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"A preliminary study: The impact of trust and website elements on online purchase intention, moderated by cultural dimensions"

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ABSTRACT

Purpose - To give recent insights on the findings of previous research regarding the influence of culture on online purchase intention. Furthermore, the purpose is to provide a research model that could be used for a generalizable research in the future.

Design/methodology - A literature review has been applied to provide a solid and reliable base of variables that were useful to include in this research. Furthermore, it has provided a scale to apply in this research to operationalize Hofstede's cultural dimensions (1984). Sequentially, several correlation and regression analyses, based on a survey, were conducted to answer the stated research questions and hypotheses. In order to generalize a cultural-related study a large sample size is required. A convenience sampling method is used to gather an as large as possible sample size containing different cultures. 209 responses were collected, which is not sufficient to generalize the findings. Though, it is accepted to be a proper size for using this research as a preliminary study.

Findings - For operationalizing culture the CVSCALE, created by Yoo et al. (2011) has been applied. The regression analyses found significant influences between all the included variables (usability, information quality, aesthetics, interactivity, online trust and marketing mix) and purchase intention, regardless of culture. A mediating role of online trust was hypothesized but couldn't be proven. Regarding the moderating role of culture it is found that both, individualism and uncertainty avoidance, are suggested to influence the relationship between website elements and purchase intention. Though, it appears that individualism has a more decisive influence on the above stated relationship. Reason might be that e-commerce has evolved in such a way that nowadays less uncertainty is experienced by customers, which causes the little difference in impact on high and low uncertainty avoidance.

Theoretical implication - Previous research has addressed and analyzed the importance of adapting a web shop to local values and needs. However, just little have provided insights in the way uncertainty avoidance and individualism affect the relationship between purchase intention and website elements. Rather than other studies, who applied the cultural scale on national level, this study conducts a research based on the individual level. Moreover, this study provides a research model that can be applied in a larger future research in order to be able to generalize the findings.

Practical implication - Research has pointed online vendor towards the importance of adapting to local cultures rather than just copy-pasting content. This study provides a direction on how online vendors can adapt their website to national scores of individualism and uncertainty avoidance. This way vendors may be able to more effectively exploit and expand markets abroad.

Keywords - Online buying behaviour, online purchase intention, aesthetics, usability, individualism, uncertainty avoidance, online trust, culture

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1. INTRODUCTION

E-commerce is an upcoming sales channel and firms are rapidly adapting to its possibilities. The Internet provides both great opportunities as well as challenges for consumers and vendors. A challenge is that a customer might fear risk of privacy violation or unsafe transactions. A major benefit of the Internet as a sales channel is that vendors are able to target a larger audience and sell cross-national. In order to reach this large target group vendors' came up with the initiative to copy-paste their marketing efforts to the global market (de Mooij, 2004). As part of a cost-effective business plan content would be translated to the local language or just in English. Previous research has addressed the globalization of markets, which suggests the global convergence of wants and needs (de Mooij, 2004). However, rather heterogenization appears to be present in which different countries are represented by individuals with distinctive values (de Mooij, 2004). Thus, the question arises, why standardizing marketing activities while people are sensitive to local values: "*Translating advertising is like painting the tip of an iceberg and hoping the whole thing will turn red. What makes copy work is not the words themselves but subtle combinations of those words. Advertising is not made of words, but made of culture"* (Anholt, 2000).

Even though the sentence above is focused on the translation of advertisements it also suggests that, in general, customization in communication is an essential success factor, whether it is a blog or a website. Gong (2009) supports this statement by concluding that locally designed websites foster online purchasing. By adapting website elements, such as design and usability, a vendor might be better able to satisfy local values and needs. The difficulty that arises is about how to cope with these cultural differences and what variables are actually worth adapting to. Previous literature has clustered countries and assigned national culture scores to identify differences in website perceptions. However, by including country scores one stereotypes this to be true for everyone and therefore does not take into account individual values. In order to find moderating influences of culture on purchase intention one could think of applying a personalized edition of Hofstede's (1984) dimensions.

Besides the global opportunities of digitalizing business, the barriers cannot be ignored. Referring back to this hurdle, one thing looks certain. This is the fact that, regardless of culture, individuals do not buy products from websites they don't trust. Literature mentions that trust is likely to be an essential influencer of online purchase intention (Wang et al., 2009; Oliveira et al., 2016; Rafique et al., 2014). A website is the first touchpoint between the vendor and customer. Therefore, reasons emerge to believe that the perception of trust is correlated with website design. How does a vendor create this trust whilst dealing with the lack of personal interaction with the customer? Even though vendors might be aware of the need to adapt to local values it is difficult to understand how culture affects customer perceptions of a website. Hofstede identified individualism (IND) and uncertainty avoidance (UAI) as two dimensions that partially represent culture. Previous research has

suggested the great variance of individualism across countries. Moreover, a relationship of both dimensions with e-commerce appears to be present (Sohaib & Kang, 2015). In order for firms to excel in their online business it is hypothesized that they should listen carefully to the influence of these dimensions on purchase intention. This resulted in the following research question:

"How do individualism and uncertainty avoidance moderate the effect of website elements on online trust and purchase intention? "

The research question consists out of five main aspects: individualism, uncertainty avoidance, website elements, online trust and purchase intention. In order to be able to answer the research questions these aspects need to be operationalized. For this purpose, six sub-research questions have been created.

In order to analyse the influence of culture on an individual's purchase intention a personalized version of Hofstede's scale has been applied. This scale has been created by Yoo et al. (2011) and is applicable on the individual level. First of all, it will be investigated whether the included website elements have a significant influence on online purchase intention, regardless of culture. This way the appropriateness of the included variables can be tested. Besides, it provides a the most recent insight about the strength of the relationship between website elements and purchase intention.

1. *How much variance do website elements and online trust explain in purchase intention?*
2. *Which elements are most important in stimulating purchase intention?*

Next to the website features a psychological variable has been included: online trust. Regardless of external influences trust in a web shop is a prerequisite for attracting potential customers. Trust can be created and influenced in several ways. First of all, the propensity or willingness to trust another in general. When someone is reluctant in trusting others it is likely that initially this person also does not trust a website. Since people spend their money on products or services trust is essential. In offline buying, online trust is affected by the store and the employees that customers encounter. However, in online buying this interaction is limited. In this case the website is the first touchpoint that a visitor has with a company. Therefore, a website could significantly influence trust and buying behaviour.

3. *Does online trust act as a mediator between the website elements and purchase intention?*

In order to analyse the moderating influence of cultures this variable needs to be operationalized. Hofstede (1984) has provided five widely known and applied dimensions: uncertainty avoidance, individualism, power distance, long-term orientation and masculinity. For the sake of staying relevant and due to the explained variance in previous research individualism and uncertainty avoidance are most suited to represent culture and to be included in this research.

4. *What is the effect of UAI and IND on online trust building?*

5. Which website elements are predictors of purchase intention in individualistic and collectivistic cultures?

6. Which website elements are predictors of purchase intention in cultures characterized by high or low uncertainty avoidance?

Previous research has extensively described the importance of adapting to local values and needs. Additionally, the essence of customizing websites to local cultures have been assessed. The theoretical relevance that this report provides is that it has applied Hofstede's dimensions on an individual level, whereas previous research either clustered countries or used the national scores. Rather than stereotyping a national culture, the CVSCALE used in this study allows researchers to collect primary data instead of relying on existing or expired secondary data (Yoo et al., 2011). Through this way this report represents a preliminary study for future research in the field of e-commerce. Practically this report emphasizes the importance for e-vendors to adjust their marketing efforts to local needs and requirements as well as providing guidelines on the website features that should be taken into account. It does not provide a generalizable model, though it is a good starting point to structure one's website design. Moreover, previous research might not be up to date and therefore this study offers recent insights in the customization of websites to local cultures. Finally, the proposed research model can be applied in future research, to either strengthen the findings or to apply the remaining two dimensions proposed by Hofstede.

2. THEORY

The Internet offers e-vendors the opportunity to reach consumers not just within the country borders but more interestingly outside their usual reach. However, statistics have shown that firms rarely sell their products abroad (Statista, 2016). Selling abroad requires changes in one's organization, in terms of operations and logistics, and therefore might not suit every business. Though, in case a firm does want to explore foreign markets it would be wise to take into account cultural differences. As with daily activities it is believed that local norms and values affect an individual's shopping behaviour. According to Gong (2009), website features should align with local cultural values in order to foster online purchases. By identifying the influence of cultural values on buying behaviour and in particular online buying behaviour vendors might be able to more effectively exploit current and future online opportunities.

2.1 Cultural dimensions

Culture refers to the most basic cause of a person's wants and needs (Hasslinger et al. 2007). Cultural traits affect one's motivations, actions and thinking in the process of purchasing. One of the most

widely accepted methods of analysing a country's culture is realized by Hofstede (1984). In his paper, he introduces five dimensions of culture: Individualism, power distance, uncertainty avoidance, long-term orientation and masculinity. Due to the hypothesized relationship with shopping behaviour only uncertainty avoidance and individualism will be elaborated in this section (Lim et al., 2004; Tan & Urquhart, 2006).

By targeting a wider audience in separate countries firms are able to expand its business without having to have an office or store abroad. Though one has to be careful. Due cross-cultural differences, some products might do really well in country A but might not be suitable for country B. Moreover, cultures propose differences in online purposes and website design. For instance, a colour might be favourable in Holland but not appreciated in China (Chau et al. 2002). Furthermore, Chau et al. (2002) concluded that culture stimulate different web purposes as well. One group of individuals might use the Internet to shop whereas others prefer socialising and community building.

Individualism (IND)

The individualism dimension of Hofstede's framework shows largest variation across countries (Hofstede G. , 1980). At both extremes, this dimension finds individualism and collectivism. Individualism relates to how a person values the individual relative to the group. Individualism refers to the group of people that are less likely to be affected by others whereas the latter refers to the group of people that seeks to be part of a group. Individualists are more autonomous, independent, and are more motivated by their own needs and goals (Kacen & Lee, 2002). Collectivists seek to be part of a group and thus tend to act in compliance with group goals. Regarding communication types some distinctions are identified as well. Collectivistic cultures rely on a high-context and indirect communication style (De Mooij & Hofstede, 2011). As the name implies in this communication the context is of high importance. When having a face-to-face conversation collectivists tend to draw more emphasis on non-verbal strategies and focus on feelings rather than directly pointing at a certain problem. On the other end of the spectrum individualist use a low-context communication style, characterized by an object-focussed view with explicit and direct information (Hall, 1976). When creating marketing strategies, firms could take into account this difference in thinking styles in order to react properly to personal values.

Individualistic people tend to (De Mooij & Hofstede, 2011):

- Be more impulsive
- Be more direct (e.g. in complaining)
- Rely on low-context communication
- Pursue their own goals

Collectivistic cultures tend to:

- Rely on the opinion of others
- Prefer the importance of harmony and coordination with others
- Base their decision on trust and positive word-of-mouth
- Rely on high-context communication
- Trust built on first impressions

Uncertainty avoidance (UAI)

Uncertainty avoidance has been defined as the extent to which people in a society feel threatened by ambiguity (Al-Wequain, 1998). Therefore, cultures characterized by high levels of UAI exist of people that try to avoid situations with high uncertainty and try to create more predictability (Al Kailani & Kumar, 2010). Strong uncertainty avoidance cultures are hypothesized to be more rule and structure-oriented. Moreover, UAI relates to the sentence 'what is different is dangerous' (Bathaee, 2014). On the contrary low uncertainty avoidance is more flexible. People in this culture embrace the sense of curiosity and willingness to change to innovations. The transition from offline stores to the online marketplace is one of those 'innovations'. Rather than offline buying, online buying carries some additional uncertainties and risks due to its virtual environment (Lim et al., 2006). Due to the lack of trust many individuals experience uncertainty to the probability of success (Cheung & Lee, 2006). In order to satisfy visitors, the probability of making errors should be reduced to the minimum. Therefore, cultures characterized by high UAI tend to prefer building trust before buying. In case of online vendors this stresses the importance of, for instance, a good reputation, familiarity and a professional looking website. By increasing the perception of professionalism, a vendor might be able to create a sense of security in the mind of people. This makes uncertainty avoidance an interesting dimension to include in this research.

Individuals characterized by low uncertainty avoidance tend to (De Mooij & Hofstede, 2011):

- Be more creative than their counterparts
- Take more risks
- Make decisions faster and quicker
- Quickly adapt to new products or brands

People in cultures that are characterized by high power uncertainty tend to:

- Be pessimistic and less eager to adapt to new products or innovations
- Belief in planned buying behaviour
- Be more loyal
- Adapter slower to new innovations and the Internet
- Prefer structured websites without much exploration freedom

Low and high-context communication styles

Closely related to Hofstede's dimensions are Hall's (1976) communication styles. Rather than Hofstede, Hall (1976) addresses the importance of sending the right responses in cross-national communication. Hall (1976) makes the distinction between high-context and low-context countries. In high-context communication is coded or is made explicit. Low-context communication is at the other extreme, and is rather explicit and detailed. Whether someone lives in a high- or low contextual society determines the way individuals perceive and store information. Therefore, retailers have to adjust their marketing communication according to distinct cultures. Low-context communications require more background information compared to high-context communication. Whereas, the latter would rather be attracted to an appealing website with images and striking colours (Sohaib & Kang, 2014). A relationship can be found between Hall's (1976) and Hofstede's (1984) dimensions of culture. In terms of individualism it can be said that individualistic countries are often characterized by low-context communication styles. Low-contextual countries are, for instance, Germanic, Scandinavian and North American countries. On the other extreme one finds the East Asian and Southern European countries (Würtz, 2005).

National scores among different cultures

Even though the report is focussed on the individual cultural dimensions rather than national dimensions it is important to address the scores of separate countries. It is impossible to personalize a complete web shop for every single individual and therefore a web shop entrepreneur could take into account the national scores as an estimation. Striking from the numbers is the significant difference between East Asian and European/American scores. Asian cultures then to be more collectivistic and thus place the welfare of the group above individual success. Furthermore, a difference can be found on the dimensions of power distance and uncertainty avoidance. In Asian countries (e.g. Malaysia, Philippines and China) a high-power distance is present. This implies that the hierarchy in these countries is stronger than in European countries. Although there is not a large difference in UAI it is clear that Asian countries score rather low on that aspect. Asian countries tend to be less uncertain and are likely to perceive risk to a smaller extent. Regarding the topic of e-commerce, it could be imagined that the scores of cultures have an influence on usage and penetration statistics. For instance, in collectivistic cultures the Internet is likely to be used to commit to communities. Whereas people from low uncertainty avoidance might look for exploration and new opportunities to expand their horizon. The following section will elaborate on the first step in the buying process and the influence of culture on it: usage of the Internet as a sales channel.

Figure 1: Dimensions of national culture score per country (Hofstede.G, 2015)

High power distance		Low power distance		Individualistic		Collectivistic	
COUNTRY	PDI	COUNTRY	PDI	COUNTRY	IND	COUNTRY	IND
Malaysia	104	Austria	11	U.S.A.	91	Ecuador	8
Slovak Rep	104	Israel	13	Australia	90	Colombia	13
Philippines	94	Denmark	18	Great Britain	89	Indonesia	14
Russia	93	New Zealand	22	Hungary	80	China	20
Romania	90	Sweden	31	Canada	80	Serbia	25
Serbia	86	Norway	31	Netherlands	80	Hong Kong	25
China	80	Finland	33	New Zealand	79	Malaysia	26
Arab countries	80	Great Britain	35	Italy	76	Portugal	27
Indonesia	78	Germany	35	Belgium	75	Romania	30
Bulgaria	70	Netherlands	38	Denmark	74	Bulgaria	30
France	68	Australia	38	France	71	Greece	35
Portugal	63	U.S.A.	40	Germany	67	Turkey	37
High masculinity		Low masculinity		High uncertainty avoidance		Low uncertainty avoidance	
COUNTRY	MAS	COUNTRY	MAS	COUNTRY	UAI	COUNTRY	UAI
Slovak rep	110	Sweden	5	Greece	112	Singapore	8
Japan	95	Norway	8	Portugal	104	Denmark	23
Hungary	88	Netherlands	14	Russia	95	Sweden	29
Austria	79	Denmark	16	Belgium	94	China	30
Italy	70	Slovenia	19	Poland	93	Great Britian	35
Switzerland	70	Lithuania	19	Serbia	92	Malaysia	36
China	66	Finland	26	Japan	92	U.S.A.	46
Germany	66	Portugal	31	Romania	90	Indonesia	48
Great britain	66	Russia	36	Spain	86	Norway	50
U.S.A.	62	Romania	42	France	86	Australia	51
Australia	61	Spain	42	Italy	75	Netherlands	53
New Zealand	58	France	43	Germany	65	Switzerland	58

2.2 E-commerce usage

The Internet offers opportunities to both customers as sellers. By providing, for instance, price and convenience benefits, e-commerce is an interesting sales channel to use. In the offline buying process, consumers move through a process, starting with problem identification up to purchasing. After having identified the need for new products or services the journey starts. Cemberci et al. (2013) explained the two stages in online buying. The first step is the intention to use the Internet as purchase channel. In this stage consumers attempt to overcome the risks opposed by online buying and pick the Internet rather than a physical store. In the second stage, just as with offline stores, a buyer has to choose between vendors.

E-commerce usage: Which factors determine an individual's e-commerce usage?

Before attracting visitors to a web shop, individuals need to be convinced that the Internet is a safe environment to make purchases. How is e-commerce usage fostered? And how does culture influence the attractiveness of the Internet?

Do you buy the product in offline stores so you can see the product already or do you prefer the convenience of buying online? In order to make this decision the benefits of online buying will have to outweigh the risks. The most obvious reason to shop online is the opportunity to compare prices. Moreover, it is the convenience customers experience. Rather than driving to a store and finding a parking spot a consumer can make a purchase within a couple of clicks on your mouse pad. However not everyone is convinced by the benefits of online buying. These people point at, for instance, the challenge of not receiving the right product or the fear of privacy violation. This group requires more time to adapt to e-commerce. As with innovations people have different attitudes towards adapting to a new technology. This also called domain specific innovativeness (DSI) (Javadi

et al., 2012). If someone is eager to learn new innovations it is also likely that this person quickly adapts to the Internet. Early adopters are a group that recognize and adopt to innovations before the large majority does. Though this group is not that large since, as the name suggests, the majority prefers to wait and take time to make the buying decision. The step of adapting to a new innovation, such as the Internet, might be easier if the invention is easy and trustworthy. The technology acceptance model (TAM) is related to DSI and explains the online elements that affect one's adoption to innovations. According to the TAM perceived ease of use and usefulness of a website determine whether an individual decides to buy online (Gefen et al., 2003). When combined with online trust, the TAM is able to explain much more of the variance in purchase intention compared to solely applying the variables of usefulness and ease of use. This finding implies that trust is key in the adoption towards online buying. The influence of trust is supported by Javadi et al., (2012), who state that subjective norm affects the shopping behaviour. Subjective norms capture the consumers' perceptions of the influence of third-parties (e.g. families, friends, reviews). Especially when an individual does not have the experience with a certain kind of technology it likes to rely on the opinion of others. When taking a look at the e-commerce penetration Statista (2016) shows a differentiation in e-commerce usage across countries. Asian and Pacific online marketplaces account for around 12% of the total retail sales, whereas this number in Europe and North America is 4% lower. One of the reasons for this difference might be the degree to which cultures tend to avoid the uncertainty that is related to e-commerce. So, could one assume that these indeed influence e-commerce usage?

Figure 2: Literature review about factors that affect e-commerce usage

Factors affecting E-commerce usage	Independent variables	Dependent variables
Javadi et al. 2012	Financial risk Fear of non-delivery Domain specific innovativeness (DSI) Opinion of family and friends	Attitude towards online shopping
Hasslinger et al (2007)	Price Trust Convenience	Intention to shop online
Cemberci et al (2013)	Technology acceptance factors Financial risk perception Shopping flexibility benefits Product selection benefits Shopping convenience benefits	Intention to shop online
Wei, L. (2016)	Online trust	Consumers' behavioural intention to technology adoption
Kim (2004)	Privacy Ease of use Time savings Marketing factors	Attitude towards purchase on the Internet

E-commerce usage in cross-cultural studies

Choi (2001) researched the adoption to online purchasing by examining the differences in perceived risk, perceived self-efficacy and subjective norm between American and Korean students. Uncertainty avoidance turned out to have an indirect effect on the relationship between perceived risk and e-commerce usage. In countries with high uncertainty avoidance inhabitants were more sensitive to the perception of risks. Subsequently, this resulted in lower e-commerce usage. Furthermore, Park & Jun (2003) have analysed the differences in Internet behaviour between Americans and Koreans. Internet usage in Korea is greater, however differences in online buying frequency were surprisingly not found.

Due to the collectivistic nature, Koreans tend to be rather involved in online communities than shopping. Although around 80% of Koreans have visited e-commerce websites, only 28% actually made a purchase. Reason for this could either be that people rather collect information online but eventually decide to buy offline or due to the assumption that Korea's high score on uncertainty avoidance relate to a higher risk perception. Park & Jun (2003) argue that Korean require more trust building before buying online. In order to overcome this barrier of trust Korean's rather buy from large and well-established e-vendors.

When expanding business online a firm should also take into account local demographic factors. Developing countries may not have the required capacities to use the Internet as purchase channel and therefore score low on Internet penetration. Lim et al. (2004) conducted a multiple regression analysis to the influence of demographic and cultural variables and found that culture accounted for 14% of the explained variance in shopping adoption. Striking about this research is that the direct effect of uncertainty avoidance and individualism-collectivism is not significant. However, the interaction between the two dimensions resulted in a strong significant effect on Internet shopping adoption. In high uncertainty avoidance cultures, it did not matter whether one belongs to an individualist community or collectivistic. Both shopping rates were rather equal (10%). Though in low uncertainty avoidance large variances can be found. Low uncertainty avoidance combined with high individualism caused the highest shopping rate (20%) while a combination of low uncertainty avoidance with low individualism scored lowest (4%). Lim et al. (2004) give the argument that people in these communities might search for information and reviews online but eventually decide to buy the product in the offline marketplace. When having made the decision to buy through the Internet customers move to the next step: choosing a web vendor.

2.3 Purchase intention: What are the predictors of online purchase intention?

Second step in the buying process is the evaluation of suppliers (Cemberci et al., 2013). Essential in this step is to stand out in the crowd. How can, we as a firm, attract visitors to buy from our website?

When someone is adapted to using the Internet as a channel the second phase for an e-vendor starts. This is, outperforming competition and convincing visitors to buy from their website. Authors have analysed the aspects an e-retailer should take into account when convincing and satisfying customers. One of them, website quality, relates to customer satisfaction and also to the level of accomplishment of user expectations when interfacing a website (Moustakis, Litos, Dalivigas, & Tsironis, 2004). In order to effectively and efficiently stimulate customer satisfaction vendors have to spend effort on the right elements of a website.

Figure 3: Factors affecting online buying behaviour

Factors affecting purchase intention	Independent variables	Dependent variables
Lim et al (2015)	Subjective norm* and perceived ease of use Purchase intention	Purchase intention Shopping behaviour
Lee & Lin (2005)	Web site design, reliability, responsiveness and trust* Web site design, reliability, responsiveness and trust* Overall customer satisfaction and service quality	Overall service quality Overall customer satisfaction Purchase intention
Cemberci et al (2013)	Retailer awareness Retailer association Perceived quality Retailer loyalty	E-store patronage
Wei, L. (2016)	Online trust Brand size and loyalty	Purchase decision
Lorenzo et al. (2009)	Usability Online trust Marketing mix Aesthetics	Choice of online shoppers
Oliveira et al. (2016)	Online trust Consumer characteristics (e.g. trust stance and attitude towards online s Firm characteristics (e.g. reputation and brand recognition) Interactions (e.g. service quality and customer satisfaction) Website infrastructure (e.g. lack of integrity, privacy and security)	Purchase intention Online trust
Sam & Tahir. (2009)	Usability Website design Information quality Trust Empathy	Purchase intention
(Lin, 2007)	Website design Interactivity Informativeness Security Responsiveness Trust Empathy	Customer satisfaction
Constantinides & Geurts (2005)	Usability Marketing mix	Choice of retailer

According to Constantinides & Geurts (2005) a buyer's purchase decision is based on both controllable (e.g. website experience) and uncontrollable factors (e.g. demographic, cultural, personal). The quality of a website is defined as a 'controllable factor'. This group consists of three sub-factors: functional, psychological and content factors (Constantinides, 2004). Trust (psychological factor) and usability (functionality factor) are most often mentioned by authors as a determinant in the decision-making process. Rather than the number of times that trust in mentioned by authors, Lee & Lin (2005) found that online trust is the strongest influencer in customer satisfaction and service quality. While in turn customer satisfaction and service quality significantly impact purchase intention. Rather than satisfying existing customers online trust plays a large role in attracting new customers. This may mean that online trust is essential in expanding an e-vendor's customer base (Wei, 2016). Interesting to see is that Oliveira et al. (2016) found that this research could be reversed. They found that service quality and customer satisfaction influence one's online trust. Furthermore, they mention the influence of consumer characteristics (e.g. reputation and brand recognition), lack of integrity, privacy and security and likability, interaction, website infrastructure and interaction on online trust. Therefore, it could be hypothesized that online trust plays a mediating role between website quality and purchase intention (Sam & Tahir, 2009).

Just as with offline stores the atmosphere that is experienced plays a role in the decision whether to buy from a store. For online stores this means that a website should offer a pleasant web

experience and an appealing design (Lorenzo et al., 2009; Constantinides & Geurts, 2005). The design of a website is the first touchpoint customer notice. In order to create a good first impression an appealing website is a prerequisite. This partially determines whether a visitor is transformed into a buyer (Lee & Lin, 2005). Part of website's design is the ease of use and navigation, which is also called the usability of a website. Constantinides and Geurts (2005) found that usability, as well as marketing mix, is a key determinant in the buying process of a consumer. When a website is easy to use and only a few steps are needed to make a transaction a visitor is more likely to choose this particular web shop and is less likely to bounce from the landing page. In order to be able to quickly scroll and browse through the website information should also be relevant and perceived as complete (Sam & Tahir, 2009). Information quality is important as without proper content visitors will leave the website. A fancy design might be suitable for attracting initial customers but in order to maintain them sufficient and relevant information is required (Sam & Tahir, 2009). For existing consumers, the availability and accessibility of customer service tend to determine the level of satisfaction with a firm. (Lee & Lin, 2005). Having help within reach as well as an interactive interface the decision-making process tends to be stimulated (Yeng et al., 2012).

Which factors to include in the online buying process?

Literature has given an indication to which factors should be considered when analysing purchase intention. Moreover 5 factors can be identified that are, both, present on any web shop and may also differ across cultures. As one can see in figure 3 online trust is most often mentioned as determinant. Besides, website design (n=5), usability (n=3), interactivity (n = 3) and informativeness (n=2) are historically seen as influencers in buying behaviour. Rather than considering the factors independently one should take into account the correlation among them (Constantinides, 2004). As implied by Oliveira et al. (2016) online trust does not just emerge from personal and cognitive characteristics but is also affected by website experience characteristics. These finding points at a possible mediating role of online trust in the buying process. Taking these insights into consideration the following model can be created. This model includes the two main stages of the online buying process as well as the uncontrollable (e.g. culture, legal and demographics) and controllable (e.g. web characteristics) factors. Figure 4 shows the relationships between the factors of the online buying process. This model will later be narrowed down into the research model.

1. *H_0: There is a significant relationship between usability, information quality, aesthetics, marketing mix, online trust and purchase intention*

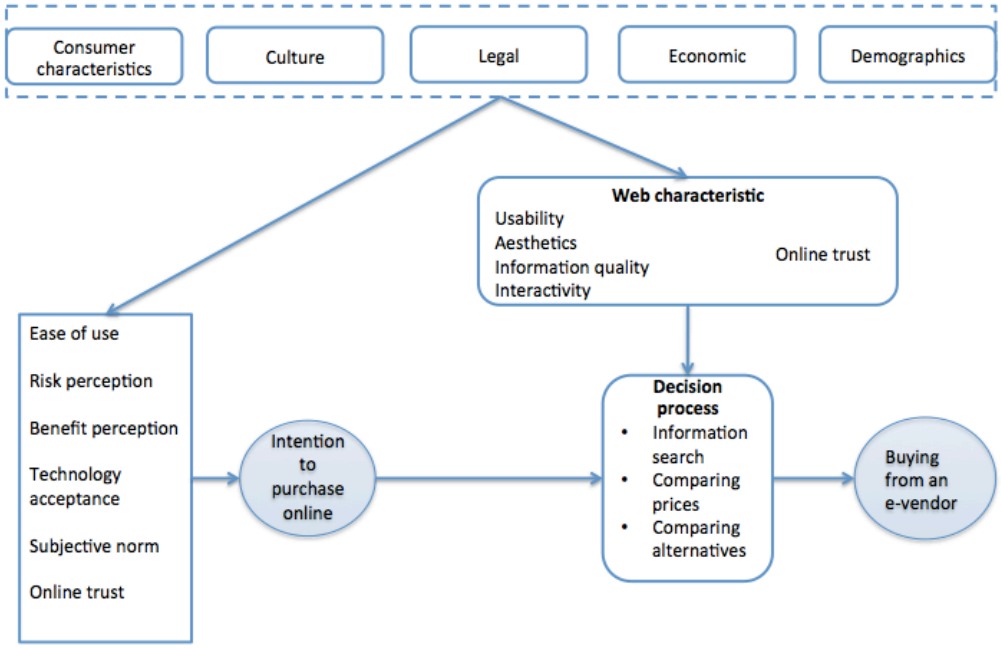


Figure 4: Process of online buying (Constantinides, 2004) (Lim et al, 2015) (Lee & Lin, 2005)*(Cemberci et al., 2013)* (Wei, 2016)*(Lorenzo et al, 2009) (Oliveira et al., 2016) (Javadi et al, 2012) (Hasslinger et al., 2007))*

2.4 Online trust: What are the influencers of online trust?

Online trust appears in nearly every literature study. In both, the tendency to use the Internet as sales channel and the intention to purchase from a vendor, online trust plays a role. In offline stores the store employee is the first touchpoint with a customer and exposes the first sense of online trust. However, in the online marketplace less personal interaction is present and thus the way online trust is created differs. How does one create trust in the online marketplace?

Definition of trust

A literature review has suggested that there is a significant relationship between online trust and perceived risk (Amin & Mahasan, 2014). Since buying online has to deal with the perceived risks and benefits it can be stated that online trust is key in achieving online success. Arriving at a website is one thing but actually purchasing is much more of a challenge. Therefore, a firm should carefully manage the elements of online trust and the way online trust is created. However, trust is a broad and complex subject. Moreover, every discipline takes its own unique perspective on trust (McKnight & Chervany, 2002). A commonly accepted definition has been proposed by Mayer et al. (1995): "Trust is the willingness of a party to be vulnerable to the action of another party based on the expectation that the other will perform a particular action important to the trustor, irrespective to the ability to monitor or control that other party". In this definition "vulnerable" means that the buyer might lose something that has value to him. In online trust, this means that the trustor, which is the buyer, might

pay money for something that does not fulfil its expectations or needs. In order to create online trust a trustworthy website is a prerequisite. What should be taken into account is that online trust differs from offline trust in several ways. The trustee in the offline world is often the organization whereas in online trust the object is the technology, the Internet.

Dimensions of online trust: How does a website create trust?

Figure 5: Dimensions of online trust

Authors	Publishing year	Dimensions of online trust
Aiken et al	2007	Certification, resources and capabilities, shopping method, reliability and communication viability
Shankar, Urban & Sultan	2002	Website characteristics, user characteristics and other characteristics
Gefen	2002	Integrity, benevolence and ability
Bart, Shankar, Sultan & Urban	2005	Privacy, security, navigation and presentation, brand strength, advice, order fulfillment, community features and absence of errors
Grabner-Kräuter, Kaluscha & Fladnitzer	2006	Benevolence, honesty, integrity, credibility, competence, predictability, reliability, correctness and availability
Kim, Xu & Koh	2004	Reputation, structural assurance and website quality
Jarvenpaa et al.	2000	Perceived size, perceived reputation
Yoon	2002	Personal variables and transaction security
McKnight, Choudhury & Kacmar	2002	Perceived vendor reputation, perceived site quality and structural assurance of the web
Koufaris & Hampton-Sosa	2004	Perceived willingness to customize, perceived reputation, perceived usefulness, perceived ease of use and perceived security control
Liao et al.	2006	Content quality, specific content, technical adequacy
Patokorpi & Kimppa	2006	Reputation, technology, expertise and relationships
Li,Zhong & Gang	2010	Social presence, perceived security, order fulfillment and absence of errors

Many authors have given their opinion on the factors affecting online trust, which are displayed in figure 5. Online trust is affected in a cognitive way but also by means of perception. As previously mentioned, authors strengthen the believe that online trust is created by exploiting the possibilities a high-quality website. Since products differ in terms of involvement, price and risk different website categories (e.g. travel, electronics or books) are related to different types and intensities of trust building (Shankar et al., 2005). The relevant key drivers of e-commerce that pop-up are privacy, navigation and presentation, brand strength, absence of errors, advice and order fulfilment. Rather than taking into account website categories, potential and repeat customers have different perceptions towards websites (Kim, Xu & Koh, 2002). Potential customers build trust mainly through the e-vendors reputation and the quality of information on the website. Their findings are in accordance with and partially based on the findings of McKnight et al. (2002), who state that perceived website quality is a determinant of online trust. The highest loadings were found on the availability of the information and the simplicity of navigating through the website. Striking is that something concrete like a website had an even greater effect on trust than the abstract concept of reputation. How does a website influence online trust building? It appears that content quality, specific content, technical adequacy and habit have a significant influence on trust (Liao et al., 2006). Closely related to online trust is the perception of risk. Having a website that is perceived as professional helps in creating a good image. Website design has a strong and significant negative effect on risk perception (Kim &

Lennon, 2012). Meaning that a website that contains easy navigation, high quality information and an easy ordering results in less perceived risk.

2. H_0 *Usability, information quality, aesthetics and interactivity are strongly correlated with online trust.*

The influence of UAI and IND on online trust

As with the perception of uncertainties, trust has a different loading among cultures. Some cultures rely heavily on trust whereas others are more impulsive. In the field of e-commerce, online trust is an element that should be considered by e-vendors. Different countries exhibit different behaviours towards risk perception and online trust, thus interesting to investigate. Rather than differences between particular countries one can take into account the moderating effect of uncertainty avoidance on online trust (Hwang & Lee, 2012). The moderating role of uncertainty avoidance between subjective norm and integrity and ability turns out to be significant, whereas benevolence did not have an influence on purchase intention. Meaning that websites could increase integrity levels by ensuring proper feedback, as in subjective norm, and clear rules in order to fulfil the needs of people characterized by high uncertainty avoidance.

Besides uncertainty avoidance, individualism is another dimension of national cultures that can act as a moderator on the role of trust (Park et al., 2012). Reputation appears to be of significant influence on all three dimensions of online trust while website quality only has an indirect effect via reputation. The assumption is made that the indirect effect emerges due to the advancements in technology convenience. Instead of having a decisive effect, high website quality appears to form reputation and consequently online trust. This result applies to both countries; USA and Korea. Next, it was found that American citizens, who are more individualistic, are more likely to trust online retailers. Regarding cultural differences related to the consequences of trust and perceived risk it is concluded that there is a significant relationship between perceived risk and trust in the USA. For American citizens risk reduces when online trust in a vendor increases. On the contrary Korean citizens don't see online trust as a direct risk reducer due to their high uncertainty avoidance level (Park et al., 2012). As stated in this section it appears that online trust building differs per culture. Individualistic cultures tend to trust e-vendors more than their counterparts while communities with high uncertainty avoidance experience higher levels of perceived risk, thus requiring more trust.

2.5 Website elements

Usability, information quality and interactivity

The functionality factor is conceptualized by two elements: usability and interactivity. Web usability refers to the extent to which web sites can be used by specified users to achieve specified goals to visit with effectiveness, efficiency, and satisfaction in a specified context of website use (Lee & Kozar,

2012).. In order to reach online goals, such as a purchase, a website needs to function well so the process of buying a product can be continued without many errors. One of the reasons for individuals to buy online is the speed of purchasing. For this reason, transaction procedures should be clear and easy to follow. A visitor might be persuaded to buy from your website but eventually leaves the websites due to a slow ordering process. By making information easy to read customers don't have to spend much time on browsing for information. Information quality can be key in the buying process since badly written information might demotivate a visitor to actually buy a product. Furthermore, a sense of trust is created by providing high quality information. Therefore, information should be complete, sufficient and relevant to the product.

The other dimension of functionality is interactivity. Interactivity can be with the e-vendor but also with other customers, in terms of reviews or discussion boards. In traditional stores a customer can easily reach out to an employee and ask anything he or she wants. However online this is rather difficult on some websites. A web shop can meet interactivity by having a discussion board or a live customer care chat box. Interactivity does not only have to occur in real-time but also via e-mail or contact forms. In this case one might not get answers immediately. Though quick response to e-mails leaves visitors satisfied and increase the probability that they buy the product or recommend the website to others.

Aesthetics and marketing mix

Aesthetics includes the creative and artistic elements of a website (Constantinides, 2004). Having a visually appealing website is created in order to provide a pleasant visit and improve a visitor's web experience. The elements of atmosphere and website design are critical in the perception of a website. As with the traditional stores a good atmosphere can build a great first impression causing visitors to return to the shop and buy products. Compared to traditional stores online buyers spend less time in the shop and thus it is important to immediately capture the visitor's attention. Besides, research has been conducted to the influence of aesthetics on the credibility of one's web shop. According to Fogg et al. (2002) the design of a website is the determinant of the perceived credibility, followed by information design and information focus. Besides, the linearity of the website had an effect on the time an individual spends on the website. Information presented in a nonlinear form was better memorized than linear pages (Bonnardel et al, 2010).

The second factor consists of the marketing mix. Rather than the traditional 4 Ps Constantinides (2002) introduced a marketing mix that is suitable for the online environment. This proposed marketing mix consists of scope, site, synergy and system. Scope is related to the strategic objectives of an e-vendor's website. Secondly, site is the web shop where products are being sold. Important in this component is the web experience that customers experience. Thirdly, synergy relates to the way information is communicated to customers. Which marketing activities have been

implemented? Lastly, system is related to the engine behind the website. In order for customers to finish the customer journey a website needs proper payment methods and security features.

2.6 The influence of UAI and IND on purchase intention

When comparing websites from all around world it stands out that the design and content structure differ per country. Several studies have been done to the way local websites are designed compared to foreign websites. This section will elaborate on the influence of individualism and uncertainty avoidance on the perception of web characteristics.

Individualism

The degree to which a country is individualistic also determines the way people buy (Jeyashoke, Vongterapak, & Long, 2014). Purchases are driven by needs, motives and wants, which differ per person and are affected by culture (De Mooij & Hofstede, 2011). Collectivists tend to buy in groups and rely on opinions from peers. In the online marketplace, opinions of influencers are widely available (e.g. social media and review websites) and thus an important source of information in the buying process. As the Internet is a wide-range platform, word-of-mouth is easily created by the many online communities. Since a large audience can be reached publicity can either make or break a firm's reputation. Collectivists rely heavily on opinions of influencers and therefore prefer to have access to a wide range of information sources, such as blogs, customer service and social media. This group applies a utilitarian view, meaning that they suggest that it is in the other's interest to behave well (Jarvenpaa et al., 1999). By having an interactive customer service, visitors can rely on a larger source of information than just explicit information on the website. Which is in accordance with their high context communication style

3. *H_0: Interactivity is significantly related to purchase intention in collectivistic cultures, while not significant in individualistic cultures*

Regarding the communication approach to one another some distinctions can be found. Individualists are more direct and don't need much external information but rather experience a quick and easy buying process, whereas collectivists would prefer a more careful information collection process. Therefore, a fast website is not believed to be a requirement. The differences in information processing compared to collectivists has been part of previous research. Literature has shown distinctions in effectiveness of implicit and explicit information. Individualistic cultures are characterized by low-context communication, meaning that consumers prefer explicit communication (Hall, 1976). This type of information is characterized as being simple, direct and verbal. In order for individualists to purchase from a website information should be as straightforward as possible.

Moreover, the buying process should not contain to many steps in order to achieve their goals (De Mooij & Hofstede, 2011).

4. *H_0: Usability is significantly related to purchase intention in cultures characterized by a high level of individualism, while not significant in collectivistic cultures*
5. *H_0: Information quality is significantly related to purchase intention in cultures characterized by a high level of individualism, while not significant in collectivistic cultures*

Overall it is believed that a professional and visually appealing website is important for the credibility of a web shop. Though one should take in mind that visuals are perceived differently across cultures. Cyr & Trevor-Smith (2004) have done research to differences in website design across countries. Rather than taking the broader picture they focused on very specific aspects of a website, such as outline of text, language availability and type of menus. Their research found that websites significantly differed across three countries: German, Japanese and American. Regarding design, differences in multimedia are found. In Germany and Japan, the majority of websites apply animations where this is only one-third in the US. As with communication types and contextual orientation the degree of individualism is also hypothesized to influence the perception of visual design. Collectivistic cultures are characterized by high-context communication, meaning that consumers prefer implicit communication (Hall, 1976). These communication styles include more verbal communication and graphical visualizations. Jarvenpaa et al. (2009) supports this by stating that collective cultures base their trust on first-hand knowledge and thus a good first impression is necessary. Where individualistic cultures are focussed on achievements, collectivists prefer the 'us' feeling and thus images picturing families and communities are often displayed (Singh et al., 2003). The last striking difference that is provided is the different usage of colours (Cyr & Trevor-Smith, 2004). While the USA and Japan apply many ranges of colours Germany prefer to limit this to only a few basic colours.

6. *H_0: Aesthetics is significantly related to purchase intention in both individualistic and collectivistic cultures*

These two distinctive groups also differ in their perception of online trust, risk and their buying behaviour (Jarvenpaa et al., 1999). Regarding individualists, it can be stated that negative consequences are often ignored (Kacen & Lee, 2002). Though this does not mean that individualists unconditionally choose risky purchases. Surprisingly, according to Weber & Hsee (1998) collective groups are more likely to choose risky options because they believe that they can rely on others when they are in need of financials or other help. Rather than choosing risky alternatives it is recognized that individualistic cultures tend to buy impulsively. An example has occurred in the USA. In certain product categories, impulsive buying even accounted for up to 80% of all purchases (Abrahams,

1997). When purchasing products or services collectivists take into account the well-being of the group. In order to stimulate the well-being of the group collectivist rely more on long-term relationships. Therefore, trust in a website is more important than in individualistic cultures where people buy more impulsively and rely more on short-term relationships (De Mooij & Hofstede, 2011). In highly individualistic cultures, visitors commonly have more trust towards vendors and therefore online trust building is less important for this group (Jarvenpaa et al., 1999).

7. *H_0: Online trust is significantly related to purchase intention in collectivistic cultures, while not significant in individualistic cultures*

The last variable is concerned with the marketing activities that firms implement. Attractive prices and promotions are excellent for firms to trigger consumers in their buying process. Since individualists tend to buy more impulsively marketing mix is likely to be important in their purchase intention. Furthermore, by offering discounted prices online vendors might also be able to decrease the perceived risk. Since less money is involved in the transaction collectivists will probably be attracted as well. All though, maybe to a lesser extent than individualists.

8. *H_0: Marketing mix is significantly related to purchase intention in both individualistic and collectivistic cultures*

Uncertainty avoidance

As the name implies uncertainty avoidance refers to the degree that uncertainty is perceived by individuals. Research from Al Kailani & Kumar (2011) has shown that cultures with a high uncertainty avoidance level experience higher levels of perceived risk resulting in a decreased willingness to buy online. In order to overcome this risk an online vendor would do a good job investing time in creating trust. Online trust creates a more secure environment and reduces the perceived probability of errors. By creating predictability, a visitor is more likely to buy from a particular vendor.

9. *H_0: Online trust is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI*

Research has been done to the influence of cultural values on the decision-making in the purchase process (Leo, Bennett, & Cierpicki, 2005). Especially the way different individuals process information. Cultures associated by high UAI are likely to prefer a structured information design and

might become confused by an overload of information. Kralisch, Berendt & Eisend (2005) have measured the influence of usability on purchase intention. Navigation has been measured in terms of time spent on a website, information accessed on the website and linearity of information. As expected, cultures characterized by high UAI levels prefer straight and restricted information without a chance of information overload. The other way is believed to be true for low uncertainty avoidance. In this case it is more user exploration could be offered to satisfy visitors' creativity (Ford & Kotzé, 2005). A potential buyer should have the feeling that the probability of errors is minimal. One way is the presence of customer service to help the customer through the customer journey. By having customer care available for visitors, a sense of certainty could be created.

10. H_0: *Usability is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI*

11. H_0: *Information quality is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI*

12. H_0: *Interactivity is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI*

For customers characterized by high UAI a sense of trust needs to be created. Before deciding to buy from your website a customer would like to feel certainty that the services or products you offer are of high quality. In order to stimulate this feeling a firm could invest in a professional looking website. A professional design presumes a web shop to be experienced and of high quality. It is believed that aesthetics is significant in both cultures since it appears a high-quality design strongly influences a consumer's perceived service quality and satisfaction (Wang, Hernandez, & Minor, 2010). Furthermore, a visually appealing website stimulates the sensation of a customer, especially for high uncertainty avoidance, resulting in a better customer experience.

13. H_0: *Aesthetics is significantly related to purchase intention in cultures characterized by both high and low uncertainty avoidance*

Finally, the uncertainty avoidance dimension is believed to have an influence on the type of and variety of products that are bought. It has been researched that cultures with UAI are pessimistic and thus not likely to buy products that require a large investment (Bathaee, 2014). By offering low involvement products visitors might be more stimulated to buy your products. However, offering products against an unbelievable low price could have a reverse effect, resulting in less trust. Therefore, it is hypothesized that the impact of marketing mix in high uncertainty avoidance is not

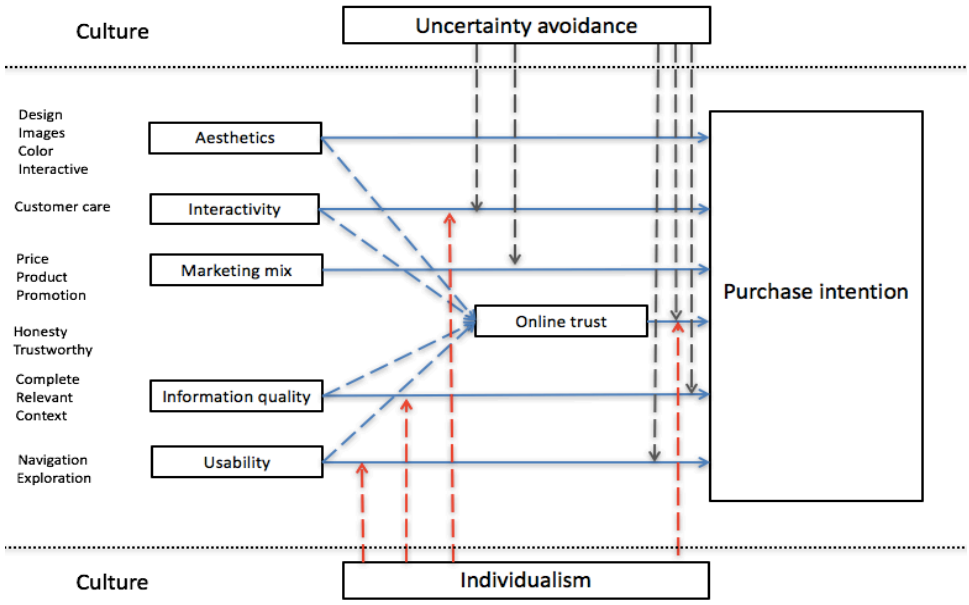
sufficient to convince potential customers. Communities characterized by high uncertainty avoidance are more risk averse and therefore marketing activities on itself might not convince these visitors.

14. H_0: *Marketing mix is significantly related to purchase intention in cultures characterized by a low level of UAI, while not significant in cultures with high UAI*

3. RESEARCH MODEL

When summarizing the literature review a research can be created. The research model, as presented in figure 7, contains the elements that are taken into consideration in this report. The purpose of the report is to provide a preliminary model that provides direction towards testing the influence of culture on purchase intention. Uncertainty avoidance and individualism have been chosen due to their connection to e-commerce. Both dimensions explain a large part of the variance in predicting Internet shopping rates (Lim et al., 2004). On top of the demographic factors, such as national income level and educational level, individualism-collectivism and uncertainty avoidance accounted for an additional 14% of the explained variance. Besides uncertainty avoidance and individualism are considered to be highly relevant to trust building and business relationships (Sohaib & Kang, 2015). Further, literature has shown that individualism/collectivism significantly affects buying behaviour (Tan & Urquhart, 2006). Uncertainty avoidance has been chosen due to its relationship with risk perception, which is related to the uncertainties of buying online. For these reasons, culture is hypothesized to be a moderator on the relationship between website elements and purchase intention. Online trust is also depicted as web characteristics; though, literature has suggested that online trust might act in mediating way.

Figure 7: The effect of website elements on online trust and purchase intention, moderated by individualism and uncertainty avoidance



4. METHODOLOGY

This chapter explains the sampling method that was applied to collect the data as well as the analysis that have been applied to make sense out of the data. In order to be able to answer the previously stated research questions and give an overview of the hypotheses a research model has been created (figure 7). A sample of 209 respondents have been collected who completely filled in the survey. Furthermore, this section includes the operationalization of the dependent and independent variables.

4.1 Research design

The type of research that has been conducted can be categorized as descriptive. The result of this report provides a preliminary model that proposes the moderating influence of culture on the relationship between website elements and purchase intention. The research is conducted in such a way that the moderating role of individualism and uncertainty avoidance can be modelled on an individual level.

First a literature study has been conducted to structure the research and find the right variables to include in the research model. By summarizing research papers commonly mentioned website elements have been collected, as well as the scales on which to measure them. Furthermore, the scale created by Yoo et al. (2011) have been applied for analysing culture on an individual level rather than using national scores on Hofstede's dimensions (1984). In order to collect data concerning the influence of culture on purchase intention a survey has been distributed among a sample containing different nationalities. Since this type of research requires a large pool of respondents the 'convenience sampling technique' has been applied. This means that respondents have been chosen based on their availability and accessibility. Mainly by sending e-mails, cold acquisition and social media. In total, a number of 209 respondents have completely filled in the survey. The first question was: Have you ever bought a product or service online? If someone answered 'no' he or she could not proceed with the survey. This decision has been made in order to be ensured that only suitable respondents would take part in the survey.

4.2 Data collection and analysis

First of all, the sample is asked to answer general questions, such as age and nationality. Sequentially, the respondent continued with the survey and either picked a website from the provided list or a previously visited website. If chosen for the first option, the respondents were asked to imagine buying a digital camera and to follow all the buying steps up to but the payment stage. For validating the reliability of the survey existing questions from previous studies have been applied. Moreover, the Cronbach alpha scale has been measured to ensure reliability of the variables. The survey was tested on a sample of 10 students to improve the design of the survey. This pre-test showed that the questionnaire initially took too much time and therefore the 'masculinity' and 'power distance'

dimensions were removed since these were also expected to have the least influence on purchase intention. Furthermore, some general questions have been deleted since they were rather informative and not relevant to the research questions. Regarding the design of the data collection a slight change was made. Instead of giving respondents a fixed list of websites they were given more freedom by using Google for pretending to buy a camera in a web shop. If a respondent ended up on a website that they have already visited before they have notified that in the survey by answering "Yes, I have visited this website before".

For analysing the data Statistical Package for the Social Sciences (SPSS) was used. Frequency and descriptive tables have been retrieved to structure the general questions regarding the respondents' demographics as well as their Internet usage. Then, a factor analysis structured the variables among a number of factors in order to run further analyses. Factor analyses further confirmed that the, in advance, selected variables were indeed valid. In order to find relationships correlation matrices and most of all multiple regression analyses have been conducted and compared. Multiple regressions have been running for finding the equation that explains the variance in purchase intention. In order to find the differences across individualism and uncertainty avoidance the sample has been divided into three rather equal groups: high, middle, low. Though, the middle group has not been used for the analyses since only both extremes, respectively high UAI or IND and low UAI or IND, would provide results from both ends of the spectrum. An alpha of 5% was applied in the analyses

4.3 Operationalization

In order to operationalize the cultural dimensions of individuals the CVSCALE is applied (Yoo, Donthu, & Lenartowicz, 2011). This survey template is used instead of the widely known Hofstede (1984) template. The reason for this is that Yoo et al. (2011) provide a survey that refers to the cultural dimensions on the individual level rather than Hofstede's national level. Previous research has indicated that the CVSCALE is a reliable and valid tool for replacing the traditional version of Hofstede (Yoo, Donthu, & Lenartowicz, 2011). The research divided the dimensions of collectivism, power distance, uncertainty avoidance and masculinity in a 26-item-five-dimensional scale. Though, only two out of five dimensions have been analysed. The respondents have been given statements on which they had to indicate whether they "fully agree" or "strongly disagree" with the statement. A 5-point Likert scale has been applied.

Usability, information quality, aesthetics, interactivity and marketing mix are applied to explain the website elements. Besides, the construct of online trust is operationalized and it is examined whether it has a mediating role or just a direct effect on the purchase intention. The operationalization of these website elements can be found in figure 7. Furthermore, the survey questions are included in the appendix.

The online trust variable is a complex term and often several operationalizations are present. Though this research has applied Gefen's (2002) conceptualization of online trust; integrity, benevolence and ability. The last variable that needs to be operationalized is concerned with purchase intention. Lee & Lin's (2005) research has been applied to assess an individual's willingness to purchase from a certain e-vendor. A 5-point Likert scale is used to analyse the dependent variable. Questions were asked like, "If I were to decide I would buy from this website" and "I would recommend this website as a purchase channel".

Figure 7: Operationalization of web experience (Constantinides, 2004)

Web experience					
Usability	Information quality	Interactivity	Online trust	Marketing mix	Aesthetics
Site navigation Ordering	Relevance Completeness	Customer service Customisation	Integrity Benevolence	Scope (Price, product, promotion) Site	Appealing design Style/ atmosphere
Convenience Ease of use	Sufficiency	Interaction with personell	Ability	Synergy System	Quality design

5. RESULTS

The survey, as attached in the appendix, has been received from 209 individuals with different nationalities. This section is structured in such a way that, firstly, the research method is explained and onwards the results from the regression analyses.

5.1 Research method: Factor analysis & multiple regression

Figure 8: Factor analysis statistics

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,912
Bartlett's Test of Sphericity	Approx. Chi-Square	2502,868
	df	171
	Sig.	,000

In order to structure the analysis six factors have been created: online trust, usability, aesthetics, interactivity, information quality and marketing mix. A principal axis factoring method has been applied to allocate the separate variables to the predefined factors. The research is confirmatory and therefore extraction has been done based on a fixed number of factors. In order to test the validity of the factor analysis a Kaiser-Meyer-Olkin (KMO) measure can be applied. The KMO measures the sampling adequacy, indicating that at least some correlation is present amongst the variables so proper factors can be created. Preferably this number should be between 0,8 and 1. This study resulted in a high score (KMO = 0,912), which indicates that the proportion of variance in the variables is caused by the created factors. Furthermore, Bartlett's Test of Sphericity is significant and shows that the factor analysis is suited for the set of data that have been collected. For the purpose of creating a clear factor matrix a varimax rotation has been conducted.

Figure 9: Principal axis factoring

Rotated Factor Matrix[a]

	Factor					
	1	2	3	4	5	6
Honesty	,195	,848	,199	,169	,187	,048
Cares about customers	,102	,596	,296	,178	,087	,422
Trustworthy	,254	,745	,263	,210	,108	,194
Safe to purchase from	,292	,636	,351	,239	,107	,163
Product relevance and completeness	,293	,258	,040	,726	,208	,131
Sufficient information to make decision	,233	,207	,182	,807	,139	,143
Convenient design without annoying features	,270	,191	,371	,308	,149	,187
Professional design	,302	,333	,705	,173	,160	,046
Information easy to understand	,650	,188	,289	,313	,203	,030
Ease of navigating	,672	,204	,230	,301	,082	,210
Pleasant interface	,486	,306	,621	,012	,122	,104
Eager to help me	,286	,348	,216	,218	,174	,508
Easy to order	,669	,167	,242	,132	,225	,154
Easy to use	,776	,202	,196	,177	,121	,183
Visually appealing	,227	,261	,699	,098	,162	,168
Competitive prices	,158	,145	,112	,187	,710	,222
Attractive discounts	,149	,100	,146	,094	,659	,091
Easy to contact customer service	,132	,103	,061	,086	,168	,566

Extraction Method: Principal Axis Factoring.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 7 iterations.

Figure 9 displays the different factors that have been created. Two of the variables, 'loading time of pages' and "product assortment", have been dropped due to its low extraction and reliability scores, which eventually resulted in an increased KMO. Factor 1 consists of variables that point at the "usability" of the website. Factor 2 is related to the topic of 'online trust'. Furthermore, factor 3 indicates "aesthetics", factor 4 indicates "information quality", factor 5 indicates "marketing mix" and finally factor 6 points at the "interactivity" factor. Next step is to check the reliability of the factors. In order to determine this the Cronbach's Alpha scores has been measured. According to Nunnaly (1978) an alpha of 0,7 or higher is seen as acceptable in the early stages of the research. These measures show that 5 out of the 6 variables are reliable (Alpha > 0,7). Interactivity attained a score of 0,578, which does not exceed the threshold of acceptance. Though the scales have resulted in reliable outcomes in previous research. Therefore, the variable won't be deleted from the research but should definitely be taken into consideration in the research's limitations.

Figure 10: Cronbach's Alpha of all the factors

Online trust

Cronbach's Alpha	N of Items
,904	4

Information quality

Cronbach's Alpha	N of Items
,867	2

Interactivity

Cronbach's Alpha	N of Items
,578	2

Aesthetics

Cronbach's Alpha	N of Items
,847	4

Usability

Cronbach's Alpha	N of Items
,888	4

Marketing mix

Cronbach's Alpha	N of Items
,714	2

Before starting the multiple regression analysis, respondents have been asked which variables are most important in the eyes of consumers. On the question; "What is the most important factor when buying online", 96 respondents (45,9%) answered that web shop's prices are essential in deciding whether to buy or not to buy from a website. The second most important factor is the convenience and ease of use (26,8%) of the particular web shop. On third place respondents suggest that they rather buy from website with which they are familiar with (15,3%). The other factors; first impression, design, interactivity, promotions and ease of finding the website did not yield significant votes. These first answer give an indication about the results of the multiple regression. Due to the online transparency and price comparison websites, prices are might be a decisive factor in the purchasing process. Besides, a website that one is familiar with and is experienced to be trustful are also preferred. That people prefer buying from websites that they know and trust also become clear form the answers to the statement: I prefer buying from well know selling channels. On a scale of 1 to 5 the respondents answered to the statements with a mean of 3,85.

5.2 General results of demographics and sample size

According to the methodology, data has been retrieved from a random population by conducting a convenience sampling technique. The survey that has been distributed yielded 209 respondents who completely filled in the survey. The purpose of this research is to provide a preliminary test and therefore a pool of 209 international individuals are accepted. 55,5% (116) of the respondents were female compared to the 93 male respondents. Since the survey was distributed on social media and sent to university e-mail addresses the largest share of respondents were students. This is also visible in the results since the age range is between 16-56 years old with a mean value of 24,76 (Std. dev.: 5,920). Most of the respondents turned out to have quite some experience with online buying. The majority buys products in the online marketplace about every month, whereas only a few do not frequently buy from the Internet.

Figure 11: Online buying frequency

Online buying frequency

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Every month	102	48,8	48,8	48,8
	Every week	25	12,0	12,0	60,8
	Few times a year	75	35,9	35,9	96,7
	Less	7	3,3	3,3	100,0
	Total	209	100,0	100,0	

Clothing, electronics, travel tickets and books appear to be most popular. Though, on the other hand popular services like music and movies are bought less frequently. A good reason could be the rise of free applications, which allow you to stream music and movies. These numbers could also be low due to (illegal) download activities.

Product	Frequency	Percentage
Clothing	120	23,8%
Electronics	113	22,4%
Travel	124	24,6%
Books	102	20,2%
Music	26	5,2%
Movies	19	3,8%

In order to collect different cultures responses from different countries had to be collected. Appendix 3 shows the distribution of nationalities. The majority of respondents are Dutch (n = 89) since the convenience sampling technique mainly reached students from the University of Twente and nearby places. Besides, a large sized group of Germans have completely filled in the survey (n = 30). In order to be able to make distinction based on individualism and uncertainty avoidance survey questions from Yoo et al. (2011) has been used.

Figure 12: Reliability cultural dimensions

Uncertainty avoidance

Cronbach's Alpha	N of Items
,789	4

Individualism

Cronbach's Alpha	N of Items
,831	6

For creating a clear distinction between low and high scores the 209 respondents have been equally divided into three groups: High, medium and low. It has been attempted to create the groups as equal as possible. The two extremes, high and low, have been included in the cross-cultural analyses to see the differences at both ends. However, in case of uncertainty avoidance it was not possible to reduce the pool due to the large number of respondents who scored an average of 4,0 on the scale.

Figure 13: Division of IND and UAI in rather equal groups

IND_Categories

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	69	33,0	33,0	33,0
	Low	80	38,3	38,3	71,3
	Medium	60	28,7	28,7	100,0
	Total	209	100,0	100,0	

UAI_Categories

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	High	90	43,1	43,1	43,1
	Low	63	30,1	30,1	73,2
	Medium	56	26,8	26,8	100,0
	Total	209	100,0	100,0	

5.3 E-commerce usage

As mentioned in the literature, the online buying process consists of two major parts; intention to buy online and the eventual decision to purchase from an online vendor (Cemberci et al., 2013). In order for someone to buy online he or she has to embrace the benefits of online buying and rather neglect the barriers. According to literature cultures might cause differences in the perception of these benefits and risks.

Figure 14: Benefits of online buying

Statistics

		Availability of products	Time saving	Comparing prices	Convenience
N	Valid	209	209	209	209
	Missing	0	0	0	0
Mean		4,08	4,03	4,17	4,07
Std. Deviation		,950	1,009	,865	,888
Skewness		-1,014	-1,135	-1,060	-1,099
Std. Error of Skewness		,168	,168	,168	,168
Range		4	4	4	4
Minimum		1	1	1	1
Maximum		5	5	5	5

In order to find the extent to which an individual embraces the Internet, the benefits of the Internet are measured in terms of opportunity to compare prices, the shop's assortment, the shop's convenience and the time that one can save times. Figure 12 shows that each of the variables score high (mean > 4,0). This number shows that people around the world embrace the benefits of online buying. From the four variables "Comparing prices" has the largest mean, meaning that this variable is suggested to be most important for a customer when picking a vendor to buy from.

Figure 15: Barriers of online buying

Statistics

		Cannot touch the product	Won't receive the product	Transactions are not safe	Privacy concerns
N	Valid	209	209	209	209
	Missing	0	0	0	0
Mean		3,15	2,29	2,44	2,94
Std. Deviation		1,045	1,036	1,155	1,181
Skewness		-,081	,884	,622	,068
Std. Error of Skewness		,168	,168	,168	,168
Range		4	4	4	4
Minimum		1	1	1	1
Maximum		5	5	5	5

Risk perceptions towards online buying seems to diminish. All risk perception variables score a rather low mean on the included statements. This might indicate that the Internet might seem to be taken for granted in such a way that risks are not perceived heavily. Another reason could be the average age of the sample. Since the survey was distributed mainly among students it could be that they possess more knowledge and skills, resulting in more trust towards e-commerce. The other reason could be that don't consider the risks that might occur and start buying impulsively.

E-commerce usage and cultural moderation

Overall the results show that the benefits of online buying are embraced and the risks don't scare off people. Though, is this also the case for the different cultures?

Figure 16: Correlation matrix benefits of online buying

Correlations

		Availability of products	Time savings	Comparing prices	Easy to use	Individualism	Uncertainty_ Avoidance
Availability of products	Pearson Correlation	1	,168*	,427**	,170*	,128	,146*
	Sig. (2-tailed)		,015	,000	,014	,064	,034
	N	209	209	209	209	209	209
Time savings	Pearson Correlation	,168*	1	,374**	,357**	,002	,196**
	Sig. (2-tailed)	,015		,000	,000	,977	,004
	N	209	209	209	209	209	209
Comparing prices	Pearson Correlation	,427**	,374**	1	,403**	,013	,208**
	Sig. (2-tailed)	,000	,000		,000	,853	,003
	N	209	209	209	209	209	209
Easy to use	Pearson Correlation	,170*	,357**	,403**	1	-,014	,202**
	Sig. (2-tailed)	,014	,000	,000		,836	,003
	N	209	209	209	209	209	209
Individualism	Pearson Correlation	,128	,002	,013	-,014	1	-,170*
	Sig. (2-tailed)	,064	,977	,853	,836		,014
	N	209	209	209	209	209	209
Uncertainty_Avoidance	Pearson Correlation	,146*	,196**	,208**	,202**	-,170*	1
	Sig. (2-tailed)	,034	,004	,003	,003	,014	
	N	209	209	209	209	209	209

*. Correlation is significant at the 0.05 level (2-tailed).
**. Correlation is significant at the 0.01 level (2-tailed).

As seen in the correlation matrix above it looks like all the variables are inter-correlated. This is the case because all variables represent the benefits of online buying and have a high score resulting in multicollinearity. Furthermore, individualism does not have a significant correlation, which means that both individualistic and collectivistic communities score high on the benefits of online buying. Striking is that the variables have a positive and significant correlation with uncertainty avoidance, which means that a higher score of uncertainty avoidance would result in a larger score of benefit acceptance. A legit reason could be the overall acceptance of online buying.

Figure 17: Correlation matrix barriers to buy online

Correlations

		Cannot touch the product	Won't receive the product	Online transactions are not safe	Concerned with privacy	Individualism	Uncertainty_ Avoidance
Cannot touch the product	Pearson Correlation	1	,389**	,391**	,241**	,015	,094
	Sig. (2-tailed)		,000	,000	,000	,834	,176
	N	209	209	209	209	209	209
Won' receive the product	Pearson Correlation	,389**	1	,593**	,435**	,148*	,079
	Sig. (2-tailed)	,000		,000	,000	,033	,253
	N	209	209	209	209	209	209
Online transactions are not safe	Pearson Correlation	,391**	,593**	1	,545**	,016	,189**
	Sig. (2-tailed)	,000	,000		,000	,820	,006
	N	209	209	209	209	209	209
Concerned with privacy	Pearson Correlation	,241**	,435**	,545**	1	,009	,135
	Sig. (2-tailed)	,000	,000	,000		,895	,052
	N	209	209	209	209	209	209
Individualism	Pearson Correlation	,015	,148*	,016	,009	1	-,170*
	Sig. (2-tailed)	,834	,033	,820	,895		,014
	N	209	209	209	209	209	209
Uncertainty_Avoidance	Pearson Correlation	,094	,079	,189**	,135	-,170*	1
	Sig. (2-tailed)	,176	,253	,006	,052	,014	
	N	209	209	209	209	209	209

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

In contrary to the benefits, the barriers do show some significant results among both cultural dimensions. Individualistic cultures appear to be more concerned with the fact that a product might not arrive. A reason could be the fact that individualistic cultures set goals and want to achieve that goal as

efficient and quick as possible, therefore the wish to receive the product as soon as possible which is the case obviously when you buy offline. In case of uncertainty avoidance, a significant correlation with the concern of online transaction is found. High uncertainty avoidance thus results in more fear that online transactions are not safe. This is in accordance with previous literature who state that high uncertainty is positively correlated with perceived risk. However, the other risk statements are not significantly correlated. It may be concluded that overall the benefits of online buying outweigh the barriers of online buying, which points at the acceptance of e-commerce.

5.4 Purchase intention: What is the influence of website elements on purchase intention?

The first step before conducting the regression analysis is to check whether there is a significant correlation between the dependent (Purchase intention) and independent variables (Web characteristics).

Figure 18: Correlation matrix purchase intention and web characteristics

Correlations

		Usability	Online trust	Aesthetics	Information quality	Marketing mix	Interactivity	Purchase_Intention
Usability	Pearson Correlation	1	,012	,121	,070	,048	,070	,260**
	Sig. (2-tailed)		,865	,082	,312	,487	,312	,000
	N	209	209	209	209	209	209	209
Online trust	Pearson Correlation	,012	1	,089	,042	,033	,065	,313**
	Sig. (2-tailed)	,865		,199	,545	,638	,351	,000
	N	209	209	209	209	209	209	209
Aesthetics	Pearson Correlation	,121	,089	1	-,016	,043	,034	,403**
	Sig. (2-tailed)	,082	,199		,817	,534	,625	,000
	N	209	209	209	209	209	209	209
Information quality	Pearson Correlation	,070	,042	-,016	1	,061	,057	,166*
	Sig. (2-tailed)	,312	,545	,817		,376	,409	,016
	N	209	209	209	209	209	209	209
Marketing mix	Pearson Correlation	,048	,033	,043	,061	1	,098	,314**
	Sig. (2-tailed)	,487	,638	,534	,376		,158	,000
	N	209	209	209	209	209	209	209
Interactivity	Pearson Correlation	,070	,065	,034	,057	,098	1	,275**
	Sig. (2-tailed)	,312	,351	,625	,409	,158		,000
	N	209	209	209	209	209	209	209
Purchase_Intention	Pearson Correlation	,260**	,313**	,403**	,166*	,314**	,275**	1
	Sig. (2-tailed)	,000	,000	,000	,016	,000	,000	
	N	209	209	209	209	209	209	209

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

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

As a requirement for conducting the regression analysis the correlation matrix has to be created and analysed. As one can see in figure 18 all the independent variables are significantly correlated with purchase intention. Since some degree of multicollinearity or mediation might be present the regression analysis may show weaker or stronger relationships among the variables compared to this matrix. Underneath the regression analysis has been conducted and elaborated.

Figure 19: Regression analysis purchase intention

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,648[a]	,420	,403	,848963

a. Predictors: (Constant), Interactivity, Aesthetics, Information quality, Online trust, Marketing mix, Usability

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	105,519	6	17,586	24,401	,000[b]
	Residual	145,589	202	,721		
	Total	251,108	208			

a. Dependent Variable: Purchase_Intention

b. Predictors: (Constant), Interactivity, Aesthetics, Information quality, Online trust, Marketing mix, Usability

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3,297	,059		56,138	,000		
	Online trust	,301	,064	,253	4,699	,000	,986	1,014
	Usability	,222	,067	,180	3,322	,001	,975	1,025
	Aesthetics	,436	,069	,343	6,324	,000	,975	1,025
	Information quality	,148	,066	,121	2,244	,026	,987	1,013
	Marketing mix	,343	,073	,255	4,719	,000	,984	1,016
	Interactivity	,292	,078	,202	3,739	,000	,980	1,020

a. Dependent Variable: Purchase_Intention

The first regression analysis was executed on the entire sample (n = 209). As hypothesized all the included website characteristics are significantly and positively related to purchase intention. In regression analyses, one should test the multicollinearity among the independent variables. In this case multicollinearity is not a concern since the VIF is lower than 5 (O"Briend, 2007) .The regression (F = 24,401; a < 0,05) is significant, which means that the regression equation can be used to predict purchase intention. The regression equation explains 40,03% of the variability around the mean. Aesthetics turned out to have the biggest influence on purchase intention. A visually appealing and professional website is a prerequisite in designing a web shop. Second strongest predictor of purchase intention is marketing mix. This is in line with the statements in the previous section, saying that prices are the most important elements in purchase intention. Since all variables are significantly related we can confirm the first hypothesis.

Regarding online trust, it was the question whether a mediating role was present. In order to analyse mediation, the online trust variable was separately added to the regression. A mediation effect is found when a variable has a significant effect without online trust but when including online trust this effect turns into significant. All though, changes in beta were found, the change in significance couldn't be detected. An explanation could be that all variables already are significantly related to purchase intention. Therefore, online trust is elaborated in the next section. This has been done to see if some factors do impact online trust but do not have an indirect effect on purchase intention through online trust.

5.5 Online trust

This research hypothesizes that online trust is build out of 4 variables. Except for marketing mix usability, information quality, aesthetics and interactivity are believed to explain the variance in degree of online trust in a website.

Figure 20: Regression descriptives online trust

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43,363	5	8,673	19,961	,000[b]
	Residual	88,199	203	,434		
	Total	131,562	208			

a. Dependent Variable: Online_Trust

b. Predictors: (Constant), Marketing mix, Aesthetics, Information quality, Interactivity, Usability

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,574[a]	,330	,313	,65915

a. Predictors: (Constant), Marketing mix, Aesthetics, Information quality, Interactivity, Usability

Figure 20 describes that the regression analysis is significant (F = 19,951; sig. A <0,05). The regression has an adjusted R^2 of 0,313, which means that the regression is able to explain 31,3% of the variability around the mean. Apparently, there are other factors that have an influence on online trust as well. Think of propensity to trust, familiarity with the website, age, income and culture.

Figure 21: Regression analysis online trust

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,817	,046		83,716	,000
	Interactivity	,273	,061	,261	4,509	,000
	Usability	,172	,052	,193	3,309	,001
	Aesthetics	,307	,053	,334	5,755	,000
	Information quality	,198	,051	,223	3,866	,000
	Marketing mix	,102	,056	,105	1,809	,072

a. Dependent Variable: Online_Trust

As well as with purchase intention aesthetics turns out to have the biggest influence on the perceived degree of online trust. A professionally designed website implies that a vendor has the skills and expertise to professionally bring a product or service to the market. Furthermore, interactivity, information quality and usability are significantly related to online trust. Marketing mix does not turn out to have a significant influence on online trust (a > 0,05). It was expected that marketing mix has an influence on purchase behaviour since attracting customers is the purpose of the marketing mix. However, low prices and discounts do not create online trust.

5.6 How is purchase intention influenced among cultures?

For analysing the moderating effect of culture on the relationship between website elements and purchase intention the sample (n = 209) has been subdivided into three rather equal groups in terms of uncertainty avoidance and individualism (high, medium and low). Therefore 4 regression analyses have been applied: low UAI, high UAI, low IND and high IND. In order to suggest the impact of culture, the difference between low and high categories have been explained.

High individualism

Figure 22: Regression analysis purchase intention, given high IND

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,146	,112		28,109	,000
	Interactivity	,016	,158	,010	,103	,918
	Usability	,174	,139	,133	1,255	,214
	Aesthetics	,518	,132	,396	3,938	,000
	Information quality	,350	,131	,280	2,675	,010
	Marketing mix	,386	,133	,295	2,899	,005
	Online trust	,168	,138	,127	1,219	,228

a. Dependent Variable: Purchase_Intention

b. Selecting only cases for which IND_Categories = High

The regression in individualistic cultures is characterized by people that would like to reach its goals as efficient and quick as possible. Previous research has shown that individualists are more likely to buy impulsively as well, which does not require much trust in a vendor. The regression shows significant relationships between aesthetics, information quality and marketing, and purchase intention. Individualists are more focussed on individual goals than the greater good. The regression supports this suggestion since interactivity is not significantly related to purchase intention. Usability was hypothesized to be significantly related to purchase intention because it allows customer to quickly move through the website to the payment process. In order to investigate this further, possible mediator effects were analysed. When adding information quality, while remaining usability, the usability variable turned from significant to insignificant. The results gave the impression that effect of usability on purchase intention might be partially mediated by information quality (appendix 4). This means that the hypothesis is not accepted but side notes about partial mediation have to be addressed.

Low individualism

Figure 23: Purchase intention, given low IND

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,386	,089		38,049	,000
	Interactivity	,306	,125	,216	2,457	,016
	Usability	,269	,095	,249	2,847	,006
	Aesthetics	,417	,111	,322	3,760	,000
	Information quality	,082	,092	,076	,886	,378
	Marketing mix	,340	,104	,280	3,277	,002
	Online trust	,356	,095	,328	3,739	,000

a. Dependent Variable: Purchase_Intention

b. Selecting only cases for which IND_Categories = Low

In a collectivistic culture aesthetics and online trust are the best predictors of purchase intention. However, usability and marketing mix turn out to have a significant relationship as well. A possible mediating effect of the variables on information quality have been tested, though no significant results were found. Meaning that information quality does not influence purchase intention significantly in collectivistic cultures.

High uncertainty avoidance

Figure 24: High UAI and purchase intention

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,214	,099		32,444	,000
	Interactivity	,288	,152	,176	1,889	,062
	Usability	,134	,111	,105	1,211	,229
	Aesthetics	,638	,144	,399	4,430	,000
	Information quality	,113	,130	,072	,869	,387
	Marketing mix	,263	,122	,189	2,148	,035
	Online trust	,298	,115	,219	2,594	,011

a. Dependent Variable: Purchase_Intention

b. Selecting only cases for which UAI_Categories = High

The research shows that countries characterized by a high level of uncertainty avoidance appreciate web shops with a visually appealing design. Moreover, it appears that aesthetics plays a mediating role in the relationship between usability and purchase intention. Usability and design are quite similar and it is therefore not a big surprise that there might be partial mediator effect present. Furthermore, promotions and discounts play a role in the decision-making process. In order to overcome the perceived risks websites should put effort in online trust building. This variable is the last predictor that is believed to be an important predictor of purchase intention.

Low uncertainty avoidance

Figure 25: Low UAI and purchase intention

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,336	,115		29,112	,000
	Interactivity	,243	,144	,194	1,694	,096
	Usability	,288	,134	,235	2,151	,036
	Aesthetics	,339	,110	,339	3,073	,003
	Information quality	,057	,108	,059	,527	,600
	Marketing mix	,349	,131	,280	2,673	,010
	Online trust	,306	,113	,291	2,707	,009

a. Dependent Variable: Purchase_Intention

b. Selecting only cases for which UAI_Categories = Low

Compared to the relationship in communities that are characterized by high uncertainty avoidance the low uncertainty avoidance does not show much difference. The only significant difference that could be found is that usability is a significant predictor of purchase intention. Aesthetics is the strongest determinant of purchase intention (beta = 0,339) followed by online trust and marketing mix.

Although, the first results do not indicate towards a mediating effect of online trust on the relationship between website elements and purchase intention trust will still be analysed in the following section. This has been done since it might turn out that factors, who were not directly related to purchase intention, have an indirect effect through online trust.

5.7 How is online trust created among cultures?

In the previous section this research has shown that purchase intention builds online trust differently among cultures. One of the findings showed that online trust is significant in nearly all of the cases, except for the individualistic community. Therefore, this section will only explain the way online trust is created in the cultures that showed a significant effect: low IND, high UAI and low UAI.

Low individualism

Figure 26: Low IND and online trust

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,780	,078		48,597	,000
	Interactivity	,407	,107	,376	3,817	,000
	Usability	,003	,081	,003	,034	,973
	Aesthetics	,315	,097	,319	3,249	,002
	Information quality	,096	,080	,118	1,199	,234
	Marketing mix	,090	,091	,097	,990	,325

a. Dependent Variable: Trust

b. Selecting only cases for which IND_Categories = Low

In collectivistic cultures, online trust is built by providing a website that is visually appealing and on which interactivity with customer care is clearly displayed. The other variables are not found to be significant on an alpha of 0,05.

Low & high uncertainty avoidance

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,658	,094		39,085	,000
	Interactivity	,449	,117	,435	3,821	,000
	Usability	,244	,112	,242	2,178	,034
	Aesthetics	,276	,093	,335	2,976	,004
	Information quality	,082	,090	,103	,912	,365
	Marketing mix	,118	,110	,115	1,073	,288

a. Dependent Variable: Trust

b. Selecting only cases for which UAI_Categories = Low

Figure 27: Low UAI and online trust

Coefficients[a,b]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,967	,064		61,724	,000
	Interactivity	,380	,099	,365	3,839	,000
	Usability	,230	,073	,282	3,145	,002
	Aesthetics	,205	,096	,201	2,143	,035
	Information quality	,209	,086	,209	2,436	,017
	Marketing mix	,018	,081	,020	,217	,829

a. Dependent Variable: Trust

b. Selecting only cases for which UAI_Categories = High

Figure 28: High UAI and online trust

Due to a lesser degree of risk perception it is hypothesized that low uncertainty avoidance is related to lower importance of online trust. However, the previous section has shown that online trust does play a significant role in the decision-making process. In low uncertainty avoidance interactivity is the most important predictor. This means that access to customer service should be widely accessible in order to build trust. Furthermore, usability and aesthetics are significant (a <0,05). An easy to use website that provides a professional appealing design is apparently key in building a trustworthy purchase environment.

For high uncertainty avoidance cultures, online trust is strengthened by providing clear and sufficient information. Furthermore, the same predictors as in low uncertainty avoidance play a role. In the previous section, it was found that usability and information quality were not having a

significant direct effect with purchase intention. However, a significant relationship with online trust is found indicating that online trust might act as a mediator in their relationship with purchase intention. Though it should be noted that this couldn't be proved and rather an indirect is found.

Figure 29: Hypotheses testing

Predictors	Result
H_0: There is a significant relationship between usability, information quality, aesthetics, marketing mix, online trust and purchase intention	Supported
H_0 Usability, information quality, aesthetics and interactivity are significantly correlated with online trust.	Supported
H_0: Usability is significantly related to purchase intention in cultures characterized by a high level of individualism, while not significant in collectivistic cultures	Not supported Partial mediating effect of information quality in IND
H_0: Information quality is significantly related to purchase intention in cultures characterized by a high level of individualism, while not significant in collectivistic cultures	Supported
H_0 Marketing mix is significantly related to purchase intention in both individualistic and collectivistic cultures	Supported
H_0: Aesthetics is significantly related to purchase intention in both individualistic and collectivistic cultures	Supported
H_0: Interactivity is significantly related to purchase intention in collectivistic cultures, while not significant in individualistic cultures	Supported
H_0: Online trust is significantly related to purchase intention in collectivistic cultures, while not significant in individualistic cultures	Supported
H_0: Usability is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI	Not supported Partial mediation through aesthetics
H_0: Information quality is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI	Not supported
H_0: Aesthetics is significantly related to purchase intention in both culture of uncertainty avoidance	Supported
H_0: Interactivity is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI	Not supported
H_0: Marketing mix is significantly related to purchase intention in cultures characterized by a low level of UAI, while not significant in cultures with high UAI	Not supported
H_0: Online trust is significantly related to purchase intention in cultures characterized by a high level of UAI, while not significant in cultures with low UAI	Not supported

5.8 Summarizing the results

Figure 30: Summarization of the results

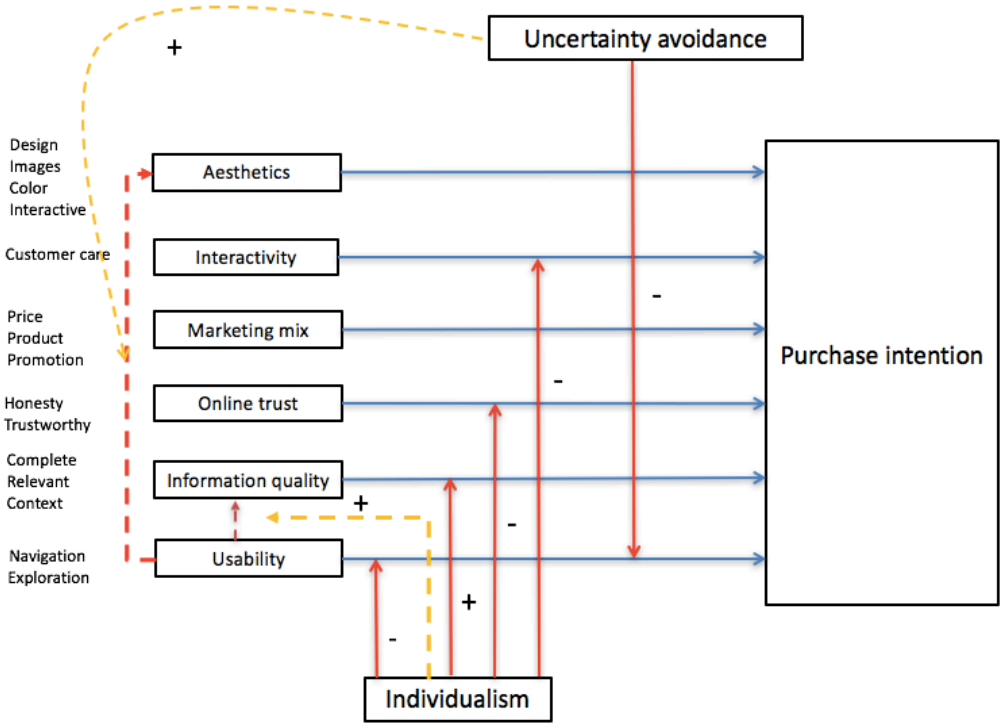
High individualism			High uncertainty avoidance		
	Purchase intention	Online trust		Purchase intention	Online trust
Aesthetics	0,396*	NA\	Aesthetics	0,399*	0,201*
Information quality	0,280*	NA\	Information quality	0,072	0,209*
Usability	0,133	NA\	Usability	0,105	0,282*
Online trust	0,127	NA\	Online trust	0,219*	NA\
Interactivity	0,010	NA\	Interactivity	0,176	0,365*
Marketing mix	0,295*	NA\	Marketing mix	0,189*	0,020
Low individualism			**Low uncertainty avoidance**		
Aesthetics	0,322*	0,319*	Aesthetics	0,339*	0,335*
Information quality	0,076	0,118	Information quality	0,059	0,103
Usability	0,249*	0,003	Usability	0,235*	0,242*
Online trust	0,328*	NA\	Online trust	0,291*	NA\
Interactivity	0,216*	0,376*	Interactivity	0,194	0,435*
Marketing mix	0,280*	0,097	Marketing mix	0,280*	0,115

Conclusion

The main conclusion that can be drawn from this study is that the relationship between website elements and purchase intention is suggested to be indeed moderated by individualism and uncertainty avoidance (figure 31). The influence of two variables on purchase intention appeared to be not influenced by culture. Aesthetics and marketing mix are suggested to have a decisive influence on purchase intention on all different levels of UAI and IND. Furthermore, it is striking that interactivity is not significant in three out of the five cultural dimensions. This may be the case that interactivity is rather satisfying for existing customers in after-sales experience and not decisive in attracting potential customers. Solely the low individualistic communities tend to put emphasis on the interactivity features on a website. The analysis did find that uncertainty avoidance and individualism are on some points different in terms of impact and influence. Individualism has a negative direct effect on online trust, interactivity and usability. This means that cultures characterized by high individualism tend to weaken the relationship between these elements and purchase intention. A positive effect was found on information quality, meaning that individualistic cultures strengthen the influence of relevant information on purchase intention.

On the other hand uncertainty avoidance appears to have solely a direct negative effect on the relationship between usability and purchase intention. The higher the perception of uncertainty avoidance, the weaker the relationship of usability with purchase intention. This indicates that uncertainty avoidance does not change the perceived importance of the other included variables. Online trust, aesthetics and marketing mix were found to have decisive role in the purchasing process, regardless of level of UAI. Furthermore, a positive indirect effect through usability and information quality in high IND and through usability and aesthetics in high UAI is found. All though it was found that the included variables explained 30% of the variance in online trust. No significant evidence regarding the mediating role of online trust could be provided.

Figure 31: Preliminary model: The effect of uncertainty avoidance and individualism on the relationship between website elements and purchase intention.



6. DISCUSSION

In the rise of the Internet and opportunities of purchasing online, website designers are faced with the challenge of creating a high quality website for outperforming the increasing competition. Rather than copy-pasting the existing content to the local language, an online vendor would profit by adapting web design to local cultural values. Hofstede (1984) identified five cultural dimensions on which nations differ: individualism, uncertainty avoidance, masculinity, long-term orientation and power distance. Due to explained variance in existing literature, this report has only included the first two: individualism and uncertainty avoidance. In accordance with previous literature this study strengthens the assumption that culture has a significant impact on online purchase intention. Moreover, the study suggests that the two dimensions differ in the degree of impact on purchase intention. Individualism turned out to have a bigger impact on the relationship between website elements and purchase intention. The reason might be that online shopping, either, has been integrated in society in such a way that risks and uncertainties are not much of an issue anymore or online shopping has become common sense for the respondents (e.g. students) that were included in the sample. Since the sample was not large enough to be able to generalize the findings the results rather introduce a model that can be applied in future research. This preliminary study does provide valuable insights on how to structure a similar study. When comparing collectivistic and individualistic cultures it is suggested that the influence of usability, information quality, interactivity and online trust is perceived differently

among this scale. On the other hand, aesthetics and marketing mix turned out to be decisive on both extremes. Regarding aesthetics, previous research gives a reason to believe that the contextual orientation determines how one should design its web shop. High contextual orientation, related to collectivistic cultures, tend to prefer images and visualization of families. Furthermore, websites in individualistic cultures tend to show images of wealth and personal goals. Moreover, in individualistic cultures information should be of high quality and representing facts, whereas collectivistic cultures prefer implicit information. This is also emphasized by the result that information quality is the variable that is perceived more heavily among individualists than collectivists. When reaching their goal consumers would like to have as relevant as possible information to quickly make the purchase, whereas collectivistic cultures tend to rely more on the opinion of peers. In order for customers to perceive information as relevant and complete an easy to use website is suggested to be a prerequisite. The study found a possible indirect effect between usability and information quality in individualistic cultures. Furthermore, since collectivists tend to be more risk averse, online trust and interactivity are believed to be more important influencers. Rather than making impulsive purchases this community preferably evaluate options and opinions.

Regarding uncertainty avoidance solely a difference is found in the importance of usability on purchase intention. Communities characterized by low uncertainty avoidance perceive usability as the important variable in their purchase decision. An easy to use website is believed to stimulate the purchase intention. Besides, online trust, marketing mix and aesthetics are believed to be decisive predictors of online purchase intention on both sides of the spectrum. In advance, it was believed that the importance of online trust would differ on both ends. Cultures with high uncertainty avoidance were believed to require more online trust before buying a product, compared to low uncertainty avoidance. Maybe overall trust in e-vendors has been created overtime and therefore less online trust might be needed. For instance, the guarantee that customers can return products after 14 days has created some more security in the mind of the customer. Both cultural dimensions appear to have their influence on the shopping behaviour of customers. In order for vendors to fully exploit the opportunities of e-commerce they would do a good job adapting to local values.

More cultural elements and demographics, such as contextual orientation, age, income and costs of purchase, have to be taken into account when structuring e-commerce. Since the Internet allows a vendor to reach a larger audience it is a potential source of business expansion. When taking into account the discussed web elements and cultural influences, a firm might be able to more effectively exploit the opportunities that e-commerce offers. Rather than painting the tip of the iceberg and hoping it will turn red automatically, a firm should consider the bigger picture.

6.1 Theoretical and practical implication

The theoretical implication that this research proposes is an update on the existing literature about the relationship between purchase intention and website design. Since the sample size was not large enough to generalize the findings this report can act as a preliminary study for future research. In relation to former literature this research suggests a diminishing influence of uncertainty avoidance while at the same time stressing the influence of individualism. By having identified the relevance of the website elements future research can use this as a starting point. For future research, the results of this study could be used to assess the influence of the other three dimensions that Hofstede has provided: power distance, long-term orientation and masculinity. Furthermore, the variables that have been included were rather broad terms (e.g. aesthetics or usability). By having identified the decisive influence on purchase intention future research could go into depth on the specific aspects of these website elements.

The results of this study provide firms information on how to build their website. Cultural influences have long been part of the conversation and this research further stresses the influence of this element and proposes a preliminary model. Firms can take the results of this research into account when expanding business abroad. Rather than just copy-paste website contents a firm does a good job by checking the degree of individualism, uncertainty avoidance and contextual orientation before designing a web shop. By integrating local values in the design of the website a firm might be better able to exploit the opportunities of the Internet.

6.2 Limitations and further research

This research offers companies and designers guidelines on how to design and implement a web shop in different cultures. However, limitations have to be taken into account. Some limitations can be addressed as well as improvements for further research. First of all, a limitation is found in the factor analysis. The interactivity factor had a reliability score lower than 0,7 and therefore it's reliability has to be doubted. This research created based on a survey regarding individual's buying experience. Respondents were questioned to either describe a website they have bought from in the past or one that was given by this study. The different website that the respondents described were shops that sell low-involvement products. This means that less money, risks and efforts are involved in this kind of purchases. When buying products that require more involvement in the buying process it would not be a surprise if, for instance, online trust plays a way more significant role in the buying process. Regarding the generalizability of the research the pool of respondents has to be assessed. This research contained 209 individuals from separate countries all over the world. Due to the wide dispersity, an experiment could not be held and therefore the study couldn't be controlled optimally. Furthermore 209 respondents are not sufficient to generalize the findings all around the globe. In order to generalize the findings, one could use the research model and apply it to a larger sample size. Another limitation is the fact that culture is an aspect that is extremely hard to measure. This report

implemented the scale introduced by Yoo et al. (2011). Previous research has already shown that this is a validated scale based on Hofstede's dimensions. However, one could take into account measurement errors and might cluster groups based on geo-location in the future. For instance, the influence of culture in South-Korea and the Netherlands. Besides culture, more uncontrollable factors could be taken into account in future research. For instance, people in a developed country might stress the importance of usability and information due to the lack of a high-speed Internet connection. Or think of the impact of the economic situation in a certain country.

In order to be able to completely the influence of culture on online purchase intention the remaining dimensions of culture could be included in future research as well: masculinity, long-term orientation and power distance. Furthermore, a culture can differ in terms of context (Hall, 1976). Assumptions have been made, saying that the degree of context differs per cultural dimensions. One could implement a scale that focuses solely on the aspects of context to gather a clear view on the best way to make use of communication styles in the buying process.

This research has focused on the rather broad characteristics of a website, such as usability and aesthetics. In the future researchers could take into account the details of the website and online trust, such as colours and images, to provide a deeper understanding on how customers perceive details and on what way designers could adapt their website. Although this was not taken into account in this research it is an interesting area. For instance, in Japan a white colour indicates death while in Egypt it indicates joy (Kim & Kuljis, 2010).

A last recommendation for future research is concerning the role of online trust. In this research, the influence of culture and website elements on trust has been examined. A mediating role was not found but high correlations with the other variables were found. Trust is a very complex term and is also impacted by personal and external characteristics. For instance, trust can also be affected by political situations and an individual's willingness to trust people in general. By providing a different scale other insights may see the light. All by all, this research is a good starting point to build further research on.

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7. APPENDIX

7.1 Appendix 1

General questions

1. What is your age?
2. What is your gender?
3. What is your nationality?
4. How often do you buy products online?
5. What is the kind of product that you mainly buy online?
6. What is the most important factor when deciding between sellers?
7. I often go to website by clicking on advertisements on social media or websites
8. I prefer buying from well-known channels like Zalando, Bol.com or Amazon

Statements about online shopping (Strongly disagree – Strongly agree)

9. I shop online because of the wide availability of products
10. I shop online because it saves time
11. I shop online because I find it easy to compare prices
12. I shop online because the Internet is easy to use
13. I'm concerned about the privacy with my personal information
14. I'm concerned with online buying because I cannot touch/feel/try the products
15. I'm concerned that I won't receive the product
16. I'm concerned that online transactions are not safe
17. I'm concerned about the privacy of my personal information

Cultural dimensions: Uncertainty avoidance and individualism (Strongly disagree – Strongly agree)

(Yoo, Donthu, & Lenartowicz, 2011)

Uncertainty avoidance

18. It is important to have instructions spelled out in detail so I always know what to do (e.g. in your job)
19. I think it is important to follow rules, standardizations and procedures
20. Rules and regulations are important so I know what is expected from me
21. Standardized procedures are important
22. It is important to closely follow instructions

Individualism

23. Individuals should sacrifice self-interest for the group
24. Individuals should stick with the group even through difficulties
25. Group welfare is more important than individual rewards
26. Group success is more important than individual success
27. Individuals should only pursue their goals after considering the welfare of the group
28. Group loyalty should be encouraged even if individual goals suffer

Purchase intention questions (Strongly disagree – Strongly agree)

(Constantinides, 2004 ; Kim et al, 2008 ;)

29. Have you visited this website before?
30. I feel that this online vendor is honest
31. I feel that this online vendor provides good services and products
32. I feel that this online vendor is trustworthy
33. I feel it is safe to purchase from this website

Information quality

34. Product information is relevant and complete
35. There is sufficient information to make a buying decision

Usability

36. The website is easy to use
37. It is easy to find my way on the website
38. It is easy to order your products on this website
39. Information was easy to find and understand

Aesthetics

40. The website has a professional design
41. The interface of the website is visually appealing
42. The website has a pleasant design
43. Good looking website without annoying features

Interactivity

44. It is easy to contact the customer service
45. I feel that the web shop is eager to help me
46. I feel that this online vendor cares about customers

Marketing mix

47. The website offers attractive and competitive prices
48. The website offers attractive discounts

Purchase intention

49. If I were to decide I would buy from this website
50. I would recommend this website

7.2 Appendix 2

Correlations

		Buying frequency	Availability of products	Time savings	Comparing prices	Convenience
Buying frequency	Pearson Correlation	1	,114	,157*	,116	,124
	Sig. (2-tailed)		,101	,023	,096	,073
	N	209	209	209	209	209
Availability of products	Pearson Correlation	,114	1	,168*	,427**	,170*
	Sig. (2-tailed)	,101		,015	,000	,014
	N	209	209	209	209	209
Time savings	Pearson Correlation	,157*	,168*	1	,374**	,357**
	Sig. (2-tailed)	,023	,015		,000	,000
	N	209	209	209	209	209
Comparing prices	Pearson Correlation	,116	,427**	,374**	1	,403**
	Sig. (2-tailed)	,096	,000	,000		,000
	N	209	209	209	209	209
Convenience	Pearson Correlation	,124	,170*	,357**	,403**	1
	Sig. (2-tailed)	,073	,014	,000	,000	
	N	209	209	209	209	209

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

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

Correlation: Buying frequency and online buying benefits

7.3 Appendix 3

Nationality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	American	11	5,3	5,3	5,3
	Australian	2	1,0	1,0	6,2
	Azerbaijani	1	,5	,5	6,7
	Belarus	1	,5	,5	7,2
	Belgian	2	1,0	1,0	8,1
	Belizean	1	,5	,5	8,6
	Brazilian	2	1,0	1,0	9,6
	British	15	7,2	7,2	16,7
	Bulgarian	4	1,9	1,9	18,7
	Cambodian	1	,5	,5	19,1
	Chinese	8	3,8	3,8	23,0
	Cypriot	1	,5	,5	23,4
	Dutch	89	42,6	42,6	66,0
	Ecuadorian	2	1,0	1,0	67,0
	Egyptian	3	1,4	1,4	68,4
	Filipino	1	,5	,5	68,9
	German	30	14,4	14,4	83,3
	Greek	3	1,4	1,4	84,7
	Hungarian	1	,5	,5	85,2
	Indian	6	2,9	2,9	88,0
	Indonesian	4	1,9	1,9	90,0
	Italian	4	1,9	1,9	91,9
	Japanese	1	,5	,5	92,3
	Korean	2	1,0	1,0	93,3
	Pakistani	2	1,0	1,0	94,3
	Polish	1	,5	,5	94,7
	Romanian	2	1,0	1,0	95,7
	Russian	1	,5	,5	96,2
	Scottish	1	,5	,5	96,7
	Slovak	1	,5	,5	97,1
	Spanish	1	,5	,5	97,6
	Srlankan	1	,5	,5	98,1
	Taiwanese	1	,5	,5	98,6
	Vietnamese	3	1,4	1,4	100,0
	Total	209	100,0	100,0	

7.4 Appendix 4

Coefficients[a,b]

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	3,083	,131		23,558	,000
	Usability	,372	,154	,283	2,415	,018
2	(Constant)	3,086	,126		24,545	,000
	Usability	,267	,153	,204	1,744	,086
	Information quality	,374	,146	,300	2,565	,013

a. Dependent Variable: Purchase_Intention

b. Selecting only cases for which IND_Categories = High