as many strategies as possible using the given limited means. In contrast, the causational approach focuses on maximizing potential returns for a decision by selecting optimal strategies. Thirdly, the effectual approach prefers to create more options in the future, whereas the causational approach prefers to maximize returns in the present.

External Players: Strategic Alliances vs Competitive Analysis

Entrepreneurs deal with external players from the start of their business until the end of it. The way they perceive these external players can differ. In causational models, such as the Porter model, competitive analyses are emphasized (Sarasvathy S. D., 2001). Another good example of a causational model is the STP model (Segmentation, Targeting and Positioning), used for creating a new firm in a new market (Sarasvathy & Dew, 2005). In these models, the external players are generally considered competitors.

Alternatively, effectuation models emphasize strategic alliances and pre-commitments from stakeholders (Sarasvathy S. D., 2001). In the effectual model, entrepreneurs focus on what can be done rather than what ought to done (Sarasvathy & Dew, 2005). They start a process of talking and negotiating with different parties. As many parties as possible are involved early in the process. The parties become stakeholders and commit their resources in exchange for the possibility to influence what future will ultimately result (Wiltbank, Dew, Read, & Sarasvathy, 2006). This dynamic process changes the original idea as more stakeholders commit to the cause and bring new means to the table (Wiltbank et al., 2006).

Exploitation Focus: Contingencies vs Preexisting knowledge

Any environment entrepreneurs operate in contains unexpected contingencies (Wiltbank, Dew, Read, & Sarasvathy, 2006). Entrepreneurs using an effectual approach focus on exploiting these contingencies and consider contingencies a welcome surprise that can open doors and commit more stakeholders to their network (Sarasvathy, Kumar, York, & Bhagavatula, 2014). However, entrepreneurs possessing a certain technology or other valuable asset have a competitive advantage (Sarasvathy S. D., 2001). These entrepreneurs are suggested to use a causational model that seeks to exploit this preexisting knowledge. They therefore tend to avoid contingencies, for example by hedging against them (Wiltbank et al., 2006).

Future Orientation: Controlling the future vs Predicting the future

Entrepreneurs always want to seek control over the future, whether they use an effectual or causational approach. There is a difference in how that control is perceived. Effectuation focuses on the controllable aspects of an uncertain future. The underlying logic is 'to the extent we can control it, we do not need to predict it' (Sarasvathy S.D., 2001, page 252). Entrepreneurs using an effectual approach would work with any and all interested people, starting close to home and expending their stakeholder network through a process of self-selection. The entrepreneur and the stakeholders seek to go beyond predicting and adopting to the environment by transforming and re-shaping that environment. This way, they expand the zone of things they can control (Wiltbank, Read, Dew, & Sarasvathy, 2009). Causational approaches attempt to predict the future as good as possible. The underlying logic is: 'to the extent we can predict the future, we can control it (Sarasvathy S.D., 2001, page 252).'

Tight and loose cultures

The study of anthropology has interested mankind for a long time. Within the study of cultural differences, Pelto (1968) introduced the theory of tightness-looseness, arguing that traditional societies varied in their expression of and adherence to social norms. According to Pelto (1968), tight nations expressed norms very clearly and deviant behavior was severely sanctioned. He identified population density, kinship systems and economic systems as antecedents to tightness-looseness. Two decades later, Triandis (1989) stated that tightness-looseness in cultures had been neglected by most other scholars, even though it is a critical part of understanding cultures.

Gelfand (2006) continued the research on tightness-looseness and argues that the theory is unique and complementary to other cultural models. She created a multi-level model of tightness-looseness.

The tightness-looseness dimension can be described as *the strength of social norms and degree of sanctioning within countries* (Mrazek, Chiao, Blizinsky, Lun, & Gelfand, 2013). Gelfand (2011) argues that ecological and historical factors are the antecedents of tightness-looseness. The ecological and historical threats include population density, history of conflict, natural disasters, resource scarcity and human disease. Nations facing ecological and historical threats developed a need for societal order to reduce chaos within their nation. These nations developed strong norms and a low tolerance for deviant behavior of these norms. Socio-political institutions, such as governments, media, education, legal and religion, reflect the strength of social norms and deviant behavior. These institutions can restrict the range of permissible behavior. Nations with weak norms and a high tolerance for deviant behavior are considered loose nations. Nations are given a tightness score, indicating how tight or loose that nation is.

The restrictions mentioned above affect the decision making of any person in a society (Triandis, 2004). The everyday situations that people face are affected by tightness-looseness (Gelfand, 2006). Gelfand (2011) found there are several ways how everyday situations influence individual behavior. Firstly, individuals in tight nations have a higher focus on prevention (not making mistakes rather than striving for success) than individuals in loose nations. Consequently, individuals in tight societies tend to show more signs of risk-avoidance, than individuals in loose nations. Secondly, individuals in tight nations show more signs of conformity and seek more stability than individuals in loose nations. Finally, individuals in tight nations show more signs of self-monitoring and impulse control than individuals in loose nations.

Table 2: psychological adaptations tight and loose cultures

Tight cultures	Loose cultures
Prevention focused	Risk seeking
Behave conform societal norms	Deviate from societal norms
High impulse control	Follows instincts
Higher need for structure	Lower need for structure
Higher self-monitoring ability	Lower self-monitoring ability

3. Hypotheses

Individuals in tight nations have psychological attributes that differ from people in loose nations. These psychological attributes can have an influence on the underlying beliefs of entrepreneurs related to their beliefs about future phenomena, which in turn influences their decision making. In this section, hypotheses are constructed to test if there is a relationship between the tightness-looseness dimension and the theory of effectuation. Three out of the five principles from Sarasvathy are used; the principles of risk, the exploitation focus and future orientation. It is expected to find the strongest relationship between the dimension tightness/looseness and these three principles of Sarasvathy (2001).

The theory of tight/loose cultures explains that in tight societies there is more need for control than in a loose society (Gelfand, 2011). Furthermore, entrepreneurs in loose societies are more inclined to make free decision than entrepreneurs in tight societies. The emphasis on not making mistakes, the avoidance of taking risks and the need for stability and control is stronger in tight societies than in loose societies.

Entrepreneurs in any society will show characteristics of both the causal and the effectual principle (Sarasvathy S. D., 2001). However, the emphasis on control and only investing what can be afforded to lose, seem to fit Gelfand's psychological adaptations of tight nations (prevention focused, high impulse control and a fear to make mistakes) the best. Therefore it is expected that entrepreneurs coming from a tight society use more effectual than causal decision making (H1). Entrepreneurs from loose cultures tend to deviate from societal norms and are less afraid to take risks or to make a mistake in a business investment. This seems to match the principles of a causational approach (risk seeking, follow instincts) more (H2).

H1: Entrepreneurs coming from a tight society tend to use more effectual decision making.

H2: Entrepreneurs coming from a loose society tend to use more causal decision making.

The first principle of effectuation and causation tested in this paper is risk. People in tight nations tend to avoid taking risks and are prevention focused. They have a bigger fear to fail and try to control their impulses. This pairs well with the risk avoiding focus of only investing what one can afford to lose (H3). If an entrepreneur is only investing what can be afforded to loose, he/she will be able to continue the business for sure, creating stability. Furthermore, if an entrepreneur would lose more than he/she could afford and go out of business, other members of the society could look down upon the entrepreneur. Hence, entrepreneurs from tight nations are expected to tend to invest based on affordable loss. This is in contrast with the emphasis on expected returns, where one seeks to maximize profits and is willing to take greater risks to achieve that goal. This seems to fit the characteristics an entrepreneur from a loose culture better (H4).

H3: Entrepreneurs coming from a tight society tend to invest based on affordable loss.

H4: Entrepreneurs coming from a loose society tend to invest with a focus on expected returns.

The second principle that will be used to measure entrepreneur's underlying beliefs is the exploitation focus. Entrepreneurs from tight nations are expected to have a preference for relying on pre-existing knowledge. Due to the impulse control and need for structure, it is expected that entrepreneurs from tight nations prefer to rely on preexisting knowledge rather than to try to exploit contingencies that will arise during the entrepreneurial process. Relying on pre-existing knowledge ensures a more stable path that the entrepreneur can follow. In contrast, entrepreneurs from loose nations are expected to be more welcoming to contingencies since they have lower need for structure or impulse control.

H5: Entrepreneurs coming from a tight society tend to exploit preexisting knowledge.

H6: Entrepreneurs coming from a loose society tend to exploit contingencies.

The third principle that is tested is future orientation. The future can be regarded as unpredictable but to some extent controllable according to effectuation theory. The causation theory considers the future as predictable and therefore controllable. People from tight societies are prevention focused and dutiful. They do not want to make mistakes and tend to control their impulses. The emphasis on control and structure is important to them since it reduces the chance that they make mistakes. Predictions about the future can be wrong and have big consequences for an entrepreneur. It is therefore expected that entrepreneurs from tight societies prefer to attempt to control the unpredictable future (H7). In contrast, entrepreneurs from loose societies tend to focus on their instincts and have a lower need to control their impulses. Therefore, it is theorized that entrepreneurs from loose societies tend to predict the future (H8).

H7: Entrepreneurs coming from a tight society tend to control the unpredictable future.

H8: Entrepreneurs coming from a loose society tend to predict the unpredictable future.

4. Methodology

Sample

Data from the Netherlands, Germany and Indonesia is used. Gelfand's research already scored two of these three nations on tightness. In her study, the highest score on tightness is 12.3 and the lowest score is 1.6. The Netherlands scored a low tightness score (3.3), whereas Germany has a higher tightness score of 7.0. Indonesia is not included in the research of Gelfand. The neighboring country Malaysia (11.8) has a high tightness score. Since Malaysia and Indonesia show quite some similarities, it is expected that Indonesia has a high score on tightness as well. For practical reasons, Indonesia will be regarded as a tight nation.

The data used in this paper is gathered through a questionnaire send to entrepreneurs. There are three requirements entrepreneurs have to meet in order to be included in the data used in this paper. Firstly, the questionnaire has to be filled in by entrepreneurs who started companies that exist for five years or less. These entrepreneurs are considered novice entrepreneurs, who do not have a lot of experience in business and these entrepreneurs generally have more freedom in their decision making. This makes these entrepreneurs most suited for this research. Secondly, the entrepreneurs participating in this study must have enjoyed higher education. Thirdly, entrepreneurs must have the nationality of the nation they operate in, in order to prevent cultural influences from other cultures as much as possible.

The number questionnaires that are usable for this paper was 183, of which 90 were filled in by entrepreneurs from the Netherlands, 69 by entrepreneurs from Germany and 24 from entrepreneurs from Indonesia. All questions used in the questionnaire were translated to the language used in the nation the questionnaire was filled in.

Research methods

The dependent variable of this study is the decision making of entrepreneurs, which can be effectual or causal. To measure the effectual or causal decision

making, this paper makes use of a 10-item questionnaire developed by Alsos, Clausen & Solvoll (2014), who designed the questionnaire so that entrepreneurs do not see effectual and causal decision making as opposites, but as different strategies that can both be used in their decision-making. Ten questions measure effectuation and causation by asking two questions per principle of effectuation/causation. Per principle, one statement is directed towards causation and one statement is directed towards effectuation, using a 7-point-Likert scale.

The independent variable is the tight or loose cultural background of the entrepreneur. Gelfand, Nishii and Raver (2006) developed a validated scale that was included in the questionnaire. Six questions measure the social norms and values in a nation and the tolerance of deviant behavior from these norms and values, using a six-item Likert scale.

The data of the Netherlands and Germany used in this study have previously been used by Tjoonk (2016). She used a factor analysis and a t-test to find the relationship between tightness/looseness and effectual/causal decision making, concluding that tightness is positively correlated with causation. She recommends more research to be done using the same data and analyze with a factor analyses. This study extends the work of Tjoonk (2016), using new data from Indonesia and researching the risk principle of Sarasvathy.

Analyses

The results of the questionnaire were analyzed using IBM SPSS Statistics 24. A number of statistical methods have been used. Firstly, the entrepreneurs' perception of the tightness of their nation is compared to the tightness scores of Gelfand. The questionnaire uses a 6-item Likert scale for measuring tightness, which differs from Gelfand's standardized scores. The total of the items (after reverse coding when necessary) is divided by the total number of items to obtain an average score. This method is known as within-subject standardization (Hofstede G. , 2001). Descriptive statistics of the data are provided and the control variables used in this study are age and gender.

Secondly, an exploratory factor analysis is used to uncover the underlying structure of a relatively large set of variables. This method helps to identify the construct validity of the components used in this study, namely causation and effectuation. Five questions were asked aimed towards effectuation and five questions were asked aimed towards causation. The factor analysis shows if the ten questions cluster in these two components. For the factor analysis, we use the direct Oblimin rotation since the constructs effectuation and causation are correlated. Cronbach's alpha is used to determine the reliability of the sample. A score equal or above 0.7 suggests scale reliability and internal consistency (Cronbach, 1951). Along with the factor analysis, the Kaiser–Meyer–Olkin (KMO) method will be used to check how suited the data is for the factor analysis (Kaiser, 1970). It does so by measuring sampling adequacy for each variable in the model and for the complete model. The value of the KMO can vary between 0 and 1 (Cerny & Kaiser, 1977). A rule of thumb for interpreting the KMO shows that a value higher than 0.8 is preferable, a value between 0.5 and 0.8 can be acceptable . A value below 0.5 shows that the data has widespread correlations, which makes the data unsuitable for a factor analysis. Furthermore, Bartlett's test of sphericity is used to formally test whether or not the multiple samples have equal variance. Equal variances across samples is called homogeneity of variances. This test uses an 0-hypothesis, stating that all population variances are equal. The alternative hypotheses is that at least one sample has a significantly different variance. The 0-hypotheses is rejected if the p-value is less than 0.05.

Thirdly, a Shapiro-Wilk test analyzes the normality of the distribution of the sample. A null hypotheses and an alternative hypotheses are constructed. The null hypotheses states that the data is normally distributed and this hypothesis is rejected if the p-value is less than the alpha level of 0.05. A p-value higher or equal to 0.05 indicates that the sample is normally distributed.

Finally, if the distribution is normally distributed, an Analysis of Variance (ANOVA) test is used to see if there are significant differences between the three groups (the Netherlands, Germany and Indonesia). A null-hypotheses is constructed, stating that the means of all three groups are the same. This hypothesis is rejected or accepted. The same can be analyzed for non-normal data, using a Kruskal-Wallis test.

5. Results

Decriptive statistics

Respondents from the Netherlands are 55.6% male and 44.4% female. The average age is 42 years (σ=12.7 years). Respondents from Germany are a bit younger and have an average age of 32 years (σ=7.5 years). Out of the German respondents, 63.8% is male and 36.2% is female. The Indonesian respondents are 58.3% male and 41.7% female, with an average age of 28 years (σ=8.0 years).

Table 3: Descriptive Statistics the Netherlands

	N	Min	Max	Mean	Std. Dev
Effectuation	90	1,00	6,60	4,31	1,16
Causation	90	1,00	6,20	3,70	1,11
Risk					
Affordable loss	90	1,00	7,00	4,21	1,73
Expected returns	90	1,00	7,00	4,10	1,66
Exploitation focus					
Pre-existing knowledge	90	1,00	6,00	2,98	1,49
Contingencies	90	1,00	7,00	4,76	1,57
Future orientation					
Control	90	1,00	7,00	4,29	1,81
Prediction	90	1,00	7,00	3,34	1,76
Tightness	90	1,50	5,17	3,80	0,69

There is no significant relation between the control variables age and gender and the variables effectuation, causation and tightness for all three nations. Effectuation and causation are negatively correlated in the data from the Netherlands ($r = -0.512$, $p = 0{,}000$) and Germany ($r = -0.344$, $p = 0.004$), but there is no significant relation found in the data from Indonesia ($r = 0.098$, $p = 0.648$).

Table 4: Descriptive Statistics Germany

	N	Min	Max	Mean	Std. Dev
Effectuation	69	1,20	6,20	3,57	1,33
Causation	69	1,40	6,40	4,56	1,02
Risk					
Affordable loss	69	1,00	7,00	4,10	1,69
Expected returns	69	1,00	7,00	4,88	1,45
Exploitation focus					
Pre-existing knowledge	69	1,00	7,00	3,35	1,39
Contingencies	69	1,00	7,00	3,44	1,87
Future orientation					
Control	69	1,00	7,00	3,09	1,69
Prediction	69	1,00	7,00	4,68	1,55
Tightness	69	3,17	6,00	4,48	0,58

Tables 3, 4 and 5 indicate that the Dutch entrepreneurs considered their culture as the loosest culture, Indonesian entrepreneurs considered their culture as the tightest culture and German entrepreneurs considered their culture not too tight nor too loose.

Table 5: Descriptive Statistics Indonesia

	N	Min	Max	Mean	Std. Dev
Effectuation	24	2,40	6,00	4,52	1,05
Causation	24	4,00	6,60	5,31	0,68
Risk					
Affordable loss	24	2,00	7,00	5,00	1,44
Expected returns	24	2,00	7,00	5,25	1,39
Exploitation focus					
Pre-existing knowledge	24	1,00	7,00	4,63	1,61
Contingencies	24	3,00	7,00	5,25	1,26
Future orientation					
Control	24	1,00	7,00	3,83	1,97
Prediction	24	3,00	7,00	5,21	1,10
Tightness	24	3,00	6,00	4,69	0,91

Factor analysis

The determinant of the correlation matrix is far greater than 0.0001 for the Netherlands (0.079), Germany (0.035) and Indonesia (0.045), showing that the items used in the factor analysis are related in every nation we analyzed. Multicollinearity can occur when the shared variance between two items is too high with a correlation of 0.8. This is not the case for any of the nations. Cronbach's alpha of the data from the Netherlands is $\alpha=0.681$ for the causation questions and $\alpha=0.719$ for the effectuation questions. For the German data, Cronbach's alpha on both causation ($\alpha=0.744$) and effectuation ($\alpha=0.808$) indicates reliability of the sample. This is not the case for the Indonesian data, which has a Cronbach's alpha of $\alpha=0.423$ for causation and $\alpha=0.625$ for effectuation. This shows that the Indonesian sample could be unreliable. The KMO ratio has to be above 0.5 in order for the data to be suited for a factor analysis. The KMO of the Netherlands (0.77), Germany (0.76) and Indonesia (0.61) all pass this test. The results of Bartlett's test of sphericity for the Netherlands and Germany are both smaller than 0.001, rejecting the 0-hypotheses, indicating that at least one sample has a significantly different variance. However, the result of the Bartlett's test of sphericity of Indonesia is 0.086, which indicates that the Indonesian sample could have some issues when factored using an exploratory factor analysis.

It is expected that the factor analysis shows two components. This is the case in the German sample. However, the factor analysis found three components with an eigen-value greater than 1.0 for both the Netherlands as Indonesia. A strategy to solve this is to use a fixed number of components prior to coming to a final conclusion on the retention issue (Comrey, 1987; Hakistan, Rogers & Cartell, 1982). Therefore, the data was analyzed a second time with a limitation of two

components. The result of the factor analysis for the Netherlands shows that the causation components factor fairly well except for item 3 of causation, the effectuation components factor fairly well. In the German sample, the components factor very well together. In the Indonesian sample, there seems to be a problem with item 3 of causation as well. Item 3 of causation refers to the question that measures the focus on preexisting knowledge or the focus on contingencies.

Shapiro-Wilk test

The data shows that for the sample from the Netherlands, the causation items are normally distributed (SW(90) = 0.989, p= 0.646), but the effectuation items (SW(90) = 0.972, p= 0.048) and the culture items (SW(90) = 0.969, p= 0.030) are not. However, according to George & Mallery (2010), values for skewness and kurtosis between -2 and +2 are considered acceptable in order to prove univariate distribution. The skewness of the effectuation items (-0.330 (SE=0.254)) and the cultural items (-0.670 (SE=0.254) are both within the range to be considered normally distributed.

The Shapiro Wilk test indicates normal distribution for the effectuation items (SW(69) = 0.975, p = 0.171) and culture items (SW (69) = 0.983, p = 0.484) for the German sample. The causation items have a low p-value (SW (69) = 0.96, p = 0.027), but the skewness (-.717 (SE=0.289) lies in the range considered normally distributed. The Indonesian sample shows normal distribution for the items of causation (SW (24) = 0.965, p =0.543) effectuation (SW (24) = 0.926, p = 0.081) and culture (SW (24) = 0.943, p = 0.189). Since the data from all three nations is normally distributed, we conduct an one-way ANOVA test.

ANOVA

An one-way ANOVA test is used to show if the scores on effectuation, causation and culture of the three nations used in this research have significant differences. Levene's test is used to assess the equality of variances for a variable calculated for two or more groups. The results show that culture does not have homogeneity of variance across the three nations (LS = 3.704, p = 0.027), but effectuation (LS = 0.808, p = 0.448) and causation (LS = 2.951, p = 0.055) do have homogeneity of variance.

The one-way ANOVA shows significant effects for the items of culture, effectuation and causation. The significant differences between the groups all have a p-value that is less than 0.001, rejecting the 0-hypothesis that states that all three groups are the same. This statistic is backed up by the robust tests of equality of means. Both the Welch and Brown-Foresythe tests show significance levels of under 0.001 for all three items. However, the mean-plots do indicate some unexpected results. Indonesia seems to score as expected on tightness. However, Indonesia scores higher than the Netherland and Germany on both causation and effectuation. This is not in line with the expectation.

Another one-way ANOVA is conducted to see the differences between groups for the risk principle (hypotheses 3 and 4), the exploitation focus (hypothesis 5 and 6) and the exploitation focus (hypothesis 7 and 8). The data from the questionnaire related to these principles are used. Question 2 (high score shows effectuation) and question 7 (high score shows causation) are used to measure the risk principle. Question 3 (high score shows effectuation) and question 8 (high score shows causation) are used to measure the exploitation focus principle. Question 5 (high score shows effectuation) and question 10 (high score shows causation) of the questionnaire future orientation. The scores of these questions are used in the ANOVA. Levene's test of homogeneity indicates that question 2 (LE = 1.065, p = 0.347), question 7 (LE = 2.256, p = 0.108), question 8 (LE = 0.379, p = 0.685) and question 5 (LE = 1.362, p = 0.259) do have homogeneity of variance across the three nations. Question 3 (LE = 4.276, p = 0.015) and question 10 (LE = 5.324 , p = 0.006) do not have homogeneity of variance across all three nations.

The results of the one-way ANOVA show that there is a significant difference between three nations on exploitation focus and future orientation. However, question 2 indicates that there is not a difference between the groups on the principle of risk. These statistics are backed up by the Welch and Brown-Forsythe tests. The means plot and descriptives in the appendix show that for question 2, the Netherlands and Germany do not have a significant difference with means of 4.211 and 4.101.

Hypotheses

In this section, all eight hypotheses are tested.

H1: Entrepreneurs coming from a tight society tend to use more effectual decision making.

The expectation is that Indonesia, as the tightest nation, scores highest on effectual decision making. Germany, as the second-tightest country scores second highest on effectual decision making and the Netherlands scores lowest on effectual decision making. The results of the one-way ANOVA and the Welch and Brown-Forsythe test show that there is a significant difference between the three nations. Indonesia (4.52) does score the highest on effectual decision making. However, the Netherlands (4.31) scores higher than Germany (3.57) on effectual decision making. Therefore, the correlation is not as stated in the hypothesis and the hypothesis is rejected.

H2: Entrepreneurs coming from a loose society tend to use more causal decision making.

The Netherlands is expected to show the highest causal decision making, Germany average causal decision making and Indonesia the lowest causal decision making. There is a significant difference between the groups. However, the Netherlands (3.70) scores lower than both Germany (4.56) and Indonesia (5.31), which is not the correlation as we expected it to be. Hence, this hypothesis is rejected.

H3: Entrepreneurs coming from a tight society tend to invest based on affordable loss.

For this hypothesis, question 2 of the questionnaire as described in the results-section, is used. It is expected that Indonesia scores highest on investing based on affordable loss, Germany the second highest and the Netherlands the lowest. The one-way ANOVA, Welch and Brown-Foresythe show that there is not a significant difference between these three nations. This is due to a very small difference between in the means of the Netherlands (4.21) and Germany (4.10). Indonesia (5.00) scores highest out of the three nations. Furthermore, Germany was expected to score higher than the Netherlands, but scored the lowest of the three nations. Therefore, this hypothesis is rejected.

H4: Entrepreneurs coming from a loose society tend to invest with a focus on expected returns.

For this hypothesis question 7, described in the results-section, is used. It is expected that the Netherlands scores highest on investing with a focus on expected returns, Germany the second highest and Indonesia the lowest. The one-way ANOVA, Welch and Brown-Foresythe show that there is a significant difference between the means of the three nations. However, the Netherlands (4.10) scores lower than both Germany (4.88) and Indonesia (5.25). This is not in line with the expected correlation. Consequently, this hypothesis is rejected.

H5: Entrepreneurs coming from a tight society tend to exploit preexisting knowledge.

For this hypothesis question 3, described in the results-section, is used. It is expected that Indonesia scores highest on exploiting preexisting knowledge, Germany the second highest and the Netherlands the lowest. The one-way ANOVA, Welch and Brown-Foresythe show that there is a significant difference between the means of the three nations. As theorized, the Netherlands (2.98) scores lowest, Germany (3.35) the second lowest and Indonesia the highest (4.63). Hence, this hypothesis is confirmed.

H6: Entrepreneurs coming from a loose society tend to exploit contingencies.

For this hypothesis question 8, described in the results-section, is used. It is expected that the Netherlands scores highest on exploiting contingencies, Germany the second highest and the Indonesia the lowest. The one-way ANOVA, Welch and Brown-Foresythe show that there is a significant difference between the means of the three nations. As theorized, Indonesia (5.25) scores highest. However, the Netherlands (4.76) scores higher than Germany (3.44). This is not in line with the expected correlation. Consequently, this hypothesis is rejected.

H7: Entrepreneurs coming from a tight society tend to control the unpredictable future.

For this hypothesis question 5, described in the results-section, is used. It is expected that Indonesia scores highest on the tendency to control the unpredictable future, Germany the second-highest and the Netherlands the lowest. The one-way ANOVA, Welch and Brown-Foresythe tests show that the means between the groups differ significantly. The Netherlands (4.29) scores the highest, Indonesia (3.83) scores the second highest and Germany the lowest (3.09). This is not in line with the expected correlation. Accordingly, this hypothesis is rejected.

H8: Entrepreneurs coming from a loose society tend to predict the unpredictable future.

For this hypothesis, question 10, described in the results-section is used. It is expected that the Netherlands scores highest on predicting the unpredictable future, Germany the second-highest and Indonesia the lowest. The one-way ANOVA, Welch and Brown-Foresythe tests show that the means between these groups differ significantly. The Netherlands (3.34) scores the lowest, Germany (4.68) the second-highest and Indonesia (5.21) the highest. This is the opposite of the correlation that was expected. Thereupon, this hypothesis is rejected.

6. Discussion, limitations and further research

The findings of this research contribute to the understanding of entrepreneurial decision-making across various nations. It provides insight on what logic entrepreneurs from other nations make crucial decisions in the early stages of their start-up. The data used in this research is based on a questionnaire send to entrepreneurs in the Netherlands, Germany and Indonesia. These nations show statistically significant differences between their tightness and looseness scores. This makes doing research on the effects of tightness with these three nations quite applicable and interesting. Especially since Gelfand (2011) did not gather data on tightness in Indonesia. The data used in this paper suggests that Indonesia can be considered a tight nation.

The entrepreneurs from the Netherlands perceived their nation the loosest, even though it was tighter than expected based on previous research on tightness in the Netherlands (Gelfand M. J., et al., 2011). However, it can be deceiving to compare the results of the questions used in the questionnaire to measure tightness, to the original tightness scores of Gelfand (2011). The within-subject standardization does not take all the factors into account that the original scores of Gelfand (2011) take into account (Hofstede G. , 2001). Furthermore, the tightness-scores are calculated using equal importance for each question, which does not necessarily have to be the case in Gelfand's original scores.

The data used in this study from the Netherlands and Germany show good reliability through high Cronbach's alpha scores and high Kaiser-Meyer-Olkin scores. There are some issues with the Indonesian data, which lacks reliability due to a low Cronbach's alpha score. The Indonesian data did not pass Bartlett's test of sphericity either. Furthermore, in the Indonesian data there is no negative correlation between effectuation and causation, which is also reflected by high mean scores on both principles. This is remarkable, since the questions asked in the questionnaire are aimed to make effectuation and causation a dichotomy. It appears that the Indonesian respondents have a tendency to agree with most questions, since the Indonesian means are all quite high. This makes doing scientific research with this sample of Indonesian respondents challenging. The sample size of only 24 respondents created problems for the reliability and validity of the Indonesian data. More respondents would have helped to increase the Cronbach's alpha to an acceptable number (Lozano, Garcia-Cueto, & Muniz, 2008). Ideally, the number of respondents would be increased for all three nations.

The factor analysis indicated that the data used in this study had three factors with an eigenvalue greater than 1,0 instead of the expected two factors for both the Dutch as the Indonesian data. This is not in line with the theory of Sarasvathy (2001), which suggests a two-factor solution in which the causation and effectuation items should load on one factor each (Chandler, DeTienne, McKelvie, & Mumford, 2011). Higher sample sizes could help to indicate if there really are three factors with eigenvalues greater than 1.0.

All hypotheses that link the dimension tightness-looseness to effectuation/causation have been rejected with the exception of hypothesis 5. The psychological adaptations of coming from a tight society as mentioned by Gelfand (2011) such as risk avoidance, impulse control and a need for stability do not seem to stimulate effectual behavior. Sarasvathy (2001) described effectuation as the logic of control and causation as the logic of prediction. This results of this paper indicate that entrepreneurs from tight nations tend to avoid risks and try to maintain control by applying causal decision-making. One can argue that risk avoidance and stability can best be achieved by following a causational approach and one can argue the same for an effectual approach. The theory of effectuation does not provide enough critical differences between effectual and causal logic to study the influence of cultural factors on the underlying beliefs of entrepreneurs. Arend (2015) argues that the theory is underdeveloped and should be used with a modicum of restraint.

There are some limitations to this study. Firstly, the sample used in this research consisted of only three nations to measure the tightness dimension. The sample would show the differences between tight and loose cultures better if more nations were included in this research. Furthermore, the validity of the sample could be increased by raising the number of participating entrepreneurs. Especially the Indonesian data, with only 24 respondents, indicated problems with the statistical methods used. Moreover, the is no homogeneity of variance across all the data, making it less suitable for ANOVA-tests.

Secondly, the questionnaire used in this study could have measured the principles of tightness and looseness more intensively. For example, the questionnaire did not test if the psychological adaptations to growing up in a tight or loose society as described by Gelfand (2011) were reflected by the behavior of the entrepreneurs. The questions asked to measure the principles of Sarasvathy (2001) were also limited to only two questions per principle. Furthermore, the questionnaire had broad statements that entrepreneurs had to agree or disagree with to measure effectuation and tightness. Respondents indicated that their preference for causal or effectual decision making depends on the context or situation. This is a common problem that occurs when trying to measure decision making (Mintzberg, 1994).

Finally, this study only measures three out of the five principles of effectuation and causation. It would be interesting to see how the other two principles of theory of effectuation scored with the sample used in this study. This could be done in further research. Furthermore, it would be interesting to see if the database used in this study can be extended, either by adding more respondents from the current countries used or by adding more nations to this database. Alternatively, a new questionnaire could be created which seeks to measure the psychological adaptations as mentioned by Gelfand (2006) as well. This would provide more insight in the actual psychological differences between entrepreneurs from tight or loose nations.

7. Conclusion

This paper tested the relationship between the cultural model of tightness-looseness and the theory of effectuation to increase our understanding of entrepreneurial decision making across different

cultures. It does so by analyzing the effects of a restricted range of acceptable behavior on the decision to use an effectual or causational approach in decision making by novice entrepreneurs. The main research question aimed to be answered is: *To what extent does the cultural dimension tightness-looseness has an influence on the usage of a causation or effectuation strategy by an entrepreneur?*

The theorized correlation between tightness and effectuation (H1) and between looseness and causation (H2) are not supported by the data. The same applies to the theorized relationship between tightness and the tendency to use affordable loss when investing (H3) and the relationship between looseness and investing based on a focus on expected returns (H4). The theorized relationship between tightness and relying of preexisting knowledge (H5) was found. However, a focus on exploiting contingencies (H6) does not seem to be more likely in loose nations. Finally, the relationship between tightness and the tendency to control an unpredictable future (H7) and the relationship between looseness and the tendency to predict an unpredictable future (H8) are not supported by the data.

The only hypothesis that was confirmed indicates that entrepreneurs from loose nations tend to exploit entrepreneurs from tight nations, who should tend to avoid risk, did not prefer to only invest what they could afford to lose, but preferred to invest based on market analyses. Entrepreneurs from tight societies tend to increase the feeling of avoiding risk and creating stability by prediction the future, rather than by trying to control the future.

8. References

Aktas, M., Gelfand, M. J., & Hanges, P. J. (2016). Cultural Tightness–Looseness and Perceptions of Effective Leadership. *Journal of Cross-Cultural Psychology Vol 47 (2)*, 294–309.

Arend, R. J. (2015). Effectuation as ineffectual? Applying the 3E theory-assesement framework to a proposed new theory of entrepreneurship. *Academy of Management Review*, 630-651.

Audretsch, D. B., & Acs, Z. J. (1994). New-firm startups, technology, and macroeconomic fluctuations. *Small Bus Econ*, 439-449.

Baron, R. A., & Ward, T. B. (2004). Expanding Entrepreneurial Cognition's Toolbox: Potential Contributions from the field of Cognitive Science. *Entrepreneurship Theory and Practice*, 553-573.

Brinckmann, J., Grichnik, D., & Kapsa, D. (2010). Should entrepreneurs plan or just storm the castle? A meta-analysis on contextual factors impacting the business planning-performance relationship in small firms. *Journal of Business Venturing 25*, 24-40.

Busenitz, L. W., West, G. P., Shephard, D., Nelson, T., Chandler, G., & Zacharkis, A. (2003). Entrepreneurship research in emergence: Past trends and future directions. *Journal of Management, 29 (3)*, 285-308.

Bygrave, W. B., & Zacharkis, A. E. (2004). The entrepreneurial process. In *The portable MBA in Entrepreneurship* (pp. 1-28). Hoboken: John Wiley & Sons.

Bygrave, W. D. (1989). The entrepreneurship paradigm: a philosophical look at its research methodologies. *Entrepreneurship Theory and Practice*, 7-26.

Cerny, C. A., & Kaiser, H. F. (1977). A study of a measure of sampling adequacy for factor-analytic correlation matrices. *Multivariate Behavioral Research 12*, 43-47.

Chandler, G. N., DeTienne, D. R., McKelvie, A., & Mumford, T. V. (2011). Causation and effectuation processes: A validation study. *Journal of business venturing vol. 26*, 375-390.

Comrey, A. L. (1987). Common methodological problems in factor analysis studies. *Journal of Consulting and Clinical psychology*, 648-659.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, volume 16*, 297-334.

Decker, R., Haltiwanger, J., Jarmin, R., & Miranda, J. (2014). The Role of Entrepreneurship in US Job Creation and Economic Dynamism. *The Journal of Economic Perspectives*, 3-24.

Dew, N., Sarasvathy, S., Read, S., & Wiltbank, R. (2009). Affordable loss: behavioral economic aspects of the plunge decision. *Strategic Entrepreneurship Journal 3*, 105-126.

Edmondson, A. C., & McManus, S. E. (2007). Methodological fit in management field research. *Jorunal of Management Review, Vol. 32, No. 4*, 1155-1179.

Freeman, J., & Engels, J. S. (2007). Models of Innovation: Startups and Mature Corporations. *California Management Review*, 94-119.

Gelfand, M. J. (2011). Differences Between Tight and Loose Cultures: A 33-Nation Study. *Science*, 1100-1104.

Gelfand, M. J., & Dyer, N. (2000). A cultural perspective on negotiation: Progress, pitfalls, and prospects. *Applied Psychology: An International Review*, 62-99.

Gelfand, M. J., & Nishii, L. H. (2006). On the nature and importance of cultural tightness-looseness. *Journal of Applies Psychology*, 1225-1244.

GEM. (2016, November 19). *GEM 2007 - 2015 NES Global Key Indicators (Excel Format).* Retrieved from Gemconsortium.org: http://www.gemconsortium.org/data/sets

George, D., & Mallery, M. (2010). *SPSS for Windows Step by Step: A Simple Guide and Reference 17:0 update.* Boston: Pearson.

Guan, Y. (2015). Differences in Career Decision Making Profiles Between American and Chinese University Students: The Relative Strength of Mediating Mechanisms Across Cultures. *Journal of Cross-Cultural Psychology Vol. 46 (6)*, 856-872.

Hakistan, A. R., Rogers, W. T., & Catell, R. B. (1982). The behavior of number-of-factors rules with stimulated data. *Multivariate Behavioral Research 17*, 193-219.

Harms, R., & Groen, A. (2016). Loosen up? Cultural tightness and national entrepreneurial activity. *Technological Forecasting & Social Change - 18502*.

Hofstede, G. (2001). *Culture's consequences: Comparing values, behaviors, institutions and organizations across nations (2nd edition).* Sage Publications.

Hofstede, G. (2010). *Cultures and Organizations: Software of the Mind.* McGraw Hill.

HongHong, Q. (2008). A Model for Value-Added e-Market Provisioning: Case Study from Alibaba.com. *Second International Conference on Future Generation Communication and Networking Symposia* (pp. 47-52). Sanya: Second International Conference on Future Generation Communication and Networking Symposia (FGCNS).

House, R. J., Chhokar, J. S., & Brodbeck, F. C. (2007). *Culture and Leadership Across the World : The GLOBE Book of In-Depth Studies of 25 Societies.* New York: Lawrence Erlbaum Associates.

Ip, G. W., & Bond, M. H. (1995). Culture, values, and the spontaneous self-concept. *Asian Journal of Psychology*, 30-36.

Kaiser, H. F. (1970). A second-generation Littly Jiffy. *Psychometrika 35*, 401-415.

Kreiser, P. M., Marino, L. D., Dickson, P., & Weaver, M. K. (2010). The Impact of National Culture on Risk Taking and Proactiveness in SMEs. *Entrepreneurship Theory and Practice volume 34*, 959-983.

Lozano, L., Garcia-Cueto, E., & Muniz. (2008). Effect of the number of response categories on the reliability and validity of rating scales. *European Journal of Research Methods for the Behavioral and Social Sciences 4 (2)*, 73.

Mintzberg, H. (1994). The fall and rise of strategic planning. *Harvard Business Review*, 107-115.

Mitchell, R. K. (2004). The distinctive and inclusive domain of entrepreneurial cognition research. *Entrepreneurship theory and practice*, 505-518.

Moroz, P. W., & Hindle, K. (2012). Entrepreneurship as a Process: Toward Harmonizing Multiple Perspectives. *Entrepreneurship Theory and Practice*, 781-818.

Morris, M. W., Podolny, J. M., & Ariel, S. (2000). Missing relations: Incorporating relational constructs into models of culture. *Innovations in international and cross-cultural management*, 52-90.

Mrazek, A. J., Chiao, J. Y., Blizinsky, K. D., Lun, J., & Gelfand, M. (2013). The role of culture–gene coevolution in morality judgment: examining the interplay between tightness–looseness and allelic variation of the serotonin transporter gene. *Culture and Brain Volume 1*, 100-117.

Perry, J. T., Chandler, G. N., & Markova, G. (2012). Entrepreneurial Effectuation: A Review and Suggestions for Future Research. *Entrepreneurship Theory and Practice*, 837-861.

Read, S., Song , M., & Smit, W. (2009). A meta-analytic review of effectuation and venture performance. *Jorunal of Business Venturing, 24 (6)*, 573-587.

Sarasvathy, S. D. (2001). Causation and effectuation: toward a theortatical shift from economic

inevitability to entrepreneurial contingency. *Academy of Management*, 243-263.

Sarasvathy, S. D., Kumar, K., York, J. G., & Bhagavatula, S. (2014). An Effectual Approach to International Entrepreneurship: Overlaps, Challenges, and Provocative Possibilities. *Entrepreneurship Theory and Practice Vol. 38*, 71-93.

Sarasvathy, S., & Dew, N. (2005). Entrepreneurial logics for a technology of foolishness. *Scandinavian Journal of Management 21*, 385-406.

Sarasvathy, S., & Dew, N. (2008). Effectuation and Over-Trust: Debating Goel and Karri. *Entrepreneurship Theory and Practice* , 727-737.

Shane, S., & Venkataraman, S. (2000). The promise of entrepeneurship as a field of research. *Academy of Management Review*, 217-226.

Triandis, H. C. (2004). The many dimensions of culture. *The Academy of Management Executive, Volume 18*, 88-93.

Trompenaars, F., & Hampden Turner, C. (1997). *Riding the waves of culture.* Burr Ridge: Nicholas Brealey Publishing.

Wiltbank, R., Dew, N., Read, S., & Sarasvathy, S. D. (2006). What to do next? The case for non-predictive strategy. *Strategic Management Journal Vol. 27*, 981-998.

Wiltbank, R., Read, S., Dew, N., & Sarasvathy, S. D. (2009). Prediction and control under uncertainty: Outcomes in angel investing. *Journal of Business Venturing 24*, 116-133.

9. Appendix A : The Netherlands

Descriptive Statistics the Netherlands

	N	Minimum	Maximum	Mean	Std. Deviation
Effectuation	90	1,00	6,60	4,3067	1,15620
Causation	90	1,00	6,20	3,7044	1,11223
Caus2	90	1,0	7,0	4,100	1,6561
Caus3	90	1,0	6,0	2,978	1,4914
Caus5	90	1,0	7,0	3,344	1,7556
Eff2	90	1,0	7,0	4,211	1,7255
Eff3	90	1,0	7,0	4,756	1,5745
Eff5	90	1,0	7,0	4,289	1,8066
Culture	90	1,50	5,17	3,8019	,69144
Valid N (listwise)	90				

Correlations control variables the Netherlands

		Geslacht	Wat is uw leeftijd?	Causation	Effectuation	Culture
Geslacht	Pearson Correlation	1	,269*	,053	-,184	-,198
	Sig. (2-tailed)		,010	,620	,082	,062
	N	90	90	90	90	90
Wat is uw leeftijd?	Pearson Correlation	,269*	1	-,055	-,055	-,176
	Sig. (2-tailed)	,010		,606	,608	,098
	N	90	90	90	90	90
Causation	Pearson Correlation	,053	-,055	1	-,512**	,091
	Sig. (2-tailed)	,620	,606		,000	,394
	N	90	90	90	90	90
Effectuation	Pearson Correlation	-,184	-,055	-,512**	1	,114
	Sig. (2-tailed)	,082	,608	,000		,283
	N	90	90	90	90	90
Culture	Pearson Correlation	-,198	-,176	,091	,114	1
	Sig. (2-tailed)	,062	,098	,394	,283	
	N	90	90	90	90	90

*. Correlation is significant at the 0.05 level (2-tailed).

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

Cronbach's Alpha Causation

Reliability Statistics the Netherlands

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,681	,679	5

Cronbach's Alpha Effectuation

Reliability Statistics the Netherlands

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,719	,718	5

Factor Analysis

Correlation Matrix[a] the Netherlands

		Caus1	Caus2	Caus3	Caus4	Caus5	Eff1	Eff2	Eff3	Eff4	Eff5
Correlation	Caus1	1,000	,483	,216	,272	,300	-,257	-,159	-,221	-,237	-,426
	Caus2	,483	1,000	,269	,260	,398	-,048	-,121	-,206	-,237	-,325
	Caus3	,216	,269	1,000	,228	,132	-,127	,072	-,222	-,004	-,202
	Caus4	,272	,260	,228	1,000	,412	-,389	-,316	-,298	-,089	-,391
	Caus5	,300	,398	,132	,412	1,000	-,305	-,340	-,242	-,257	-,333
	Eff1	-,257	-,048	-,127	-,389	-,305	1,000	,489	,285	,306	,413
	Eff2	-,159	-,121	,072	-,316	-,340	,489	1,000	,172	,292	,269
	Eff3	-,221	-,206	-,222	-,298	-,242	,285	,172	1,000	,280	,586
	Eff4	-,237	-,237	-,004	-,089	-,257	,306	,292	,280	1,000	,277
	Eff5	-,426	-,325	-,202	-,391	-,333	,413	,269	,586	,277	1,000
Sig. (1-tailed)	Caus1		,000	,021	,005	,002	,007	,067	,018	,012	,000
	Caus2	,000		,005	,007	,000	,328	,127	,026	,012	,001
	Caus3	,021	,005		,015	,108	,116	,251	,018	,485	,028
	Caus4	,005	,007	,015		,000	,000	,001	,002	,201	,000
	Caus5	,002	,000	,108	,000		,002	,001	,011	,007	,001
	Eff1	,007	,328	,116	,000	,002		,000	,003	,002	,000
	Eff2	,067	,127	,251	,001	,001	,000		,052	,003	,005
	Eff3	,018	,026	,018	,002	,011	,003	,052		,004	,000
	Eff4	,012	,012	,485	,201	,007	,002	,003	,004		,004
	Eff5	,000	,001	,028	,000	,001	,000	,005	,000	,004	

a. Determinant = ,079

KMO and Bartlett's Test the Netherlands

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,770
Bartlett's Test of Sphericity	Approx. Chi-Square	215,571
	df	45
	Sig.	,000

Communalities the Netherlands

	Initial	Extraction
Caus1	1,000	,578
Caus2	1,000	,780
Caus3	1,000	,599
Caus4	1,000	,465
Caus5	1,000	,497
Eff1	1,000	,658

Eff2	1,000	,665
Eff3	1,000	,563
Eff4	1,000	,440
Eff5	1,000	,632

Extraction Method: Principal Component Analysis.

Total Variance Explained the Netherlands

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3,491	34,913	34,913	3,491	34,913	34,913	2,895
2	1,357	13,565	48,478	1,357	13,565	48,478	1,632
3	1,029	10,295	58,773	1,029	10,295	58,773	2,456
4	,968	9,682	68,455				
5	,734	7,338	75,792				
6	,693	6,929	82,722				
7	,515	5,147	87,869				
8	,492	4,918	92,787				
9	,381	3,808	96,595				
10	,341	3,405	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Pattern Matrix the Netherlands[a]

	Component		
	1	2	3
Caus1	-,102	,017	,716
Caus2	,094	,107	,918
Caus3	-,504	,602	,178
Caus4	-,626	-,063	,092
Caus5	-,170	-,298	,517
Eff1	,645	,455	,145
Eff2	,273	,719	-,021
Eff3	,772	-,099	,030
Eff4	,019	,502	-,381
Eff5	,702	,018	-,180

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 13 iterations.

Factor analysis fixed number of two components

Pattern Matrix fixed number of two components the Netherlands

	Component	
	1	2
Caus1	-,175	,627
Caus2	-,005	,750
Caus3	,214	,709
Caus4	-,465	,320
Caus5	-,475	,321
Eff1	,799	,080
Eff2	,842	,264
Eff3	,383	-,381
Eff4	,547	-,030
Eff5	,486	-,451

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.
a. Rotation converged in 14 iterations.

Test of normality (effectuation, causation, culture)

Case Processing Summary the Netherlands

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Causation	90	100,0%	0	0,0%	90	100,0%
Effectuation	90	100,0%	0	0,0%	90	100,0%
Culture	90	100,0%	0	0,0%	90	100,0%

Descriptives the Netherlands

			Statistic	Std. Error
Causation	Mean		3,7044	,11724
	95% Confidence Interval for Mean	Lower Bound	3,4715	
		Upper Bound	3,9374	
	5% Trimmed Mean		3,7136	
	Median		3,8000	
	Variance		1,237	
	Std. Deviation		1,11223	
	Minimum		1,00	
	Maximum		6,20	
	Range		5,20	
	Interquartile Range		1,40	
	Skewness		-,151	,254
	Kurtosis		-,081	,503
Effectuation	Mean		4,3067	,12187
	95% Confidence Interval for Mean	Lower Bound	4,0645	
		Upper Bound	4,5488	
	5% Trimmed Mean		4,3296	
	Median		4,4000	
	Variance		1,337	
	Std. Deviation		1,15620	
	Minimum		1,00	
	Maximum		6,60	
	Range		5,60	
	Interquartile Range		1,85	
	Skewness		-,330	,254
	Kurtosis		-,546	,503
Culture	Mean		3,8019	,07288
	95% Confidence Interval for Mean	Lower Bound	3,6570	
		Upper Bound	3,9467	
	5% Trimmed Mean		3,8292	
	Median		3,8333	
	Variance		,478	
	Std. Deviation		,69144	
	Minimum		1,50	
	Maximum		5,17	
	Range		3,67	
	Interquartile Range		1,00	
	Skewness		-,670	,254

	Kurtosis	,818	,503

Extreme Values the Netherlands

			Case Number	Value
Causation	Highest	1	85	6,20
		2	31	6,00
		3	59	6,00
		4	73	5,80
		5	55	5,40[a]
	Lowest	1	37	1,00
		2	33	1,00
		3	14	1,40
		4	47	1,60
		5	39	1,80
Effectuation	Highest	1	90	6,60
		2	69	6,20
		3	27	6,00
		4	37	6,00
		5	42	6,00
	Lowest	1	21	1,00
		2	40	2,00
		3	55	2,40
		4	13	2,40
		5	75	2,60[b]
Culture	Highest	1	88	5,17
		2	41	5,00
		3	44	5,00
		4	49	5,00
		5	51	4,83[c]
	Lowest	1	27	1,50
		2	87	2,00
		3	30	2,33
		4	15	2,33
		5	34	2,50

a. Only a partial list of cases with the value 5,40 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 2,60 are shown in the table of lower extremes.

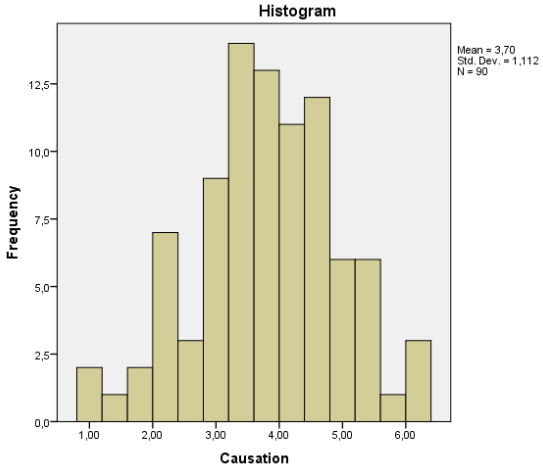
c. Only a partial list of cases with the value 4,83 are shown in the table of upper extremes.

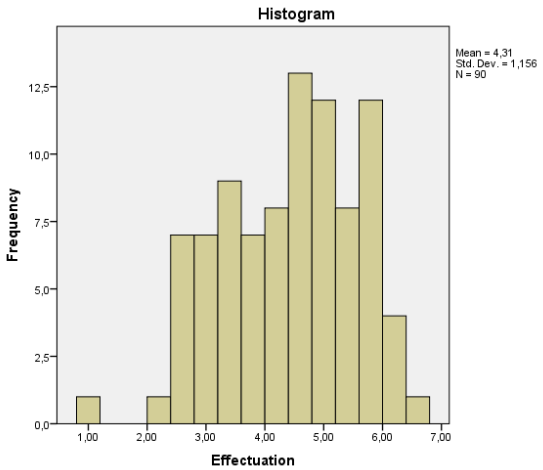
Tests of Normality the Netherlands

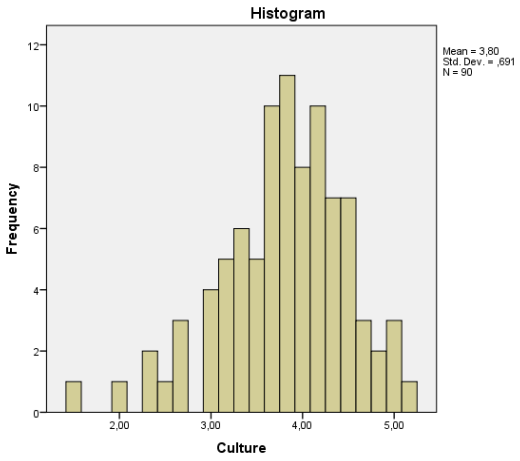
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Causation	,068	90	,200*	,989	90	,646
Effectuation	,088	90	,084	,972	90	,048
Culture	,111	90	,008	,969	90	,030

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

a. Lilliefors Significance Correction






Histogram
Mean = 3,80
Std. Dev. = ,691
N = 90
Frequency
Culture
0
2
4
6
8
10
12
2,00
3,00
4,00
5,00

10. Appendix B: Germany

Descriptive Statistics Germany

	N	Minimum	Maximum	Mean	Std. Deviation
EFF	69	1,20	6,20	3,5681	1,32560
CAUS	69	1,40	6,40	4,5565	1,01915
Eff_2_affloss	69	1,0	7,0	4,101	1,6903
Caus_2	69	1,0	7,0	4,884	1,4505
Eff_3	69	1,0	7,0	3,435	1,8746
Caus_3	69	1,0	6,0	3,348	1,3914
Eff_5	69	1,0	7,0	3,087	1,6868
Caus_5	69	1,0	7,0	4,681	1,5482
Meangelfand	69	3,17	6,00	4,4783	,57516
Valid N (listwise)	69				

Correlations control variables Germany

		Sex	Age	CAUS	EFF	Gelfand_Culture
Sex	Pearson Correlation	1	-,042	-,009	-,142	,152
	Sig. (2-tailed)		,729	,939	,244	,213
	N	69	69	69	69	69
Age	Pearson Correlation	-,042	1	-,058	-,096	-,040
	Sig. (2-tailed)	,729		,635	,435	,747
	N	69	69	69	69	69
CAUS	Pearson Correlation	-,009	-,058	1	-,344**	,197
	Sig. (2-tailed)	,939	,635		,004	,106
	N	69	69	69	69	69
EFF	Pearson Correlation	-,142	-,096	-,344**	1	,168
	Sig. (2-tailed)	,244	,435	,004		,167
	N	69	69	69	69	69
Gelfand_Culture	Pearson Correlation	,152	-,040	,197	,168	1
	Sig. (2-tailed)	,213	,747	,106	,167	
	N	69	69	69	69	69

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

Cronbach's Alpha Causation

Reliability Statistics Germany

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,744	,743	5

Cronbach's Alpha Effectuation

Reliability Statistics Germany

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,808	,809	5

Factor Analysis

Correlation Matrix[a] Germany

		Caus1	Caus2	Caus3	Caus4	Caus5	Eff1	Eff2	Eff3	Eff4	Eff5
Correlation	Caus1	1,00	0,33	0,40	0,46	0,28	-0,27	-0,16	-0,26	-0,29	-0,32
	Caus2	0,33	1,00	0,18	0,41	0,48	-0,19	-0,27	-0,09	-0,16	-0,25
	Caus3	0,40	0,18	1,00	0,36	0,20	-0,04	0,02	0,02	0,04	-0,12
	Caus4	0,46	0,41	0,36	1,00	0,57	-0,17	-0,15	-0,24	-0,12	-0,30
	Caus5	0,28	0,48	0,20	0,57	1,00	-0,24	-0,18	-0,28	-0,12	-0,39
	Eff1	-0,27	-0,19	-0,04	-0,17	-0,24	1,00	0,57	0,39	0,23	0,40
	Eff2	-0,16	-0,27	0,02	-0,15	-0,18	0,57	1,00	0,50	0,36	0,49
	Eff3	-0,26	-0,09	0,02	-0,24	-0,28	0,39	0,50	1,00	0,48	0,62
	Eff4	-0,29	-0,16	0,04	-0,12	-0,12	0,23	0,36	0,48	1,00	0,56
	Eff5	-0,32	-0,25	-0,12	-0,30	-0,39	0,40	0,49	0,62	0,56	1,00
Sig. (1-tailed)	Caus1		0,00	0,00	0,00	0,01	0,01	0,09	0,01	0,01	0,00
	Caus2	0,00		0,07	0,00	0,00	0,06	0,01	0,22	0,10	0,02
	Caus3	0,00	0,07		0,00	0,05	0,38	0,45	0,43	0,38	0,16
	Caus4	0,00	0,00	0,00		0,00	0,08	0,11	0,02	0,17	0,01
	Caus5	0,01	0,00	0,05	0,00		0,02	0,06	0,01	0,17	0,00
	Eff1	0,01	0,06	0,38	0,08	0,02		0,00	0,00	0,03	0,00
	Eff2	0,09	0,01	0,45	0,11	0,06	0,00		0,00	0,00	0,00
	Eff3	0,01	0,22	0,43	0,02	0,01	0,00	0,00		0,00	0,00
	Eff4	0,01	0,10	0,38	0,17	0,17	0,03	0,00	0,00		0,00
	Eff5	0,00	0,02	0,16	0,01	0,00	0,00	0,00	0,00	0,00	

a. Determinant = ,035

KMO and Bartlett's Test Germany

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,760
Bartlett's Test of Sphericity	Approx. Chi-Square	214,052
	df	45
	Sig.	,000

Total Variance Explained Germany

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	3,662	36,617	36,617	3,662	36,617	36,617	3,166
2	1,780	17,803	54,420	1,780	17,803	54,420	2,761
3	,978	9,783	64,203				
4	,873	8,730	72,933				
5	,702	7,023	79,956				
6	,563	5,628	85,584				
7	,444	4,439	90,023				
8	,397	3,970	93,993				
9	,307	3,065	97,058				
10	,294	2,942	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Pattern Matrix Germany

	Component	
	1	2
Caus_1	-,165	,636
Caus_2	-,091	,633
Caus_3	,256	,694
Caus_4	-,024	,808
Caus_5	-,149	,682
Eff_1	,651	-,061
Eff_2	,785	,042
Eff_3	,802	,003
Eff_4	,710	,053
Eff_5	,756	-,185

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 5 iterations.

Test of normality (effectuation, causation, culture)

Case Processing Summary Germany

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
CAUS	69	100,0%	0	0,0%	69	100,0%
EFF	69	100,0%	0	0,0%	69	100,0%
Meangelfand	69	100,0%	0	0,0%	69	100,0%

Descriptives Germany

			Statistic	Std. Error
CAUS	Mean		4,5565	,12269
	95% Confidence Interval for Mean	Lower Bound	4,3117	
		Upper Bound	4,8013	
	5% Trimmed Mean		4,6061	
	Median		4,6000	
	Variance		1,039	
	Std. Deviation		1,01915	
	Minimum		1,40	
	Maximum		6,40	
	Range		5,00	
	Interquartile Range		1,40	
	Skewness		-,717	,289
	Kurtosis		,517	,570
EFF	Mean		3,5681	,15958
	95% Confidence Interval for Mean	Lower Bound	3,2497	
		Upper Bound	3,8866	
	5% Trimmed Mean		3,5646	
	Median		3,6000	
	Variance		1,757	
	Std. Deviation		1,32560	
	Minimum		1,20	
	Maximum		6,20	
	Range		5,00	

	Interquartile Range		1,90	
	Skewness		,107	,289
	Kurtosis		-,800	,570
Meangelfand	Mean		4,4783	,06924
	95% Confidence Interval for Mean	Lower Bound	4,3401	
		Upper Bound	4,6164	
	5% Trimmed Mean		4,4666	
	Median		4,5000	
	Variance		,331	
	Std. Deviation		,57516	
	Minimum		3,17	
	Maximum		6,00	
	Range		2,83	
	Interquartile Range		,83	
	Skewness		,273	,289
	Kurtosis		-,105	,570

Extreme Values Germany

			Case Number	Value
CAUS	Highest	1	31	6,40
		2	15	6,00
		3	20	6,00
		4	69	6,00
		5	21	5,80[a]
	Lowest	1	24	1,40
		2	30	1,80
		3	55	2,80
		4	42	2,80
		5	29	3,00
EFF	Highest	1	32	6,20
		2	38	6,00
		3	11	5,80
		4	30	5,80
		5	47	5,80
	Lowest	1	63	1,20
		2	49	1,20
		3	15	1,20
		4	35	1,40
		5	62	1,60[b]
Meangelfand	Highest	1	31	6,00

		2	32	5,67
		3	60	5,67
		4	69	5,50
		5	23	5,33[c]
	Lowest	1	28	3,17
		2	52	3,50
		3	14	3,50
		4	42	3,67
		5	37	3,67[d]

a. Only a partial list of cases with the value 5,80 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 1,60 are shown in the table of lower extremes.

c. Only a partial list of cases with the value 5,33 are shown in the table of upper extremes.

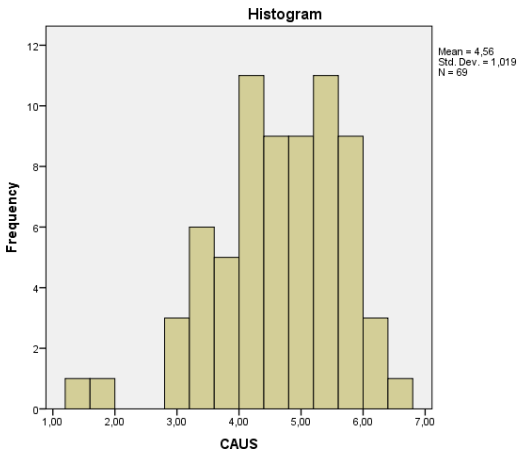
d. Only a partial list of cases with the value 3,67 are shown in the table of lower extremes.

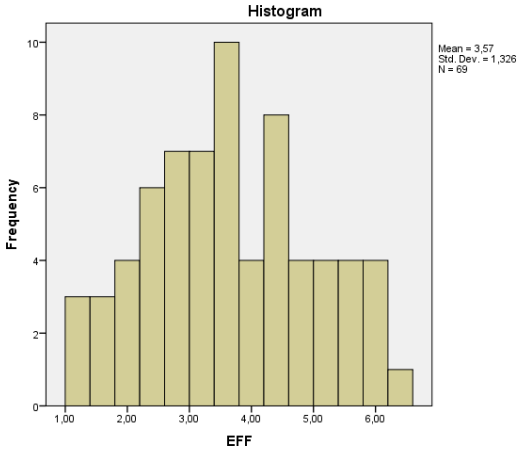
Tests of Normality Germany

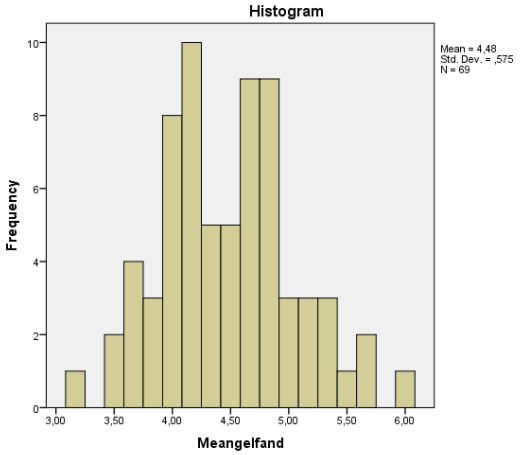
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CAUS	,103	69	,067	,960	69	,027
EFF	,070	69	,200*	,975	69	,171
Meangelfand	,112	69	,032	,983	69	,484

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

a. Lilliefors Significance Correction




Histogram
Mean = 3,57
Std. Dev. = 1,326
N = 69
Frequency
EFF


Histogram
Mean = 4,48
Std. Dev. = ,575
N = 69
Frequency
Meangelfand

11. Appendix C: Indonesia

Descriptive Statistics Indonesia

	N	Minimum	Maximum	Mean	Std. Deviation
Effectuation	24	2,40	6,00	4,5167	1,05157
Causation	24	4,00	6,60	5,3083	,68010
Eff2	24	2,0	7,0	5,000	1,4446
Caus2	24	2,0	7,0	5,250	1,3910
Eff3	24	3,0	7,0	5,250	1,2597
Caus3	24	1,0	7,0	4,625	1,6101
Eff5	24	1,0	7,0	3,833	1,9708
Caus5	24	3,0	7,0	5,208	1,1025
Culture	24	3,00	6,00	4,6917	,90885
Valid N (listwise)	24				

Correlations control variables Indonesia

		0=male 1=female	Age	Causation	Effectuation	Culture
Gender	Pearson Correlation	1	,275	-,011	,216	-,353
	Sig. (2-tailed)		,193	,961	,310	,091
	N	24	24	24	24	24
Age	Pearson Correlation	,275	1	,156	-,101	-,027
	Sig. (2-tailed)	,193		,468	,639	,900
	N	24	24	24	24	24
Causation	Pearson Correlation	-,011	,156	1	,098	,168
	Sig. (2-tailed)	,961	,468		,648	,434
	N	24	24	24	24	24
Effectuation	Pearson Correlation	,216	-,101	,098	1	-,044
	Sig. (2-tailed)	,310	,639	,648		,837
	N	24	24	24	24	24
Culture	Pearson Correlation	-,353	-,027	,168	-,044	1
	Sig. (2-tailed)	,091	,900	,434	,837	
	N	24	24	24	24	24

Cronbach's Alpha Causation

Reliability Statistics Indonesia

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,423	,519	5

Cronbach's Alpha Effectuation

Reliability Statistics Indonesia

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
,625	,639	5

Factor analysis

Correlation Matrix[a] Indonesia

		Caus1	Caus2	Caus3	Caus4	Caus5	Eff1	Eff2	Eff3	Eff4	Eff5
Correlation	Caus1	1,00	0,05	0,00	0,25	0,38	-0,56	-0,05	-0,41	-0,06	-0,05
	Caus2	0,05	1,00	-0,09	0,05	0,25	-0,14	0,06	0,09	0,63	0,59
	Caus3	0,00	-0,09	1,00	0,26	0,12	0,22	0,11	-0,17	-0,19	-0,02
	Caus4	0,25	0,05	0,26	1,00	0,50	-0,03	0,16	0,10	-0,02	0,10
	Caus5	0,38	0,25	0,12	0,50	1,00	-0,05	0,22	-0,07	0,05	0,08
	Eff1	-0,56	-0,14	0,22	-0,03	-0,05	1,00	0,36	0,36	0,04	0,04
	Eff2	-0,05	0,06	0,11	0,16	0,22	0,36	1,00	0,31	0,20	0,15
	Eff3	-0,41	0,09	-0,17	0,10	-0,07	0,36	0,31	1,00	0,29	0,26
	Eff4	-0,06	0,63	-0,19	-0,02	0,05	0,04	0,20	0,29	1,00	0,60
	Eff5	-0,05	0,59	-0,02	0,10	0,08	0,04	0,15	0,26	0,60	1,00
Sig. (1-tailed)	Caus1		0,40	0,50	0,12	0,03	0,00	0,41	0,02	0,39	0,41
	Caus2	0,40		0,33	0,40	0,12	0,25	0,38	0,34	0,00	0,00
	Caus3	0,50	0,33		0,11	0,29	0,15	0,30	0,22	0,19	0,46
	Caus4	0,12	0,40	0,11		0,01	0,44	0,22	0,31	0,47	0,31
	Caus5	0,03	0,12	0,29	0,01		0,42	0,15	0,37	0,40	0,36
	Eff1	0,00	0,25	0,15	0,44	0,42		0,04	0,04	0,42	0,43
	Eff2	0,41	0,38	0,30	0,22	0,15	0,04		0,07	0,17	0,24
	Eff3	0,02	0,34	0,22	0,31	0,37	0,04	0,07		0,09	0,11
	Eff4	0,39	0,00	0,19	0,47	0,40	0,42	0,17	0,09		0,00
	Eff5	0,41	0,00	0,46	0,31	0,36	0,43	0,24	0,11	0,00	

a. Determinant = ,045

KMO and Bartlett's Test Indonesia

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,608
Bartlett's Test of Sphericity	Approx. Chi-Square	58,470
	df	45
	Sig.	,086

Total Variance Explained Indonesia

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	2,506	25,057	25,057	2,506	25,057	25,057	2,383
2	2,121	21,214	46,271	2,121	21,214	46,271	2,137
3	1,736	17,363	63,634	1,736	17,363	63,634	1,872
4	,963	9,634	73,268				
5	,758	7,580	80,847				
6	,592	5,921	86,768				
7	,387	3,869	90,637				
8	,358	3,579	94,217				
9	,339	3,389	97,606				
10	,239	2,394	100,000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.

Pattern Matrix Indonesia

	Component		
	1	2	3
Caus1	,050	,763	,399
Caus2	,847	,142	,067
Caus3	-,313	-,171	,517
Caus4	,037	,052	,789
Caus5	,172	,220	,772
Eff1	-,149	-,851	,097
Eff2	,146	-,502	,447
Eff3	,299	-,663	-,031
Eff4	,858	-,123	-,067
Eff5	,799	-,119	,061

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 11 iterations.

Factor analysis fixed number of two components

Pattern Matrix fixed number of two components Indonesia

	Component

	1	2
Caus1	-,225	,813
Caus2	,709	,408
Caus3	-,100	,047
Caus4	,167	,472
Caus5	,208	,634
Eff1	,275	-,648
Eff2	,450	-,101
Eff3	,566	-,432
Eff4	,813	,138
Eff5	,785	,190

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 2 iterations.

Test of normality (effectuation, causation, culture)

Case Processing Summary Indonesia

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Causation	24	100,0%	0	0,0%	24	100,0%
Effectuation	24	100,0%	0	0,0%	24	100,0%
Culture	24	100,0%	0	0,0%	24	100,0%

Descriptives Indonesia

			Statistic	Std. Error
Causation	Mean		5,3083	,13882
	95% Confidence Interval for Mean	Lower Bound	5,0212	
		Upper Bound	5,5955	
	5% Trimmed Mean		5,3056	
	Median		5,2000	
	Variance		,463	
	Std. Deviation		,68010	
	Minimum		4,00	
	Maximum		6,60	
	Range		2,60	

	Interquartile Range		,95	
	Skewness		,365	,472
	Kurtosis		-,243	,918
Effectuation	Mean		4,5167	,21465
	95% Confidence Interval for Mean	Lower Bound	4,0726	
		Upper Bound	4,9607	
	5% Trimmed Mean		4,5481	
	Median		4,5000	
	Variance		1,106	
	Std. Deviation		1,05157	
	Minimum		2,40	
	Maximum		6,00	
	Range		3,60	
	Interquartile Range		1,95	
	Skewness		-,168	,472
	Kurtosis		-1,180	,918
Culture	Mean		4,6917	,18552
	95% Confidence Interval for Mean	Lower Bound	4,3079	
		Upper Bound	5,0754	
	5% Trimmed Mean		4,7102	
	Median		4,7500	
	Variance		,826	
	Std. Deviation		,90885	
	Minimum		3,00	
	Maximum		6,00	
	Range		3,00	
	Interquartile Range		1,48	
	Skewness		-,049	,472
	Kurtosis		-,822	,918

Extreme Values Indonesia

			Case Number	Value
Causation	Highest	1	10	6,60
		2	15	6,60
		3	23	6,40
		4	1	6,20
		5	3	5,80[a]
	Lowest	1	5	4,00
		2	9	4,40
		3	19	4,60

		4	6	4,60
		5	20	4,80[b]
Effectuation	Highest	1	16	6,00
		2	9	5,80
		3	17	5,80
		4	24	5,80
		5	1	5,60[c]
	Lowest	1	23	2,40
		2	4	3,00
		3	18	3,40
		4	11	3,40
		5	21	3,60[d]
Culture	Highest	1	3	6,00
		2	13	6,00
		3	14	6,00
		4	21	6,00
		5	23	5,80
	Lowest	1	24	3,00
		2	15	3,30
		3	5	3,30
		4	19	3,70
		5	10	4,00[e]

a. Only a partial list of cases with the value 5,80 are shown in the table of upper extremes.

b. Only a partial list of cases with the value 4,80 are shown in the table of lower extremes.

c. Only a partial list of cases with the value 5,60 are shown in the table of upper extremes.

d. Only a partial list of cases with the value 3,60 are shown in the table of lower extremes.

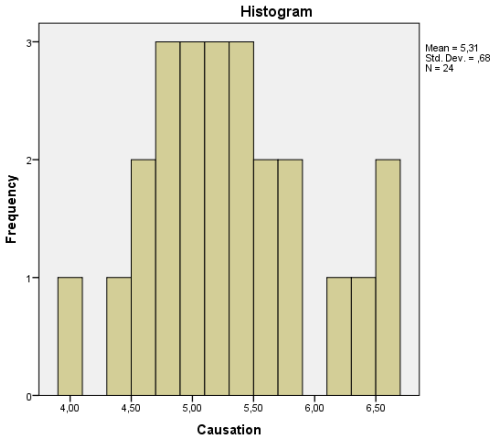
e. Only a partial list of cases with the value 4,00 are shown in the table of lower extremes.

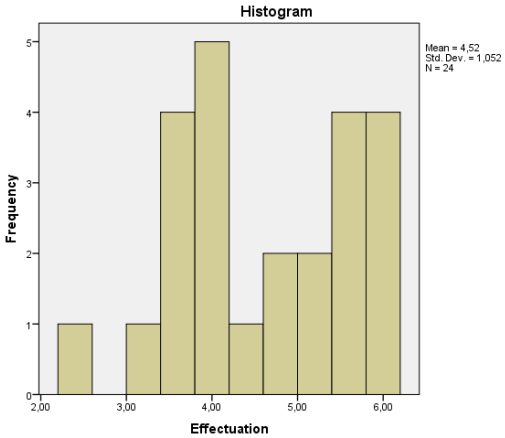
Tests of Normality Indonesia

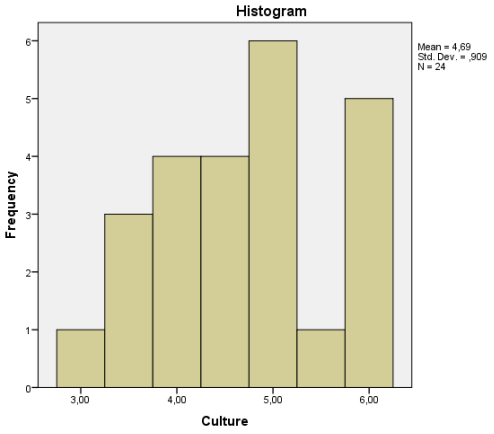
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Causation	,113	24	,200*	,965	24	,543
Effectuation	,147	24	,196	,926	24	,081
Culture	,117	24	,200*	,943	24	,189

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

a. Lilliefors Significance Correction


Histogram
Mean = 5,31
Std. Dev. = ,68
N = 24
Frequency
Causation
4,00
4,50
5,00
5,50
6,00
6,50


Histogram
Mean = 4,52
Std. Dev. = 1,052
N = 24
Frequency
Effectuation
2,00
3,00
4,00
5,00
6,00


Histogram
Mean = 4,69
Std. Dev. = ,909
N = 24
Frequency
Culture
3,00
4,00
5,00
6,00

ANOVA – Effectuation, Causation and Culture

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Culture	The Netherlands	90	3,80	0,69	0,07	3,66	3,95	1,50	5,17
	Germany	69	4,48	0,58	0,07	4,34	4,62	3,17	6,00
	Indonesia	24	4,69	0,91	0,19	4,31	5,08	3,00	6,00
	Total	183	4,17	0,78	0,06	4,06	4,29	1,50	6,00
Effectuation	The Netherlands	90	4,31	1,16	0,12	4,06	4,55	1,00	6,60
	Germany	69	3,57	1,33	0,16	3,25	3,89	1,20	6,20
	Indonesia	24	4,52	1,05	0,21	4,07	4,96	2,40	6,00
	Total	183	4,06	1,26	0,09	3,87	4,24	1,00	6,60
Causation	The Netherlands	90	3,70	1,11	0,12	3,47	3,94	1,00	6,20
	Germany	69	4,56	1,02	0,12	4,31	4,80	1,40	6,40
	Indonesia	24	5,31	0,68	0,14	5,02	5,60	4,00	6,60
	Total	183	4,24	1,18	0,09	4,06	4,41	1,00	6,60

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Culture	3,704	2	180	,027
Effectuation	,808	2	180	,448
Causation	2,951	2	180	,055

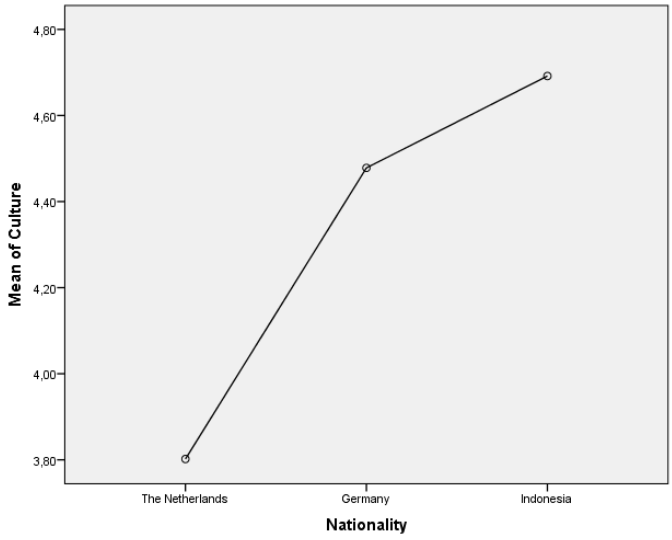
ANOVA

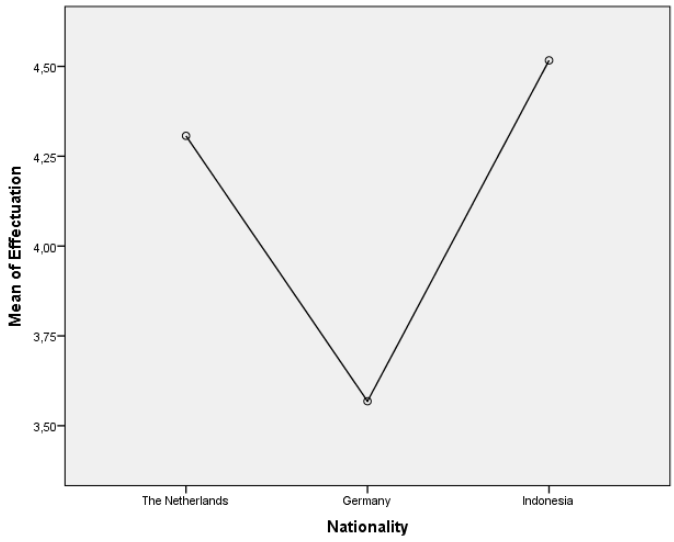
		Sum of Squares	df	Mean Square	F	Sig.
Culture	Between Groups	25,284	2	12,642	27,076	,000
	Within Groups	84,043	180	,467		
	Total	109,327	182			
Effectuation	Between Groups	27,172	2	13,586	9,267	,000
	Within Groups	263,899	180	1,466		
	Total	291,071	182			
Causation	Between Groups	60,116	2	30,058	28,273	,000
	Within Groups	191,366	180	1,063		
	Total	251,482	182			

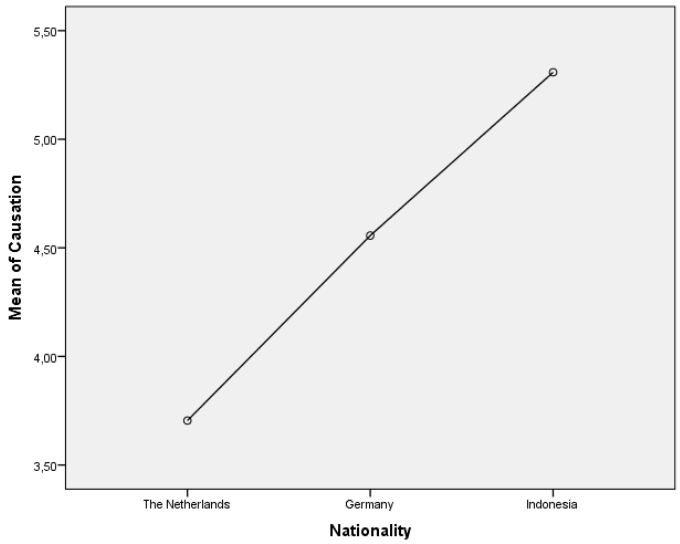
Robust Tests of Equality of Means

		Statistic[a]	df1	df2	Sig.
Culture	Welch	26,204	2	59,161	,000
	Brown-Forsythe	21,671	2	57,480	,000
Effectuation	Welch	8,772	2	67,287	,000
	Brown-Forsythe	9,936	2	118,826	,000
Causation	Welch	39,362	2	79,278	,000
	Brown-Forsythe	35,835	2	159,727	,000

a. Asymptotically F distributed.







ANOVA – Risk, E xploitation Focus and Future Orientation Principles

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Question 2: Risk - Eff	The Netherlands	90		4,21	1,73	0,18	3,85	1,0	7,0
	Germany	69	4,101	4,10	1,69	0,20	3,70	1,0	7,0
	Indonesia	24	5,000	5,00	1,44	0,29	4,39	2,0	7,0
	Total	183	4,273	4,27	1,69	0,13	4,03	1,0	7,0
Question 7: Risk - Caus	The Netherlands	90	4,100	4,10	1,66	0,17	3,75	1,0	7,0
	Germany	69	4,884	4,88	1,45	0,17	4,54	1,0	7,0
	Indonesia	24	5,250	5,25	1,39	0,28	4,66	2,0	7,0
	Total	183	4,546	4,55	1,61	0,12	4,31	1,0	7,0
Question 3: Exploi - Eff	The Netherlands	90	4,756	4,76	1,57	0,17	4,43	1,0	7,0
	Germany	69	3,435	3,43	1,87	0,23	2,98	1,0	7,0
	Indonesia	24	5,250	5,25	1,26	0,26	4,72	3,0	7,0
	Total	183	4,322	4,32	1,80	0,13	4,06	1,0	7,0
Question 8: Exploi - Caus	The Netherlands	90	2,978	2,98	1,49	0,16	2,67	1,0	6,0

	Germany	69	3,348	3,35	1,39	0,17	3,01	1,0	6,0
	Indonesia	24	4,625	4,63	1,61	0,33	3,95	1,0	7,0
	Total	183	3,333	3,33	1,56	0,12	3,11	1,0	7,0
Question 5: Future Or - Eff	The Netherlands	90	4,289	4,29	1,81	0,19	3,91	1,0	7,0
	Germany	69	3,087	3,09	1,69	0,20	2,68	1,0	7,0
	Indonesia	24	3,833	3,83	1,97	0,40	3,00	1,0	7,0
	Total	183	3,776	3,78	1,86	0,14	3,50	1,0	7,0
Question 10: Future Or - Caus	The Netherlands	90	3,344	3,34	1,76	0,19	2,98	1,0	7,0
	Germany	69	4,681	4,68	1,55	0,19	4,31	1,0	7,0
	Indonesia	24	5,208	5,21	1,10	0,23	4,74	3,0	7,0
	Total	183	4,093	4,09	1,77	0,13	3,83	1,0	7,0

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Question 2: Risk - Eff	1,065	2	180	,347
Question 7: Risk - Caus	2,256	2	180	,108
Question 3: Exploi - Eff	4,276	2	180	,015
Question 8: Exploi - Caus	,379	2	180	,685
Question 5: Future Or - Eff	1,362	2	180	,259
Question 10: Future Or - Caus	5,324	2	180	,006

ANOVA

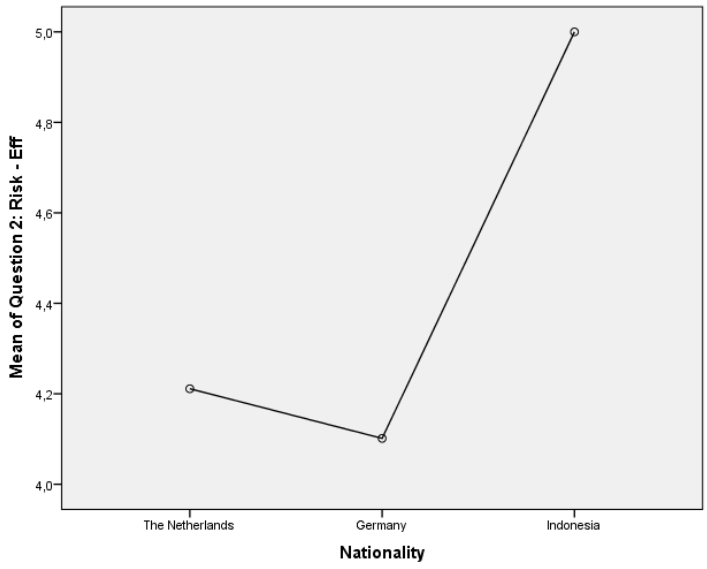
		Sum of Squares	df	Mean Square	F	Sig.
Question 2: Risk - Eff	Between Groups	15,060	2	7,530	2,672	,072
	Within Groups	507,279	180	2,818		
	Total	522,339	182			
Question 7: Risk - Caus	Between Groups	37,683	2	18,841	7,857	,001
	Within Groups	431,672	180	2,398		
	Total	469,355	182			
Question 3: Exploi - Eff	Between Groups	91,899	2	45,950	16,673	,000
	Within Groups	496,079	180	2,756		
	Total	587,978	182			
Question 8: Exploi - Caus	Between Groups	51,434	2	25,717	11,893	,000

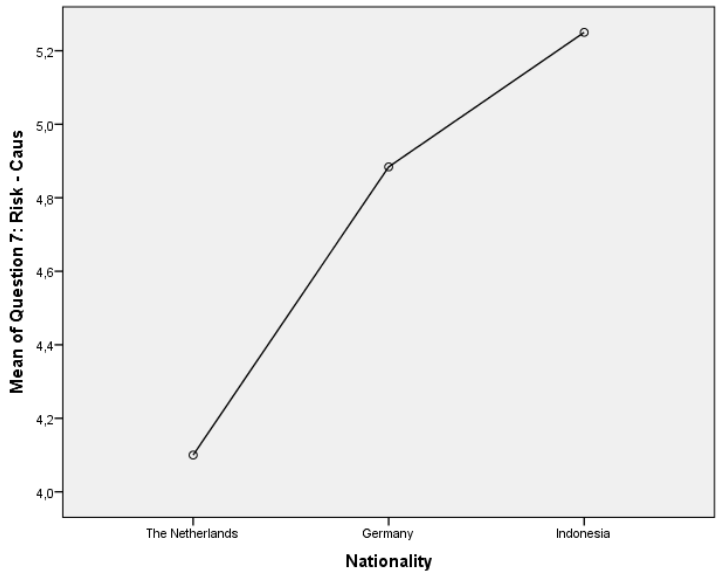
	Within Groups	389,233	180	2,162		
	Total	440,667	182			
Question 5: Future Or - Eff	Between Groups	56,514	2	28,257	8,872	,000
	Within Groups	573,300	180	3,185		
	Total	629,814	182			
Question 10: Future Or - Caus	Between Groups	104,155	2	52,077	20,147	,000
	Within Groups	465,266	180	2,585		
	Total	569,421	182			

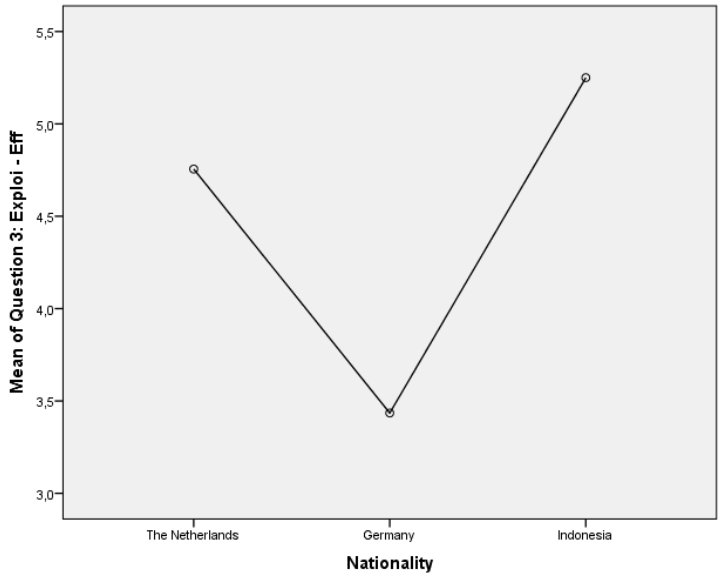
Robust Tests of Equality of Means

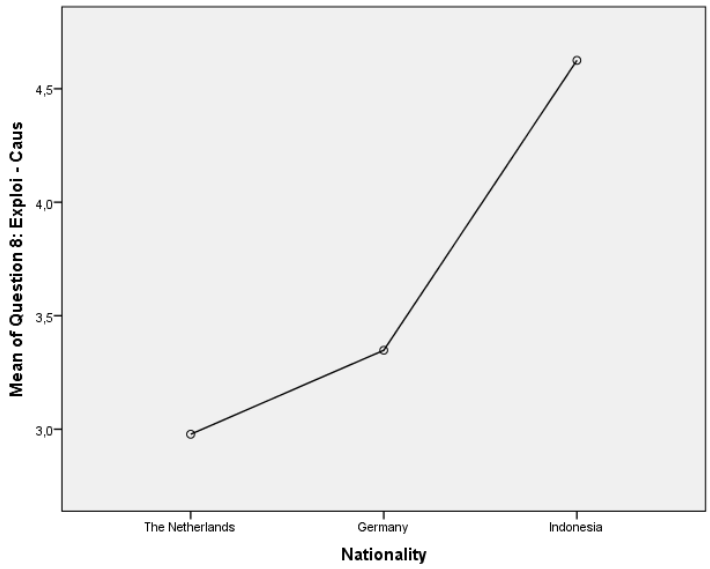
		Statistic[a]	df1	df2	Sig.
Question 2: Risk - Eff	Welch	3,378	2	68,704	,040
	Brown-Forsythe	2,949	2	121,124	,056
Question 7: Risk - Caus	Welch	7,961	2	67,573	,001
	Brown-Forsythe	8,592	2	113,165	,000
Question 3: Exploi - Eff	Welch	16,425	2	71,431	,000
	Brown-Forsythe	19,036	2	136,325	,000
Question 8: Exploi - Caus	Welch	10,155	2	62,515	,000
	Brown-Forsythe	11,209	2	82,150	,000
Question 5: Future Or - Eff	Welch	9,253	2	62,334	,000
	Brown-Forsythe	8,304	2	80,941	,001
Question 10: Future Or - Caus	Welch	23,359	2	77,505	,000
	Brown-Forsythe	25,307	2	155,612	,000

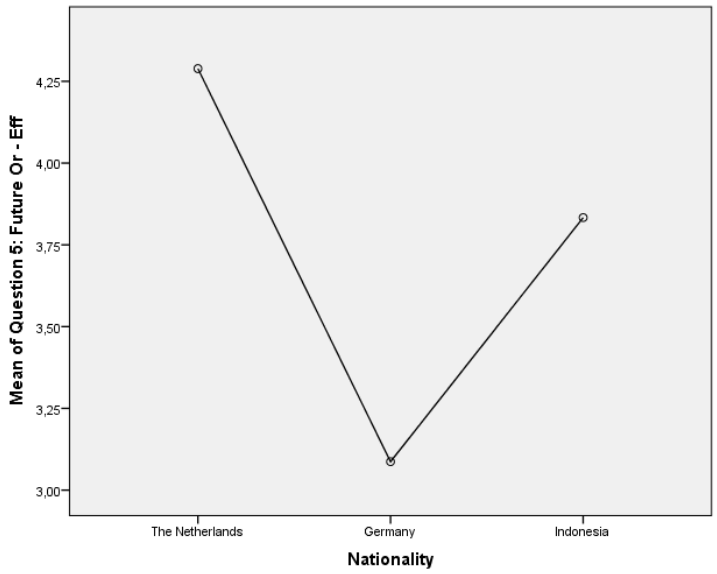
a. Asymptotically F distributed.

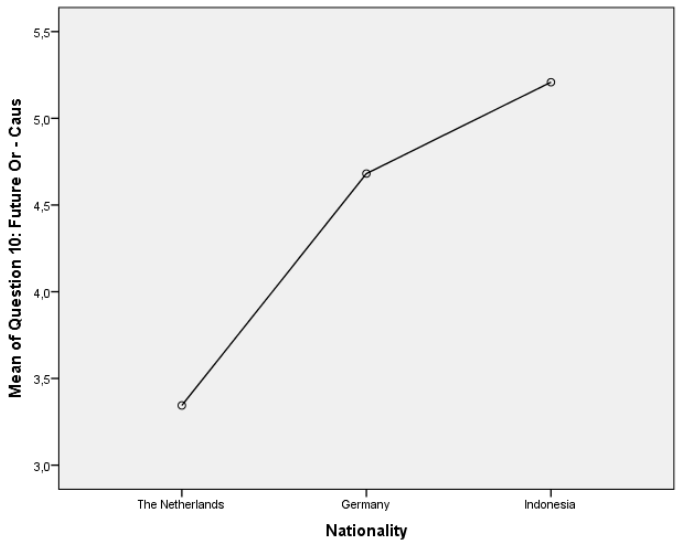

Mean of Question 2: Risk - Eff
5,0
4,8
4,6
4,4
4,2
4,0
The Netherlands
Germany
Indonesia
Nationality


Mean of Question 7: Risk - Caus
5,2
5,0
4,8
4,6
4,4
4,2
4,0
The Netherlands
Germany
Indonesia
Nationality


Mean of Question 3: Exploi - Eff
5,5
5,0
4,5
4,0
3,5
3,0
The Netherlands
Germany
Indonesia
Nationality


Mean of Question 8: Exploi - Caus
4,5
4,0
3,5
3,0
The Netherlands
Germany
Indonesia
Nationality


Mean of Question 5: Future Or - Eff
4,25
4,00
3,75
3,50
3,25
3,00
The Netherlands
Germany
Indonesia
Nationality


Mean of Question 10: Future Or - Caus
5,5
5,0
4,5
4,0
3,5
3,0
The Netherlands
Germany
Indonesia
Nationality