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<b>NEAPIBRĖŽTUMO VENGIMO IR INDIVIDUALIZMO/KOLEKTYVIZ MO MODERUOJANTI ĮTAKA RYŠIUI TARP RIZIKOS VENGIMO, PASITIKĖJIMO, TECHNOFOBIJOS IR KETINIMO PIRKTI INTERNETU</b>	<b>THE MODERATING EFFECT OF UNCERTAINTY AVOIDANCE AND INDIVIDUALISM/COLLECTIVI SM ON THE RELATIONSHIP BETWEEN RISK AVERSION, DISPOSITIONAL TRUST, TECHNOPHOBIA, AND INTENTION TO PURCHASE ONLINE</b>
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## INTRODUCTION

The development of technologies has dramatically influenced individuals' and businesses' lives making online purchasing a routine (Alalwan, Dwivedi, Rana & Algharabat, 2018). The volume of online sales has increased worldwide by 2.7 times from 2014 to 2019 year which has resulted in 14.1 percent of all retail sales worldwide, which is expected to reach 22 percent by 2023 year (Statista, 2020). Even though online purchasing is widely recognized as a way to buy, still some consumers find buying online as a risky, uncomfortable, difficult, and sometimes even terrifying process (Liao and Chung, 2011; Phongsath and Jirawoottirote, 2018; Wang, Gu & Aiken, 2010). Before deciding to buy online a product or service, a consumer has to access risks associated with purchasing (Soopramanien, Fildes & Robertson, 2007), uncertainty regarding trust issues, and overall competency to do it online. It is also necessary to consider that some consumers might have some fears of technologies that can reinforce existing capacity, trust, and risk issues associated with online purchasing (Soldatova and Nestik, 2016). Therefore, it becomes clear that understanding how risk aversion, trust, and fear of technology influence consumers' intention to buy online is one of the most important issues for businesses to access today.

Previous studies on the influence of risk aversion on the intention to buy online demonstrated that consumers consciously and subconsciously are affected by it, but they perceive risks associated with online purchasing differently depending on their experience, skills, and cultural background (Ko, Jung, Kim and Shim, 2004). Several studies concluded that a high level of risk aversion negatively affects intention to purchase online and, therefore, results in a decrease in online purchasing (Ariffin, Mohan & Goh, 2018; Martin, Camarero & Jose, 2011; Rajini and Krithika, 2016; Vijayasathy and Jones, 2000; Ward, 2008;). Most risks that consumers consider include risks associated with financial losses, time losses, personal data security, product quality, performance, social acceptance (Ariffin et al., 2018; Jacoby and Kaplan, 1972; Mitchell, 1992; Ward, 2008). However, Ventre and Kolbe (2020) showed that risk aversion has no significant impact on intention to purchase online.

Another important issue that has an impact on overall consumers' decision to access the process of purchasing online is their trust in online shopping or more specifically in the online shop. Dispositional trust is a psychological condition that has to be found to have a positive result and is developed when risk and interdependence issues arise, otherwise, there is no need to consider it (Rousseau, Sitkin, Burt & Camerer, 1998). As the online environment deprives consumers of a real salesperson, trust in the seller (merchant) is considered as a form of dispositional trust (Jarvenpaa, Tractinsky & Vitale, 2000; Li, Rong & Thatcher, 2012; Lohse and Spiller, 1998). The few existing studies showed that generally, trust in seller can positively

influence online purchasing intention (Gefen, Karahanna, & Straub, 2003; Li et al., 2012), but the problem of mixed-up understanding of the concept and interchangeable use make them not that reliable.

While the concepts of risk aversion and dispositional trust are generally studied, the impact of technophobia on the intention to purchase online lacks such studies. The major problem is that technophobia is missing common ground in defining it and therefore, is interchangeably used with other concepts, which is not correct and creates misunderstanding and unreliable results. As the process of purchasing online automatically means dealing with technologies, the problem of anxiety, fears, or negative attitudes toward its usage emerges (Kirkup, 1999) that could be studied through the concept of technophobia and related (Gilbert, Lee-Kelley & Barton, 2003). Similar to dispositional trust, there is no consensus in defining and usage of technophobia so that authors equate this phenomenon with computer anxiety, computer phobia, computer aversion, technostress, and others, which creates misleading results (Anthony, Clarke & Anderson, 2000; Jay, 1981; Kirkup, 1999; Korukonda, 2005; Mcilroy, Sadler & Boojawon, 2007; Meier, 1985; Sami and Pangannaiah, 2006). The academic literature lacks pieces of research that study technophobia as a general concept and its impact on the intention to purchase online. One such study found was conducted by Salamzadeh, Mirakhori, Mobaraki and Targhi (2013), but even it could not be relied on as it has too many limitations. The question of whether technophobia could explain the relations between such factors as risk aversion, interpersonal trust, computer competency, and intention to purchase online is also understudied; however, it is scientifically and practically important.

Technology Acceptance Model has been widely used to study technologies-related topics, especially regarding online purchasing behaviors by assessing perceived usefulness and perceived ease-of-use. In general, it was found that PU and PEOU have a positive influence on the online purchasing intention (Athapaththu and Kulathunga, 2018; Dash and Saji, 2006; Gefen et al., 2003), while some results stated that PU could not be considered as a significant factor (Ramayah and Ignatius, 2005). Also, as TAM allows to use various external variables, there have been several pieces of research regarding risk aversion and trust's impact on behavior intention via TAM. Scholars concluded that perceived risk is negatively related to both PU and PEOU, while PU and PEOU are positively related to intention to purchase online (Heijden, Verhagen & Creemers, 2003; Li and Huang, 2009). Also, the relationship between perceived usefulness and trust and between perceived ease of use and trust was found to be significantly positive (Gefen et al., 2003; Gefen, 2000; Jarvenpa et al., 2000), but there has been controversial result by Heijden et al. (2003) stating that there is no any positive effect from trust in the online store and the perceived usefulness of the website on attitude towards online purchasing.

When studying the consumers from different countries, the issue, which is always worth paying attention to is cross-cultural differences, as they can help to understand the predictors of consumers' decisions and choices (Hofstede, 1991). Intention to purchase online is influenced by different factors and has to be found to be moderated by culture (Pena-Garcia, Gil-Saura, Rodriguez-Orejuela & Siqueira-Junior, 2020). On the other hand, the impact of cultural differences is quite controversial when studying the level of risk perception, dispositional trust, and technophobia in culturally different countries (Choi and Lee, 2003; Ghachem, Dobre, Etemad-Sajadi & Milovan-Ciuta, 2019; Omar, 1992; Ko, Jung, Kim & Shim, 2004; Weil and Rosen, 1995), TAM has to be found occasionally not working for some countries, and most of such studies seem to be quite outdated for the present.

Thus, as the impact of risk aversion, dispositional trust, and technophobia on online purchasing intention through the TAM model lacks the consensus in results from previous studies or is generally understudied, the research problem considers the following questions. What factors among risk aversion, dispositional trust, and technophobia have a stronger impact on intention to purchase online via TAM constructs? Do cultural differences have an influence on attitude towards online purchasing and as a result overall consumers' intention to purchase online?

This paper aims to study the moderating effect of uncertainty avoidance and individualism/collectivism on the relationship between risk aversion, dispositional trust, technophobia, and intention to purchase online.

To achieve the aim of this thesis, the following objectives were set:

1. To define the concepts of risk aversion, dispositional trust, and technophobia and their impact on intention to purchase online by reviewing and comparing existing studies and relevant literature.
2. To analyze existing trust, technology, and risk acceptance models, which can help to understand the connection between these variables and intention to purchase online.
3. To create a research methodology that would allow evaluating the impact of risk aversion, dispositional trust, and technophobia on the intention to purchase online.
4. To collect data from consumers that will be used in the analysis.
5. To measure and analyze how risk aversion, dispositional trust, and technophobia influence the intention to purchase online.
6. To compare how the impact of risk aversion, dispositional trust, and technophobia on online purchase intention differ depending on the level of risk avoidance and individualism/collectivism.
7. To make a conclusion based on the findings of performed research.



# **1 THEORETICAL ANALYSIS OF ONLINE PURCHASING INTENTION AND FACTORS HAVING AN IMPACT ON IT**

## **1.1 Concept of online purchase intention and its predictors**

The behavioral intention could be considered as consumers' motivation to perform a certain behavior or action considering direction (perform or not; this or that action) and intensity (how much time and effort to extend) (Sheeran, 2002). Triandis (1980) states that intentions could be regarded as instructions given by people themselves to behave in a certain way. The concept of intention underlies several social psychological models including the theory of reasoned action, the theory of planned behavior, and the attitude-behavior theory. The theory of reasoned action states that intentions could be viewed as proximal predictors of behavior being influenced by theory's predictors such as subjective norms and attitudes and by external factors such as personality (Fishbein, 1980). The theory of planned behavior also points out that intentions could be seen as important predictors of behavior but underlines that people cannot always force themselves to realize their intentions (Ajzen, 1991). Overall, these theories agree that intention could be considered as one of the most important predictors to perform a certain behavior or take a certain action.

The approach to the definition of purchase intentions can be tracked down to many studies. Raza, Ahad, Shafqat, Aurangzaib and Rizwan (2014) define purchase intention as relations between the consumer and the seller when the former is intended to make a transaction. Keller (2001) proposed his vision of purchase intention as a consumer's desire to acquire a certain specific item or even benefit. As for exactly online purchase intention, Pavlou (2003) stated that it could be considered as the desire or eagerness of consumers to make an online transaction. Thereby, based on the definitions given, it could be summarized that purchase intention is a condition of consumers' willingness to purchase a certain product online.

Purchase intention starts with an evaluation of the product and method of purchasing it using current knowledge and experience, then is also influenced by external factors as available information or other consumers' experience and opinion (Bukhari et al., 2013). Basically, in most cases, the intention to buy online is viewed through the prism of offline purchasing intentions considering such stages as need recognition, prepurchase search, and evaluation of alternatives (Heijden et al., 2003). On the other hand, it is also identified, that online purchasing differs from in-store experience at least in two issues such as technology and trust, which differentiate purchase intentions accordingly (Heijden et al., 2003). Pavlou (2003) also distinguishes trust, technologies, level of risk perception, online shopping frequency as factors influencing online intention to purchase. He even stated that trust and perceived risk were found to be direct antecedents of

intention to purchase online (Pavlou, 2003). Ezgi and Tevfik (2018) consider behavioral attitude, subjective norms, and perceived behavioral control as factors forming certain intentions to purchase online.

Previous studies show that positive behavioral attitude results in positive behavioral intentions and vice versa (Ajzen, 1991; Chih-Chung and Chang, 2005). Studies assessing subjective norms revealed that social norms, imposed by other people or institutions and being adjusted by the own beliefs and environment of consumers, influence consumers' intentions, including the intention to buy online (Bonera, 2011; Pena-Garcia et al., 2020). Many studies held showed that opinions of social groups, especially close friends and relatives, have a positive impact on intention to purchase online (Ezgi and Tevfik, 2018; Leeraphong and Mardjo, 2013; Yu and Wu, 2007).

Summarizing the aforementioned, it could be pointed out that when accessing the online purchasing intention, it is necessary to take into account the variety of internal and external factors that can influence it, causing whether positive or negative effects. Trust, technology, risks, social approval, and experience are just a part of those factors influencing online purchasing intention. However, without considering them it would be scientifically inaccurate to make certain conclusions regarding consumers' intentions and their future implementations.

## **1.2 Concept of risk-aversion and its impact on online purchase intention**

In the context of making decisions for a long time until now people tend to assess uncertainty and multiple risks associated with it beforehand. Therefore, attitudes and behaviors towards uncertainty and risks have been and still are highly studied fields in various disciplines, especially in mathematics, psychology, sociology, and economics. People assess risks in different ways, some assume risks to gain economic profits, others, on the other hand, tend to avoid risks in order not to lose time, money, etc. (Liao and Chung, 2011). Thus, when risks perceived are high, consumers become more worried and risk-averse (Campbell and Goodstein, 2001).

Existing for a long time and being used in different disciplines, the concept of risk aversion has different approaches in defining it. It is known that risk aversion is a fundamental element in theories of game, probability, lottery choice, assets valuation, expected utility, and others (Holt and Laury, 2002). And in the case of these theories, it is defined as “difference between the expected value of an auction and its certainty equivalent” (Montesano, 1990, p. 53) or as “decreasing preference for an increasing risk” (Montesano, 1990, p. 53-54). These definitions make it understandable, how the concept of risk aversion can be applied to other disciplines. Namely, it could be inferred that risk aversion is the people's preference to choose a certain outcome over uncertain and much riskier even if losing potentially greater outcome (Boyle, Yu,

Buchman & Bennet, 2012). This direction of defining risk aversion was also considered by Hofstede and Bond (1984); in their research, they associated risk aversion with uncertainty avoidance (UA) and defined it as “the extent to which people feel threatened by ambiguous situations and have created beliefs and institutions that try to avoid these” (Hofstede and Bond, 1984, p. 419). In other research, Hofstede (1991) also stated that people that have a high level of risk aversion are feeling threatened by risky and ambiguous situations. Therefore, risk aversion is a behavior of people consisting of avoiding risks when they are in a state of uncertainty to prevent various possible losses. In other words, it is the level of perceived risk the consumer can handle when intending to make a decision.

Perception of risks is one of the most widespread aspects studied in theories of human choice (Bauer, 1960), and is considered as an important factor in purchase behavior (Weber, Blais & Betz, 2002). Perceived risk theory explains how consumers driven by their behavioral characteristics hesitate to make a decision, for example, purchasing a certain product (Samadi and Yaghoob-Nejadi, 2009). Perceived risk being a part of every stage of the decision-making process becomes a challenge for making marketing decisions. This is where perceived risk theory comes in handy and helps to understand that perceived risk is a strong tool to manage consumers' behavior as consumers are more used to avoiding certain mistakes rather than increasing the efficiency of an outcome (Mitchell, 1992). Moreover, as perceived risk theory could be expanded to all kinds of consumer products (Samadi and Yaghoob-Nejadi, 2009), knowledge of how to apply it is vital for marketers from different industries. Knowing how consumers act being risk-averse, marketers can lead their consumers to more effective decision-making by giving them a better environment, developing appropriate marketing strategies to affect the consumers' shopping habits, and which reduce risk strategies to use (Samadi and Yaghoob-Nejadi, 2009; Tian-Que, 2012).

Boyle et al. (2012) found out that risk aversion can be considered as a meaningful variable when considering decision-making. Long before that, the strong effect of risk aversion on consumers' decision-making was also put forward by Shimp and Bearden (1982). They concluded that being risk-averse consumers tend to seek more information regarding the product before making a choice of buying the product (Shimp and Bearden, 1982). Measuring the effect of the relationship between perception of risks and intention to purchase, in most cases it is found to be negative (Pelaez, C. Chen & Y. Chen, 2017). But, on the contrary, performing their meta-analysis they found out that several studies were reporting significantly positive relations between variables, while in seven out of thirty-five studies no significant effect was found (Pelaez et al., 2017). Considering these studies' results, it could be concluded that risk aversion in most cases

has a negative influence on the decision-making process, which leads to reducing the possibility to make certain decisions when being uncertain about the success of the outcome.

As online purchasing is becoming more usable nowadays, the consumers' behavior in this area is vital to access. Risk aversion was found as an issue when talking about online purchasing. Riquelme and Roman (2014) found out that there is a direct negative influence of risk aversion on overall consumers' trust in online retailers. This assumption leads to the consideration that when dealing with online purchasing customers may have some bias regarding distrust in the overall reliability of online shopping. Besides, there were performed lots of studies regarding the comparison of perceived risk impact on online purchasing and traditional one. It was found out that the level of risk perception consumers handle when deciding to buy is higher in online purchasing than in shopping in-store (Cunningham, Gerlach, Harper & Young, 2005; Samadi and Yaghoob-Nejadi, 2009). This could be explained by the fact that the risk related to probable cost and loss of an online purchase is relatively higher compared to traditional purchasing that reduces the consumers' willingness to buy goods online (Barnes, Bauer, Neumann & Huber, 2007).

When thinking about purchasing online, consumers consider different risks associated with it including performance (functional), time (convenience), social, financial, psychological, physical risks, and security (Ariffin et al., 2018; Jacoby and Kaplan, 1972; Mitchell, 1992; Ward, 2008). The explanation of how these risks are defined and associated with online purchasing for the overall understanding or direction used in this research could be found in Table 1. Generally, these risks show that consumers are worried about negative outcomes as financial and time losses, public condemnation, and leakage of personal data.

Table 1

*Description of types of perceived risks*

Type of risk	Explanation
Performance (or Functional)	The uncertainty and the consequences associated with product inability to function at some expected level (Shimp and Bearden, 1982); or that product purchased will not result in customer satisfaction (Mitchell, 1992).
Time (or Convenience)	The risk that consumer will waste time, lose convenience or waste effort searching for products, waiting for their delivery or new replacement (Ariffin et al., 2018; Mitchell, 1992).
Social	Risk of damaging self-esteem and self-confidence of online-purchaser due to disapproval among family, friends, or communities (Ariffin et al., 2018; Jacoby and Kaplan, 1972).
Financial (Monetary)	Probability of monetary loss associated with online purchase, or the product bought does not worth price paid (Ariffin et al., 2018).
Psychological	Risk of losing self-respect, being dissatisfied in oneself because of choosing a poor product having huge variety of choices (Jacoby and Kaplan, 1972; Ward, 2008).
Physical	Possibility of potential threat to consumers health, safety, and well-being the product bought online could have (Jacoby and Kaplan, 1972; Ward, 2008).

Security	Risks associated with potential loss due to online fraud or hacking, disclosure of personal and financial information (Ariffin et al., 2018).
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It was found out that the higher perception of the aforementioned risks, the lower intention to purchase online consumers have (Ariffin et al., 2018; Ward, 2008). Ariffin et al. (2018) in their study showed that the financial risk, product risk, security risk, time risk, and psychological risk have a significant negative impact on intention to purchase online, whereas the social risk was insignificant. Bach, Silva, Souza, Kudlawicz-Franco and Veiga (2020) in their recent research show that performance risk has an impact on customers' decisions regarding buying online, while no impact of psychological and time risk was found. Overall, a negative impact of risk aversion (or perception of risks) could be found in many studies concluding that it leads to a decrease in online purchasing intention (Martin et al., 2011; Rajini and Krithika, 2016). Vijayasathy and Jones (2000) also concluded that perceived risks influence both consumers' attitudes toward online purchasing and their intention to purchase online. However, several studies argue this statement. Ventre and Kolbe (2020) in their study show that risk aversion has no significant impact on intention to purchase online.

Such different results arise the question of what can lead to different risk perceptions and the difference in their impact on intention to purchase online. The study conducted by Ko et al. (2004) concluded that consumers consciously and subconsciously are affected by risk aversion when intend to purchase online, but they perceive risks associated with online purchasing differently depending on their experience, skills, personality, and cultural background. The direction of the idea that purchase experience is negatively related to risk perception considering the shopping channel was also raised by Festervand, Snyder and Tsalikis (1986) and supported by Dai, Forsythe and Kwon (2014). Thus, in this case, the risk-aversion could be observed from an individual personality perspective.

The level of risk perception often depends on the consumers' characteristics and experience (Bach et al., 2020; Ko et al., 2004). Bach et al. (2020) found that socio-demographic characteristics such as age and gender have an impact on online purchasing decisions. Earlier Libermann and Stashevsky (2002) studying the impact of security risks on online purchasing intention concluded that the level of perceived risks is associated with demographic traits. Namely, in most cases they detected that women perceive significantly higher risks compared to men, older people more risk-averse than younger, and that married people as well as without higher education are more influenced by risks (Libermann and Stashevsky, 2002). There also have been several studies on the influence of past purchase experience. Dai et al. (2014) stated that risk perception is one of the most important variables in studying online purchasing intention and concluded that with an increased online shopping experience, consumers perceive lower levels of privacy and

financial risks. When intending to shop online, it is obvious that consumers would tend to remember their experience and have some developed knowledge base regarding online purchasing processes. In case if the experience was positive, the level of risk aversion can be lower. However, this is not that obvious as it seems to be. Pires, Stanton and Eckford (2004) in their research were trying to conclude whether increased internet purchasing experience reduces perceived risk. The conclusions they made show that this hypothesis could not be confirmed as there was not found a strong influence of past purchase experience on risk level perception in online purchasing (Pires et al., 2004). Therefore, it could not be exactly taken as a fundamental truth that experience has a direct negative impact on the level of perceived risk, and it needs future research as well as demographic influence.

Risk aversion happened to be a very important issue regarding influences that lead to positive or negative consumers' intention to purchase online. Researchers for a long time assess risks and their impact on consumers' behavior and decisions, try to explain what factors an influence on the level of risk perception have, whether there is a direct connection between perception of the risk and actual intention to purchase online. There have been found influential factors such as previous experience, demographics, that might lead to the different levels of risk perception; and there have been proposed different conclusions regarding the main question of whether online purchasing intention is affected by risk aversion. But the thing, which remains and allows us to talk about future reach connected with this issue is that there is no exact answer, and the results are still controversial.

### **1.3 Concept of dispositional trust and its impact on purchase intention**

Trust plays an important role in making a certain decision and taking actions both in social and business relations. It is crucial in these relations as it helps to build appropriate expectations about the person/institution people interact with (Gefen, 2002). Previous studies showed that trust defines the nature of relationships between buyer and seller (Dutta and Bhat, 2016; Li et al., 2012). As e-commerce transactions as beforementioned are considered ones of greater uncertainty compared to the traditional purchasing process, consumer trust becomes an even more crucial issue when assessing online purchase intentions.

Different approaches to defining trust could be found through many pieces of research. According to the use of rational choice theory (RCT), trust can be described as people's beliefs regarding the level of trustworthiness another human has regarding another network, person, group, or institution (Coleman, 1990; Li et al., 2012). Addressing the definition of trust given by Mayer, Davis and Schoorman (1995) to the context of buyer-seller relations, trust is seen as the willingness of a buyer to be exposed to the actions of a seller based on the expectations that the

seller will do a certain action important to the buyer regardless of the buyer's ability to monitor or control such seller's actions. As regard to management theory, trust is considered as the belief and expectation of a person about the possibility desirable action would be performed by the trustee (Sitkin and Roth, 1993).

The concept of trust could be overviewed from different perspectives depending on how trust is categorized. McKnight and Chervany (2001) state that trust could be categorized as dispositional, institutional, and interpersonal, where the former considers psychological and economical viewpoints, institutional trust viewed from sociological perspectives, and interpersonal trust from the viewpoint of social psychology and economics disciplines. As this research focuses on the impact of dispositional trust on the intention to purchase online from now and further, we will focus on this category of trust. A dispositional concept of trust explains an individual's decision to trust others (Kramer, 1999; Uslaner, 1999) and continuously develops through social learning basically from experience (Glanville and Paxton, 2007).

One of the most cited authors that access dispositional component of trust was Rotter (1967), in his article he defined dispositional trust as expectancy of reliance a person or group of people have regarding promises, words, verbal or written statements of another person or group of people. However, the thing is that he called dispositional trust as interpersonal, which might be misleading for some occasions. Overall dispositional trust has been studied and tried to be explained by several different researchers. For example, McKnight, Cummings and Chervany (1998) defined dispositional trust as a general ability to rely on others across a variety of situations and persons, while Mayer et al. (1995) named the dispositional concept of trust as propensity to trust and defined it as the willingness of one person to trust others.

Coleman (1990) when studying dispositional trust stated that person will trust in someone (person or institution) only if he/she is sure that from such act of trusting will gain some benefits, or that probability of some loss goes to zero. However, when assessing dispositional trust in this case, it is necessary to know in prior potential gain, loss, and probability that trustee could be considered as a trustful one, which is often impossible to know beforehand. Hardin (2002) in his studies covered the approach to dispositional trust from another angle by stating that when trustee's interests are similar with or linked with ones of trustor, disposition to trust is generally assured. Rousseau et al. (1998) suggested that dispositional trust, first, is a psychological condition but not a behavior or a choice and can result from them. Then, he also described that trust has a positive outcome and is developed under risk and interdependence, meaning that trust would not be needed if actions lack uncertainty and risk and desired results could be achieved without reliance on another person or group of people (Rousseau et al., 1998). While Cheung and Lee (2001) suggested that dispositional trust is an individual characteristic that is based on experience

and cultural environment arguing that people who find it easy to trust other people, would more likely trust in purchasing online compared to those people who do not trust others that easily.

From the definitions it becomes clear that dispositional trust as other forms of trust is a multidimensional concept; however, different authors identify various dimensions. For example, Ganesam and Hess (1997) believed that trust could be overviewed as a two-dimensional concept consisting of a partner's credibility and ability to keep promises and benevolence. Morgan and Hunt (1994) proposed that trust consists of reliability and integrity, while Zaheer, Mcevily and Perrone (1998) considered that trust is formed through predictability, honesty, and reliability. Generalizing ideas that previous pieces of research had, it could be stated that trust could be summarized in three broad dimensions such as competence or ability of person or group of people to fulfill its promises, benevolence meaning that trustee holds trustor interests above their own, and integrity suggesting that trustee acts honestly and reliably when fulfilling its obligations or promises to trustor (Chen and Dhillon, 2003).

Another important issue to consider when accessing the trust concept in research is levels of trust. There are several different approaches in measuring the level of trust both in terms and number of levels. Lewichi and Bunker (1995) referred to the trust as having three levels including calculus-based trust (lowest and the most fragile level), knowledge-based trust (formed over time), and identification-based trust (strongest and least fragile level, and too ideal to be true). Another approach considers that trust has four levels as follows: shallow dependence, shallow interdependence, deep dependence, and deep interdependence (Sheppard and Sherman, 1998). These approaches tend to be rather complex and require considerable attention and separate research; however, help to understand the complexity of the trust concept. Barney and Hansen (1994) in their research stated that trust could be assessed on three levels such as weak, semi-strong, and strong, and being appropriately applied each level of trust could be turned into an advantage. McAllister (1995) suggested that overall consumer trust could be assessed at low-level cognition-based trust (person's beliefs about reliability, dependability, and competence) and high-level affect-based trust (interpersonal care and concern, emotional bonds). This approach smoothly correlates with such trust attributes as competence, integrity, and benevolence; therefore, would be used in terms of current research.

Whereas institutional trust is broadly studied, the idea of dispositional trust's influence on online purchase intentions is less studied. It was theorized that disposition to trust influences both consumer's and online shop vendor's intentions to engage in trust-related behaviors online, namely, to engage in online purchasing (McKnight, Choudhury & Kacmar, 2002). Ganguly, Dash, Cyr and Head (2010) stated that trust in an online shop could be seen as a general mechanism through which other variables can positively influence purchase intention. The online environment



makes the context of trust different as in online stores, salespeople are absent (Lohse and Spiller, 1998), so that in this case selling organization (merchant) becomes a target of consumer's trust (Jarvenpaa et al., 2000). Li et al. (2012) also suggested that trust in the seller (merchant) could be considered as a form of the dispositional trust. In this case, the merchant was considered as a generalization of all human representatives of the selling side (Li et al., 2012). Basically, these authors meant that consumer's belief in the competence, integrity, and benevolence of the online store leads to dispositional trust (Gefen and Straub, 2004). So, to purchase online, customer needs to believe that online store is capable of handling the transaction, honest, fulfills obligations, and cares about the consumer's interests. The few previous studies on the trust in merchants available showed that it has a direct positive influence on online purchase intention (Gefen et al., 2003; Li et al., 2012). However, one of the most important problems that the concepts of dispositional trust, interpersonal trust, and institutional trust are mixed up and used interchangeably that makes the results not reliable.

Summing up, it could be stated that there were conducted many studies on the influence of trust on purchase intention; however, these studies concentrate more on institutional rather than dispositional trust. Impact of dispositional trust, or more precisely how consumer's trust in other people or institution, which in case of current study is online shopping, influences their intention to buy online is less studied and there are not many results published. That is why it is reasonable to assess whether people that are generally more trustful, would be more likely to buy online or not.

#### **1.4 Concept of technophobia and its impact on online purchase intention**

The process of purchasing online is directly connected with the usage of technologies so that arising such concern as fears connected with technology usage. Anxiety or negative attitudes could have an influence individual's decision to utilize new technologies (Kirkup, 1999). As technologies are developing and changing fast, many pieces of research are assessing the psychological reactions of people regarding technologies through such constructs as cyberphobia, technostress, and technophobia (Gilbert et al., 2003). Rosen and Weil (1995) argued that improvement that technologies bring to our life creates fear in some people that are forces to use these technologies. This idea was also supported by Cambre and Cook (1985) who stated that some people communicate technological changes might provoke cognitive and emotional reactions like fears and concerns that in turn may become a form of a technology-induced phobia

Previous studies showed that in defining the concept of technophobia there is no consensus as it is mixed up and interchangeably used along with other concepts (Chen, 2012; Jay, 1981; Korukonda, 2005). In some studies, it was found alternate use of technophobia and concepts as

computer anxiety (Kirkup, 1999; Korukonda, 2005; Mcilroy et al., 2007), computer phobia (Jay, 1981; Mcilroy et al., 2007), computer aversion (Meier, 1985), and technostress (Sami and Pangannaiah, 2006). The interchangeable use of these concepts might be, firstly, misleading, and is incorrect as they have different meanings, and some of them part of others (Anthony et al., 2000). This will become more obvious and understandable after considering what computer phobia and computer anxiety mean as they are mostly interchangeably used with the concept of technophobia. Computer phobia was defined as an overall negative attitude, fear and anxiety towards computers or present and future interactions with them (Jay, 1981; Rosen and Weil, 1992). People that suffer from computer phobia have to be found to have negative attitudes towards computers, which causes avoidance of them (Todman, 2000). Computer anxiety, on the other hand, often linked to computer phobia as it could be defined as negative feelings associated with computer usage or user fear, worry, and suspicions when he or she needs to use a computer (Chua, Chen & Wong, 1999; Hakkinen, 1994; Rohner and Simonson, 1981). This basically means that computer phobia deals only with fears of computers and could be reinforced and supported by computer anxiety, not the overall technologies, making clear that computer phobia is a part of technophobia.

Having studies several previous papers connected with technophobia, it could be stated that technophobia is a comprehensive concept considering negative attitudes toward different forms of technologies and interactions with them. As computer phobia, computer anxiety, and cyberphobia are inseparable parts of technophobia, most definitions are given through these concepts; however, it is vital to understand that they could not be used interchangeably. Table 2 summarizes the definitions of different authors regarding what they mean by technophobia.

Table 2

*Definitions of technophobia*

Author (s)	Definition
Jay (1981)	Technophobia is a form of mental resistance of people who talk or just think about computers; fear or anxiety towards computer; hostile or aggressive thoughts about computers.
Rosen and Weil (1995)	Technophobia is the existence of negative attitude toward current or future interaction with computers, negative global attitude toward computers, or self-critical internal interchange in the presence of computers.
Hughes (2010, p. 21)	“technophobia is used to describe the fear, discomfort, or anxiety towards technology of various forms”
Osiceanu (2015, p. 1139)	“an irrational fear or anxiety caused by side effects of advanced technologies”
Khasawneh (2015, p.38)	“an irrational fear and/or anxiety that individuals form as a response to a new stimulus that comes in the form of a technology which modifies and/or changes the individual’s normal or previous routine in performing a certain task”

Salamzadeh et al. (2013) are one among a few studied technophobia as a general concept without narrowing it to specific technology; however, this research is not that representative as it has many limitations. However, it also arises important issue such as cultural backgrounds stating that technophobia has no borders and affect people from different countries and that they have a different attitude to it and describes factors that could be considered as predictors of technophobia (Salamzadeh et al., 2013). He stated that there are fourteen factors that could be summed up into four categories: individual factors (e.g., lack of individual skills, lack of communication skills, personality; perceived complexity of use, perceived usefulness), social factors (e.g., ethical problems, cultural influences, norms, habits change), infrastructure factors (e.g., general changes in technology trends, laws and regulations), moderating factors (e.g., lack of training, experience, age) (Salamzadeh et al., 2013). Therefore, having analyzed different approaches to defining technophobia and its predictors, it becomes clear that it is a complex interaction of behavioral, emotional and attitudinal components as studies point out such negative feelings of users as fear, stress, worry, and anxiety that in turn are translated to a behavior of avoidance in use of technologies.

The academic literature lacks studies regarding the impact of technophobia on the intention to purchase online. And as people that fear technologies have not disappeared and are considered as protentional consumers, it is scientifically useful to consider whether technophobia could impact intention to purchase online. As the online purchasing process considers usage of technologies such as computers and the Internet, we would mainly focus on computer phobia and computer anxiety, but also assessing cyber phobia and some privacy concerns.

Gilbert et al. (2003) concluded that technology phobia correlates with demographic and psychological contexts, namely that technophobia is influenced by gender and consumers' preferences. They also stated that the main factors contributing to technophobia are anxiety and negative attitude variating not only by users' gender but also previous experience in interaction with computers (Gilbert et al., 2003). In this regard, it is also valuable to consider if there are different types of technophobes. Rosen, Sears and Weil (1993, p. 29) proposed three types of technophobes, connected mainly with the user's anxiety and reaction while using a computer, that are "uncomfortable users", "cognitive computerphobes", and "anxious computerphobes". An "uncomfortable user" is a person who is a little bit anxious and simply lacking information about computers, "cognitive computerphobic", on the other hand, is a person who only seems to be calm and relaxed, when internally experiencing negative feelings and doubting about own capacity, whereas "anxious computerphobe" is one who has the highest anxiety level when dealing with computers exhibiting such signs as sweaty palms, heart palpitations, headaches (Rosen et al., 1993, p. 29). Based on this model, it could be seen that people have a different level of computer phobia

depending on their distinctive characteristics. It is also obvious that the level of computer phobia correlates with previous experience and computer competency, meaning that the less computer competent users are and less experienced, the higher level of computer phobia they would suffer (Weil and Rosen, 1995).

Another issue, which is part of technophobia is cyber-fear, which in turn relates to privacy concerns and fears of identity theft. The concept of cyber-fear is not broadly studied and there have not been lots of definitions and research results regarding its influence on intention to purchase online. Mason, Stevenson and Freedman (2014) defined the cyber-fear as perceived threats that make an individual feel an overall fear of having an experience with digital activities. They also determined that technology awareness, the Internet user experience, and frequency of Internet use could be named as factors that have a negative effect on cyber-fear (Mason et al., 2014). As consumers started use the Internet for purchasing, they started to transfer their personal and financial data to other parties to perform a transaction (Buchanan, Paine, Joinson & Reips, 2007; Forsythe, Liu, Shannon & Gardner, 2006). This raised fears and concerns about loss of personal privacy in online context (H. Wang, Lee & C. Wang, 1998), “security fears” (Miyazaki and Fernandez, 2001, p. 41), or privacy fears (Rust, Kannan & Peng, 2002). These ideas were then elaborated by Westin (2003) to fears regarding secure usage of credit cards when shopping online and by Xu and Gupta (2009) to fears of losing personal information. Based on these fears, consumers feel vulnerable due to the possibility of identity theft that changes their online behavior (Gartner, 2005; Milne, Labrecque and Cromer, 2009). Generally, fear of identity theft is defined as consumers’ negative emotions that are activated by their thoughts about the possibility of stealing personal and financial data when making an online transaction (Hille, Walsh & Cleveland, 2015). Hille et al. (2015) also narrowed fear of identity theft to two dimensions: fear of financial losses and fear of reputational damage. It was previously inferred by many studies that concerns regarding privacy have a strong negative effect on different online-related activities including purchasing (Akhter, 2014; Slyke, 2006; Cosar, Panyi & Varga, 2017). Thus, fears connected with online activities, namely privacy and information leakage, are another component of technophobia, which is worth considering when dealing with its influence on the online purchasing intention of customers.

Dai et al. (2014) in their study showed that the risk of privacy loss has a negative effect on purchasing intention. Sproule and Archer (2010) determined that fear of identity theft led to the change in consumers’ behaviors online resulting in more than half of respondents reduced their Internet activity and buying products online. On the other hand, Zimaitis, Degutis & Urbonavicius (2020) in their research found out that there is a positive relation between cyber-fear and online purchasing intention, which is rather contradictory, and that basically privacy concern effect is not

significant. Therefore, the absence of consensus on the effect of fear and concerns connected with the online environment leads to a necessity to research it furthermore.

It is also valuable to address that there is a connection between the fear of financial losses, fear of reputational damage, and perceived risk, and intention to purchase online (Gasper et al., 2018); however, this area is understudied. Gasper et al. (2018) concluded that two beforementioned dimensions of fear of identity theft (fear of financial losses and fear of reputational damage) have a significant positive effect on the level of perceived risk, meaning that while fear of identity theft is increasing, so does the level of risk perception. On the other hand, they also showed that the relationship between risk perception and intention to purchase online could be explained by the increase of fear of identity theft, namely that perceived risk could be increased by the incline in the level of fear of identity theft that consequently leads to the decrease in online purchasing intention (Gasper et al., 2018).

Having analyzed previous studies, it becomes clear that until now, the term technophobia is used interchangeably with other concepts such as computer anxiety, computer phobia, and others, which make it confusing and not scientifically correct. As for the predictors of technophobia, there are several to pay attention to including previous experience, personality, overall computer competency, and level of risk perception. As there were not many studies regarding the direct impact of technophobia on the intention to purchase online, it is hard to make a solid conclusion on how significant this impact; however, it is expected to have a negative effect. This is what will be tried to be assessed and confirmed by the current study.

### **1.5 Technology Acceptance Model (TAM) in the online purchasing context**

When assessing technological aspects in research, it is always useful to consider such model as Technology Acceptance (TAM) as it allows deeper understand what influences consumers when dealing with technologies. The TAM was developed based on the Theory of Reasoned Action (TRA) and suggests that people frame an attitude to a certain object based on their beliefs and on the premise of which an intention to behave is shaped (Davis, 1989). Davis (1989) explained technology usage by specifying two beliefs such as perceived usefulness (PU) and perceived ease-of-use (PEOU), stating that PU and PEOU influence the decision to use when people are involved with new technology and when they use it.

Overall, TAM model was one of the first models that demonstrates that PU and PEOU are central to individuals' motivation to adopt and use new technologies (Schepers, Wetzels & Ruyter, 2005). The relevance and sustainability of PU and PEOU in the online context have been confirmed by different researchers (Lederer, Maupin, Sena & Zhuang, 2000; Moon and Kim, 2001). However, the TAM was updated and there were added such antecedents of PU and PEOU

as subjective norms, output quality, and experience (Venkatesh and Davis, 2000). There have been lots of different studies that attempted TAM when determine factors that might have impact on online purchasing behaviors assessing different sample and countries (Fayad and Paper, 2015; Ingham, Cadieux & Berrada, 2015; Lim and Ting, 2012; Pantano and Pietro, 2012).

The TAM could be considered in the online shopping context by treating online consumers as computer users and an online shopping space (a webstore) as a technology system (Koufaris, 2002). In this context, it is expected that shopping online is more beneficial for the consumer (PU) and that is more convenient and does not require any significant effort (PEOU). The idea that there is a connection between PEOU, PU and intention to use technology in the online context, stating that PEOU has an indirect impact on attitude towards online purchasing and then intention through PU, whereas PU has a direct influence on it was broadly discussed and concluded in different pieces of research (Davis, 1989; Gefen and Straub, 2000; Hassanein and Head, 2007; Pavlou, 2003). Ramayah and Ignatius (2005) in their research discussed the impact of PU and PEOU exactly regarding online purchasing intention. They concluded that PU was not a significant factor that determines intention to purchase online, while PEOU has to be found to have a positive influence on the online purchasing intention (Ramayah and Ignatius, 2005). On the other hand, several studies concluded that PU has a positive effect on online purchasing intention (Athapaththu and Kulathunga, 2018; Dash and Saji, 2006; Gefen et al., 2003).

The TAM constructs were also observed in connection with such antecedents of online purchasing intention as perceived risk and trust. Li and Huang (2009) observed the relationship between perceived risk and PU and PEOU in the online shopping channel and confirmed that perceived risk is negatively related to both PU and PEOU, while PU and PEOU are positively related to intention to purchase online. A similar conclusion was established by Heijden et al. (2003) stating that perceived risk and PEOU are antecedents of intention to purchase online, and that perceived risk has a negative effect on the intention to purchase online. It means that the higher level of perceived risk, the fewer consumers find buying online useful and effortless, which in turn decreases their intention to purchase using the Internet. Athapaththu and Kulathunga (2018) in their research studied the relation between PU, PEOU, and trust, concluding that the relationship between perceived usefulness and trust and between perceived ease of use and trust was significant. These findings were also coherent with prior studies (Gefen et al., 2003; Gefen, 2000; Jarvenpaa et al., 2000). On the other hand, Heijden et al. (2003) had different conclusions, they did not find any positive effect from trust in the online store and from the perceived usefulness of the website on attitude towards online purchasing.

## **1.6 Moderating effect of cultural differences on the consumers' attitudes and intention to purchase online**

When researching online purchasing intention, an issue that is worth paying attention to is cross-cultural differences. Here and further in this research, the approach of McDaniels and Gregory (1991) is followed, stating that cultural differences follow the countries boundaries taking into consideration individual level. Slyke, Lou, Belanger and Sridhar (2010) point out that even though the behavior of online users is a global phenomenon, the cultural origin of the consumer influences the intention to purchase online. Omar, Bathgate and Nwankwo (2011) even state that online purchasing intentions could be more understood if put more attention and emphasis on accessing the consumers' cultural background rather than decision-making itself. And Pena-Garcia et al. (2020) in their study confirmed a hypothesis stating that intention to purchase online being influenced by different factors is moderated by culture. Thus, culture could be considered as one of the most influential factors affecting consumers' behavior, attitude towards decision-making, intentions, and purchasing in the international environment (Ko et al., 2004).

The most widely adopted framework to study cultural differences is cultural dimensions developed by Hofstede: power distance (PD), individualism, masculinity, uncertainty avoidance (UA), long term orientation, and indulgence (Hofstede, 1991). Power distance dimension refers to inequality in the society and shows the extent to which less powerful members of the society expect and accept the fact that power between individual is distributed unequally (Hofstede, 1991). High power distance countries include India, China, Mexico, and Russia, whereas most Western countries such as United States, Australia, and Israel are considered as low power nations (Rinne et al., 2012). Individualism-collectivism dimension shows the degree of interdependence between members of society, for example, Asian countries are more adherent to the norm and group decisions, that individualistic countries that more value needs and wants (Fam and Waller, 2003). As for masculinity-femininity, there fundamental difference is what motivates people whether competition, achievement, and success (Masculine) or caring for others and quality of life (Feminine) (Hofstede, 1991). Uncertainty avoidance refers to the people's ability to deal with uncertainty, ambiguous or unknown situations and how they tend to create beliefs and institutions that try to avoid this uncertainty (Hofstede, 1991). In some countries, for example in East Asian countries, uncertainty avoidance has been found as a dimension that most define cultural difference (Hofstede et al., 2010). Long-term orientation focuses on how society deals with own past and challenges of present and future (Minkov and Hofstede, 2011). Finally, indulgence-restraint dimension assesses how people from different nations try to control their impulses and desires (Hofstede et al., 2010).

In terms of current research, as we focus on such external variables risk aversion, dispositional trust, and technophobia, considering previous studies, the most influential dimensions found to be uncertainty avoidance and individualism-collectivism. According to Hofstede and Bond (1984), people from high uncertain avoidance cultures tend to avoid uncertain, risky, ambiguous, and undefined situations at all costs, while people from low uncertain avoidance cultures find risk as a natural life component that could provide opportunity. So, it could be interpreted as that consumers from countries with high uncertainty avoidance are less risk-taking, try to rely on regulations and law, and in doubt when considering buying online due to safety and security issues (Al Kailani and Kumar, 2011). Based on Hofstede's classification of uncertainty avoidance, each country has a score, and the greater score the more risks influence people's intentions, attitudes, and decisions (Hofstede, 1991).

Previous studies show controversial results regarding the influence of cultural differences on the level of risk perception when purchasing online. Ko et al. (2004) in their study have not found a significant difference in the perceived risk between two countries (the USA and South Korea) with relatively different scores regarding uncertainty avoidance according to Hofstede. However, at the same time, Choi and Lee (2003) assessing the same countries concluded that Korean and American consumers perceive risks associated with online purchasing differently, namely Korean respondents had a higher level of risk avoidance than the USA respondents. The difference in the level of risk perceptions of consumers was also found in the case of Canada, the U.K., and the USA, whereas countries have different, but not really deviating uncertainty avoidance scores (Ueltschy, Krampf & Yannopoulos, 2004). However, results received by Ghachem et al. (2019) contradict most pieces of research as they state that the risk of buying online is influenced by uncertainty avoidance, but the correlation is negative, meaning that respondents from cultures where uncertainty avoidance is high perceiving fewer risks about online buying.

Hofstede's individualism versus collectivism dimension, and this concept of people's dependence on themselves versus group can be assessed when dealing with dispositional trust (Hofstede, 1991). Individualism is more about personal goals and rights, while collectivism emphasizes obligations towards the collective, loyalty to the group and ingroup favoritism (Hoorn, 2015). Several previous studies suggested that individualism - collectivism relates to the extent to which people are willing to trust others or the extent dispositional trust is influenced by group (Realo, Allik & Greenfield, 2008; Yamagishi, Cook & Watabe, 1998). Hoorn (2015) determined that people from the individualism countries could be associated with a broad radius of trust meaning that these people tend to trust other people more and have a wider circle of trust than people from collectivistic countries. In addition, dispositional trust issues also could differ regarding such Hofstede's cultural dimension as uncertainty avoidance (Minkov and Hofstede,



2014). Cultures with high uncertainty avoidance score are associated with many people thinking that they cannot trust people and need to be careful in dealing with them (Beugelsdijk and Welzel, 2018).

As for cultural differences regarding technophobia, there have been held several studies, but most of them assessed mainly the USA and several other cultures included China, Sweden, Spain, Kuwaiti (Farina, Arce, Sobral & Carames, 1991; Lieskovsky, 1998; Omar, 1992; ; Pancer, 1992; Sigurdson, 1991; Weil and Rosen, 1995). Thus, Omar (1992) concluded that the US students have an overall more positive attitude toward technology usage also confirming the statement that more experienced users have lower computer phobia level when students from Kuwaiti had a less more negative attitude toward technology use with no effect of previous experience. In addition, he showed that when in the USA there were no gender differences found, in Kuwaiti women had a significantly more negative attitude toward computers than men (Omar, 1992). Weil and Rosen (1995) have performed a broad cross-cultural analysis of technophobia questioned students from twenty-three countries. The results of their study showed that there is a wide range in the level of computer phobia among respondents from different countries, meaning that culture has an influence on the level of technophobia (Weil and Rosen, 1995). Moreover, they concluded that there was no significant correlation between age and gender and level of computer phobia; however, these results could be that representative as their sample included only students (Weil and Rosen, 1995). Therefore, based on several studies, it could be concluded that people from culturally different countries have different attitudes towards the usage of technologies and different level of technophobia. However, as there was performed a small amount of such studies and they could be outdated as technologies are continuously developing and people's experience and attitudes change as well, it is necessary to reassess it and to identify whether a cultural difference in technophobia perception reinforced the intention to purchase online or not.

There have been several studies assessing implications of Hofstede's cultural dimensions on the TAM model. One of such studies held by McCoy, Galetta, and King (2007) shows that TAM model appears not to fully hold for people scoring low on UA, high on PD, high on Masculinity, and high on collectivism. Overall, this could be explained by means that individuals with low UA might not need extra assurance of usefulness and ease of use as such people do not seek to avoid some uncertainty (McCoy et al., 2007). As for PD, failure of PU and PEOU's path to BI could be explained by the fact that for individuals who respects those of higher authority there is no need the added usefulness and ease of use to make some decision (McCoy et al., 2007). Also, people from high collectivistic countries are more willing to suffer with lower usability to accomplish the goals focusing less on own effort and more on group values (McCoy et al., 2007). In earlier work, Straub, Keil, and Brenner (1997) tested whether TAM could be attributed to

different countries and concluded that TAM model did not significantly differ between USA, Switzerland, and Japan. This is valuable information to have in mind when study different cultures using TAM model as a core.

Considering previous studies and their results, cultural differences seem to have a significant role when studying the consumers' intention to purchase online, therefore, it becomes even more scientifically relevant to test how impacts of such factors as risk aversion, dispositional trust, and technophobia might differ via constructs of TAM considering cultural specifics.

## **2 METHODOLOGY AND RESEARCH DESIGN FOR ASSESSING THE MODERATING EFFECT OF UNCERTAINTY AVOIDANCE AND INDIVIDUALISM/COLLECTIVISM ON THE RELATIONSHIP BETWEEN RISK AVERSION, DISPOSITIONAL TRUST, TECHNOPHOBIA, AND INTENTION TO PURCHASE ONLINE**

### **2.1 Purpose of the research and research model**

The impact of risk aversion, dispositional trust, and technophobia on customer online purchasing intention have been studied by researchers for several years now. However, the results of such studies lack consensus, in majority of cases authors mix up the concepts, and overall, there were still just a few well-performed studies, therefore, it is hard to distinguish exceptional findings and draw specific conclusions that do not need verification. As it was previously discussed in the literature review, part of this research tends to assess impact of risk aversion, technophobia, and dispositional trust on online purchasing through technology acceptance model constructs such as perceived usefulness, perceived ease of use and attitude towards online purchasing.

However, while previous literature at least somehow covers direct impact of risk aversion and dispositional trust, impact of technophobia regarding such relations seems to be understudied. In addition, the influence of cultural differences on online purchasing intention regarding these variables are not that widely studied and understood, and existing results either controversial and/or really outdated. Thus, the purpose of this research is to find out whether risk aversion, technophobia, and dispositional trust have impact on intention to purchase online along with comparing these impacts and relations as for different cultural perceptions of respondents. By researching these impacts and receiving specific and recent results, this research aims to benefit online businesses by providing insights what might their online customers fear, feel, and need when shopping online and, how it could be assessed and used to make this experience more friendly and convenient for such customers so that they would have an intention to buy online.

The research model of this study aims to provide visual representation of the purpose of the research. This model was developed considering theoretical background of previous studies. Previously, online purchasing intention was studied by using the theory of reasoned action (TRA) and technology acceptance model (TAM), which suggest that consumers form an attitude to a specific product (object) considering their own beliefs, so that based on this an intention to behave in a certain way is shaped (Davis, 1989). Overall, TRA and TAM have been widely used in academic research to study online purchasing intentions, and it allowed to distinguish additional antecedents of online purchasing intention such as trust, technologies, perceived risks, perceived

behavioral control, previous experience, and online shopping frequency (Bonera, 2011; Ezgi and Tevfik, 2018; Gefen et al., 2003; Heijden et al., 2003; Pavlou, 2003; Pena-Garcia et al., 2020).

Previously mentioned antecedents of intention to purchase online were also studied by using several specific theories and models. Technological antecedents are the perceived usefulness and perceived ease-of-use, while from the trust perspective trust in online store and perceived risk are considered as antecedents (Jarvenpaa et al., 2000). Thus, risk aversion previously was assessed through perceived risk theory, which explains how consumers driven by their behavioral characteristics hesitate to decide (Mitchell, 1992; Samadi and Yaghoob-Nejadi, 2009; Tian-Que, 2012). It helps to understand how consumers act being risk-averse, and how this could be used to affect the consumers' shopping habits and create a better environment for making decisions. In some research, trust is studied through management theory, in which trust is seen as the belief and expectation of a person about the possibility desirable action would be performed by the trustee (Sitkin and Roth, 1993). While other studies have suggested to use rational choice theory (RCT) (Lewicki and Bunker, 1995; Shapiro, et. al, 1992). RCT, depicts trust as a form of rational action in which trustor calculates another's trustworthiness (network, person, group, or institution) and assess benefits of placing trust in another before deciding (Coleman, 1990). Impact of technophobia on people's intentions is quite understudied. Several previous studies, tried to assess the impact of technophobia based on the theory of diffusion of innovation developed by Rogers in 1962, which explains the adoption of new technologies into the market, and consumer reaction to these technologies (Carr, 2004; Kotze et al., 2016). Even though this theory outlines how new technologies spread through society and cultures, it does not incorporate the side of fear or anxiety.

Thus, current research aims to incorporate benefits of all theories and models mentioned above. Using the statements of the theories and findings of previous studies, current study adds factors relevant for explaining intention to purchase online, which were described in the literature review part.

Developed for current research model helps to provide new insights in understanding what impact risk aversion, technophobia, and dispositional trust might have on intention to purchase online, and how perceived usefulness, perceived ease of use and attitude could explain relations between these variables, and how difference in uncertainty avoidance and individualism score between respondents might change the direction, strengthen, or diminish these relations (*Figure 1*).

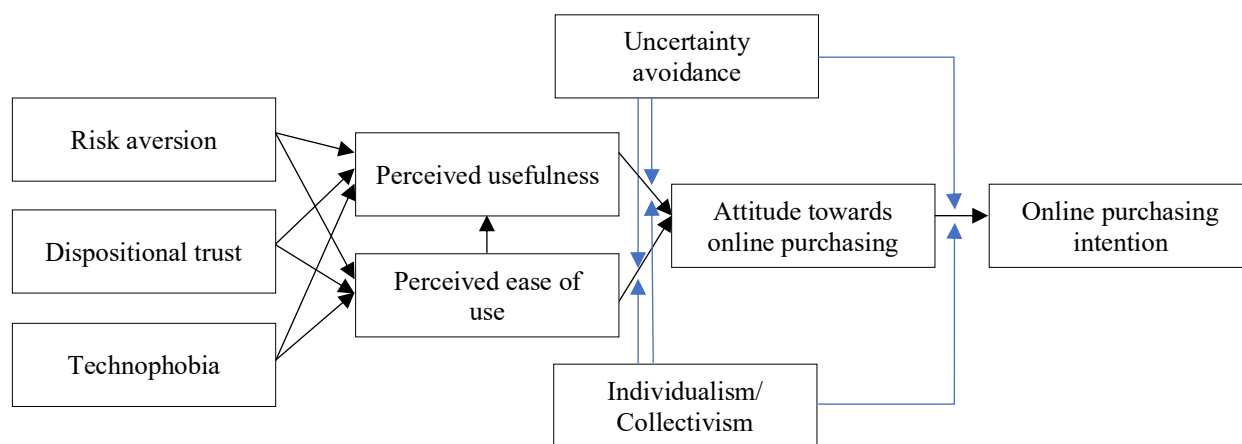


Figure 1. Research model.

## 2.2 Research hypotheses

### 2.2.1 PU and PEOU

According to Davis (1989), PU could be defined as the individual's perception that by usage of new technology, his/her performance would be improved or enhanced, whilst PEOU refers to the extent to which individual believes that actual using of a certain technology would be free from any effort. Applying this to the context of online purchasing, PU is referred as a consumer's perception that purchasing products online will improve their shopping performance and experience, while PEOU refers to the consumer's belief that shopping online would need minimum effort to be made.

According to TAM model, PEOU affects PU (Davis, 1989). Previous studies on online shopping concluded that PEOU has a positive impact on PU in different markets (Gefen et al., 2003; Gefen and Straub, 2000; Kim, 2012). Therefore, it means the easier the usage of new technologies for consumers when shopping online is, the more useful they find it is (shopping online) (Celik and Yilmaz, 2011; Lim and Ting, 2012; Monsuwe et al., 2004; Sondakh, 2017). Therefore, we formulated the following hypothesis.

**H1.** *Consumer's perceived ease of use of an online shopping positively influences perceived usefulness of online shopping.*

### 2.2.2 Attitude towards online purchasing

Ajzen (1991) in his research defined attitude towards certain behavior as "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (p. 188). Then, looking into TAM, which is based on TRA, PU and PEOU are named as central motivators for individuals to use new technologies (Davis, Bagozzi, & Warshaw, 1989; Schepers et al., 2005). If address this to the online purchasing environment, it means that consumers would have positive attitude towards online purchasing, if they perceived that it would be easy to perform

(PEOU). PU also important determinant of attitude towards online purchasing, as more useful consumers find online shopping for them, the more appealing and favorable attitudes towards online shopping they have (Celik and Yilmaz, 2011; Lim and Ting, 2012). Previous studies confirmed these ideas, stating that PEOU and PU have significant impact on attitude towards intention to shop online (Keswani et al., 2016; Nguyen et al., 2019). Thus, we proposed following hypotheses.

**H2.** *Perceived usefulness of online shopping has a direct positive impact on attitude towards online shopping.*

**H3.** *Perceived ease of use has a direct positive impact on one's attitude towards online shopping.*

### 2.2.3 Intention towards online purchasing

The relationship between attitudes and behavior is explained within TRA, stating that individual's attitude towards a certain behavior is determined by their belief and evaluations of having/showing such a behavior (Fishbein, 1980; Shih, 2004). Behavioral intention is seen as an individual motivation to perform a certain behavior considering how much efforts and resources needed and how high the wiliness to perform it is (Sheeran, 2002). Or even narrower, online purchase intention could be defined as consumer's desire or eagerness to acquire some specific item by making online transaction (Pavlou, 2003; Keller, 2001). TAM explains this relationship between attitude and intention showing that the intention towards using a new technology or system is determined by individuals' attitude towards this technology (Davis, 1989). This statement of TAM has been applied to different situations including payment services, banking, informational services, and so on; therefore, in terms of current research, it could be also addressed to online purchasing intention. According to different previous studies, consumers have stronger intention towards purchasing online, if their attitude towards it is positive (Gefen et al., 2003; Kim et al., 2008; Monsuwe, 2004). Therefore, the following hypothesis is developed.

**H4.** *Attitude towards online shopping positively influences consumer's intention to purchase online.*

### 2.2.4 Risk aversion

Overall, risk aversion is behavior of people consisting of avoiding risks and uncertain and ambiguous situations to prevent possible losses (Boyle et al., 2012; Hofstede and Bond, 1984). Considering previous studies, it is stated that people with high level of risk aversion, feel threatened and try to avoid risks when thinking about purchasing online to minimize possible losses (Boyle et al., 2012; Hofstede, 1992; Samadi and Yaghoob-Nejadi, 2009).

TAM model has been used for many studies, as it allows to use and check different external variables. Risk aversion is not commonly used variables, however, there have been several studies accessing it as antecedents of online purchasing intention. For example, Heijden et al. (2003) stated that risk aversion and PEOU are antecedents of intention to purchase online, and that the former negatively impact it. This was also Li and Huang (2009) also studies these relationships and concluded that risk aversion is negatively related to both PU and PEOU, while PU and PEOU are positively related to intention to purchase online. Therefore, it could be hypothesized that the higher level of risk aversion consumer has, the lower possibility consumer finds online buying effortless and useful thing, which means lower intention to purchase online. Based on this, we made up the following hypotheses we want to check.

**H5.** *Risk aversion negatively influences perceived usefulness of online purchasing.*

**H6.** *Risk aversion negatively influences perceived ease-of-use of online purchasing.*

#### 2.2.5 Dispositional trust

Dispositional trust had been observed as an expectation about trustor's trustworthiness, or reliance on trustor (Rotter, 1967; McKnight et al., 1998). Disposition trust previously has been studies in relation to different variables, including attitude and intention, and has been named as rudiment for online purchase intention (Chang and Chen, 2008; Kim et al., 2008). Understanding what impacts it might have is critical as it might open new areas for improvement to make people believe your online selling environment and rely on you as online seller. Overall, previous studies confirm that dispositional trust is positively related to consumers' attitude towards online shopping and online purchase intention (Al-Debei et al., 2015; Ponte et al., 2015; Sharma et al., 2017).

As for applying dispositional trust as TAM external variable, there have been few studies, but the results were different. Athapaththu and Kulathunga (2018) concluded that relationship between dispositional trust and PU, and dispositional trust and PEOU was significant and positive, and these findings were also coherent with several prior studies (Gefen et al., 2003; Gefen, 2000; Jarvenpaa et al., 2000). However, in contrary, Heijden et al. (2003) did not find any significantly positive impact on these variables. Therefore, it is scientifically needed and useful to check it once again and for narrower target, so the following hypotheses were developed.

**H7.** *Dispositional trust positively influences perceived usefulness of online purchasing.*

**H8.** *Dispositional trust positively influences perceived ease-of-use of online purchasing.*

#### 2.2.6 Technophobia

Concept of technophobia previously has not been studied broadly, especially as a general concept. Most studies assessed different forms of technophobia such as computer anxiety, cyber

fear, and others. Technophobia in its broad meaning is complex of negative feelings such as stress, fear, worry, and anxiety that in turn are translated to a behavior of technologies use avoidance (Dai et al., 2014; Salamzadeh et al., 2013). Looking into results of previous studies, it could be concluded, that all aspects that could be included in concept of technophobia have a negative effect on purchasing intention as fear of privacy loss (Akhter, 2014; Cosar et al., 2017; Dai et al., 2014; Slyke, 2006), fear of identity theft (Sproule and Archer, 2010), and other. While also could be found some contradictory results, as one of positive effect of cyber-fear on online purchasing intention.

Buying products online creates advantages to the customers (Zhang and Na, 2002), but at the same time some of the customers might have different anxieties and problems towards online shopping, and one of the most common reason for that is security related issues and overall fears of technologies (Donmez-Turan and Kir, 2019). Previous studies show that that such sense of anxiety or fear of technologies is negatively related to attitude and behavior toward using some technology or system (Compeau and Higgins, 1995; Igarria and Parasuraman; 1989). Due to meta-analysis held by Dwivedi et al. (2011), computer anxiety was used as an external variable and unified theory of acceptance and use of technology, which is based on TAM. Moreover, several previous studies concluded that computer anxiety, being a part of technophobia concept, effects negatively perceived ease of use and perceived usefulness (Guo et al., 2013; Nov and Ye, 2009). Therefore, considering all mentioned above, we propose the following hypotheses in terms of current research.

**H9.** *Technophobia negatively influences perceived usefulness of online purchasing.*

**H10.** *Technophobia negatively influences perceived ease-of-use of online purchasing.*

## 2.2.7 Cultural differences

### 2.2.7.1 Uncertainty avoidance

Having consumer's online behavior as a core of current study, it might appear that culture is not important factor as online environment is a global phenomenon, however, cultural origin of the consumer still matters (Slyke et al., 2010). Some researchers even state that online purchasing intentions could be more understood if put more attention and emphasis on accessing the consumers' cultural background rather than decision-making itself (Omar et al., 2011). This was confirmed by several other studies by concluding that culture is one of the most influential factors affecting consumers' behavior, attitudes, and intentions (Ko et al., 2004; Pena-Garcia et al., 2020).

Uncertainty avoidance has to be found one of the most influential dimensions when access risk aversion, trust, and technophobia in regard to online purchasing intention as it is connected with consumers' ability to deal with uncertainty, ambiguous or unknown situations (Al Kailani



and Kumar, 2011; Hofstede, 1991). Overall, Hofstede (1991) stated that people with high uncertain avoidance score tend to avoid uncertain, risky, ambiguous, and undefined situations at all costs, while people with low uncertain avoidance score find risk as a natural life component that could provide opportunity. These implications on TAM have been studied by several researchers. For example, McCoy et al. (2007) concluded that individuals with low UA might not need extra assurance of usefulness and ease of use as such people do not seek to avoid some uncertainty, while those of high UA are more likely to need it. Therefore, it could be hypothesized that the level of UA moderates the relationship between PU, PEOU and attitude towards online purchasing and the latter and intention to purchase online.

**H11.** *The relationship between perceived usefulness of online shopping and consumer's attitude towards it is moderated by consumer's uncertainty avoidance level.*

**H12.** *The relationship between perceived ease-of-use of online shopping and consumer's attitude towards it is moderated by consumer's uncertainty avoidance level.*

**H13.** *The relationship between consumer's attitude towards online purchasing and intention to purchase online is moderated by consumer's uncertainty avoidance level.*

#### 2.2.7.2 Individualism/Collectivism

Similar to uncertainty avoidance, individualism/collectivism is one of the cultural factors covered by Hofstede's dimensions. Previous studies suggested that individualism - collectivism relates to the extent to which people are willing to trust others or the extent dispositional trust is influenced by group (Realo et al., 2008; Yamagishi et al., 1998). For example, Hoorn (2015) in his study concluded that consumers with individualistic view have a broader radius of trust than consumers with collectivistic, meaning that the former tend to trust more in others.

This cultural dimension also has been assessed via TAM by several researchers. McCoy et al. (2007) showed that TAM might not fully work for those consumers, who has collectivistic view; and it was determined by them that people from such countries can suffer with lower usability to reach some goals even with decreased personal comfort if it is for a common good. Thus, we suggest the following hypotheses to be checked in the current study.

**H14.** *The relationship between perceived usefulness of online shopping and consumer's attitude towards it is moderated by individualism/collectivism.*

**H15.** *The relationship between perceived ease-of-use of online shopping and consumer's attitude towards it is moderated by individualism/collectivism.*

**H16.** *The relationship between consumer's attitude towards online purchasing and intention to purchase online is moderated by individualism/collectivism.*

### **2.3 Data collection methods and instruments**

Taking into account research objectives and developed hypothesis, quantitative research was conducted, and data was collected by online survey. This method was considered appropriate for data collection, first, since online purchasing intention is the object of current study and online surveys are widely used to study it. Second, online based survey found to be comparatively cheap and rapid method of data collection comparing to other survey types (mail, one-to-one, paper-based) (Boyer, Olson & Jackson, 2001; Dillman, 2000). Moreover, since current study covers big number of researched factors, online survey makes it possible to ask a lot of questions and target big samples from remote locations. Overall, since Master Thesis projects are strictly limited in time and resources, online surveys are generally applicable and widely used by students.

The online questionnaire consisted of three parts and was developed in English. First part had questions allowed to screen out those participants who would not feel confident to participate in survey hold in English and have not bought products online at least once. Second part of the questionnaire was developed to investigate people's risk aversion level, trust in online shopping, fear of technology, perceived ease of use, perceived usefulness, attitude towards online purchasing, and intention to purchase online using a 5-point Likert-scale from 1 (strongly agree) to 5 (strongly disagree). Last part of the questionnaire consisted of questions for demographic data collection including respondents' age, gender, education, and residence country.

The items for the questionnaire were derived from previous similar studies on the impact of risk aversion, dispositional trust, and technophobia, and TAM constructs on intention to purchase online. The information regarding consumers' risk aversion was gathered by suggesting participants to answer questions from general risk aversion scales developed and investigated by Mandrik and Bao (2005). To measure the degree to which humans relate and feel about technology, 12-items scale developed by Martinez-Corcoles, Teichmann and Murdvee (2017) was used. The full list of questions regarding risk aversion and technophobia is presented in the Annex 1.

Dispositional trust was assessed by implementing into the questionnaire construct previously developed and used in the research conducted by Frazier, Johnson and Fainshmidt (2013). Namely, first there have been used twelve items (questions) from previous studies gathered, developed, and rated by experts; however, during first study, there have been found that several items were not informative, and without them model is significantly improved (Frazier et al., 2013) (Table 3). This set of questions allowed to capture overall consumers' trust in other persons (or machines) – dispositional trust (Merritt and Ilgen, 2008). Therefore, to increase the

reliability and validity of the questionnaire for the purpose of current research to measure dispositional trust we use eight items scale proposed by Frazier et al. (2013) (Annex 1).

Table 3

*Scale by Frazier et al. (2013) for measuring dispositional trust*

Item	Source
1. It is easy for me to trust others.	Lee and Turban (2001)
2. I usually trust people until they give me a reason not to trust them.	McKnight et al. (2002)
3. I tend to trust others even if I have little knowledge of them.	Lee and Turban (2001)
4. I generally give people the benefit of the doubt when I first meet them	McKnight et al. (2002)
5. Trusting another person is not difficult for me.	Lee and Turban (2001)
6. My typical approach is to trust new acquaintances until they prove I should not trust them.	McKnight et al. (2002)
7. I don't mind giving up control to others over matters which are essential to my future plans.	Frazier et al. (2013)
8. My tendency to trust others is high.	Lee and Turban (2001)

These questions regarding the measurement of PEOU, PU, attitude towards online purchasing, and intention to purchase online were placed after questions assessing risk aversion, technophobia, and dispositional trust on purpose, so that respondents had not some bias and did not think only about online environment when answering questions on overall attitude to risk-taking, trust, etc. The scales for perceived ease of use, perceived usefulness, and attitude toward purchasing online were adapted from Davis' studies, which established their reliability and validity. Many different researches have adopted scales by Davis (1989) when assessing online environment. In this study, as a core we take Davis (1989) constructs and adopt them to online purchasing environment considering previously developed scales by Moon and Kim (2001), Yu et al. (2005), Wen and Hsieh (2010), Nguyen et al. (2019), and Shih (2004). To capture intention to purchase online, the three-items scale developed by Kim et al. (2008) was used as this scale was treated as reflective by previous studies (Silva et al., 2019). In Table 4, constructs are summarized containing final items that were used to measure the variables and origin source of measurement.

Finally, as this paper aims to compare effects uncertainty avoidance and individualism/collectivism dimensions might have on relationships between PEOU and PU and attitude toward online purchasing, and attitude toward online purchasing and online purchasing intention, the scale developed and confirmed by Sharma (2010). In his construct he tests UA by checking consumers' risk aversion and ambiguity intolerance, and individualism/collectivism by testing consumers independence and interdependence. The final choice of items presented in Annex 1.

Table 4

*Constructs for measuring PEOU, PU, attitude toward online purchasing, and intention to purchase online*

Construct	Item	Source
PEOU	1. Learning how to use the internet to buy a product is easy for me. 2. I find it easy to become skilled at purchasing products online. 3. Using the internet to buy a product would be easy to do for me.	Davis (1989) Yu et al. (2005) Nguyen et al. (2019)
PU	1. Using the internet to buy a product would allow me to shop more efficiently. 2. Using the internet to acquire a product would allow me to do my shopping more quickly 3. Using the internet to acquire a product would be useful to do my shopping	Davis (1989) Yu et al. (2005) Moon and Kim (2001)
Attitude toward purchasing online	1. Using internet to do my shopping is a good idea. 2. Using internet to do my shopping is a wise idea. 3. My general opinion of online purchasing is positive.	Moon and Kim (2001) Nguyen et al. (2019) Wen and Hsieh (2010)
Intention to purchase online	1. The idea to purchase on the Internet is very attractive to me. 2. I love to purchase products on the Internet. 3. I am likely to make another purchase on the Internet in the future.	Kim et al. (2008)

## 2.4 Selection of respondents and methods for analysis

Current section of methodology chapter describes which sampling method and data collection method are used in the current study. First, to determine sampling technique, the target population of the study is defined. Considering respondents' age and gender, there was only one specific requirement stating that all respondents should be older than 18 years old, since generally from this age people are responsible for decision-making and individual purchase intentions. Therefore, responses from people older than 18 years old, and who indicate that they have bought things shopping online were accepted for analysis. Since, the lists of all respondents, who are over 18 and shop online at least once does not exist, it was not possible to get a sampling frame, therefore, nonprobability convenience sampling technique was employed.

Moving to sample size, to determine it the comparable researches technique was used. Based on the information gathered an average sample size should be 227 respondents (Table 5).

Table 5

*Comparable studies sampling method*

Author	Type of questionnaire	Sampling	Number of respondents
Nguyen et al. (2019)	Online questionnaire	Non-probability	319
Moon and Kim (2001)	Online questionnaire	Non-probability	152
Ventre and Kolbe (2020)	Online questionnaire	Non-probability	380
Lu and Su (2009)	Online questionnaire	Non-probability	369
Phongsath and Jirawoottitrote (2018)	Online questionnaire	Non-probability	110
Athapaththu and Kulathunga (2018)	Online questionnaire	Non-probability	292

Continuation of Table 5

Ramayah and Ignatius (2005).	Online questionnaire	Non-probability	150
Keswani et al. (2016)	Online questionnaire	Non-probability	207
Shin (2004)	Online questionnaire	Non-probability	212
Zaidi et al. (2014)	Online questionnaire	Non-probability	160
Li, Kim and Park (2007)	Online questionnaire	Non-probability	187
Jamaludin and Ahmad (2013)	Online questionnaire	Non-probability	78
Samadi and Yaghoob-Nejadi (2009)	Online questionnaire	Non-probability	360
Thamizhvanan and Xavier (2012)	Online questionnaire	Non-probability	95
Blagoeva and Mijoska (2017)	Online questionnaire	Non-probability	330
Average	227		

To test the hypotheses developed for this research, Statistical Package for Social Science (SPSS) is used to perform the statistical analysis. To approach hypotheses of the research, and to verify the correlation between variables, Pearson Correlation. The Cronbach's Alpha analysis performed to measure internal consistency for all constructs – reliability analysis. Also, to test impacts of independent variables on dependent variables, Linear Regression Analysis and Multiple Linear Regression Analysis were used. Finally, to test moderating effect of uncertainty avoidance and individualism/collectivism dimension on relationships between PEOU and PU and attitude toward online purchasing, and attitude toward online purchasing and online purchasing intention process procedure for SPSS of Andrew F. Hayes was conducted. The results are presented in the next section of paper.

## 2.5 The scope of research

Current research covers general consumers' intention to purchase online and how such factors as risk aversion, dispositional trust, and technophobia might affect it without limitation to some specific product or group of products, therefore, the results could be widely used and adopted. As we cover the cultural differences of respondents, namely focusing on uncertainty avoidance and individualism/collectivism as the most influential regarding independent variables we do not limit scope to some certain country, but rather will access the level of individualism/collectivism and uncertainty avoidance of every participant of survey and then compare the results and see how it affects relationships between PEOU, PU, and attitude towards online purchasing, and relationship between attitude towards online purchasing and intention to purchase online.

If talking about the whole paper, first, literature review of current research provided overview and critical comparison of different studies that tried to assess how risk aversion, dispositional trust, and technophobia might influence consumers' intention to purchase online. There have been covered and discussed such drawbacks as different and, in most cases, incorrect and misleading usage of variables' meaning/definitions, and controversial results. Talking about

the model of the study, even though as a core is used an existing and widely used TAM, we have added factors that rarely used in the researches and also accessed how impact might differ by moderating variables like uncertainty avoidance and individualism/collectivism. We believe that based on the results and conclusions of the research marketers will be able to improve their marketing strategies to include insights from what needs to be communicated to decrease uncertainty among buyers and make them buy online without any doubts or fears. Business would understand better the nature of the buyer and adapt their business according to it. Factors, which are going to have stronger impact on intention to purchase online have to be used to check whether the company accesses it and does something to mitigate it and make their online shopping environment convenient, clear, and risk-free place to shop. Overall, the scope of the research is to contribute to academic research and business management areas through providing clear and comprehensive results regarding influence of risk aversion, interpersonal trust, and technophobia on online purchasing intention.

### **3 THE MODERATING EFFECT OF UNCERTAINTY AVOIDANCE AND INDIVIDUALISM/COLLECTIVISM ON THE RELATIONSHIP BETWEEN RISK AVERSION, DISPOSITIONAL TRUST, TECHNOPHOBIA, AND INTENTION TO PURCHASE ONLINE**

#### **3.1 Empirical Research Results**

##### **3.1.1 Primary data review and demographic variables analysis**

This part of the thesis provides analysis performed based on the collected primary data through the online survey and conclusions derived from the results of performed analysis of hypotheses checking. The results of hypothesis testing allow to make a conclusion if there is a relationship between risk aversion, dispositional trust, technophobia, and intention to purchase online and if uncertainty avoidance and individualism/collectivism moderate this relationship.

Moving to the primary data evaluation, as a result of online survey in total 238 questionnaire were collected, however, after 2 responses were excluded as they were screened out by 2 screening questions at the beginning of the survey. The rest of responses were reviewed, and no tendentious or non-logical sequences of answers discovered. Therefore, further analysis was carried out using answers of 236 respondents.

As aforementioned survey results used in the research consist of 236 respondents, among which 61,9% women (146 responses) and 38,1% men (90 responses). As a limitation of current research all respondents should be more than 18 years old, all respondents were asked to indicate if they are over 18 years old (including). After responses check, none of respondents specified that they are younger than 18 years old. Overall, as in the current research we are not assessing age effect on relationships or variables, respondents were not asked to provide exact age or age category, therefore, such data is not available.

Geographic wise, highest response amount received from respondents from Russian Federation (43,6%) and Lithuania (37,7%). Also, responses were received from Belarus (5,9%), Ukraine (3,8%), and other countries (8,9%). There were no respondents preferred not to state which country they are from.

Finally, respondents were also asked to specify their level of education, and were given five answer categories: high school, college/middle level education, bachelor's degree, master's degree or higher, and not applicable. All 236 respondents specified their level of educations, there were nobody chosen not applicable category. As a result, answers were received from 121 respondents with bachelor's degree, 103 respondents with master's degree or higher, and 12

respondents finished only high school. All demographic segmentation results provided in Annex 3.

### 3.1.2 Reliability analysis

To confirm the appropriateness of the measurement model, reliability and validity analyses were performed. Reliability of scales for independent and dependent variables were examined using Cronbach's Alpha (CA). The internal consistency is ensured due to CA, which should value more than 0,6 or, otherwise, it indicates internal inconsistency of a scale (Malhotra, Nunan & Birks, 2017).

Thus, constructs for all variables (risk aversion, dispositional trust, technophobia, PU, PEOU, attitude towards online purchasing, online purchasing intention, uncertainty avoidance, and individualism/collectivism) were tested and the following results were received (Table 6). Overall, Cronbach's Alphas for all constructs are higher than 0,6, namely, risk aversion (CA=0,695), dispositional trust (CA=0,856), technophobia (CA=0,960), PU (CA=0,950), PEOU (CA=0,947), attitude towards online purchasing (CA=0,947), intention to purchase online (CA=0,879), individualism/collectivism (CA=0,675), and uncertainty avoidance (CA=0,882). However, let us check it more closely regarding each construct (Annex 4).

Table 6

#### *Reliability testing*

No	Variable	Number of items in a scale	Cronbach's Alpha
1.	Risk aversion	6	0,695
2.	Dispositional trust	8	0,856
3.	Technophobia	12	0,960
4.	Perceived usefulness	3	0,950
5.	Perceived ease of use	3	0,947
6.	Attitude towards online purchasing	3	0,947
7.	Intention to purchase online	3	0,879
8.	Individualism/collectivism	8	0,675
9.	Uncertainty avoidance	8	0,882

First, we checked if scale chosen for risk aversion analysis covered by answers from our respondents is reliable. Construct for risk aversion consists of 6 items, and initially CA for this scale equals 0,695, and it can be improved by deleting item "I feel comfortable improvising in new situations" (Table 7). If we delete this item, CA for construct will improve and equal to 0,837, but we are not going to do it as CA of 0,695 is good enough in terms of current research and we do not want to change construct which was previously checked by numerous studies.



Table 7

*Reliability test for risk aversion construct*

	Corrected Item- Total Correlation	Cronbach's Alpha if item deleted
I do not feel comfortable about taking chances	0.662	0.561
I prefer situations that have foreseeable outcomes	0.617	0.604
Before I make a decision, I like to be absolutely sure how things will turn out	0.737	0.574
I avoid situations that have uncertain outcomes	0.542	0.613
I feel comfortable improvising in new situations	-0.120	0.837
I feel nervous when I have to make decisions in uncertain situations	0.433	0.650

Dispositional trust construct consists of 8 items, and CA for it equals 0,856. From item-by-item check, we see that reliability can be improved to CA's level of 0,864 by deleting item "I generally give people the benefit of the doubt when I first meet them" or to CA's level of 0,881 by deleting item "I do not mind giving up control to others over matters" (Table 8). However, as with risk aversion construct, we have not deleted any item not to violate integrity of a construct as CA level is at acceptable level.

Table 8

*Reliability test for dispositional trust*

	Corrected Item- Total Correlation	Cronbach's Alpha if item deleted
It is easy for me to trust others	0.763	0.818
I usually trust people until they give me a reason not to trust them	0.639	0.834
I tend to trust others even if I have little knowledge of them	0.717	0.826
I generally give people the benefit of the doubt when I first meet them	0.361	0.864
Trusting another person is not difficult for me	0.757	0.820
My typical approach is to trust new acquaintances until they prove I should not trust them	0.691	0.828
I do not mind giving up control to others over matters	0.247	0.881
My tendency to trust others is high	0.681	0.830

Constructs for perceived usefulness, perceived ease of use, attitude towards online purchasing, and intentions to purchase online, consists of 3 items each; therefore, we cannot delete any item as minimal number of items in construct is 3 items (Marsh, Hau, Balla & Grayson, 1998). Fortunately, it is not also needed in terms of reliability level as it is above 0,6 level for all items (Table 6). Item-total statistics for before mentioned items are presented in Annex 4.

Table 9

*Reliability test for uncertainty avoidance*

	Corrected Item- Total Correlation	Cronbach's Alpha if item deleted
I tend to avoid talking to strangers	0.287	0.900
I prefer a routine way of life to an unpredictable one full of change	0.636	0.868

Continuation of Table 9

I would not describe myself as a risk-taker	0.655	0.867
I do not like taking too many chances to avoid making a mistake	0.773	0.857
I find it difficult to function without clear directions and instructions	0.743	0.857
I prefer specific instructions to broad guidelines	0.684	0.863
I tend to get anxious easily when I don't know an outcome	0.726	0.860
I feel stressful when I cannot predict consequences	0.723	0.860

Finally, we checked reliability of constructs of moderating variables – uncertainty avoidance and individualism/collectivism. Cronbach's Alpha for construct uncertainty avoidance is at level 0,882 and does not need to be better. If check item-total statistics presented in Table 9, we can see that if delete first item “I tend to avoid talking to strangers” we would improve CA up to 0,9 level, but as level of whole construct is good enough and that some authors consider too high level (above 0,95) might mean that some items are redundant (Tavakov and Dennick, 2011); therefore, we will leave construct as it was proposed by Sharma, 2010. As for individualism/collectivism construct, CA equals 0,675 and based on item-total statistics can be improved up to 0,690 by deleting item “I rely on myself most of the time, rarely on others” (Table 10). However, as if rounding we still have 0,7 CA, so we will not delete this item for further analysis.

Table 10

*Reliability test for individualism/collectivism*

	Corrected Item-Total Correlation	Cronbach's Alpha if item deleted
I would rather depend on myself than others	0.397	0.637
My personal identity, independent of others, is important to me	0.247	0.669
I rely on myself most of the time, rarely on others	0.085	0.690
It is important that I do my job better than others	0.352	0.651
The well-being of my group members is important for me	0.567	0.582
I feel good when I cooperate with my group members	0.628	0.567
It is my duty to take care of my family members, whatever it takes	0.340	0.651
Family members should stick together, even if they do not agree	0.264	0.669

3.1.3. Relationship analysis

Having checked that all constructs are reliable, we have computed all items in a construct to new variables this constructs belong to, namely risk aversion, dispositional trust, technophobia, PU, PEOU, attitude towards purchasing online, intention to purchase online, uncertainty avoidance and individualism/collectivism and ran correlation analysis to check relationships between variables according to research model.

First, we check if there is a relationship between independent and dependent variables. Variables are considered to be related at the level of significance (2-tailed) less than 0.05 ( $p < 0.05$ ).

As we can observe from Table 11, all independent and dependent variables are significantly correlated, which confirms that there are relationships between them. Namely, based on the research model relations, PU is related to PEOU at  $R=0.854$ ,  $p=0.000$ ; risk aversion is related to PU ( $R= -0.684$ ,  $p=0.000$ ) and to PEOU ( $R=-0.690$ ,  $p=0.000$ ); dispositional trust is related to PU ( $R=0.556$ ,  $p=0.000$ ) and to PEOU ( $R=0.496$ ,  $p=0.000$ ); technophobia is related to PU ( $R=-0.767$ ,  $p=0.000$ ) and to PEOU ( $R=-0.818$ ,  $p=0.000$ ); PU is related to attitude toward purchasing online at  $R=0.766$ ,  $p=0.000$ ; PEOU is related to attitude toward purchasing online at  $R=0.677$ ,  $p=0.000$ ; and attitude towards purchasing online is related to intention to purchase online at  $R=0.815$ ,  $p=0.000$ . As a result, overall, all variables are related to each other if check significance (Table 11, Annex 5).

Table 11

*Correlation analysis for relationships between risk aversion, dispositional trust, technophobia, PU, PEOU, attitude towards online purchasing and intention to purchase online*

		PEOU	PU	Risk aversion	Dispos.trust	Techn-bia	Attitude	Intention
PEOU	Pearson correlation	1	0.854	-0.690	0.496	-0.818	0.677	0.714
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000	0.000
PU	Pearson correlation	0.854	1	-0.684	0.556	-0.767	0.766	0.792
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000	0.000
Risk aversion	Pearson correlation	-0.690	-0.684	1	-0.534	0.577	-0.617	-0.551
	Sig. (2-tailed)	0.000	0.000		0.000	0.000	0.000	0.000
Dispositional trust	Pearson correlation	0.496	0.556	-0.534	1	-0.472	0.509	0.529
	Sig. (2-tailed)	0.000	0.000	0.000		0.000	0.000	0.000
Technophobia	Pearson correlation	-0.818	-0.767	0.577	-0.472	1	-0.625	-0.590
	Sig. (2-tailed)	0.000	0.000	0.000	0.000		0.000	0.000
Attitude	Pearson correlation	0.677	0.766	-0.617	0.509	-0.625	1	0.815
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000		0.000
Intention	Pearson correlation	0.714	0.792	-0.551	0.529	-0.590	0.815	1
	Sig. (2-tailed)	0.000	0.000	0.000	0.000	0.000	0.000	

However, as correlation does not imply causation, or, in other words, existence of correlations does not guarantee existence of cause-and-effect of one variable on another, we will

perform regression analysis to test our hypotheses (Aldrich, 1995). Therefore, in the next sections we cover regression analysis results.

### 3.2 Hypotheses testing analysis

#### 3.2.1 Regression analysis for TAM model contracts

We have performed regression analysis to test Hypothesis 1 – Hypothesis 4, namely testing how TAM model contracts and their cause-and-effect relationships are confirmed in terms of our research. To test Hypothesis 1 and Hypothesis 4 linear regression analysis were carried out. To test Hypothesis 2 and Hypothesis 3 we performed multiple regression analysis as PU and PEOU can be indicated as predictors of attitude towards online purchasing.

Hypothesis 1 was developed to test if PEOU has positive influence on PU. Output for analysis performed is summed up in Table 12, Annex 6. With a p-value of zero to three decimal places, this model is statistically significant ( $p < 0.05$ ). The  $R^2 = 0.730$ ,  $F(1) = 632.948$ ,  $p = 0.000$ , meaning that 73% of PU can be described by PEOU. Unstandardized coefficient  $\beta$  equals 0.969 and indicated that an increase of 0.969 in PU for every unit increase in PEOU at significance level  $p = 0.000$ . Therefore, H1 is approved. Perceived ease of use of an online shopping ( $t = 25.158$ ,  $p = 0.000$ ) has positive influence on perceived use of online shopping.  $PU = 0.264 + 0.969 * PEOU$ .

Table 12

*Linear regression analysis summary for H1-H2*

No	R <sup>2</sup>	F	df	ANOVA Sig.	Constant	$\beta$	t	Sig.	Df $\beta$
H1	0.730	632.948	1	0.000	0.264	0.969	25.158	0.000	0.854
H2	0.586	331.606	1	0.000	0.728	0.683	18.210	0.000	0.766

Hypothesis 2 questions if PU has a direct impact on attitude towards online shopping. The model for testing it is statistically significant at level  $p = 0.000$ . Attitude towards online shopping can be explained by 59% of PU as  $R^2 = 0.586$ ,  $F(1) = 331.606$  (Table 12, Annex 7). Unstandardized coefficient  $\beta$  equals 0.683, which means that an increase of 0.683 in attitude towards online shopping for every unit increase in PU at significance level  $p = 0.000$ . Therefore, H2 is approved. Perceived usefulness of online shopping ( $t = 18.210$ ,  $p = 0.000$ ) has a positive impact on attitude towards online shopping.  $Attitude = 0.728 + 0.683 * PU$

Hypothesis 3 was developed to test if PEOU has a direct positive impact on consumer's attitude towards online purchasing. Output for analysis is provided in Table 13, Annex 8. Based on results, we can see that model is statistically significant with  $F(1) = 197.778$ ,  $p = 0.000$ .  $R^2 = 0.458$ , meaning that consumer's attitude towards online purchasing can be explained in 46% by PEOU.

Unstandardized coefficient  $\beta$  equals 0.685, meaning that in increase of 0.685 in in attitude towards online shopping for every unit increase PEOU at significance level  $p=0.000$ . H3 is approved. Perceived ease of use ( $t=8.430$ ,  $p=0.000$ ) has a direct positive impact on consumer's attitude towards online shopping.

Table 13

*Linear regression analysis summary for H3-H4*

No	R <sup>2</sup>	F	df	ANOVA Sig.	Constant	$\beta$	t	Sig.	Df $\beta$
H3	0.458	197.778	1	0.000	0.865	0.685	8.430	0.000	0.677
H4	0.664	462.973	1	0.000	0.579	0.782	21.517	0.000	0.815

Hypothesis 4 questions if attitude towards online shopping positively influences consumer's intention to purchase online. Output for analysis performed is summed up in Table 13, Annex 9. Linear regression model is significant with  $F(1)=462.973$ ,  $p=0.000$ .  $R^2=0.664$  states that 66% of consumer's intention to purchase online can be explained by consumer's attitude towards online purchasing meaning that 44% of intention to purchase online could be explained by other factors not included in the research model of this study. Unstandardized coefficient  $\beta$  equals 0.664 and indicated that an increase of 0.664 in intention to purchase online for every unit increase in attitude to purchase online at significance level  $p=0.000$ . Hypothesis 4 is approved.  $IP=0.579+0.664*Attitude$

### 3.2.2 Regression analysis for influence of risk aversion, dispositional trust, and technophobia on PU and PEOU

We have performed multiple regression analysis to check hypotheses regarding impact of risk aversion (H5), dispositional trust (H7) and technophobia (H9) have on perceived usefulness of online purchasing. First, we checked model for several assumptions, and have confirmed that with  $VIF=1.728$  (for risk aversion),  $VIF=1.483$  (for dispositional trust), and  $VIF=1.588$  (for technophobia) there is no problem of multicollinearity (Table 14, Annex 10). As per influential cases, Cook's distance=0.059 (less than 1) and DFBs for each independent variable 0.2406, 0.1939, and 0.0231 correspondingly shows that there are no influential cases. Durbin-Warson's d test=1.866, shows us that there is no autocorrelation, meaning that residuals are independent from each other. Based on the scatterplot presented in Annex 10, we see that variance of the dependent variable is same for all data (homoscedasticity). Normality was not assessed.

Table 14

*Assumptions for multiple regression for impact of risk aversion, dispositional trust and technophobia on PU*

No	Variable	VIF	Cook's distance	DFB	Durbin-Watson's d tests
H5	Risk aversion (RA)	1.728	0.059	0.2406	1.866
H7	Dispositional trust (DT)	1.483		0.1939	
H9	Technophobia (Techph)	1.588		0.0231	

Multiple regression model is statistically significant  $F(3)=172.529$ ,  $p=0.000$ .  $R^2=0,690$ , meaning that 69% of PU can be explained by included into model independent variables. Checking Hypothesis 5, namely impact of risk aversion, we can see that Unstandardized coefficient  $\beta$  with negative sign equaling  $-0.503$  shows that decrease of  $0.503$  in perceived usefulness for every unit decrease in risk aversion at significance level  $0.000$  (Table 15, Annex 10). Unstandardized coefficient  $\beta$  for dispositional trust ( $\beta=0,229$ ), shows us that increase of  $0.229$  in PU for every unit increase of dispositional trust,  $p=0.001$ . Finally,  $\beta=-0.644$  for technophobia shows that decrease of  $0.644$  in PU for every unit decrease in technophobia at significance level  $0.000$  (Table 15). Summing up, we can state that all three hypotheses (H5, H7, H9) are confirmed. Risk aversion ( $t=-6.319$ ,  $p=0.000$ ) negatively influences PU of online purchasing. Dispositional trust ( $t=3.313$ ,  $p=0.001$ ) positively influenced PU of online purchasing. Technophobia ( $t=-11.355$ ,  $p=0.000$ ) negatively influences PU of online purchasing. In addition, by comparing Df  $\beta$ , we can also state that among these three independent variables, technophobia (Df  $\beta=-0.523$ ) has higher impact on PU than risk aversion (Df  $\beta=-0.303$ ) and dispositional trust (Df  $\beta=0.147$ ).  $PU=5.126-0.503*RA+0.229*DT-0.644*Techph$ .

Table 15

*Results of multiple regression test for impact of risk aversion, dispositional trust and technophobia on PU*

No	Variable	R <sup>2</sup>	F	df	ANOVA Sig.	Constant	$\beta$	t	Sig.	Df $\beta$
H5	RA	0.690	172.529	3	0.000	5.126	-0.503	-6.319	0.000	-0.303
H7	DT						0.229	3.313	0.001	0.147
H9	Techph						-0.644	-11.355	0.000	-0.523

Next multiple regression model was developed to check the influence risk aversion, dispositional trust, and technophobia have on PEOU. If checking model for regression assumptions, with same independent variables (risk aversion, dispositional trust, and technophobia), but different dependent variable – PEOU, there is no problem of multicollinearity with same levels as in previous regression model of VIF (Table 16, Annex11). As per influential

cases, Cook's distance=0.059 and same levels of DFBs as in model 1 show that there were no influential cases. Durbin-Watson's d test=2.013 indicates that there is no autocorrelation, and *Figure 8* shows that there is no heteroscedasticity problem. Normality was not assessed.

Table 16

*Assumptions for multiple regression for impact of risk aversion, dispositional trust and technophobia on PEOU*

No	Variable	VIF	Cook's distance	DFB	Durbin-Watson's d tests
H6	Risk aversion (RA)	1.728	0.059	0.222	2.013
H8	Dispositional trust (DT)	1.483		0.179	
H10	Technophobia (Techph)	1.588		0.0187	

Proceeding with test results (Table 17. Annex 11), we observed, that model is statistically significant with  $F(3)=221.393$ ,  $p=0.000$ .  $R^2=0.741$  indicates that PEOU can be explained by risk aversion, dispositional trust, and technophobia by 74%. Checking hypotheses one by one, the first thing that worth mentioning is that Hypothesis 8 can be rejected straight away as dispositional trust ( $t=0.876$ ,  $p=0.382$ ) has no impact on PEOU. Unstandardized coefficient  $\beta$  for risk aversion  $B=-0.456$ , meaning that decrease of 0.456 in PEOU for every unit decrease in risk aversion at significance level  $p=0.000$ . Hypothesis 6 is approved. Risk aversion ( $t=-7.110$ ,  $p=0.000$ ) negatively influences PEOU. Unstandardized coefficient  $\beta$  for technophobia,  $B=-0.675$ , meaning that decrease of 0.675 in PEOU for every unit decrease in technophobia at significance level  $p=0.000$ . Hypothesis 10 is approved. Technophobia ( $t=-14.753$ ,  $p=0.000$ ). Moreover, from analysis we can state that technophobia has higher impact ( $Df \beta=-0.621$ ) than risk aversion ( $Df \beta=-0.312$ ).

Table 17

*Results of multiple regression test for impact of risk aversion, dispositional trust and technophobia on PEOU*

No	Variable	R <sup>2</sup>	F	df	ANOVA Sig.	Constant	$\beta$	t	Sig.	Df $\beta$
H6	RA	0.741	221.393	3	0.000	5.454	-0.456	-7.110	0.000	-0.312
H8	DT						0.049	0.876	0.382	0.036
H10	Techph						-0.675	-14.753	0.000	-0.621

### 3.2.3 Moderation analysis: uncertainty avoidance and individualism/collectivism

To check moderation effect of uncertainty avoidance and individualism and collectivism we performed process procedure for SPSS of Andrew F. Hayes. Checking hypothesis 11, namely how uncertainty avoidance moderates relationship between PU and attitude towards online

purchasing, test results showed that model is statistically significant,  $F(3)=116.9742$ ,  $p=0.000$ ,  $R^2=0.602$ . Results of moderation analysis for H11 are presented in Table 18, Annex 12. From these results, we can observe that there is direct impact of PU ( $t=10.8074$ ,  $p=0.000$ ) and UA ( $t=2.8336$ ,  $p=0.0050$ ) on attitude towards purchasing online. Interaction term is statistically significant ( $b=-0.1117$ ,  $t=-2.8508$ ,  $p=0.0048$ ) in our model, indicating that UA is a significant moderator of the relationship between PU and attitude toward purchasing online; therefore, H11 is approved.  $Attitude=0.0788+0.9120*PU+0.2738*UA-0.1117*PU*UA$

Table 18

*Results of moderation analysis for PU, attitude, and uncertainty avoidance*

	Model summary	$\beta$	t	p
Constant	$R^2=0.602$	0.0788	0.2743	-
PU	$F(3)=116.9742$	0.9120	10.8074	0.0000
UA	$p=0.000$	0.2739	2.8336	0.0050
Interaction		-0.1117	-2.8508	0.0048

Analysis results for moderation effect of UA on relationship between PEOU and attitude towards online purchasing are presented in Table 19, Annex 13. Model summary shows us that model is statistically significant ( $F(3)=93.2581$ ,  $p=0.000$ ) and attitude towards online purchasing can be explained by PEOU and UA by 55% ( $R^2=0.5467$ ). We can interpret the effect of PEOU and UA as follows. The effect of PEOU on attitude towards online purchasing is positive and significant ( $\beta=1.3684$ ,  $t=11.8473$ ,  $p=0.000$ ) and the conditional effect of UA is positive and significant ( $\beta=0.6514$ ,  $t=5.7527$ ,  $p=0.000$ ). The interaction term is also statistically significant ( $\beta=-0.3575$ ,  $t=-6.6122$ ,  $p=0.000$ ), meaning that UA is significant moderator of relationship between PEOU and attitude towards online purchasing. H12 is approved.  $Attitude=-0.5699+1.3684*PEOU+0.6514*UA-0.3575*PEOU*UA$ .

Table 19

*Results of moderation analysis for PEOU, attitude, and uncertainty avoidance*

	Model summary	$\beta$	t	p
Constant	$R^2=0.5467$	-0.5699	-1.6245	-
PEOU	$F(3)=93.2581$	1.3684	11.8473	0.000
UA	$p=0.000$	0.6514	5.7527	0.000
Interaction		-0.3575	-6.6122	0.000

Next, we check if UA is a significant moderator of relationship between attitude towards online purchasing and intention to purchase online, results of analysis are presented in Table 20, Annex 14. Model is significant ( $F(3)=171.5440$ ,  $p=0.000$ ) with  $R^2=0.6893$ . Effect of attitude towards online purchasing on intention to purchase online is positive and significant ( $\beta=1.1089$ ,



$t=11.4395$ ,  $p=0.000$ ) and conditional effect of UA is positive and significant ( $\beta=0.3074$ ,  $t=2.9533$ ,  $p=0.0035$ ). Interaction term indicates that UA is significant moderator ( $\beta=-0.1309$ ,  $t=-4.0313$ ,  $p=0.0001$ ) regarding relationship between attitude towards online purchasing and intention to purchase online. Therefore, Hypothesis 13 is confirmed. Intention= $-0.2413+1.1089*Attitude+0.3074*UA-0.1309*Attitude*UA$

Table 20

*Results of moderation analysis for intention, attitude, and uncertainty avoidance*

	Model summary	$\beta$	t	p
Constant	$R^2=0.6893$	-0.2413	-0.7517	-
Attitude	$F(3)=171.5440$	1.1089	11.4395	0.000
UA	$p=0.000$	0.3074	2.9533	0.0035
Interaction		-0.1309	-4.0313	0.0001

Moving to the analysis of effect individualism/collectivism might have on relationships between PU and attitude, PEOU and attitude, and attitude and intention to purchase online, it is necessary to state that we have performed the same process procedure for SPSS of Andrew F. Hayes. Model summary shows us that model is statistically significant ( $F(3)=111.5403$ ,  $p=0.000$ ) and  $R^2=0.5906$  (Table 21, Annex 15). However, checking effects, we see that they are not significant with  $p=0.7034$  (PU x Attitude),  $p=0.1218$  (IndCol x Attitude), and  $p=0.1525$  (interaction term). That means that individualism/collectivism ( $\beta=0.2353$ ,  $t=1.4353$ ,  $p=0.1525$ ) is not significant moderator; therefore, hypothesis 14 is rejected.

Table 21

*Results of moderation analysis for PU, attitude, and individualism/collectivism*

	Model summary	$\beta$	t	p
Constant	$R^2=0.5906$	1.6408	2.7523	-
PU	$F(3)=111.5403$	0.1453	0.3812	0.7034
IndCol	$p=0.000$	-0.4115	-1.5530	0.1218
Interaction		0.2353	1.4353	0.1525

Checking hypothesis 15, based on analysis performed, we can conclude that model is statistically significant ( $F(3)=66.7163$ ,  $p=0.000$ ,  $R^2=0.4631$ ). Looking into the analysis result presented in Table 22, Annex 16, we can indicate that effect of PEOU on attitude was positive and statistically significant ( $\beta=1.3526$ ,  $t=2.9831$ ,  $p=0.0032$ ), but conditional effect of IndCol on attitude ( $\beta=0.4297$ ,  $t=1.4138$ ,  $p=0.1588$ ). Interaction term is not significant neither ( $\beta=-0.2937$ ,  $t=-1.4832$ ,  $p=0.1394$ ), meaning that individualism/collectivism is not a significant moderator for relationship between PEOU and attitude towards purchasing online. Hypothesis 15 is rejected.

Table 22

*Results of moderation analysis for PEOU, attitude, and individualism/collectivism*

	Model summary	$\beta$	t	p
Constant	R <sup>2</sup> =0.4631	-0.1037	-0.1510	-
PEOU	F(3)=66.7163	1.3526	2.9831	0.0032
IndCol	p=0.000	0.4297	1.4138	0.1588
Interaction		-0.2937	-1.4832	0.1394

Finally, we checked if individualism/collectivism has effect on relationship between attitude towards online purchasing and intention to purchase online. Results of this analysis are presented in Table 23, Annex 17. Model summary indicates that model is statistically significant (F(3)=214.9731, p=0.000) with R<sup>2</sup>=0,7534, meaning that 75% of intention to purchase online can be explained by attitude and individualism/collectivism. As per effect results, we can see that attitude towards online purchasing ( $\beta$ =-0.6333, t=-3.0338, p=0.0027) has significant effect on intention to purchase online and that conditional effect of individualism/collectivism on intention to purchase online is significant ( $\beta$ =-0.8483, t=-4.7394, p=0.000). Interaction term indicates that individualism/collectivism is a significant moderator ( $\beta$ =0.6355, t=6.7443, p=0.000) for relationship between attitude towards online purchasing and intention to purchase online. Therefore, hypothesis 16 is approved. Intention=2.4068-0.6333\*Attitude-0.8483\*IndCol+0.6355\*Attitude\*IndCol

Table 23

*Results of moderation analysis for attitude, intention, and individualism/collectivism*

	Model summary	$\beta$	t	p
Constant	R <sup>2</sup> =0.7534	2.4068	6.2249	-
Attitude	F(3)=214.9731	-0.6333	-3.0338	0.0027
IndCol	p=0.000	-0.8483	-4.7394	0.0000
Interaction		0.6355	6.7443	0.000

Having performed analysis and tested all hypotheses developed, we sum up results in the Table 24. We have three hypotheses rejected out of sixteen proposed. There was not found any influence of dispositional trust on perceived ease of use of online purchasing (H8), meaning that when applying TAM model's construct and assessing impact of PEOU on attitude towards online purchasing and then overall impact on intention to purchase online, dispositional trust cannot be considered as predictor in this chain of relationship. Moreover, performed moderation analysis showed that such characteristic of consumer as individualism/collectivism cannot be considered as moderator for relationships between PU and PEOU and attitude towards purchasing online.

However, more about conclusions and proposals we talk in the conclusions and proposal part of this research.

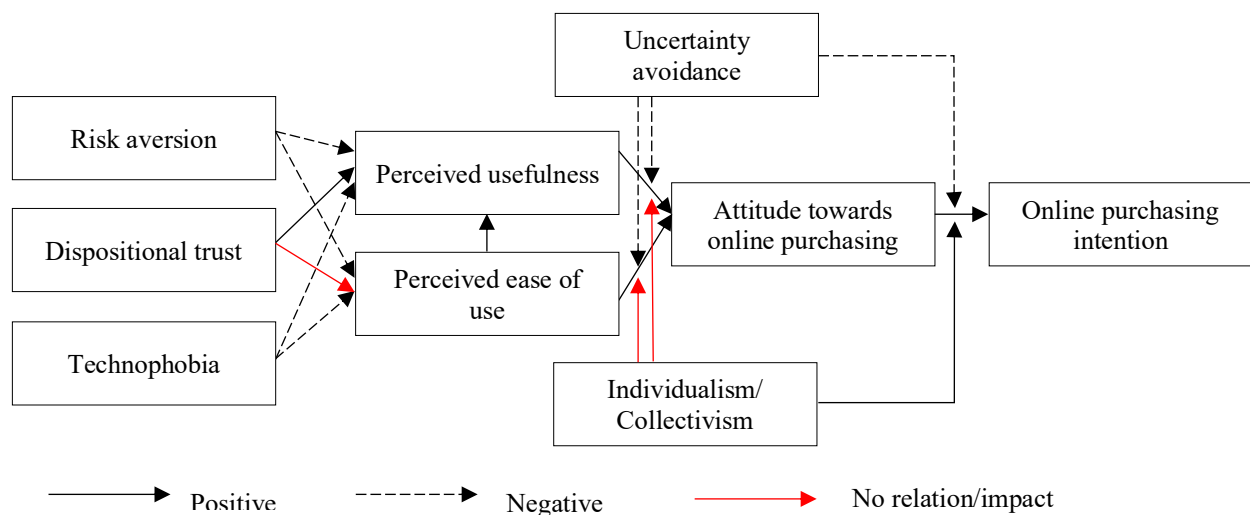
Table 24

*Summary of hypotheses testing results*

No	Hypothesis	Result
H1	Consumer's perceived ease of use of an online shopping positively influences perceived usefulness of online shopping.	Confirmed
H2	Perceived usefulness of online shopping has a direct positive impact on attitude towards online shopping.	Confirmed
H3	Perceived ease of use has a direct positive impact on one's attitude towards online shopping.	Confirmed
H4	Attitude towards online shopping positively influences consumer's intention to purchase online.	Confirmed
H5	Risk aversion negatively influences perceived usefulness of online purchasing.	Confirmed
H6	Risk aversion negatively influences perceived ease-of-use of online purchasing.	Confirmed
H7	Dispositional trust positively influences perceived usefulness of online purchasing.	Confirmed
H8	Dispositional trust positively influences perceived ease-of-use of online purchasing.	Rejected
H9	Technophobia negatively influences perceived usefulness of online purchasing.	Confirmed
H10	Technophobia negatively influences perceived ease-of-use of online purchasing.	Confirmed
H11	The relationship between perceived usefulness of online shopping and consumer's attitude towards it is moderated by consumer's uncertainty avoidance level.	Confirmed
H12	The relationship between perceived ease-of-use of online shopping and consumer's attitude towards it is moderated by consumer's uncertainty avoidance level.	Confirmed
H13	The relationship between consumer's attitude towards online purchasing and actual intention to purchase online is moderated by consumer's uncertainty avoidance level.	Confirmed
H14	The relationship between perceived usefulness of online shopping and consumer's attitude towards it is moderated by individualism/collectivism.	Rejected
H15	The relationship between perceived ease-of-use of online shopping and consumer's attitude towards it is moderated by individualism/collectivism.	Rejected
H16	The relationship between consumer's attitude towards online purchasing and actual intention to purchase online is moderated by individualism/collectivism.	Confirmed

## 4 DISCUSSION

In previous studies various factors were found to be predictors of online purchasing intention, including trust (Gefen et al., 2003; Pavlou, 2003; Li et al., 2012), risk perception (Ariffin et al., 2018; Pavlou, 2003; Soldatova and Nestik, 2016;), experience, skills, and cultural background (Ko et al., 2004), and others. While several of beforementioned were widely studied with some controversial results, some factors as, for example, technophobia were missing valid research results at all whether due to mixed usage of terms or overall absence of research done. Therefore, the goals of this research was to study the impact risk aversion, dispositional trust, and technophobia might have on intention to purchase online via construct of TAM and observe if such cultural individual characteristics as uncertainty avoidance and individualism/collectivism might moderate these impacts. In this section of current research, we observe received results and compare them with previous studies results. Found relationships are presented on *Figure 2*.



*Figure 2.* Final research model.

As a basis of our research TAM was taken, as it previously was used to study online purchasing behaviors within technology-related topics. To proceed with overall assessment how external factors such as risk aversion, technophobia, and dispositional trust influence intention to purchase online, the purpose of study was to check how TAM construct works within our sample. In previous studies, it was found out that PEOU has a positive impact on PU (Gefen et al., 2003; Gefen and Straub, 2000; Kim, 2012). This statement was confirmed within our study by hypothesis 1. Following the TAM further, PU and PEOU were named as central determinants of consumers' attitude towards online purchasing (Celik and Yilmaz, 2011; Davis et al., 1989; Lim & Ting, 2012; Schepers et al., 2005) and that they have significant positive impact on attitude towards intention to shop online (Keswani et al., 2016; Nguyen et al., 2019). To check it within our research, we

developed and checked two hypotheses, namely H2 and H3. Both hypotheses were confirmed, which would mean that results received by Ramayah and Ignatius (2005) stating that PU should not be named as predictor of attitude towards purchasing online are not supported by this study results.

As TAM explains relationship between attitude and intention to purchase online (Davis, 1989), that was last internal TAM model relation that we needed to check, before accessing how external factors influencing intention to purchase online. According to previous studies, attitude towards purchasing online has positive impact on intention to purchase online (Gefen et al., 2003; Kim et al., 2008; Monsuwe, 2004). This statement was confirmed in our research by hypothesis 4. Thus, as we can see in *Figure 2*, there is relationship between all TAM construct items, and positive impacts, namely, PEOU positively influences PU, which further results in increased attitude towards online purchasing and increased intention to purchase online.

Moving to external factor side of TAM, previous studies held by Ariffin et al. (2018), Martin et al. (2011), Rajini and Krithika (2016), Vijayasathy and Jones (2000) and Ward (2008) on impact risk aversion has on intention to purchase online were stating that risk aversion has negative effect on intention to purchase online. Several studies concluded that risk aversion is negatively related to both PU and PEOU (Heijden et al., 2003; Li and Huang, 2009;). In our study we confirmed that risk aversion has negative impact on PU (H5) and PEOU (H6), which in turn have positive impact on attitude towards online purchasing (H2 and H3) and attitude towards online purchasing has positive impact on intention to purchase online (H4). Summing up this relationship chain, we can conclude that risk aversion negatively influences intention to purchase online; therefore, results of this study are in line with previously mentioned studies. This means, that this study contradicts or, in other words, does not support results received by Ventre and Kolbe (2020), who stated that that risk aversion has no significant impact on intention to purchase online.

As per dispositional trust as an external factor influencing intention to purchase online, there have been a few studies, but results, however, were controversial. Several scholars concluded that dispositional trust has significant positive impact both on PU and PEOU (Athapaththu and Kulathunga, 2018; Gefen et al., 2003; Gefen, 2000; Jarvenpaa et al., 2000); but Heijden et al. (2003) concluded that there are no any impact of dispositional trust on these PU or PEOU, meaning that dispositional trust does not have any impact on intention to purchase online. Checking developed hypothesis 7 (PU) and hypothesis 8 (PEOU), we found out that dispositional trust has positive impact on PU, while no impact of dispositional trust on PEOU was found (*Figure 2*). This can be interpreted as that dispositional trust has impact on intention to purchase online only

through PU. Therefore, our results partly contradict what was found out by Athapaththu and Kulathunga (2018) and others and partly confirms results received by Heijden et al. (2003).

Last external variable we study in this research is technophobia. Overall concept of technophobia in relation to intention to purchase online has not been studied broadly, and those studies which exist assessed different forms of technophobia (computer anxiety, cyber fear, and others) (Dai et al., 2014; Salamzadeh et al., 2013). If checking those results, we see that different forms of technophobia have negative impact on intention to purchase online (Akhter, 2014; Cosar et al., 2017; Dai et al., 2014; Slyke, 2006; Sproule and Archer, 2010). As an external variable in TAM, computer anxiety being a part of technophobia was found to have negative impact on perceived ease of use and perceived usefulness (Guo et al., 2013; Nov and Ye, 2009). Based on the foregoing, we can assume that technophobia should have negative effect on intention to purchase online through negative impact on PU and PEOU. Therefore, using technophobia construct developed by Martinez-Corcoles et al. (2017), we proposed two hypotheses (H9 and H10). Within our sample, these two hypotheses were confirmed, meaning that technophobia has negative effect both on PU and PEOU, which decreases consumers' attitude towards purchasing online, and therefore, decreased intention to purchase online.

Having performed the foregoing set of analysis we were able to confirm the majority of hypotheses proposed developed based on the previous studies held and scientific literature. Risk aversion and technophobia were found to have negative impact on intention to purchase online through both PU, PEOU and attitude towards online purchasing, while dispositional trust has impact on intention to purchase online only through PU. It was not a goal of our study, but by received results, we can distinguish which of the external variable had stronger impact on PU and PEOU comparing  $Df \beta$ s results from multiple regression analysis. Technophobia has to be found to have strongest influence ( $Df \beta = -0.523$ ) on PEOU among external variables: dispositional trust (no impact) and risk aversion ( $Df \beta = -0.303$ ) (Table 25). As per impact on PU, again the strongest impact is associated with technophobia ( $Df \beta = -0.621$ ), while risk aversion ( $Df \beta = -0.312$ ) and dispositional trust ( $Df \beta = 0.036$ ) (Table 25).

Table 25

*Df  $\beta$  results from multiple regression analyses*

Variable	Df $\beta$	Variable	Df $\beta$
Risk aversion → PEOU	-0.303	Risk aversion → PU	-0.312
Dispositional trust → PEOU	-	Dispositional trust → PU	0.036
Technophobia → PEOU	-0.523	Technophobia → PU	-0.621

Therefore, scientific importance of this study regarding this part (external variables assessment) is found impact of technophobia, as before there were no complete studies assessing the broad concept of technophobia and its impact on intention to purchase online via TAM construct. Moreover, fact that technophobia has the strongest impact on PU and PEOU is valid and can be used for both further research and more practical use. Based on results we received, business can adapt their marketing strategies and overall business processes and future researchers can investigate this issue deeper.

However, the major novelty of this research is assessment of moderation effects individual uncertainty avoidance and individualism/collectivism might have on relationship between PU and PEOU and attitude towards online purchasing and attitude towards online purchasing and intention to purchase online. Previous studies stated that uncertainty avoidance is an influential dimension when assessing impact of risk aversion, trust, and technophobia on intention to purchase online (Al Kailani and Kumar, 2011; Hofstede, 1991). However, there were not many research assessing uncertainty avoidance on individual level and how it might impact relationships within TAM. McCoy et al. (2007) found out that consumers with low UA level do need extra assurance of PU and PEOU of something, while those of high UA are more likely to need it. Based on these assumptions, we developed three hypotheses (H11, H12 and H13) to check if uncertainty avoidance will reinforce or lessen relationships between PEOU, PU and attitude towards purchasing online, and attitude towards purchasing online and intention to purchase online.

Checking hypotheses regarding moderating effect of uncertainty avoidance, we found out that it has effect on all relationships we checked. Namely, it effects relationship between PU and attitude towards online purchasing ( $\beta=-0.1117$ ,  $t=-2.8508$ ,  $p=0.0048$ ), and from  $\beta$  coefficient we can make conclusion that uncertainty avoidance lessen relationship between mentioned variables. Figure 10 illustrates how uncertainty avoidance level moderates relationship between PU and attitude towards online purchasing. The level of UA=2 indicates the highest UA, and going down to medium level UA=2.63, and UA=3.63, attributing to low level of uncertainty avoidance among respondents. Checking slopes in *Figure 3*, we can that moderation effect is noticeable for different levels of UA, but the degree of slope incline is highest for high uncertainty avoidance level. Same was concluded, when we assessed moderating effect of UA on relationship between PEOU and attitude towards purchasing online. Uncertainty avoidance effect relationship between PEOU and attitude towards online purchasing ( $\beta=-0.3575$ ,  $t=-6.6122$ ,  $p=0.000$ ), and sign of  $\beta$  coefficient also shows us that UA lessens this relationship, and those high levels of UA (2.00 and 2.63) moderated this relationship the most.

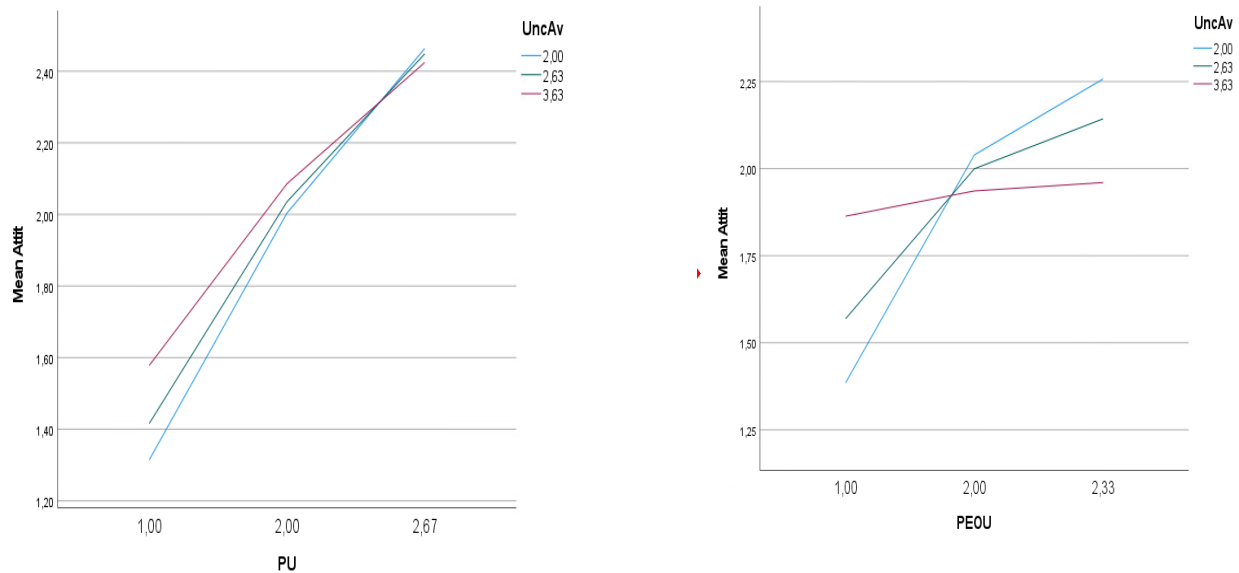


Figure 3. Moderating effect of UA on relationship between PU, PEOU and attitude towards online purchasing.

Relationship between attitude towards online purchasing and intention to purchase online, also has to be found being moderated by uncertainty avoidance ( $\beta=-0.1309$ ,  $t=-4.0313$ ,  $p=0.0001$ ), and based on  $\beta$  coefficient it is concluded that UA lessens this relationship. Figure 4 illustrates it in UA level cut. High level of UA (2.00) is associated with strongest effect. Thus, we can conclude that uncertainty avoidance is considered as an influential moderator when assessing the relationships within TAM model. It is especially scientifically and practically valuable since UA has to be found to lessen these relations, which in turn means decreased intention to purchase online. Therefore, levels of consumers' uncertainty avoidance are vital to consider and address, when studying purchasing intentions.

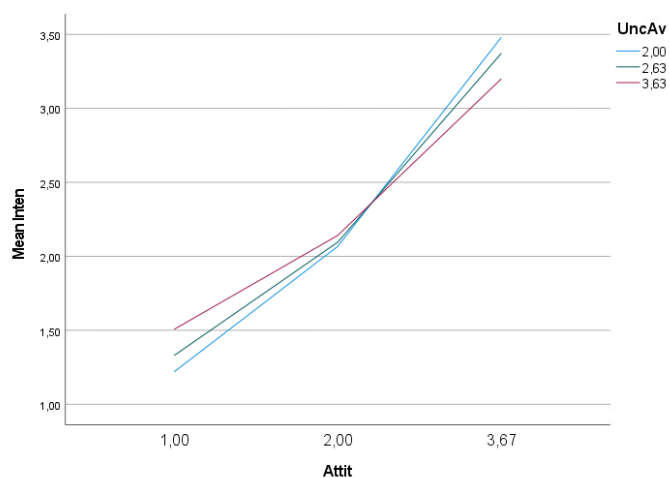


Figure 4. Moderating effect of UA on relationship between attitude towards online purchasing and intention to purchase online.



Similar to uncertainty avoidance, we assessed how individual level of consumer's individualism/collectivism might moderate relationships within TAM construct. Having performed moderation analysis, we found out that in terms of TAM relations there were no effect of individualism/collectivism on relationship between PU and attitude towards online purchasing ( $t=1.4353$ ,  $p=0.1525$ ) and between PEOU and attitude towards online purchasing ( $t=-1.4832$ ,  $p=0.1394$ ). As a matter of fact, McCoy et al. (2007) in their study stated that relationships within TAM might not fully work for consumers who are originally from collectivistic countries or has more collectivistic inclined views. And, as our demographics show, most of our respondents came from post-collectivistic countries such as Russia, Ukraine, Belarus, and even Lithuania, which was once in Soviet Union. Therefore, the fact that there were no moderation effect of individualism/collectivism on relationships between PU and PEOU and attitude towards online purchasing can be explained by it. If check how relationships between attitude towards online purchasing and intention to purchase online were moderated by individualism/collectivism, we can notice that this effect was confirmed within analysis. As a result, we concluded that there is positive effect of a moderator ( $\beta=0.6355$ ,  $t=6.7443$ ,  $p=0.000$ ), which means that it reinforces relationship between variables.

Summing up, having carried out this research we found relatively new findings regarding factors influencing consumer's intention to purchase online along with confirming some findings of previous studies. We have checked controversial results previous researchers had regarding impact of risk aversion and dispositional trust have on intention to purchase online and how such cultural dimensions as uncertainty avoidance and individualism/collectivism moderate consumers intention to purchase online. In the last part of this thesis, conclusions and recommendations, all these findings will be summed up accordingly, limitations of study named and recommendations for future research and managers/companies given.

## CONCLUSIONS AND RECOMMENDATIONS

In this research we aimed to study moderating effect uncertainty avoidance and individualism/collectivism might have on relationships between risk aversion, dispositional trust, technophobia, and intention to purchase online. To build theoretically strong and reliable model for research, we have analyzed previous studies and literature, which allowed us to distinguish most applicable for this research models and frameworks. As a basis of research model was taken technology and acceptance model, developed based on theory of reasoned action, as it is widely used by researchers when studying consumers' motivation to use new technologies and more specifically online purchasing behaviors.

Also, previous studies overview allowed us to distinguish what are potential areas for studying that were not covered before and what limitations and drawbacks previous studies had, and which are worth verifying and clarifying. Thus, we found out that in the previous studies, researchers often interchangeably used such concepts as interpersonal trust, dispositional trust, and institutional trust; technophobia was often replaced by such concepts as computer phobia, computer anxiety, and others but they are just components of technophobia. Therefore, we defined what in terms of this study each concept means.

Also, it was found out, that risk aversion is important factor impacting intention to purchase, however, different previous studies have concluded both positive and negative impacts, which means no consensus in results. Based on previous studies dispositional trust was not studied a lot as a separate concept, those which do that reached controversial conclusions stating that it either has positive impact on intention to purchase online or has no impact at all. Having analyzed previous studies regarding technophobia, we figured out that in addition to fact that this concept is interchangeably used with other concepts, there is not many decent studies assessing its impact on intention to purchase online. Uncertainty avoidance and individualism/collectivism being developed by Hofstede previously were adopted in many studies, including several on how they influence risk aversion technophobia, and dispositional trust, and it was concluded that they have significant role when studying consumer's intentions. There have been several studies, which tried to incorporate these dimensions into TAM, however, studies are outdated, narrowed to some specific countries, and some conclude that TAM does not work in full for these cultural dimensions.

Having analyzed results of previous studies and literature, we proposed hypotheses that allow to check how risk aversion, dispositional trust, and technophobia impact intention to purchase online and how uncertainty avoidance and individualism moderate these relations. To perform statistical analysis, we carried out online survey to collect data. The questionnaire was

created based on reliable and previously checked by many studies constructs. As a result, we received 238 sets of answers, and further analysis was carried out using 236 suitable sets. Performed analysis we confirmed 13 out of 16 hypotheses, and it allowed us to form the following conclusions.

It was found out that risk aversion, dispositional trust, and technophobia have impact on intention to purchase online, however, the direction differs. Despite controversial result of previous studies on impact of risk aversion and dispositional trust have on intention to purchase online, we found out that the former has negative effect via PU and PEOU, while the latter has positive effect only via PU. Technophobia was found to have negative impact on intention to purchase online; moreover, based on deeper analysis it was found out that it is most important in terms of impact strength among three covered in this research. This is especially valuable finding, as before none of studies assessed technophobia as a general concept. Finally, we checked how cultural dimensions such as uncertainty avoidance and individualism/collectivism might reinforce or lessen relationships between PU, PEOU and attitude and attitude and intention to purchase online, and found that UA lessens all of these relationships, while individualism/collectivism reinforces only relationship between attitude towards online purchasing and intention to purchase online.

### **Managerial implications**

As mentioned in the introduction of this thesis results of this research will be useful for companies that are operate on online market or consider entering this market. The main findings of these research beforementioned companies can take into consideration or benefit from include the impact that risk aversion, dispositional trust, and technophobia might have on intention to purchase online and how uncertainty avoidance and individualism/collectivism moderate these relationships.

First, considering that risk aversion negatively influences intention to purchase online, managers should consider adapt the way their online shopping environment to make it safer in terms of payment security, personal data collection agreement, reduce as much as possible overall possibility of client losing money. The latter statement implying that seller can think of making possible to return product back for free or allow to pay at the moment of product receipt, or even allow to order several things at once to choose the one which suits customer most. Basically, there could be different things to consider, but most important part is that those actions will decrease risk aversion level, which will lead to increased intention to purchase online from a seller. Next, although to a lesser extent dispositional trust also impacts consumer's intention to purchase online, therefore, companies need to communicate their values, the way they are doing business etc., so

that consumers believed and trusted the seller, which will increase consumer's intention to purchase online. Technophobia has been found the most influential factor impacting intention to purchase online, therefore, it is vital to consider what consumers might find difficult, worrying, or even terrifying when shopping online and address it. Or, on the other hand, what consumers company need to target to decrease the possibility of technophobia impact.

Also, such cultural dimensions as uncertainty avoidance and individualism/collectivism, which is closely related to risk aversion, dispositional trust and technophobia based on previous studies, also important to think of for those companies operating on online market. It might be less obvious, but still it is worth think about who the consumers of certain company are, how they deal with uncertain situations and what company can do to ensure that uncertainty can be minimized to increase intention to purchase from them online. In addition, knowing that consumers with individualistic and collectivistic views act differently in terms of personal benefits, purchasing habits, etc., companies can adapt their marketing programs to meet the needs and views of their consumers to increase their intention to purchase online.

### **Limitations and suggestions for further research**

Our research has a couple of limitations that should be considered for further research. First, the sample is representative, and it cannot be generalized to the whole population. Participants should have strictly fall under category of being over 18 years old and purchasing goods online before, however it is still cannot be generalized to all people with such characteristics. Next, even though the survey was distributed openly without any country coverage, most respondents happened to be from post-soviet countries, which had effect on assessment of such cultural dimension as individualism and collectivism. Therefore, for future research to have more various and decent findings it is worth make sure to include respondents from different countries all over the world. As per previous research, the amount and quality of studies carried out on technophobia's impact on purchasing intention was significantly low; on the other hand, it open new opportunities for current research and future ones. Also, current study assesses intention to purchase online on general level, without narrowing it down to any product category not to make respondents associate and evaluate answer to questions with some product or product category. However, it might worth studying how product category might moderate relations within TAM, for example. Finally, as independent variables (risk aversion, dispositional trust, and technophobia) explaining 69% of PU variance and 74% of PEOU variance, it is worth to think of more external variables and include them to enrich the model and possibly find interesting and valuable results.

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**NEAPIBRĖŽTUMO VENGIMO IR INDIVIDUALIZMO/KOLEKTYVIZMO  
MODERUOJANTI ĮTAKA RYŠIUI TARP RIZIKOS VENGIMO, PASITIKĖJIMO,  
TECHNOFOBIJOS IR KETINIMO PIRKTI INTERNETU**

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## **SANTRAUKA**

56 puslapiai, 25 lentelių, 4 paveikslų, 219 literatūros šaltinių, 17 priedai.

Šio magistro darbo tikslas – ištirti neapibrėžtumo vengimo ir individualizmo/kolektyvizmo moderuojančią įtaką ryšiui tarp rizikos vengimo, pasitikėjimo, technofobijos ir ketinimo pirkti internetu.

Magistro baigiamąjį darbą sudaro šios dalys: literatūros analizė, tyrimai ir jų rezultatai bei remiantis analizės rezultatais pateikiamos išvados ir rekomendacijos. Literatūros analizėje autorius apžvelgia teorinį pagrindą ir ankstesnius tyrimus, susijusius su tokiais sąvokomis kaip rizikos vengimas, dispozicinis pasitikėjimas ir technofobija bei kultūriniais aspektais, kaip neapibrėžtumo vengimas ir individualizmas/kolektyvizmas, ir jų galimą poveikį tiesioginiam ketinimui pirkti internetu.

Remdamasis literatūros apžvalga, autorius sukuria tyrimo modelį ir hipotezes, o apklausą atlieka internetinės anketos forma. Anketos tikslas buvo išsiaiškinti respondentų rizikos vengimo lygį, dispozicinį pasitikėjimą, technofobiją, suvokiamą naudingumą, suvokiamą naudojimosi paprastumą, požiūrį į pirkimą internetu ir ketinimą pirkti internetu, kad vėliau būtų galima įvertinti, kaip veikia hipotezėse siūlomi ryšiai. Tolimesni rezultatai buvo įvertinti, lyginami su ankstesnių tyrimų rezultatais ir užrašytos išvados bei rekomendacijos. Analizė buvo atliktos SPSS programa. Gautų rezultatų patikimumą patvirtino Cronbacho alfa koeficientas, kuris buvo didesnis nei 0,65, o tai rodo, kad visos dabartiniuose tyrimuose naudojamos skalės buvo nuoseklios. Norėdami patikrinti ryšius ir poveikį, autorius naudoja Pearsono koreliacijos koeficientą, regresijos analizę ir Andrew F. Hayes SPSS proceso procedūrą, kad patikrintų moderavimo efektus.

Atlikus analizę, autorius nustato, kad norą pirkti internetu neigiamai veikia rizikos vengimas ir technofobija, o teigiamą – dispozicinis pasitikėjimas; tačiau turi būti nustatyta, kad dispozicinis pasitikėjimas neturi tiesioginio poveikio per suvokiamą naudojimo lengvumą, o veikia tik per suvokiamą naudingumą. Rezultatai rodo, kad neapibrėžtumo vengimas mažina siūlomus ryšius tarp suvokiamo naudingumo ir suvokiamo naudojimosi paprastumo, požiūrio į pirkimą internetu ir ketinimo pirkti internetu, o individualizmo/kolektyvizmo nuosaikumo stiprinimo efektas buvo reikšmingas tik ryšiui tarp požiūrio į pirkimą internetu ir ketinimo pirkti internetu.

Išvadose ir rekomendacijose autorius apibendrina gautus rezultatus, lygindamas juos su ankstesniais tyrimais, apibendrina svarbiausias ir aktualiausias išvadas, pasiūlo ateities galimas rezultatų įgyvendinimo ir tolesnių tyrimų kryptis.

**THE MODERATING EFFECT OF UNCERTAINTY AVOIDANCE AND  
INDIVIDUALISM/COLLECTIVISM ON THE RELATIONSHIP BETWEEN RISK  
AVERSION, DISPOSITIONAL TRUST, TECHNOPHOBIA, AND INTENTION TO  
PURCHASE ONLINE**

**Viktoriiia Romanovskaia**

**Master thesis**

*Marketing and Integrated Communication Program*

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Supervisor Ignas Zimaitis

**SUMMARY**

59 pages, 25 tables, 4 figures, 219 references, 17 annexes.

The purpose of this master thesis is to study the moderating effect of uncertainty avoidance and individualism/collectivism on the relationship between risk aversion, dispositional trust, technophobia, and intention to purchase online.

The master thesis consists of the following parts: analysis of literature, research and its results, and conclusions and recommendations drawn based on results of analysis.

In the literature analysis, the author reviews theoretical background and previous studies for such concepts as risk aversion, dispositional trust, and technophobia, and cultural dimensions as uncertainty avoidance and individualism/collectivism, and impact they might have on intention to purchase online.

Based on literature review, the author develops research model and hypotheses, and carries out the survey in form of online questionnaire. The purpose of questionnaire was to find out respondents' level of risk aversion, dispositional trust, technophobia, PU, PEOU, attitude towards online purchasing and intention to purchase online, so that afterwards evaluate how the proposed within hypotheses relations work. Further results were evaluated, compared with previous research results and conclusions and recommendations written down. The analyses were performed in SPSS program. The reliability of received results was confirmed by Cronbach's Alpha coefficient, which was higher than 0.65, which indicates that all scales used in current research were consistent. To check relations and impacts, the author uses Pearson's correlation coefficient, regression analysis, and process procedure for SPSS of Andrew F. Hayes to check moderation effects.

By performed analysis, the author finds out that risk aversion and technophobia have negative effect on intention to purchase online, while dispositional trust has positive effect on it; however, dispositional trust has to be found has no effect directly through perceived-ease-of-use but influence only through perceived usefulness. Results show that uncertainty avoidance lessens proposed relations between PU, PEOU, attitude towards online purchasing and intention to purchase online, and moderation reinforcement effect of individualism/collectivism was found to be significant only for relation between attitude towards purchasing online and intention to purchase online.

In the conclusions and recommendations, the author sums up the received results comparing them to previous studies, summarizes the most important and relevant findings, and proposes future possible directions of results implementations and further research.

## ANNEXES

### Annex 1. List of constructs used for online questionnaire development

Constructs	Items
General Risk Aversion Scale	Adapted from Mandrik and Bao (2005) 1. I do not feel comfortable about taking chances. 2. I prefer situations that have foreseeable outcomes. 3. Before I make a decision, I like to be absolutely sure how things will turn out. 4. I avoid situations that have uncertain outcomes. 5. I feel comfortable improvising in new situations. 6. I feel nervous when I have to make decisions in uncertain situations.
Dispositional trust	Adapted from Frazier et al. (2013) 1. It is easy for me to trust others. 2. I usually trust people until they give me a reason not to trust them. 3. I tend to trust others even if I have little knowledge of them. 4. I generally give people the benefit of the doubt when I first meet them. 5. Trusting another person is not difficult for me 6. My typical approach is to trust new acquaintances until they prove I should not trust them 7. I don't mind giving up control to others over matters 8. My tendency to trust others is high
Technophobia	Adapted from Martinez-Corcoles et al. (2017) 1. I feel an irrational fear of new equipment or technology. 2. I avoid the use of new equipment and technology. 3. I feel uncomfortable when I use new equipment or technology. 4. I find it difficult to complete computerized tasks. 5. I find it very difficult to learn about how to use new technology. 6. I feel incompetent because I don't like to use new equipment or technology. 7. I'm resistant to back up hard drives or organize files in my computer. 8. I feel unskilled for the use of new equipment or technology. 9. I feel excessive sweating while working with new equipment or technology. 10. I feel heart palpitations while working with new equipment or technology. 11. I feel anxious while working with new equipment or technology. 12. I feel forced to change my way of working because of new equipment or technology.
PEOU	Adapted from Davis (1989), Yu et al. (2005), Nguyen et al. (2019) 1. Learning how to use the internet to buy a product is easy for me. 2. I find it easy to become skilled at purchasing products online. 3. Using the internet to buy a product would be easy to do for me.
PU	Adapted from Davis (1989), Yu et al. (2005), Moon and Kim (2001) 1. Using the internet to buy a product would allow me to shop more efficiently. 2. Using the internet to acquire a product would allow me to do my shopping more quickly 3. Using the internet to acquire a product would be useful to do my shopping
Attitude toward purchasing online	Adapted from Moon and Kim (2001), Nguyen et al. (2019), Wen and Hsieh (2010) 1. Using internet to do my shopping is a good idea. 2. Using internet to do my shopping is a wise idea. 3. My general opinion of online purchasing is positive.
Intention to purchase online	Adapted from Kim et al. (2008) 1. The idea to purchase on the Internet is very attractive to me. 2. I love to purchase products on the Internet. 3. I am likely to make another purchase on the Internet in the future.
Individualism/Collectivism	Adapted from Sharma (2010) 1. I would rather depend on myself than others. 2. My personal identity, independent of others, is important to me. 3. I rely on myself most of the time, rarely on others. 4. It is important that I do my job better than others. 5. The well-being of my group members is important for me. 6. I feel good when I cooperate with my group members. 7. It is my duty to take care of my family members, whatever it takes 8. Family members should stick together, even if they do not agree.

Uncertainty avoidance	Adapted from Sharma (2010) 1. I tend to avoid talking to strangers 2. I prefer a routine way of life to an unpredictable one full of change 3. I would not describe myself as a risk-taker 4. I do not like taking too many chances to avoid making a mistake 5. I find it difficult to function without clear directions and instructions 6. I prefer specific instructions to broad guidelines 7. I tend to get anxious easily when I don't know an outcome 8. I feel stressful when I cannot predict consequences.
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## **Annex 2. Online questionnaire layout**

### **Introduction:**

Dear research participants!

We present to your attention the questionnaire created by the Master of Marketing and Integrated Communications from Vilnius University. The answers to the questions of this survey will help to assess what factors influence the intention of consumers to make purchases online and can later be used by marketers and businesses to build a more attractive environment for online commerce.

We will ask you to answer around 60 questions, more detailed instructions for each question category will be presented before these questions.

Thank you for your contribution to the development of the scientific environment and a better understanding of consumer behavior and intentions!

### **Part 1:**

Please choose which option more closely describes your ability to proceed with survey held in English and experience with online shopping.

1. Would you feel confident answering questions of the survey in English?

A) Yes

B) No

2. Have you ever bought things online?

A) Yes

B) No

### **Part 2:**

Please measure your agreement or disagreement with the following statement on the scale from (1) Strongly agree, (2) Agree, (3) Neither agree nor disagree, (4) Disagree to (5) Strongly disagree:

3. I do not feel comfortable about taking chances.
4. I prefer situations that have foreseeable outcomes.
5. Before I make a decision, I like to be absolutely sure how things will turn out.
6. I avoid situations that have uncertain outcomes.
7. I feel comfortable improvising in new situations.
8. I feel nervous when I have to make decisions in uncertain situations.
9. It is easy for me to trust others.
10. I usually trust people until they give me a reason not to trust them.
11. I tend to trust others even if I have little knowledge of them.
12. I generally give people the benefit of the doubt when I first meet them.
13. Trusting another person is not difficult for me.
14. My typical approach is to trust new acquaintances until they prove I should not trust them.
15. I don't mind giving up control to others over matters.
16. My tendency to trust others is high.
17. I feel an irrational fear of new equipment or technology.
18. I avoid the use of new equipment and technology.
19. I feel uncomfortable when I use new equipment or technology.

20. I find it difficult to complete computerized tasks.
21. I find it very difficult to learn about how to use new technology.
22. I feel incompetent because I don't like to use new equipment or technology.
23. I'm resistant to back up hard drives or organize files in my computer.
24. I feel unskilled for the use of new equipment or technology.
25. I feel excessive sweating while working with new equipment or technology.
26. I feel heart palpitations while working with new equipment or technology.
27. I feel anxious while working with new equipment or technology.
28. I feel forced to change my way of working because of new equipment or technology.
29. Learning how to use the internet to buy a product is easy for me.
30. I find it easy to become skilled at purchasing products online.
31. Using the internet to buy a product would be easy to do for me.
32. Using the internet to buy a product would allow me to shop more efficiently.
33. Using the internet to acquire a product would allow me to do my shopping more quickly.
34. Using the internet to acquire a product would be useful to do my shopping.
35. Using internet to do my shopping is a good idea.
36. Using internet to do my shopping is a wise idea.
37. My general opinion of online purchasing is positive.
38. The idea to purchase on the Internet is very attractive to me.
39. I love to purchase products on the Internet.
40. I am likely to make another purchase on the Internet in the future.
41. I would rather depend on myself than others.
42. My personal identity, independent of others, is important to me.
43. I rely on myself most of the time, rarely on others.
44. It is important that I do my job better than others.
45. The well-being of my group members is important for me.
46. I feel good when I cooperate with my group members.
47. It is my duty to take care of my family members, whatever it takes.
48. Family members should stick together, even if they do not agree.
49. I tend to avoid talking to strangers.
50. I prefer a routine way of life to an unpredictable one full of change.
51. I would not describe myself as a risk-taker.
52. I do not like taking too many chances to avoid making a mistake.
53. I find it difficult to function without clear directions and instructions.
54. I prefer specific instructions to broad guidelines.
55. I tend to get anxious easily when I don't know an outcome.
56. I feel stressful when I cannot predict consequences.

**Part 3:**

This section contains demographic information to make the results of survey more representative and informative.

57. What is your gender?

- A) Male
- B) Female



- C) Prefer not to respond
- D) Other

58. What is your age?

- A) Under 18
- B) Over 18 (including)
- C) Prefer not to answer

59. From what country are you from?

- A) Russia
- B) Lithuania
- C) Ukraine
- D) Belarus
- E) Prefer not to answer
- F) Other

60) What is your highest level of education?

- A) High school
- B) College/Middle level education
- C) Bachelor's degree
- D) Master's degree or higher
- E) Not applicable

### Annex 3. Demographical characteristics of respondents

#### *Gender segmentation of respondents*

No	Gender	Number of respondents	% of total
1	Male	90	38,1
2	Female	146	61,9
3	Prefer not to respond	0	0,0
4	Other	0	0,0
Total		236	100,0

#### *Geographic segmentation of respondents*

No	Country	Number of respondents	% of total
1	Russia	103	43,6
2	Lithuania	89	37,7
3	Ukraine	9	3,8
4	Belarus	14	5,9
5	Other	21	8,9
6	Prefer not to say	0	0,0
Total		236	100,0

#### *Education level of respondents*

No	Level of education	Number of respondents	% of total
1	High school	12	5,1
2	College/middle level education	0	0,0
3	Bachelor's degree	121	51,3
4	Master's degree or higher	103	43,6
5	Not applicable	0	0,0
Total		236	100,0

## Annex 4. Constructs' reliability tests

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I do not feel comfortable about taking chances.	11,09	8,740	,662	,561
I prefer situations that have foreseeable outcomes	11,62	10,637	,617	,604
Before I make a decision, I like to be absolutely sure how things will turn out.	11,66	10,269	,737	,574
I avoid situations that have uncertain outcomes.	11,12	9,836	,542	,613
I feel comfortable improvising in new situations.	10,96	14,394	-,120	,837
I feel nervous when I have to make decisions in uncertain situations.	11,56	11,337	,433	,654

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I feel an irrational fear of new equipment or technology.	43,75	88,529	,822	,956
I avoid the use of new equipment and technology.	43,44	91,865	,834	,956
I feel uncomfortable when I use new equipment or technology.	43,57	89,505	,888	,954
I find it difficult to complete computerized tasks.	43,41	91,035	,851	,955
I find it very difficult to learn about how to use new technology.	43,31	89,110	,816	,956
I feel incompetent because I don't like to use new equipment or technology.	43,31	90,386	,815	,956
I'm resistant to back up hard drives or organize files in my computer.	43,65	91,812	,680	,960
I feel unskilled for the use of new equipment or technology.	43,52	87,697	,926	,952
I feel excessive sweating while working with new equipment or technology.	43,17	94,402	,726	,958
I feel heart palpitations while working with new equipment or technology.	43,23	94,654	,617	,961
I feel anxious while working with new equipment or technology.	43,43	86,680	,833	,955
I feel forced to change my way of working because of new equipment or technology.	43,77	85,394	,833	,956

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Learning how to use the internet to buy a product is easy for me.	3,85	3,599	,965	,868
I find it easy to become skilled at purchasing products online.	3,67	3,279	,854	,962
Using the internet to buy a product would be easy to do for me.	3,84	3,906	,870	,939

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
It is easy for me to trust others.	19,95	21,253	,763	,818
I usually trust people until they give me a reason not to trust them.	20,46	22,836	,639	,834
I tend to trust others even if I have little knowledge of them.	19,91	22,740	,717	,826
I generally give people the benefit of the doubt when I first meet them.	20,26	25,750	,361	,864
Trusting another person is not difficult for me.	19,83	22,096	,757	,820
My typical approach is to trust new acquaintances until they prove I should not trust them.	20,06	22,698	,691	,828
I don't mind giving up control to others over matters.	19,86	26,189	,247	,881
My tendency to trust others is high.	19,75	23,186	,681	,830

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Using the internet to buy a product would allow me to shop more efficiently.	4,19	4,257	,891	,936
Using the internet to acquire a product would allow me to do my shopping more quickly.	4,16	4,161	,945	,890
Using the internet to acquire a product would be useful to do my shopping.	4,23	5,414	,889	,949

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Using internet to do my shopping is a good idea.	4,39	3,629	,926	,894
Using internet to do my shopping is a wise idea.	4,15	3,468	,885	,932
My general opinion of online purchasing is positive.	4,45	4,170	,874	,940

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
The idea to purchase on the Internet is very attractive to me.	4,50	3,417	,833	,770
I love to purchase products on the Internet.	4,35	3,225	,745	,857
I am likely to make another purchase on the Internet in the future.	4,75	3,846	,736	,858

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I tend to avoid talking to strangers.	18,37	39,290	,287	,900
I prefer a routine way of life to an unpredictable one full of change.	18,45	35,100	,636	,868
I would not describe myself as a risk-taker.	18,44	33,728	,655	,867
I do not like taking too many chances to avoid making a mistake.	18,74	34,629	,773	,857
I find it difficult to function without clear directions and instructions.	18,43	31,625	,743	,857
I prefer specific instructions to broad guidelines.	18,76	33,407	,684	,863
I tend to get anxious easily when I don't know an outcome.	18,52	33,944	,726	,860
I feel stressful when I cannot predict consequences.	18,62	34,083	,723	,860

**Item-Total Statistics**

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I would rather depend on myself than others.	15,88	10,701	,397	,637
My personal identity, independent of others, is important to me.	16,14	12,898	,247	,669
I rely on myself most of the time, rarely on others.	16,00	13,626	,085	,690
It is important that I do my job better than others.	16,02	12,251	,352	,651
The well-being of my group members is important for me.	15,12	8,692	,567	,582
I feel good when I cooperate with my group members.	15,58	9,411	,628	,567
It is my duty to take care of my family members, whatever it takes.	15,53	11,323	,340	,651
Family members should stick together, even if they do not agree.	15,41	11,774	,264	,669

**Annex 5. Correlation analysis for PEOU, PU, risk aversion, dispositional trust, technophobia, attitude towards online purchasing and intention to purchase online**

		<b>Correlations</b>						
		PEOU	PU	RiskAversion	DisposTrust	Technophob	Attitude	Intention
PEOU	Pearson Correlation	1	,854**	-,690**	,496**	-,818**	,677**	,714**
	Sig. (2-tailed)		,000	,000	,000	,000	,000	,000
	N	236	236	236	236	236	236	236
PU	Pearson Correlation	,854**	1	-,684**	,556**	-,767**	,766**	,792**
	Sig. (2-tailed)	,000		,000	,000	,000	,000	,000
	N	236	236	236	236	236	236	236
RiskAversion	Pearson Correlation	-,690**	-,684**	1	-,534**	,577**	-,617**	-,551**
	Sig. (2-tailed)	,000	,000		,000	,000	,000	,000
	N	236	236	236	236	236	236	236
DisposTrust	Pearson Correlation	,496**	,556**	-,534**	1	-,472**	,509**	,529**
	Sig. (2-tailed)	,000	,000	,000		,000	,000	,000
	N	236	236	236	236	236	236	236
Technophob	Pearson Correlation	-,818**	-,767**	,577**	-,472**	1	-,625**	-,590**
	Sig. (2-tailed)	,000	,000	,000	,000		,000	,000
	N	236	236	236	236	236	236	236
Attitude	Pearson Correlation	,677**	,766**	-,617**	,509**	-,625**	1	,815**
	Sig. (2-tailed)	,000	,000	,000	,000	,000		,000
	N	236	236	236	236	236	236	236
Intention	Pearson Correlation	,714**	,792**	-,551**	,529**	-,590**	,815**	1
	Sig. (2-tailed)	,000	,000	,000	,000	,000	,000	
	N	236	236	236	236	236	236	236

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

## Annex 6. Linear regression analysis for PEOU and PU

### Descriptive Statistics

	Mean	Std. Deviation	N
PU	2,10	1,061	236
PEOU	1,89	,936	236

### Correlations

		PU	PEOU
Pearson Correlation	PU	1,000	,854
	PEOU	,854	1,000
Sig. (1-tailed)	PU	.	,000
	PEOU	,000	.
N	PU	236	236
	PEOU	236	236

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	PEOU <sup>b</sup>	.	Enter

a. Dependent Variable: PU

b. All requested variables entered.

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,854 <sup>a</sup>	,730	,729	,552	1,886

a. Predictors: (Constant), PEOU

b. Dependent Variable: PU

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	192,972	1	192,972	632,948	,000 <sup>b</sup>
	Residual	71,342	234	,305		
	Total	264,314	235			

a. Dependent Variable: PU

b. Predictors: (Constant), PEOU

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	,264	,081		3,254	,001		
	PEOU	,969	,038	,854	25,158	,000	1,000	1,000

a. Dependent Variable: PU

## Annex 7. Linear regression analysis for PU and attitude towards online purchasing

→

Descriptive Statistics			
	Mean	Std. Deviation	N
Attitude	2,16	,947	236
PU	2,10	1,061	236

**Correlations**

		Attitude	PU
Pearson Correlation	Attitude	1,000	,766
	PU	,766	1,000
Sig. (1-tailed)	Attitude	.	,000
	PU	,000	.
N	Attitude	236	236
	PU	236	236

**Variables Entered/Removed<sup>a</sup>**

Model	Variables Entered	Variables Removed	Method
1	PU <sup>b</sup>	.	Enter

a. Dependent Variable: Attitude

b. All requested variables entered.

→

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,766 <sup>a</sup>	,586	,585	,610

a. Predictors: (Constant), PU

**ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	123,441	1	123,441	331,606	,000 <sup>b</sup>
	Residual	87,107	234	,372		
	Total	210,548	235			

a. Dependent Variable: Attitude

b. Predictors: (Constant), PU

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,728	,088		8,253	,000
	PU	,683	,038	,766	18,210	,000

a. Dependent Variable: Attitude



## Annex 8. Linear regression analysis for PEOU and attitude towards online purchasing

### Descriptive Statistics

	Mean	Std. Deviation	N
Attitude	2,16	,947	236
PEOU	1,89	,936	236

### Correlations

		Attitude	PEOU
Pearson Correlation	Attitude	1,000	,677
	PEOU	,677	1,000
Sig. (1-tailed)	Attitude	.	,000
	PEOU	,000	.
N	Attitude	236	236
	PEOU	236	236

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	PEOU <sup>b</sup>	.	Enter

a. Dependent Variable: Attitude

b. All requested variables entered.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,677 <sup>a</sup>	,458	,456	,698

a. Predictors: (Constant), PEOU

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	96,443	1	96,443	197,778	,000 <sup>b</sup>
	Residual	114,105	234	,488		
	Total	210,548	235			

a. Dependent Variable: Attitude

b. Predictors: (Constant), PEOU

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,865	,103		8,420	,000
	PEOU	,685	,049	,677	14,063	,000

a. Dependent Variable: Attitude

## Annex 9. Linear regression analysis for attitude towards online purchasing and intention to purchase online

### Descriptive Statistics

	Mean	Std. Deviation	N
Intention	2,27	,908	236
Attitude	2,16	,947	236

### Correlations

		Intention	Attitude
Pearson Correlation	Intention	1,000	,815
	Attitude	,815	1,000
Sig. (1-tailed)	Intention	.	,000
	Attitude	,000	.
N	Intention	236	236
	Attitude	236	236

### Variables Entered/Removed<sup>a</sup>

Model	Variables Entered	Variables Removed	Method
1	Attitude <sup>b</sup>	.	Enter

a. Dependent Variable: Intention

b. All requested variables entered.

### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,815 <sup>a</sup>	,664	,663	,527

a. Predictors: (Constant), Attitude

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	128,648	1	128,648	462,973	,000 <sup>b</sup>
	Residual	65,022	234	,278		
	Total	193,670	235			

a. Dependent Variable: Intention

b. Predictors: (Constant), Attitude

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	,579	,086		6,760	,000
	Attitude	,782	,036	,815	21,517	,000

a. Dependent Variable: Intention

## Annex 10. Output for regression analysis for influence of risk aversion, dispositional trust, and technophobia on PU

### Descriptive Statistics

	Mean	Std. Deviation	N
PU	2,10	1,061	236
RiskAversion	2,27	,640	236
DisposTrust	2,86	,683	236
Technophob	3,95	,861	236

### Correlations

		PU	RiskAversion	DisposTrust	Technophob
Pearson Correlation	PU	1,000	-,684	,556	-,767
	RiskAversion	-,684	1,000	-,534	,577
	DisposTrust	,556	-,534	1,000	-,472
	Technophob	-,767	,577	-,472	1,000
Sig. (1-tailed)	PU	.	,000	,000	,000
	RiskAversion	,000	.	,000	,000
	DisposTrust	,000	,000	.	,000
	Technophob	,000	,000	,000	.
N	PU	236	236	236	236
	RiskAversion	236	236	236	236
	DisposTrust	236	236	236	236
	Technophob	236	236	236	236

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,831 <sup>a</sup>	,690	,686	,594	1,866

a. Predictors: (Constant), Technophob, DisposTrust, RiskAversion

b. Dependent Variable: PU

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	182,508	3	60,836	172,529	,000 <sup>b</sup>
	Residual	81,806	232	,353		
	Total	264,314	235			

a. Dependent Variable: PU

b. Predictors: (Constant), Technophob, DisposTrust, RiskAversion

### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5,126	,367		13,963	,000		
	RiskAversion	-,503	,080	-,303	-6,319	,000	,579	1,728
	DisposTrust	,229	,069	,147	3,313	,001	,674	1,483
	Technophob	-,644	,057	-,523	-11,355	,000	,630	1,588

a. Dependent Variable: PU

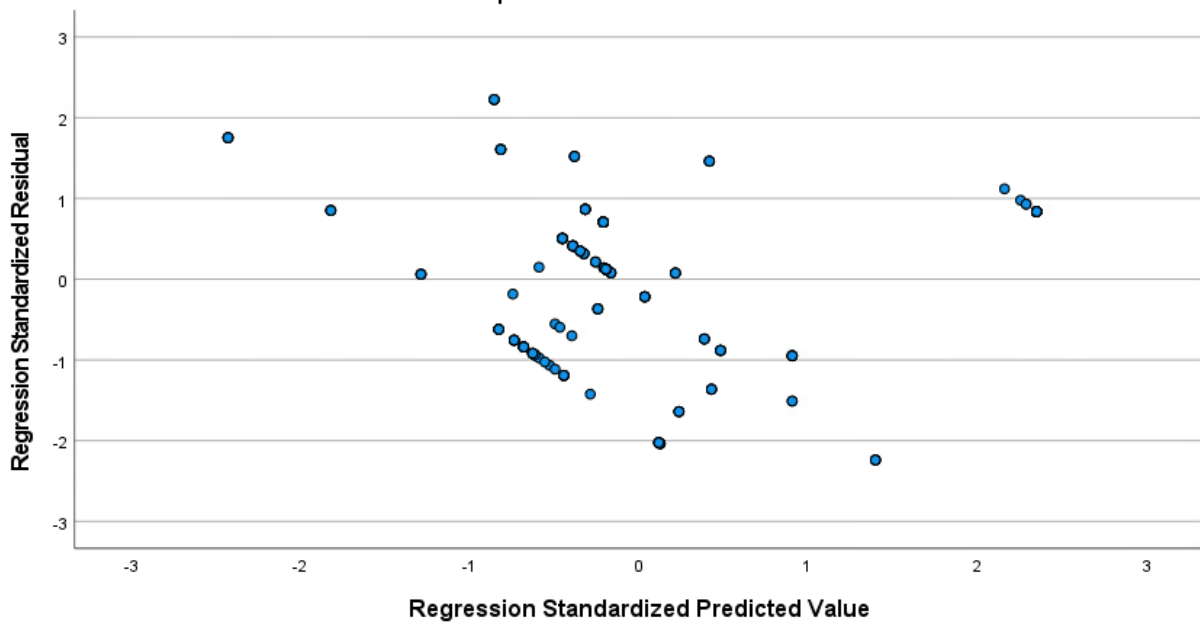
### Residuals Statistics<sup>a</sup>

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	-,04	4,17	2,10	,881	236
Std. Predicted Value	-2,427	2,351	,000	1,000	236
Standard Error of Predicted Value	,041	,145	,074	,023	236
Adjusted Predicted Value	-,11	4,15	2,10	,883	236
Residual	-1,329	1,322	,000	,590	236
Std. Residual	-2,239	2,227	,000	,994	236
Stud. Residual	-2,288	2,250	,000	1,006	236
Deleted Residual	-1,389	1,350	,000	,604	236
Stud. Deleted Residual	-2,309	2,270	,000	1,009	236
Mahal. Distance	,127	13,018	2,987	2,539	236
Cook's Distance	,000	,059	,006	,012	236
Centered Leverage Value	,001	,055	,013	,011	236

a. Dependent Variable: PU

### Scatterplot

Dependent Variable: PU



### Descriptives

Descriptive Statistics		
	N	Maximum
Cook's Distance	236	,05854
DFBETA Intercept	236	,05168
DFBETA RiskAversion	236	,02406
DFBETA DisposTrust	236	,01939
DFBETA Technophob	236	,02310
Standardized Residual	236	2,22683
Valid N (listwise)	236	

## Annex 11. Output for regression analysis for influence of risk aversion, dispositional trust, and technophobia on PEOU

### Descriptive Statistics

	Mean	Std. Deviation	N
PEOU	1,89	,936	236
RiskAversion	2,27	,640	236
DisposTrust	2,86	,683	236
Technophob	3,95	,861	236

### Correlations

		PEOU	RiskAversion	DisposTrust	Technophob
Pearson Correlation	PEOU	1,000	-,690	,496	-,818
	RiskAversion	-,690	1,000	-,534	,577
	DisposTrust	,496	-,534	1,000	-,472
	Technophob	-,818	,577	-,472	1,000
Sig. (1-tailed)	PEOU	.	,000	,000	,000
	RiskAversion	,000	.	,000	,000
	DisposTrust	,000	,000	.	,000
	Technophob	,000	,000	,000	.
N	PEOU	236	236	236	236
	RiskAversion	236	236	236	236
	DisposTrust	236	236	236	236
	Technophob	236	236	236	236

### Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,861 <sup>a</sup>	,741	,738	,479	2,013

a. Predictors: (Constant), Technophob, DisposTrust, RiskAversion

b. Dependent Variable: PEOU

### ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	152,468	3	50,823	221,393	,000 <sup>b</sup>
	Residual	53,257	232	,230		
	Total	205,725	235			

a. Dependent Variable: PEOU

b. Predictors: (Constant), Technophob, DisposTrust, RiskAversion

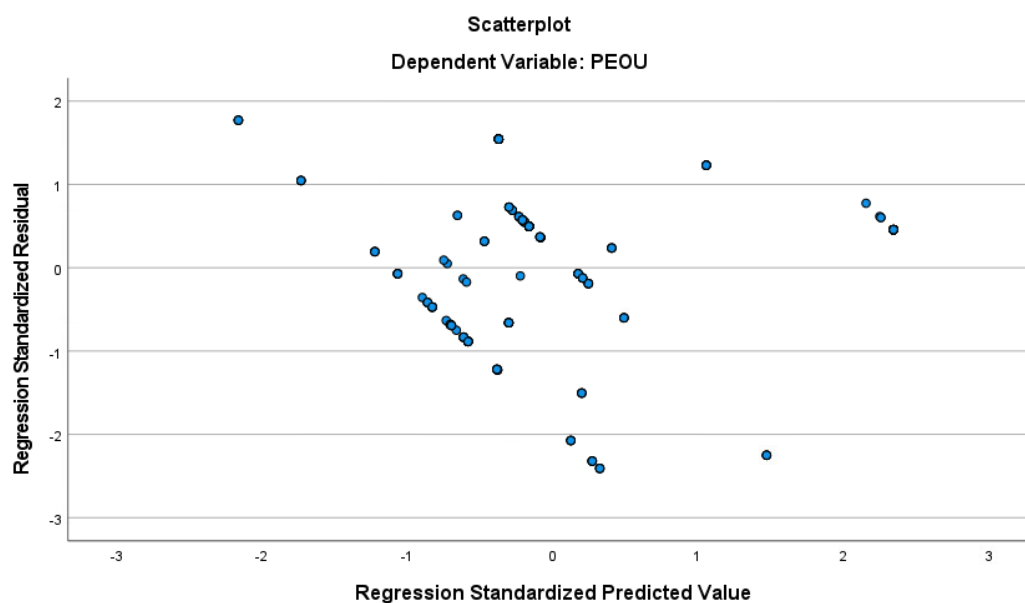
### Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	5,454	,296		18,412	,000		
	RiskAversion	-,456	,064	-,312	-7,110	,000	,579	1,728
	DisposTrust	,049	,056	,036	,876	,382	,674	1,483
	Technophob	-,675	,046	-,621	-14,753	,000	,630	1,588

a. Dependent Variable: PEOU

Residuals Statistics <sup>a</sup>					
	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	,15	3,78	1,89	,805	236
Std. Predicted Value	-2,162	2,344	,000	1,000	236
Standard Error of Predicted Value	,033	,117	,059	,019	236
Adjusted Predicted Value	,10	3,77	1,89	,807	236
Residual	-1,154	,849	,000	,476	236
Std. Residual	-2,408	1,771	,000	,994	236
Stud. Residual	-2,431	1,827	-,001	1,005	236
Deleted Residual	-1,176	,902	-,001	,487	236
Stud. Deleted Residual	-2,458	1,836	-,002	1,010	236
Mahal. Distance	,127	13,018	2,987	2,539	236
Cook's Distance	,000	,059	,006	,013	236
Centered Leverage Value	,001	,055	,013	,011	236

a. Dependent Variable: PEOU



## Descriptives

### Descriptive Statistics

	N	Maximum
Cook's Distance	236	,05913
DFBETA Intercept	236	,07841
DFBETA RiskAver	236	,02226
DFBETA DisTrust	236	,01794
DFBETA Tecphob	236	,01873
Valid N (listwise)	236	

## Annex 12. Moderation analysis for effect of UA on relationship between PU and attitude towards online purchasing

### Matrix

```

.....
Run MATRIX procedure:
***** PROCESS Procedure for SPSS Version 3.5.3 *****
      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
      Documentation available in Hayes (2018). www.guilford.com/p/hayes3
*****
Model   : 1
  Y     : Attit
  X     : PU
  W     : UncAv

Sample
Size: 236

*****
OUTCOME VARIABLE:
Attit

Model Summary
      R      R-sq      MSE      F      df1      df2      p
      ,7759      ,6020      ,3612     116,9742     3,0000     232,0000     ,0000

Model
      coeff      se      t      p      LLCI      ULCI
constant      ,0788      ,2875      ,2743      ,7841      -,4876      ,6453
PU              ,9120      ,0844     10,8074      ,0000      ,7457      1,0783
UncAv          ,2739      ,0967      2,8336      ,0050      ,0834      ,4643
Int_1          -,1117      ,0392     -2,8508      ,0048      -,1889      -,0345

Product terms key:
Int_1      :      PU      x      UncAv

Test(s) of highest order unconditional interaction(s):
      R2-chng      F      df1      df2      p
X*W      ,0139      8,1268      1,0000     232,0000     ,0048

-----
      Focal predict: PU      (X)
      Mod var: UncAv      (W)

-----
      Focal predict: PU      (X)
      Mod var: UncAv      (W)

Conditional effects of the focal predictor at values of the moderator(s):

      UncAv      Effect      se      t      p      LLCI      ULCI
      2,0000      ,6886      ,0499     13,7858      ,0000      ,5902      ,7870
      2,6250      ,6188      ,0597     10,3582      ,0000      ,5011      ,7365
      3,6250      ,5071      ,0882      5,7481      ,0000      ,3333      ,6809

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/
PU      UncAv      Attit      .
BEGIN DATA.
      1,0000      2,0000      1,3152
      2,0000      2,0000      2,0038
      2,6667      2,0000      2,4629
      1,0000      2,6250      1,4166
      2,0000      2,6250      2,0354
      2,6667      2,6250      2,4479
      1,0000      3,6250      1,5788
      2,0000      3,6250      2,0858
      2,6667      3,6250      2,4239
END DATA.
GRAPH/SCATTERPLOT=
PU      WITH      Attit      BY      UncAv      .

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

```

## Annex 13. Moderation analysis for effect of UA on relationship between PEOU and attitude towards online purchasing

### Matrix

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 3.5.3 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D. www.afhayes.com  
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 1  
Y : Attit  
X : PEOU  
W : UncAv

Sample  
Size: 236

\*\*\*\*\*

OUTCOME VARIABLE:  
Attit

Model Summary							
	R	R-sq	MSE	F	df1	df2	p
	,7394	,5467	,4114	93,2581	3,0000	232,0000	,0000

Model						
	coeff	se	t	p	LLCI	ULCI
constant	-,5699	,3508	-1,6245	,1056	-1,2612	,1213
PEOU	1,3684	,1155	11,8473	,0000	1,1409	1,5960
UncAv	,6514	,1132	5,7527	,0000	,4283	,8745
Int_1	-,3575	,0541	-6,6122	,0000	-,4641	-,2510

Product terms key:  
Int\_1 : PEOU x UncAv

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0854	43,7214	1,0000	232,0000	,0000

Focal predict: PEOU (X)  
Mod var: UncAv (W)

Conditional effects of the focal predictor at values of the moderator(s):

UncAv	Effect	se	t	p	LLCI	ULCI
2,0000	,6534	,0692	9,4355	,0000	,5169	,7898
2,6250	,4299	,0832	5,1677	,0000	,2660	,5938
3,6250	,0724	,1228	,5895	,5561	-,1695	,3143

Data for visualizing the conditional effect of the focal predictor:

Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/

PEOU UncAv Attit .

BEGIN DATA.

1,0000	2,0000	1,3862
2,0000	2,0000	2,0395
2,3333	2,0000	2,2573
1,0000	2,6250	1,5698
2,0000	2,6250	1,9997
2,3333	2,6250	2,1430
1,0000	3,6250	1,8637
2,0000	3,6250	1,9361
2,3333	3,6250	1,9602

END DATA.

GRAPH/SCATTERPLOT=

PEOU WITH Attit BY UncAv .

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----



## Annex 14. Moderation analysis for effect of UA on relationship between attitude towards online purchasing and intention to purchase online

### Matrix

```

Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5.3 *****

      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
      Documentation available in Hayes (2018). www.guilford.com/p/hayes3

*****

Model : 1
  Y : Inten
  X : Attit
  W : UncAv

Sample
Size: 236

*****
OUTCOME VARIABLE:
  Inten

Model Summary

      R          R-sq      MSE          F          df1          df2          p
      ,8302      ,6893      ,2594      171,5440      3,0000      232,0000      ,0000

Model

      coeff          se          t          p          LLCI          ULCI
constant      -,2413      ,3210      -,7517      ,4530      -,8737      ,3911
Attit          1,1089      ,0969      11,4395      ,0000      ,9179      1,2998
UncAv          ,3074      ,1041      2,9533      ,0035      ,1023      ,5125
Int_1          -,1309      ,0325      -4,0313      ,0001      -,1948      -,0669

Product terms key:
Int_1 :      Attit      x      UncAv

Test(s) of highest order unconditional interaction(s):

      R2-chng      F          df1          df2          p
X*W      ,0218      16,2514      1,0000      232,0000      ,0001
-----
      Focal predict: Attit      (X)
      Mod var: UncAv      (W)

Conditional effects of the focal predictor at values of the moderator(s):

      UncAv      Effect          se          t          p          LLCI          ULCI
2,0000      ,8471      ,0462      18,3409      ,0000      ,7561      ,9381
2,6250      ,7653      ,0399      19,1752      ,0000      ,6867      ,8439
3,6250      ,6344      ,0494      12,8401      ,0000      ,5371      ,7318

Data for visualizing the conditional effect of the focal predictor:
Paste text below into a SPSS syntax window and execute to produce plot.

DATA LIST FREE/
  Attit      UncAv      Inten      .
BEGIN DATA.
  1,0000      2,0000      1,2206
  2,0000      2,0000      2,0677
  3,6667      2,0000      3,4796
  1,0000      2,6250      1,3309
  2,0000      2,6250      2,0962
  3,6667      2,6250      3,3717
  1,0000      3,6250      1,5075
  2,0000      3,6250      2,1419
  3,6667      3,6250      3,1992
END DATA.
GRAPH/SCATTERPLOT=
  Attit      WITH      Inten      BY      UncAv      .

***** ANALYSIS NOTES AND ERRORS *****

Level of confidence for all confidence intervals in output:
  95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----

```

## Annex 15. Moderation analysis for effect of individualism/collectivism on relationship between PU and attitude towards online purchasing

### Matrix

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 3.5.3 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.      www.afhayes.com  
 Documentation available in Hayes (2018). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 1  
 Y : Attit  
 X : PU  
 W : IndCol

Sample  
 Size: 236

\*\*\*\*\*

OUTCOME VARIABLE:  
 Attit

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,7685	,5906	,3716	111,5403	3,0000	232,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	1,6408	,5962	2,7523	,0064	,4662	2,8154
PU	,1453	,3813	,3812	,7034	-,6059	,8965
IndCol	-,4115	,2650	-1,5530	,1218	-,9336	,1106
Int_1	,2353	,1639	1,4353	,1525	-,0877	,5582

Product terms key:

Int\_1 : PU x IndCol

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0036	2,0602	1,0000	232,0000	,1525

## Annex 16. Moderation analysis for effect of individualism/collectivism on relationship between PEOU and attitude towards online purchasing

### Matrix

```
Run MATRIX procedure:

***** PROCESS Procedure for SPSS Version 3.5.3 *****

      Written by Andrew F. Hayes, Ph.D.      www.afhayes.com
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

*****

Model : 1
  Y : Attit
  X : PEOU
  W : IndCol

Sample
Size: 236

*****
OUTCOME VARIABLE:
  Attit

Model Summary

```

	R	R-sq	MSE	F	df1	df2	p
	,6805	,4631	,4872	66,7163	3,0000	232,0000	,0000

```

Model

```

	coeff	se	t	p	LLCI	ULCI
constant	-,1037	,6868	-,1510	,8801	-1,4569	1,2494
PEOU	1,3526	,4534	2,9831	,0032	,4592	2,2459
IndCol	,4397	,3110	1,4138	,1588	-,1731	1,0525
Int_1	-,2937	,1980	-1,4832	,1394	-,6839	,0964

```

Product terms key:
  Int_1 :      PEOU      x      IndCol

Test(s) of highest order unconditional interaction(s):

```

	R2-chng	F	df1	df2	p
X*W	,0051	2,1999	1,0000	232,0000	,1394

## Annex 17. Moderation analysis for effect of individualism/collectivism on relationship between attitude towards online purchasing and intention to purchase online

### Matrix

Run MATRIX procedure:

\*\*\*\*\* PROCESS Procedure for SPSS Version 3.5.3 \*\*\*\*\*

Written by Andrew F. Hayes, Ph.D.      www.afhayes.com  
Documentation available in Hayes (2018). www.guilford.com/p/hayes3

\*\*\*\*\*

Model : 1  
Y : Inten  
X : Attit  
W : IndCol

Sample  
Size: 236

\*\*\*\*\*

OUTCOME VARIABLE:  
Inten

Model Summary

	R	R-sq	MSE	F	df1	df2	p
	,8576	,7354	,2209	214,9731	3,0000	232,0000	,0000

Model

	coeff	se	t	p	LLCI	ULCI
constant	2,4068	,3866	6,2249	,0000	1,6450	3,1686
Attit	-,6333	,2087	-3,0338	,0027	-1,0445	-,2220
IndCol	-,8483	,1790	-4,7394	,0000	-1,2009	-,4956
Int_1	,6355	,0942	6,7443	,0000	,4499	,8212

Product terms key:

Int\_1 : Attit x IndCol

Test(s) of highest order unconditional interaction(s):

	R2-chng	F	df1	df2	p
X*W	,0519	45,4851	1,0000	232,0000	,0000

Focal predict: Attit (X)

Mod var: IndCol (W)

Conditional effects of the focal predictor at values of the moderator(s):

IndCol	Effect	se	t	p	LLCI	ULCI
1,7500	,4789	,0528	9,0778	,0000	,3750	,5829
2,3125	,8364	,0350	23,9033	,0000	,7675	,9054
2,7500	1,1145	,0624	17,8531	,0000	,9915	1,2375

\*\*\*\*\* ANALYSIS NOTES AND ERRORS \*\*\*\*\*

Level of confidence for all confidence intervals in output:

95,0000

W values in conditional tables are the 16th, 50th, and 84th percentiles.

----- END MATRIX -----