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# The Nexus between Uncertainty Avoidance Culture and Risk-taking Behaviour in Entrepreneurial Firms' Decision Making

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## ABSTRACT

**Purpose:** The concerted effect of national culture and risk-taking behaviour of individuals on decision-making has not been given much attention in the literature. This paper, thus, attempts to investigate how the two variables, separately and jointly, affect the decision-making of firms.

**Methodology:** The review pursues systematic literature review methodology. The keywords constituted in a series of search queries include risk-taking, or risk-taking behaviour, risk taking propensity, risk aversion, uncertainty avoidance, uncertainty avoidance national culture, fear of unknown or future, and uncertainty avoidance culture and risk-taking. The review of the studies addresses more than thirty-five countries over the years 1975–2021.

**Findings:** The review result re-boosts the existing negative relationship between a high uncertainty avoidance culture and risk-taking behaviour. When the level of risk-taking is increased, the effect of uncertainty avoidance culture gets decreased, which thereof helps to reduce resistance to change in firms. The latter institutes a greater fear of failure, lower level of ambition, and less tolerance for ambiguity that result in low risk-taking appetite. Their concurrent effect is realized in various decision-making contexts including firms' entry and investment decisions, customer buying decisions, self – versus group decisions, and policy decisions.

**Value Added:** As a result, firms may need to consider the risk-taking behaviour and uncertainty avoidance culture of employees for certain jobs, consumers for marketing, managers for an international assignment in risky positions, and of individual countries for business expansion. The study claims to have added significant value to the practical and theoretical discourse of uncertainty avoidance national culture and risk-taking behaviour in business decision-making scenarios.

**Key words:** risk-taking, national culture, uncertainty avoidance culture, decision-making, business firms

**JEL code:** M100



## Introduction

Everything in life needs a decision. To achieve anything that has an anticipated economic or social value, every individual, a firm or a society needs to make some sort of decision that is followed by an action. Decision-making has been defined as the ability of individuals to select among competing alternatives while considering their respective consequences (Michailidis & Banks, 2016). Based on the nature of the decision, Scott and Bruce (1995, after: Michailidis & Banks, 2016) identify four different decision making styles: intuitive decision-making style – referred to as a tendency to rely upon feelings only; rational decision-making style – refers to the systematic evaluation of alternatives; dependent decision-making – which is done by searching for advice from others before making a decision; and avoidant decision-making – which refers to the suspending or avoiding of making decisions whenever possible. Also, there is another one decision-making style, called “spontaneous decision”, which is described as a tendency to reach a quick-fix decision (Michailidis & Banks, 2016). Dahlbäck (2003), on the other hand, classifies decisions into two types: an impulsive decision, which is made without much thought of disadvantages and advantages, and non-impulsive decision making, which is made carefully and deliberately (Dahlbäck, 2003). Non-impulsive or rational decision-making resembles what the behavioural economist and Nobel laureate Kahneman and his colleagues (2002) say “system 2 process” (after: Emmerling, 2018, p. 37), and the same decision-making type is considered for the analysis in this paper.

In general, people’s decisions can be influenced by numerous factors including the psychology of individuals, national culture, economic conditions, the availability of resources and other elements. This review considers national culture in association with the risk-taking behaviour of decision-makers. Sternad (2011) defines national culture as a set of commonly shared assumptions in a society that is manifested as beliefs, values, and thinking patterns. Hofstede (1984) defines it as a collective programming of the mindset that distinguishes the members of a category of people from those of another. It can also be defined as the entirety of behavioural norms, values, practices, and traditional beliefs that influence the majority of individuals in a country (Cetenak, Cingoz,

& Acar, 2017). In fact, every action comes from a decision; decision comes from sense-making or perception; perception comes from values, beliefs, and thinking patterns; finally, they all originate from, or at least are influenced by national culture (Sternad, 2011).

Hofstede (1991) identifies six bi-polar national culture dimensions that are commonly used for comparative studies at the country level: individualism vs collectivism, long-term vs short-term orientation, masculinity vs femininity, uncertainty avoidance flexible vs restraint, and power distance. The paper, specifically, gives attention to uncertainty avoidance culture. It is defined as the extent to which the members of a society feel threatened by uncertain or unknown situations (Hofstede, 1980, 1991; Gaganis et al., 2019).

This review reveals that, at the individual level, uncertainty avoidance culture immensely determines consumers purchase decisions, especially online versus offline purchase and consumption (Hwang & Lee, 2012; Sabiote, Frias, & Castañeda, 2012, 2013; Money & Crotts, 2003; Lu et al., 2018) and, at the corporate level, it influences decisions such as resource allocation decision (Chang, Ho, & Wu, 2016), strategic management decision (Dimitratos et al., 2011), cross border acquisition (Bremer et al., 2017), corporate investment decision (Cetenak, Cingoz, & Acar, 2017; Lehmberg & Davison, 2018) and business entry decision (Autio, Pathak, & Wennberg, 2013). In all decision-making contexts, there is a negative relationship between high uncertainty avoidance culture and risk-taking behaviour. The former induces a greater fear of failure, lower level of ambition, and less tolerance for ambiguity, which results in low risk-taking appetite (Hofstede, 1980) and forces a decision-maker to prefer an intuitive decision or dependent decision or avoidant decision-making style, instead of a rational decision-making style. This study further investigates how the uncertainty avoidance culture of individuals affects risk-taking in decision making, identifies factors triggering risk-taking behaviour in decision making, and figures out the concerted effect of risk-taking behaviour and uncertainty avoidance culture of individuals on decision making. To meet these objectives, a total of 56 articles have been extracted from Web of Science using Systematic Literature Review (SLR) methodology. The details of the methodology are presented in the following section.

# Research methodology

## Data source and selection process

To garner data from databases and make an analysis, SLR methodology is pursued. The main database utilized for the search of articles is the web of science (WOS). A total of four search queries were developed and inserted one by one in the basic search option of the WOS core collection. The key words constituted in a series of search queries include *risk-taking, or risk taking behaviour, risk taking propensity, risk aversion, uncertainty avoidance, uncertainty avoidance national culture, fear of unknown or future and uncertainty avoidance culture and risk taking*. The total records or search results observed were narrowed down using the limiters such as years *from 1975–2020*, document types: *only articles*, course or discipline: *only management, business, business finance, entrepreneurship, economics, operation research management science, operation management and applied psychology*; indexes include all the available ones under the WOS core collection. The search queries result before and after limiters and removing duplicates is presented below in Table 2 and Figure 2. Among articles that remained after removing duplicates and reading abstracts, two from the first search topic and three studies from the second search topic were discarded, because they deal with uncertainty avoidance culture and decision making in the non-business area. However, none of the articles from search topic No. 3 were discarded, whereas seven of the studies from the fourth query were removed.

**Table 1.** Search topic results

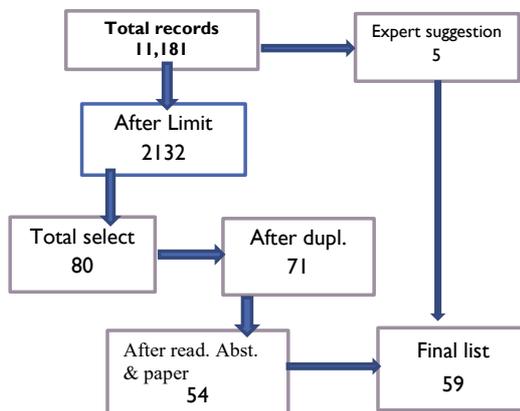
No.	Search Queries or Topic	Total records	After limiting	Selected articles	After removing duplicates	Finally included for reading
1.	Risk taking in decision making	10,989	2,009	20	19	17
2.	Uncertainty avoidance in decision making	94	52	20	20	17

No.	Search Queries or Topic	Total records	After limiting	Selected articles	After removing duplicates	Finally included for reading
3.	Uncertainty avoidance culture and risk taking	48	34	20	17	17
4.	Uncertainty avoidance culture, national culture, and Risk-taking behaviours of individuals or firms	50	37	20	15	8
	Total	11,181	2132	80	71	59

Source: Author's creation, 2020.

Finally, out of the 59 articles selected for reading, 54 were included in the study after reading the papers and appraising their relevance to the study on hand and, including 2 studies suggested by an expert, a total of 56 articles were synthesized. The quality of the studies was assessed based on the quality assessment tool adopted from Dixon-Woods et al. (2006), Littell, Corcoran, & Pillai (2008) and Pittaway et al. (2004) (see Appendix, Table 2). The following PRISMA diagram shows the flow of the data filtration process, including the expert suggestion, from the first search result up to the final studies list.

**Figure 1.** PRISMA model of data collection



Source: Author's creation, 2021.

## ***Description of studies and study areas***

Among 17 study subjects on uncertainty avoidance, about 12 (70%) are based on the empirical survey, and the remaining five articles are articulated using quantitative data from various databases. Regarding the study places, 5 studies in the USA, 3 in China, 2 in the Asian-Pacific region, one study from OECD, and the remaining 4 from European countries including France, Greece, Denmark, Cyprus, Spain, and Germany are found in the literature. However, only 2 studies from Africa are observed and they address Tanzania, Ghana and Nigeria, which could be due to the lower proportion of research work in the continent as compared to those in other continents. Nonetheless, almost all the cultural settings of different regions in the world have got representations in this study. Out of 17 studies concerning risk-taking behaviour and decision making, 13 articles (76 %) are based on empirical survey data, and the remaining ones are based on quantitative data from accredited websites. Some of the most frequently observed countries in these studies are the USA, Singapore, Sweden, UK, Indonesia, China Canada, Denmark, and Turkey. Out of 25 articles, on the 3<sup>rd</sup> and 4<sup>th</sup> search topics, 16 articles (64%) based on empirical data and dealing with both risk-taking and uncertainty avoidance are identified and synthesized. Most of the studies analysed, i.e. 10 (67%), are cross-cultural ones including a minimum of 18 countries and a maximum of 75 countries (e.g. Tran, 2019; Diez-Esteban, Farinha, & Garcia-Gomez, 2019a; Gaganis et al., 2019; Ashraf & Arshad, 2017; Boubakri, Mirzaei, & Samet, 2017; Gray, Kang, & Yoo, 2013; Li et al., 2013; Kanagaretnam, Lim, & Lobo, 2011). After removing duplicates, over 35 countries are included in the data synthesis and analysis in this paper.

# Literature review

## *Uncertainty avoidance in decision making*

Culture is defined as “a collective programming of the mindset that distinguishes the members of a category of people from those of another” (Hofstede, 1984, p. 389). He argues that managerial decisions are inevitably “culturally-dependent” with respect to a national setup. According to Hofstede (1991), there are about six bipolar national culture dimensions: individualism versus collectivism, masculinity versus femininity, long-term versus short-term orientation, power distance, uncertainty avoidance, and indulgence versus restraint. Scholars from various fields of studies including management (Gray, Kang, & Yoo, 2013; Lu et al., 2018), entrepreneurship (Watson et al., 2019), tourism (Money & Crotts, 2003), finance (Kanagaretnam, Lim, & Lobo, 2014; Boubakri, Mirzaei, & Samet, 2017; Gaganis et al., 2019), behavioural economics (Paine et al., 2020) and, of course, sociology and psychology, use these national culture dimensions to conduct cross-cultural comparisons and analyse the effect on economic variables. In this paper, the effect of uncertainty avoidance culture on various decision-making levels or scenarios is reviewed and synthesized mainly based on empirical research articles. Uncertainty avoidance culture shows the degree to which society rejects or feels uncomfortable with an uncertain and ambiguous situation (Gaganis et al., 2019; Hofstede, 1980).

As seen from the literature review, the uncertainty avoidance culture of a given society does not only influence an individual or firm-level decision-making, but also national and international decision-making processes. At the individual level, it immensely determines consumers’ purchase decisions, especially online purchases and consumption (Hwang & Lee, 2012; Sabiote, Frias, & Castañeda, 2012, 2013; Money & Crotts, 2003; Lu et al., 2018). In online customer purchase decision making, the most important thing to do is to assure trust, credibility and enhance understanding in a virtual relationship with clients. Uncertainty avoidance moderates both subjective norms of customers and cognition-based trust that includes integrity and ability (Hwang & Lee, 2012). The empirical evidence shows that tourists who are from high uncertainty avoidance

countries achieve less perceived value and less enjoyment from online tourism services (Sabiote, Frias, & Castañeda, 2013, 2012). In general, online customers have a high sense of uncertainty avoidance as compared to offline customers. The countries with high uncertainty avoidance and long-term orientation are less likely to adopt online channels, and they prefer offline channels like telephone' whereas countries with low uncertainty avoidance culture, high individualism, high masculinity, and high indulgence are more likely to adopt online channels (Lu et al., 2018). This finding implies that the cross-national variation of culture affects retail channel selection (Lu et al., 2018).

As far as travel information search is concerned, the study also shows that consumers from countries identified with higher-level uncertainty avoidance national culture use information sources that are related to the regular channel (e.g. travel agent) instead of using personal, mass media sources or destination marketing-related tools. In terms of their travel party nature, they travel in larger groups, frequently purchase pre-packaged tours, visit a smaller number of destinations, and stay on average a shorter period as compared to tourists from low uncertainty avoiding culture (Money & Crotts, 2003). Despite the digitalization of the world economy, especially due to uncertainty avoidance, countries are not equally engaged in information sharing on digital platforms or using cloud service data warehousing. There is high information protection in countries with a high uncertainty avoidance culture. The study conducted on both the USA and Ghana pinpoints the fact that the fear of the unknown, intention to avoid the possible information leakage and data theft are found to be the reasons for less adoption of these technological tools, especially in the latter country (Crossler, Andoh-Baidoo, & Menard, 2019).

What is more, uncertainty avoidance extends its effect even on the shopping tendency and motivation of individuals. In shopping, the susceptibility to peer influence and the need for consumer uniqueness vary from country to country. For example, a need for a peer approval is higher in France, which is more collectivistic and has a high uncertainty avoidance culture, than in the USA, which has a highly individualistic national culture with a low uncertainty avoidance and low power distance (Gentina et al., 2014). In the same study, both a need for uniqueness and susceptibility to peer influence are equally

observed in the USA, but there is less need for uniqueness with the counterpart country, France. Moreover, the influence of uncertainty avoidance is not limited to individual buying decisions or consumption, but also individuals' entry decisions. The combined data from Global Entrepreneurship Monitor (GEM) and Global Leadership and Organizational Behavior Effectiveness (GLOBE) shows that uncertainty avoidance practices were negatively associated with entry but not with growth aspirations (Autio, Pathak, & Wennberg, 2013). High uncertainty avoidance culture leads to lower propensity to enter risky business and use the opportunities available (Liu, Pacho, & Wang, 2019).

At the firm level, the influence of uncertainty avoidance touches every decision-making point including managerial, financial, and operational decision areas. A handful of literature testify that uncertainty avoidance culture affects corporate decisions such as resource allocation decisions (Chang, Ho, & Wu, 2016), strategic decision-making process (Dimitratos et al., 2011), cross border acquisition (Bremer et al., 2017), corporate investment decision (Cetenak, Cingoz, & Acar, 2017; Lehmberg & Davison, 2018) and business entry decision (Autio, Pathak, & Wennberg, 2013). Understanding the national culture enables multinational firms to identify managers from different cultures and their tendency in resource allocation decisions. For example, Taiwanese managers tend to allocate more funds than US managers do when the project is close to completion because there is high uncertainty avoidance in the former case (Chang, Ho, & Wu, 2016). Moreover, variation in cultures has a paramount influence on financial decisions in these firms. Cetenak, Cingoz, & Acar (2017) examined the variation of financial decisions due to national culture in 20 countries and found that uncertainty avoidance exerts an effect on all of the financial decision parameters including the cost of capital, capital structure dividends, cost of equity, leverage ratio and so on (Cetenak, Cingoz, & Acar, 2017).

It may be that managers' choice of investment is also under national culture influence. The effect of uncertainty avoidance is not only limited to an internal financial decision-making, but it also concerns managers' international perspectives in cross-border business operations. The study on the Asia-Pacific region throughout 2000–2009 shows that there are fewer cross-border acquisitions from countries with a high aversion to uncertainty (Bremer et al., 2017). As

compared to the UK and the USA (where there is low uncertainty avoidance), firms from Greece and Cyprus (relatively high uncertainty avoidance) exercise more formalization and implement high-level control in the implementation of their strategic decisions (Dimitratos et al., 2011). National culture, especially uncertainty avoidance, first affects managers' beliefs, values and thinking patterns, then managers' sense-making or perception, then their decision making, and then, finally, their strategic action (Sternad, 2011, p. 140). It also shapes the ethical perceptions towards international marketing (Armstrong, 1996).

At a national level, there are three implications for uncertainty avoidance culture: types of planning, the meaning of time, and tolerance for deviant ideas (Hofstede, 1991; Andersen & Rasmussen, 2014; Boubakri, Mirzaei, & Samet, 2017). In countries with higher uncertainty avoidance, like France and Japan, short-and medium-term planning and scheduling entertain more attention than in Great Britain and Denmark, which are the countries with less uncertainty avoidance. Again, in the former countries, time and the future are something that should be mastered and exploited, while in the latter countries it is simply a framework for action. As for tolerance for deviant ideas, the countries with strong uncertainty avoidance maintain rigid codes of belief and behaviour and they are intolerant of deviant persons and ideas. Hence, there is always a battle to introduce new things in higher uncertainty avoidance culture (Andersen & Rasmussen, 2014). The authors also suggest that instead of depending on regional affiliation (like WEST, EAST, or Pacific-Asia), it is national culture, especially power distance and uncertainty avoidance, that is the most decisive context in framing national policy.

### ***Risk-taking behaviour in decision making***

Decision making encompasses diverse settings, including strategic managerial decision making (Dimitratos et al., 2011), bank risk-taking decisions (Gaganis et al., 2019; Ashraf & Arshad, 2017), employees' decisions at the workplace (Kiliç, van Tilburg, & Igou, 2020; Michailidis & Banks, 2016), gambling decisions (Moreno, Kida, & Smith, 2002), investment and financial decisions (Ashraf & Arshad, 2017; Ashraf, Zheng, & Arshad, 2016), competition and marketing

decisions (Lu et al., 2018; Sabiote, Frias, & Castañeda, 2013), and individual versus group decisions (Jetter & Walker, 2018; Ertac & Gurdal, 2012). The domain of gains or losses in which decisions are to be taken determines the risk-seeking behaviour of decision-makers. Those who have suffered losses are exposed to risk-taking behaviour, and people are more risk-averse in the domain of gains (Moreno, Kida, & Smith 2002; Angner, 2016). Decision-makers are usually risk-averse when they can choose from the alternatives that yield potential gains, and risk-takers when the alternatives are given yield losses (Moreno, Kida, & Smith, 2002; Angner, 2016). Furthermore, Angner (2016) argues that the way losses and gains are described influences the risk-taking behaviour of individuals.

In addition, the literature reveals plenty of triggering factors that affect risk-taking tendency in decision-making, such as the characteristics of decision-makers, the state of mind of decision-makers, motivation for decision making, and area of influence of decision: deciding for oneself or others. Some of the characteristics related to decision-makers are age, gender, and personality traits (Ertac & Gurdal, 2012; Nieboer, 2015; Lloyd & Döring, 2019). The state of mind of decision-makers includes the affective reaction towards the subject of decision (Moreno, Kida, & Smith 2002; Se, Goldfarb & Barret, 2010), emotional differentiation of feelings (Li & Ashkanasy, 2019; Se, Goldfarb, & Barret, 2010), burnout (Michailidis & Banks, 2016) and boredom (Kiliç, van Tilburg, & Igou, 2020). The level of risk-taking is also determined by the very reason of motivation for decision-making (Paine et al., 2020). In addition to these triggering factors, the expected effects of a decision or area of influence: deciding for oneself or others or with others (Nieboer, 2015; Ertac & Gurdal, 2012; Fullbrun & Luhan, 2017), competition (To et al., 2018) and performance (Singh, 1986), and interruption during decision making (Kupor, Liu, & Amir, 2018) are also found as factors affecting risk-taking tendency.

Several studies (e.g. Ertac & Gurdal, 2012; Nieboer, 2015; Jetter & Walker, 2018) debate the effect of gender on risk-taking and analyse it in both individual and group decision-making contexts. The findings show that gender significantly affects risk-taking and women are more risk-averse than men in decision making in both contexts (Ertac & Gurdal, 2012; Nieboer, 2015). Even in the experiments made on a group decision-making process, a group with

a higher composition of women is more risk-averse than its counterpart (Nieboer 2015; Hurley & Choudhary, 2020). On the other hand, when women are paired against men, they become aggressively competitive and take more risks (Jetter & Walker, 2018). Also, women are more likely inclined towards individual decisions than group decisions. Moreover, there is a significant gender gap between the willingness of women and men to decide on behalf of the group: in men it is 86%, while in women 55% (Ertac & Gurdal, 2012). Men who are with a higher risk tendency are daring enough to make decisions not only for themselves but also to decide on behalf of others, and they are therefore more likely to assume leadership positions. Due to this reason, most commonly we could see fewer women at different managerial positions than men. Even those females at executive and leadership positions tend to be more risk-averse and they mainly manage small-size firms (Hurley & Choudhary, 2020).

Regarding personality traits, males who show interest to decide for the group score more on “openness” and less on “agreeableness” traits compared to males who do not show such interest (Ertac & Gurdal, 2012; Lloyd & Döring, 2019). The influence of age in risk-taking is explained by the level of exposure of decision-makers to peer pressure. Generally, adolescent males are more risk-takers if there is peer pressure and if the probability of the outcome is explicit. On the contrary, Lloyd & Döring (2019) argue that if peer pressure exists, adolescents are more likely to take risks even though the possible outcomes are not explicit.

Furthermore, the area of influence of decision – deciding-for-self or – for-others or with others – shapes the risk aversion or risk-taking tendency of decision-makers. The experiment was conducted by Füllbrunn & Luhan (2017) in three treatments: *Self-decision* – everyone decides for his/herself; an *aligned decision* – a decision that is taken for both oneself and others; and *decision for Others* – is a decision taken only for others. The result shows no difference between a *self-decision* and an *aligned decision*. But there is a higher loss aversion in *self-decision* than *decision for Others*. That means decision-makers take a higher risk while deciding for others because the decision bears no adverse consequences for decision-makers (Andersson et al., 2014; Füllbrunn & Luhan, 2017).

Again in the non-impulsive decision where choices are made more deliberately and carefully, there are three likely conditions determining group risk-taking (Dahlbäck 2003): i) *receiving support from group* – makes individuals more risk-takers if the group supports them in case the decision fails, ii) *diffusion of responsibility leads to higher risk taking* – a greater responsibility makes decision-makers more cautious, iii) a higher social value is associated with *relatively high-risk positions* – makes group members compete to take such positions. Thus, it all shows that individuals' risk-taking tendencies vary when they decide for themselves only, for others, for themselves and others, and when they make the decision in the group or outside of the group (Dahlbäck, 2003; Andersson et al., 2014; Füllbrunn & Luhan, 2017). Even within a group, risk-taking tendencies could vary depending on the group members' support, the span of responsibility, and the positions assumed (Dahlbäck, 2003).

Even in non-impulsive and rational decision-making, individuals' or consumers' risk-taking tendencies can be influenced by their affective reactions or feelings towards the subject under consideration. Even though managers are risk-averse in the domain of potential gains and risk-takers when the alternative yields losses (Moreno, Kida, & Smith, 2002; Se, Goldfarb, & Barret, 2010), the rhetoric could be changed by affection. In the presence of an effect, they reject the alternative decisions that elicit negative affective reactions and accept alternatives that elicit positive reactions. Such behaviour could result in risk-taking in gain contexts and risk-avoiding in loss contexts despite the information analysed (Moreno, Kida, & Smith, 2002). The decision frames of gains and losses and risk-taking is moderated by both pleasant and unpleasant feeling (Se, Goldfarb, & Barret 2010; Moreno, Kida, & Smith 2002; Angner, 2016). "After experiencing losses, individuals tend to make more risky choices with framing effect" (Angner, 2016, p. 158), but the situation is not the same after decision-maker experiences unpleasant feelings towards the loss. Pleasant feelings could eliminate the framing effect of gains and losses, whose operation is a central tenet of many theories, including prospect theory (Se, Goldfarb, & Barret, 2010). This shows that the successive feelings of decision-makers affect risky choices by interacting with situational factors, the decision frames of gain or loss. Notably, the level of feeling depends on emotion differentiation – the degree to

which an individual identifies, distinguishes, and describes specific feelings, and risk adaptation (Li & Ashkanasy, 2019). In experiment by Li & Ashkanasy, it is shown that participants' risk-taking at Time 2 is increased only when they have medium to high success at Time 1, which indicates risk adaptation.

Moreover, burnout and boredom are the other factors related to the mental states of decision-makers that affect decision-making in a work context and are widely discussed in management literature. Burnout has been described as exhaustion, cynicism (feeling of indifference towards co-workers), and professional inefficacy. Burnout is significantly and positively correlated with avoidant decision making and negatively with rational decision making (Michailidis & Banks, 2016). In general, burnout leads to risky decision-making, and employees who experience professional inefficacy – reduced confidence in their ability to do the job, may feel that they no longer take control over situations and then they take a risky track (Michailidis & Banks, 2016). In the experiment by Kiliç, van Tilburg & Igou (2020), the three likely risky decision-making scenarios are revealed when individuals are bored: i) there is a greater risk-taking across recreational, financial, ethical, and health or safety domains when people have high exposure to boredom; ii) risk-taking is increased with the state of boredom over a series of risky decisions; iii) bored people are more likely to choose risky gambles. Boredom erodes individuals' self-control and then makes them take risky decisions to get out of it.

Externally, the type and level of competition and competitor's identity determine risk-taking. The interaction with rival partners increases risky behaviour and the laboratory experiment on football matches proves that rivalry increases risk-taking in two ways: by increasing promotion focus and physiological arousal along with greater concern for status (To et al., 2018; Arping, 2019). It means that individuals become more risk-seeking when competing against a rival rather than a non-rival. In line with this, fear promotes risk aversion, whereas anger promotes risk-taking. Besides, the level of performance of individuals or organizations determines their risk-taking capacity in decision-making. Poor performance is related to high risk-taking in organizational decisions and good performance is related to low risk-taking (Singh, 1986; Arping, 2019). As far as motivation is concerned, promotion focus increases risk-taking (To et

al., 2018) but prevention focus reduces risk-taking (Paine et al., 2020). It implies that individuals with a high prevention focus perceive greater risk in a near-loss event and are less likely to take the risk (To et al., 2018; Paine et al., 2020).

### ***The uncertainty avoidance culture and risk-taking behaviour in decision making***

According to the literature, it is believed that uncertainty avoidance culture impacts risk-taking behaviour (Gaganis et al., 2019). The concurrent effect of both risk-taking behaviour and uncertainty avoidance culture has been felt in various decision-making contexts including managerial decisions (Li et al., 2013), corporate takeover decisions (Frijns et al., 2013), bank and insurance risk-taking decisions (Ashraf, Zheng, & Arshad, 2016; Gaganis et al., 2019), national economic policy decisions (Tran, 2019), consumer buying decisions (Garbarino et al., 2001), financial crisis decisions (Boubakri, Mirzaei, & Samet, 2017; Kanagaretnam, Lim, & Lobo, 2014; Kanagaretnam, Lim, & Lobo, 2011), and entrepreneurial decisions (Liu, Pacho, & Xuhui, 2019; Watson et al., 2019).

National culture extends the effect on risk-taking not only through individual managerial decision-making, but also through the country's formal institutions (Li et al. 2013; Ashraf, Zheng, & Arshad, 2016; Gaganis et al., 2019). The arrangements of social, economic, and even regulatory institutions are set up to fit into the culture of a given society. The uncertainty avoidance culture influences national economic policy decisions and increases the negative effect on economic policy uncertainty and corporate risk-taking (Tran, 2019). The culture of uncertainty avoidance and harmony exerts negative and significant associations with managerial discretion and firm size (Li et al., 2013). It pinpoints that even the span of management and the level of expansion on firm size has a connection with the cultural outlook of managers. CEOs from where there is a high uncertainty avoidance culture engage less in cross-border takeovers and trade deals (Frijns et al., 2013). The same study indicates that the culture of a society affects the risk-taking of CEOs more than an individual risk perception of the latter.

Moreover, Ashraf, Zheng, & Arshad (2016) and Gaganis et al. (2019) conducted a study in 75 countries and 42 countries, respectively, to investigate the

effect of national culture and bank risk-taking. The result proves negative effect and shows that in the countries with low uncertainty avoidance, along with low power distance and high individualism cultural values, there is a higher risk-taking tendency. On the other hand, high uncertainty avoidance is associated with greater fear of failure, a lower level of ambition, and a lower level of tolerance for ambiguity, which all results in a low risk-taking appetite (Hofstede, 1980, p. 184). The innate nature of the culture and risk-taking is proven and their corresponding cumulative effect on decision making is undoubtedly strong. In the case of multinational firms, it must be clear whether the host country or home country's culture prevails in risky decisions. The risk-taking behaviour of subsidiaries is more influenced by the home country's culture than host countries, and their risk-taking tendency is relatively higher if the parent company's home country has low uncertainty avoidance, high individualism, and low power distance cultural values (Ashraf & Arshad, 2017; Engelen, Schmidt, & Buchsteiner, 2015). This is, therefore, an additional argument for the negative relationship between uncertainty avoidance and risk-taking (Gaganis et al., 2019).

Furthermore, culture has also the power to influence the risk-taking behaviour of entrepreneurs. In most cases, the opportunity exploitation decision of entrepreneurs is influenced by their risk-taking behaviour. A high uncertainty avoidance culture reduces the risk-taking propensity of entrepreneurs in opportunity exploitation decisions (Liu, Pacho, & Xuhui, 2019; Engelen, Schmidt, & Buchsteiner, 2015). Furthermore, the study conducted on cross-national franchise systems shows that operations in high uncertainty avoidance and feminine cultures are less entrepreneurially oriented (Watson et al., 2019). This implies that high uncertainty avoidance culture makes entrepreneurs have less entrepreneurial orientation – i.e. it is less innovative, less proactive, less competitive, and less prone to risk taking (Watson et al., 2019; Liu, Pacho, & Xuhui, 2019; Engelen, Schmidt, & Buchsteiner, 2015).

Furthermore, the decision-making approach of individuals or organizations would not be the same before, during, and after the crisis period. Of course, the risk-taking tendency does not remain the same in these periods, and the decisions taken could also vary with respect to the culture of uncertainty avoidance. During the global financial crisis of 2007/2008, banks operating in high

uncertainty avoidance societies performed relatively better than those operating in low uncertainty avoidance cultures (Boubakri, Mirzaei, & Samet, 2017; Kanagaretnam, Lim, & Lobo, 2014, 2011). Cultures that encourage higher risk-taking went through more financial turmoil in the form of larger losses or default loans than others (Kanagaretnam, Lim, & Lobo, 2011).

Additionally, in terms of the flow of earnings during the crisis, banks in a high uncertainty avoidance society generate earnings more conservatively and in a smoother way than banks in low uncertainty avoidance societies coupled with high individualism (Kanagaretnam, Lim, & Lobo, 2014, 2011). It is due to the fact that those high uncertainty avoidance cultures exhibit lower risk-taking levels as observed in the volatility of net interest margin, volatility of earnings, and z-score (Kanagaretnam, Lim, & Lobo, 2014). In the pre-financial crisis period, a study conducted between 1993 and 2006 revealed that banks in low uncertainty avoidance with high individualism and high masculinity societies elicit earnings to just-meet-or-beat the prior year's earnings. However, high uncertainty avoidance societies with high individualism and high-power distance guaranteed smoother earnings (Kanagaretnam, Lim, & Lobo, 2011). This shows that high uncertainty avoidance culture could reduce finance-related risks and save firms from bankruptcy. Therefore, it is not always bad culture, as it is beneficial when shunning the crisis is required.

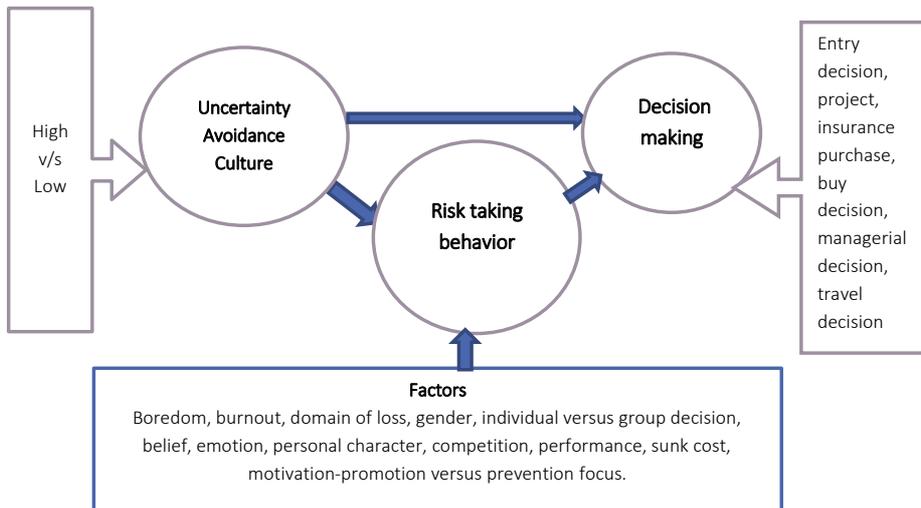
On the other hand, it is worthy to note that the sunk cost invested has its role in initiating the successive risk-taking propensity. The high level of project sunk cost increases risk perception. Too much risk perception leads to less risk propensity of decision-makers, and the two are inversely related (Keil et al., 2000). High uncertainty avoidance culture minimizes risk propensity by increasing risk perception (Keil et al., 2000). Culture even goes deep into the financial return from an investment that a society with low uncertainty avoidance demands the high cost of equity-the rate of return on investment due to their high-risk taking orientation (Gray, Kang, & Yoo, 2013). In addition, as culture encompasses religion or belief, risk-taking propensity varies from religion to religion (Jiang et al., 2015; Diez-Esteban, Farinha, & Garcia-Gomez, 2019). There is a negative relationship between corporate risk-taking and religion, especially in Islamic and Catholic affiliations. However, the same is not true in



the Protestant dominant community, where there is less uncertainty avoidance (Diez-Esteban, Farinha, & Garcia-Gomez, 2019).

Presumably, consumers usually evaluate products from different aspects before they make a purchase decision. This purchase decision can be influenced by their perception towards product features, warranty or guarantee, or even by manufacturer or country of origin. In particular, consumers' uncertainty avoiding culture intensifies the evaluation of products (Garbarino et al., 2001; Andersen & Rasmussen, 2014). Consumers with a low uncertainty avoidance tend to be more tolerant of opinions and behaviours different from their own, more comfortable with uncertainty, and take risks easily (Hofstede, 1991; Andersen & Rasmussen, 2014). But those who are high in avoiding uncertainty need to take extra time to search, see very explicit rules, instructions, and take safety measures before they make a purchase decision, especially for an unknown brand, to reduce the risk (Hofstede, 1991; Garbarino et al., 2001; Money & Crotts, 2003; Andersen & Rasmussen, 2014). Insurance purchase can be considered as one of the mechanisms people use to avoid or reduce uncertainty in life. The study on 801 firms (including life and non-life insurance) shows that there is a strong relationship between culture and insurance risk-taking (Gaganis et al., 2019). In countries with a high uncertainty avoidance culture, higher insurance purchase is observed, but there is low insurance firm risk, which makes the insurance firms beneficial (Gaganis et al., 2019). People's inclination to avoid uncertainty gives insurance firms an advantage to reduce risk. Figure 2 below shows the relationship between uncertainty avoidance and risk-taking and their effect on decision making and the moderating factors.

**Figure 2.** The Framework of uncertainty avoidance, risk-taking behaviour and decision making



Source: Author's creation, 2020.

## Conclusion

The effect of uncertainty avoidance culture is not only limited to an individual level decision but also affects decisions at a firm-level as well as national and international level. At an individual level, insurance purchase and consumers' online purchase decisions are the main areas impacted by the uncertainty avoidance culture. Therefore, extra information, detailed instruction, legal documents, warranty and safety measures must be provided to build trust, credibility and enhance the understanding in a virtual relationship with clients. Online customers have a high sense of uncertainty avoidance as compared to offline customers, whereby customers from a high uncertainty avoidance culture are less likely to adopt online channels. High uncertainty avoidance culture is also characterized by low business entry, as it reduces the risk-taking propensity of entrepreneurs and opportunity exploitation decisions, and a high insurance purchase but less insurance firm risk.



At the firm level, uncertainty avoidance culture is associated with all managerial decision areas including resource allocation decisions, strategic decision-making process, cross-border acquisition, corporate investment decision, and business entry or expansion decisions. For instance, firms from high uncertainty avoidance cultures such as Greece and Cyprus, as compared to firms from the UK and the USA, exercise more formalization and apply high-level control in the decision and its implementation. Moreover, a high uncertainty avoidance culture results in fewer cross-border acquisitions and trade deals, but it makes firms generate earnings more conservatively and in a smoother way, experience less suffering from crisis and financial risk than those in low uncertainty avoidance culture. Therefore, high uncertainty avoidance culture is not always bad for decision-making, as it contributes to minimizing unnecessary risk-taking notions.

Furthermore, uncertainty avoidance culture plays a role in both domestic as well as international expansion of firms and the risk-taking behaviour of subsidiaries, whereby a home country's culture has a greater influence than the host country's culture. Therefore, during recruitment and selection, the culture to which managers belong should be considered for any country-level or international business expansion positions. At a national level, a high uncertainty avoidance culture is characterized by short-and medium-term planning, intolerance of deviant persons and ideas, high information protection policy, and privacy concern. This implies that the secret of effective international marketing activities of multinational firms is engraved in knowing the culture of both home and host countries.

In addition to the direct influence of culture, the triggering factors that affect risk-taking tendency in decision making are the features of character, the state of mind and motivation of decision-makers and the area of influence of decision: deciding for-oneself or for others. The risk-taking behaviour can also be increased by the domain of losses and the way the option of loss and gain is expressed, frequent exposure and suffering from losses if there is no unpleasant feeling, boredom that erodes individuals' self-control, burnout that is negatively associated with rational decision making and leads to the risky decision, poor performance that puts decision-maker under pressure, competition with

rival increases, low level of sunk cost, motivation with a promotion focus, not prevention focus, and deciding on behalf of others without including oneself; consecutive success story also increases risk-taking behaviour.

At a group level, receiving support from group members, diffusion of responsibility, and higher social value associated with risky positions increase risk-taking behaviour. Moreover, gender plays a decisive role in decision making, as women are more averse than men in risky decision making considering both individual and group decision making contexts, and they prefer individual decisions to group decisions. Therefore, it may be advisable to consider gender, if it is not against firms' employment policy, in making an assignment in some risky business positions. In the end, given the above risk triggering factors, a high uncertainty avoidance culture induces a greater fear of failure, lower level of ambition, and less tolerance for ambiguity, which results in low risk-taking appetite and forces decision-makers prefer an intuitive decision or dependent decision or avoidant decision-making style to rational decision-making style.

## Managerial implication and further research

The effect of both risk-taking behaviour and uncertainty avoidance culture has been recognized in various decision-making contexts, such as consumer buying decisions, managerial decisions, and national policy decisions. There is a negative relationship between high uncertainty avoidance culture and risk-taking. High uncertainty avoidance culture leads to low risk-taking behaviour in all decision-making contexts. To lessen the effect of uncertainty avoidance, managers should provide detailed instruction, enough warranty, and safety measures to enhance risk-taking notion and build trust with clients. Trust can be built by making open communication and a series of successful job order accomplishments. Risk-taking can be enhanced by making a way to get *support from others, diffusing responsibility, and increasing social value of a given task, increasing the number of male participants in group composition, creating a competitive environment*, motivating decision-makers, and introducing various mental



stimulation programs to overcome burnout, inefficacy and boredom. When risk-taking is increased, the effect of uncertainty avoidance gets decreased, which thereof helps to reduce resistance to change.

The risk-taking behaviour of individuals and uncertainty of avoidance culture would affect decision-making separately and jointly. The latter has a double effect on decision making, directly by determining the type of decision to be taken and indirectly by modelling the risk-taking behaviour of the decision-maker with other moderators. Therefore, firms may need to consider the risk-taking behaviour and national culture of employees for jobs, consumers for marketing, managers for an international assignment in risky positions, and individual countries for business expansion. Furthermore, empirical research can be done to determine the effect of uncertainty avoidance culture on risk-taking behaviour in decision making controlling for the other factors of risk-taking behaviour identified in this study. In any study on risk-taking behaviour, the national culture, in particular uncertainty avoidance culture, should be given adequate attention. Extracting data from one database only, the Web of Science, may be the limitation of the findings of this review, and engaging in diverse databases could improve the study and increase its generalizability for application.

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## Appendix

**Table 2.** The quality assessment tool and scale of the study

Element	Scales				
	0 – Absence	1 – Low	2 – Medium	3 – High	Not Applicable
<b>1. Research questions/ Objectives clarity</b>	The article does not have clear objective	There is objective but it is not clearly defined	The objective is defined and stated but hard to understand, it could have been modified	The objective is attractive, well defined and stated	The objective/ RQ is not found in the article
<b>2. Theory robustness</b>	The article does not provide enough information to assess this criterion	Weak development of theoretical insights and limited awareness of prevailing literature	Basic development of theory and use of concepts garnered from existing literature	Good use of theory, including the novel and provocative development of concepts	This element is not relevant to the study

Element	Scales				
<b>3. Methodology. Data supporting arguments</b>	The article does not contain clear research design and sampling section	Research design and sample are weak	Research design and sampling procedures are stated even if few of methodology components are missing	Research design and sampling procedures are clearly stated	This element is not relevant to the study
<b>4. Implication for practice</b>	The article does not provide enough information to assess this criterion	Hard to use the concepts and ideas in pragmatic problem solving	The studies findings and observations have potential utility for businesses and policy makers	The utility for practitioners is clear	This element is not relevant to the study
<b>5. Relevance of findings to the current study</b>	The article does not provide enough information to assess this criterion	Only tangentially relevant. Provocative but linked to “line of flight”	Broadly relevant – perhaps in one of the areas, or applied in a different disciplinary field	High level of relevance across findings, methods and theoretical constructs/ concepts	This element is not relevant to the study

Source: Adopted from Dixon-Woods et al., 2006; Littell, Corcoran, & Pillai, 2008; and Pittaway et al, 2004.