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A cross-cultural study of E-commerce - Exploring factors that influence individuals to buy

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New Media and Communication Technology

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Abstract

This is a cross-cultural study that aims to investigate the factors that influence individuals to buy through the Internet or to avoid e-commerce and whether these factors play the same role in different cultures. The original sample consisted of 103 international students from 35 different nationalities studying in the east of The Netherlands. Based on the cultural dimensions of Hofstede, participants were classified as low or high UAI (Uncertainty Avoidance) and as low or high IDV (Individualism - Collectivism). The final sample consisted of 24 low and 28 high UAI participants and 26 low and 24 high IDV participants. The outcome is that 'better prices' is the main factor influencing e-commerce adoption for all cultures. However, there is disagreement regarding to the second most mentioned factor. For low UAI and high IDV is 'availability', whereas for low IDV and high UAI is 'convenience'. Conversely, there is agreement related to factors influencing individuals to avoid e-commerce: worries about privacy/security on the Internet. Moreover, offering privacy guarantees on the Internet is very important for all individuals independent of their cultural values. It is remarkable that cultures adopt e-commerce influenced by different factors but avoid e-commerce influenced by the same kind of factors.

Keywords: E-commerce, Cross-Cultural, Factors

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Foreword

Here I am, writing the last sentences of this master thesis. I am happy feeling that the day in which I will graduate is getting closer and closer. It has been more than one year. The “opdrachten” and this master thesis have made my days very busy since I moved from Brazil to Holland in August 2004. I arrived on a Friday in Holland and the next Monday I started studying at the University of Twente. I had to forget my native language – Portuguese since from that moment on it was only English or Dutch. Those were difficult days… Assignments and exams, so much to read, to study, so many hours. I passed all and I am proud of it. A challenging time that I will remember with a smile. Also a time with funny moments like those when Simon (Danish student) and I spent almost one afternoon copying only two chapters of a book. Well, understanding a machine in which the menu is written in Dutch was not easy. Interesting how simple things can be difficult in a foreign country.

As a said, I am happy, I am finishing my master in Communication Studies. I want to thank all the people who helped me to get there.

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1. Introduction

With the advent of Internet the distance barrier between countries has disappeared. Information can be sent anywhere almost instantaneous and online shopping can be done from everywhere. Electronic commerce has been primarily influenced by Western culture since that is where the majority of web sites *were* developed and users clustered. Consequently, many web pages have a design to appeal to North Americans (Simon, 2001). As a matter of fact, this is a problem for those companies that want to succeed worldwide; it is necessary to considerer the cross-cultural differences. Many companies have failed in differentiating their online operations (Merrilees, 2001).

For instance, the simple translation of a web site into a foreign language may be a disaster. Likewise, ignorance about colour associations may be a problem (Horton, 1993). For example, while the colour white represents purity in the United States, in Japan this colour is associated with death (Chau, Cole, Massey, Weiss & O' Keefe, 2002).

Additionally, beyond the interface factors it is necessary to investigate to what extent other factors influence people to buy, or not, through the Internet. For instance, availability is the main factor positively influencing Internet users in Singapore to buy through the Internet (Teo, 2002). Conversely, this same factor ranked as the least important for Internet users from Malaysia. (Wiszniewski, 2002). It seems that the influencing factors to buy though the Internet differs within cultures.

On the other hand, for people who do not buy through the Internet, privacy, security and fear of using credit cards have been main factors negatively influencing individuals to buy through the Internet (Udo, 2001; Lebo, 2004; Swinyard & Smith, 2003). It seems that individuals avoid Internet purchases influenced by the same sort of factors. However, to what extent?

Therefore, this study aims to answer the following research questions:

What factors influence the individual decision to purchase online?

To what extent do these factors play the same role in different cultures?

In order to develop this study in a cross-cultural perspective, the basic framework used is Hofstede's cultural dimensions (Hofstede, 1984, 2001). He developed five dimensions in order to measure cultural values. These dimensions were derived from an analysis of data collected in more than 50 countries over 100.000 employees from the IBM company. Summarily, these dimensions are defined as following:

Power Distance Index (PDI): It focuses on the degree of equality or inequality between people in the country's society. A High Power Distance ranking indicates that inequalities of power and wealth have been allowed to grow within the society.

Individualism - Collectivism *(IDV)*: It focuses on the degree the society reinforces individual or collective achievement and interpersonal relationships. A

High Individualism ranking indicates that individuality and individual rights are superior within society.

Masculinity – Femininity *(MAS)*: It focuses on the degree that society reinforces, or does not reinforce the traditional masculine work role model of male achievement, control and power. A High Masculinity ranking indicates the country experiences a high degree of gender differentiation.

Uncertainty Avoidance Index (UAI): It focuses on the level of tolerance for uncertainty and ambiguity within society. A High Uncertainty Avoidance ranking indicates the country has a low tolerance for uncertainty and ambiguity. This creates a rule-oriented society with laws, rules, regulations and control in order to reduce the amount of uncertainty.

Long versus Short-Term Orientation (LTO): It focuses on the degree that society embraces long-term devotion to traditional, forward thinking values. High Long-Term Orientation ranking indicates the country has values as respect for tradition and long-term commitments.

Based on the characteristic from each dimension, each country involved in Hofstede's study received a value called index (see Appendix A). For instance, The Netherlands has an Uncertainty Avoidance (UAI) index 53 whereas Brazil has 76, which means that Brazil is less tolerant to uncertainty than The Netherlands. On the other hand, The Netherlands has a much higher index than Brazil according to Individualism - Collectivism (IDV), 80 comparing to 38. It indicates that in The Netherlands individual initiatives are socially encouraged and that Dutch citizens have more individualistic attitudes than Brazilian people (Hofstede, 2001).

Considering that e-commerce is a new way of shopping in which the product cannot be touched, the sales person cannot be personally reached, payments are not in cash and there is no social interaction, it can be said that e-commerce involves high degrees of uncertainty and that it is an individual task. Based on these characteristics of e-commerce, two dimensions from Hofstede are selected to form the basic framework of this study: Uncertainty Avoidance and Individualism - Collectivism.

The results of this study are based on the answers of international students from the University of Twente and the Saxion Universities of Professional Education, both situated in the city of Enschede in the east of The Netherlands.

The findings of this study can be a great contribution to those companies that are operating online worldwide and have already solved the problems with the web interfaces and now need to improve other particular factors, which may change from nationality to nationality, in order to improve the online business and survive in this competitive market.

The next chapter presents a literature review of the factors that influence people to buy through the Internet or to avoid it. Chapter 3 presents the cultural dimensions of Hofstede, previous studies using these dimensions and the hypotheses of the study reported here. Chapter 4 explains the survey design. Chapter 5 describes the results and the final chapter presents the discussion of the conclusions of this research, analysis of the theoretical framework, limitations of this study and recommendations for further research.

2. Factors Determining E-commerce Use

The term e-commerce, as used in this study, is defined as the process of buying, selling or exchanging products, services and information through the Internet (Turban, King, Lee & Viehland, 2004, p. 4). There are four kinds of e-commerce: business-to-business, business-to-consumer, consumer to consumer such as E-buy or government-to-constituent. The focus of this study is on business to consumer e-commerce; which means that consumers are buying goods and services through the Internet. In literature, substitutes are being used instead of e-commerce such as: online shopping, online purchasing, web-shopping, Internet shopping.

The commerce through Internet is a relatively new market and it is not well known why some people adopt it and others avoid it. This literature review aims to answer the following question:

What are the factors that influence people to buy through the Internet?

A set of factors has been classified in previous studies as responsible for influencing people buying through the Internet. In the study reported here, these factors are divided into those that influence individuals positively and those that influence individuals negatively to choose the Internet for their purchases. Nevertheless, before this distinction is made, it is important to underline that one factor has been classified as mandatory for online purchases: Internet experience. Prior experience with the Internet had the strongest influence on the intention to purchase apparel through the Internet (Yoh, Damhorst, Sapp, & Laczniack, 2003). Additionally, the percentage of Internet users who buy online, increases with the time of experience that they have with the Internet (Lebo, 2004). The importance of Internet experience as a predictor of online purchases is addressed in this study, mainly due to the selection of the participants. They were all familiar with computers and the Internet.

Besides the sections that present the factors that influence individuals positively or negatively to choose Internet for their purchases, a final section is dedicated to present cross-cultural studies regarding e-commerce.

2.1 Factors Influencing Online Purchases Positively

Individuals have chosen the Internet for their purchases, influenced by a set of factors like: time savings, better prices, convenience (shopping from home, lack of sales pressure, no need for parking/driving, no checkout lines) and availability (an item is not available in your local area therefore you go online).

Previous studies on these factors have shown that the importance of each may vary. For instance, Teo (2002) found in his study among 1133 Internet users that the main reason why participants were buying through the Internet was because the participants were able to buy items that were not available in the conventional shops in Singapore.

In contrast, availability received the lowest rate from seven factors emerged in the study conducted by Wiszniewski (2002) among 579 Internet users in Malaysia.

On the other hand, it seems that individuals did agree regarding to another factor: better prices. Dutton, di Gennaro and Hargrave (2005) found in a study they conducted among 1309 Internet users in Great Britain that the majority of participants believed that they could find lower prices on the Internet. Similarly, better prices ranked third position as a factor influencing individuals to buy through the Internet in a study conducted by Ahuja, Gupta and Aman (2003) in the USA among 190 students and 75 non–students.

Besides better prices, previous studies have shown that there is an agreement regarding to another factor positively influencing individuals to buy through the Internet: 'time savings'. Buying through the Internet was considered a positive way to save time (Dutton et al., 2005). Likewise, 'time savings' was the second factor influencing positively individuals buying through the Internet (Ahuja et al., 2003).

Convenience is another factor that has positively influenced individuals to buy through the Internet. Convenience is the main reason why people shop online (Ahuja et al., 2003). Eliot (2002) suggested that convenience was the most important factor influencing customers from Dymock (Australian book-selling site), GreenGrocer's (Australian online shop that sells groceries) and from Wineplanet (online shopper that sells wine) to buy products through the website of these companies. Likewise, convenience was the second factor influencing consumers to buy from E-store (Australian online shop that sells computer products). It seems that there is an agreement according to the importance of convenience as a factor influencing positively individuals to buy through the Internet. Nevertheless, the results presented by Elliot were derived from surveys conducted in the website of each company, which means that only people visiting the website could take part in the survey. Consequently, there was no evidence of the validity and generalization of these results but they serve as indicators of Internet shopping behaviour that demand further investigation.

To summarize, literature has shown the importance of time savings, better prices, convenience and availability, however, to different extent. What is important for this study is that these factors do influence individuals to choose the Internet for their purchases. Based on this, two main aspects will be investigated. First, to what extent are these factors mentioned in this section influencing individuals with computer literacy and Internet access to buy through the Internet. Second, the relationship between these factors and the cultural values of participants.

2.2 Factors Influencing Online Purchases Negatively

When studying the relation between cultural values and factors that influence individuals to buy through the Internet, it is important to know what kind of factors are negatively influencing individuals to buy through the Internet. Previous studies have shown that these factors are: concerns about privacy/security, credit card concerns, lack of touching the product, lack of interaction and lack of customer service. This is not a complete list of factors that influence individuals to avoid the Internet for their online purchases, but it is a list of the factors that are relevant for this study.

It appears that concerns about privacy/security on the Internet is the biggest barrier for individuals to buy online. Udo (2001) found that privacy and security concerns were thresholds for online shopping for the majority of the 158 online IT users from a city in the Southeastern USA. Similar results were found by Ahuja et al. (2003). Privacy and security were the main factors that influenced participants not to buy online.

A more historical view can be taken from the studies conducted by Lebo (2001, 2003, 2004). Lebo found that the majority of the 2009 American households that took part in his study in 2004 were concerned about privacy of personal information when buying online. When compared to his annual previous studies, the results showed that in the last three years the percentage of people who expressed some concern about privacy declined from 94.6% in 2001, to 88.8% in 2002 and to 88.2% in 2003. Although the percentage of people who have some concern about privacy on the Internet has decreased (88.2%) it is still a very high percentage.

The concerns about privacy/security on the Internet also include concerns about credit card usage, which has been another relevant factor influencing individuals to avoid the Internet for their purchases. In a study by Udo (2001), concerns about the abuse of credit card and personal information was related to Internet shopping. Further, Swinyard and Smith (2003) found in a study conducted in the United States among 1738 households having an Internet connection at home, that the majority of them did not want to use the credit card number on the Internet. Additionally, almost half of the participants were worried about having the number being stolen on the Internet.

Another relevant aspect related to the use of credit cards, which perhaps is not perceived, is whether people have a credit card or not. People are not able to use a credit card due to the simple fact that they do not have one. Teo (2002) conducted an online survey in Singapore among 1133 Internet users in order to identify factors that influence a consumer's decision to buy online. He found that the second reason for participants not to buy through the Internet was that participants did not have a credit card, mentioned by 416 participants. If people do not have a credit card, all alternatives to diminish concerns about credit card use on the Internet are irrelevant.

In contradiction to Teo (2002), a study conducted by Efendioglu and Yip (2004) in China among 252 Chinese citizens, considered by the authors as "early adopters" of e-commerce, revealed that the majority of participants possessed one credit card and about two-thirds possessed two or more credit cards.

Besides the factors related to privacy/security, there is another set of factors that are influencing individuals to avoid Internet purchases: lack of touching, lack of interaction and lack of customer service. These factors are intrinsically related to the characteristics of e-commerce, which is a new way of shopping. For instance, buying through the Internet means buying a product that cannot be touched. As a consequence, lack of touching the product may be a predictor for individuals to avoid online purchases. Nevertheless, previous studies demonstrated differences in the influence of this factor. For example, it was the main factor influencing Internet users from Singapore not to buy online (Teo, 2002). On the other hand, it had a low score as a factor influencing American individuals not to buy through the Internet (Ahuja et al., 2003). Additionally, people found it more convenient to buy through Internet certain kind of products that do not require touching like home electronics hardware instead of buying clothes (Bhatnagar, Misra & Rao, 2000).

Lack of interaction appears to be another factor that influences individuals to avoid online purchases. It can be explained due to the differences between traditional and virtual shops. Buying in a traditional shop includes the contact with a sales person, unless the customer does not want it. Additionally, many times people go to shops with friends, family or their partner. Overall, shopping may be seen as a social event. On the other hand, buying through the Internet is a lonely action, without any social contact and many people may feel uncomfortable with this lack of interaction. Ahuja et al. (2003) found that lack of interaction scored as

the third factor influencing people not to buying online. On the other hand, Dutton et al. (2005) investigated the influence of the same factor and did not reach a conclusion for there was a disagreement among the participants. It is not clear to what extent this is a relevant factor for predicting the avoidance of online shopping.

Another related factor that may influence individuals negatively to buy through the Internet is the lack of customer service. Services that are usually available in traditional shops do not exist in the same proportion in the virtual world. For instance, the possibility to communicate with someone face-to-face when a problem occurs during the transaction or later after receiving the product is not possible in the virtual world. Besides, whether the customer has questions about the product, it is not easy to obtain this kind of information in virtual shops, at least not personally and immediately like in traditional shops. Ahuja et al. (2003) found that lack of customer service was the second factor influencing people in the USA not to buy through the Internet. Similarly, questions about the return of a product could be a barrier to greater use the Internet for shopping (Dutton et al., 2005). On the other hand, Dutton et al. concluded that participants considered it easy to order products from a web site and that Internet shopping is not more difficult than traditional shopping. It seems that lack of customer service is not necessarily a factor negatively influencing individuals to buy through the Internet.

As can be seen, concerns about privacy/security and credit card usage, lack of touching, lack of interaction and lack of customer service are factors that have negatively influenced individuals to buy through the Internet. However, it is not yet evident to what extent these factors influence individuals. Based on this, two main aspects will investigated in the study reported here. First, the relative importance of these factors for individuals with computer literacy and Internet access. Second, the relationship between these factors and the cultural values of participants.

Besides the factors that influence individuals negatively to buy through the Internet, previous studies have investigated solutions in order to diminish the influence of these factors. Van Dijk (2002) affirms that offering privacy guarantees on the Internet will become one of the most important quality standards of services in networks. In a study by Udo (2001), the majority of participants revealed that if privacy and security would be assured on the Internet, they would certainly buy through the Internet. Similarly, Lebo (2004) found that guarantee of privacy and security in the Internet was the best method to reduce concern about using credit card online followed by better technology and new laws/regulations.

The results of these studies presented in this section showed that guarantee of privacy and security on the Internet were important issues that should be considered in order to diminish the worries of online purchases. These issues will be investigated in the study reported here in order to identify the relevance of them in a cross-cultural perspective and the relation between these issues and the cultural values of participants.

2.3 Cross-cultural Studies

This section presents the findings of relevant previous studies related to e-commerce, conducted in a cross-cultural perspective. For instance, a study by Lowe (no date) investigated whether 114 Australian and 122 Chinese students from Hong Kong had differences in values and their effects on responses to marketing stimuli. Regarding to the analysis of values, among the factors found by Lowe there is one

that is relevant for this study. Tradition is more important for Chinese than for Australians. Hence, it may indicate a lower rate of adoption of e-commerce by Chinese people compared to Australians. This would be a consequence of the nature of e-commerce, which is an innovator process. It completely changes the way people buy goods or services. Regarding to the marketing variables analysed by Lowe between Australians and Chinese two conclusions are relevant for the study reported here. Chinese people, when purchasing products for own use, were more likely to shop around for the cheapest than the Australians; which means that price was very important for Chinese people. Australians showed a higher preference to deal with salespersons that they have dealt with before rather than with someone unknown. It may be a problem in e-commerce since there is no salesperson. It is an individual task.

Comparable results, regarding to difference in values between cultures, have been found in a study by Lightner, Yenisey, Osok and Salvendy (2002). They investigated the aspects of a web site that will possible influence consumers to purchase online. Besides, they identified whether cultural differences exist in the preferences of consumers for web site design. In this study, 303 Turkish and 64 American students answered a questionnaire. The results indicated that Turkish and Americans had similar concerns; however, for Turkish students some issues were much more important than for Americans. Regarding to e-commerce, the main differences between these two groups were: Turkish students were more concerned with Internet security, more interested in the speed of retrieving information and price comparison and perceived accuracy, than for Americans. On the other hand, the same study showed that individuals that did not shop online (or shopped very little) indicated that security was the main factor that made them avoid e-commerce, independently of their cultural values. Although the study of Lightner et al. brings an insight of the differences of values between cultures, there are a number of small, but important, weaknesses. For instance, there should have been a similar number of Turkish and American participants. Additionally, the method used by the researchers is contestable. Instead of applying the same questionnaire for the two communities, the authors conducted what they called “similar surveys” and compared the results.

Differences in values may also influence the purpose of Internet use. In a study conducted among 119 students from the USA and 150 from Hong Kong, Chau et al. (2002) found that there were significant differences between these groups. Participants from the USA reported more use of the Internet for the search of information and e-commerce whereas subjects in Hong Kong used the Internet for social communication and hobby activities. The authors pointed out that the differences in the results could be due to differences in diffusion or development of e-commerce in different places. Nevertheless, this difference of behaviour could be explained through the different cultural values that these two distinct societies have.

These studies indicated that values appear to differ among cultures. In the study reported here, the conclusions from Lowe (no date), Lightner et al. (2002) and Chau et al. (2002) will be tested in a cross-cultural perspective. Nevertheless, some modifications will be introduced. For instance, regarding to Lightner et al., the study reported here will use the same instrument for all participants. Additionally, differences in the number of participants will be taken into account. Regarding to Chau et al., the study reported here will test their assumptions and, additionally, to study the relationship between propose of Internet usage and frequency of online purchases.

In order to develop a cross-cultural study, three main questions still have to be answered: What are values? What is culture? How culture can be measured? The answers of these questions will be addressed in the next chapter that presents the base framework of this study: Hofstede cultural dimensions.

3. Culture

3.1 Concept of Culture

Developing a cross-cultural study demands a clear comprehension of the concept of culture and all special issues related to this specific kind of research.

Cultural has been described in different ways by many authors. Hofstede (1984) defined culture as:

"*The collective programming of the mind which distinguishes the member of one human group from another. Culture, in this sense, includes system of values. And values are among the building blocks of culture*" (p. 21).

Trompenaars and Hampden-Turner (1998) divided culture into two layers. The external one shows the explicit culture like art, music and language among others and the core layer expresses the norms and values of and individual group.

Hofstede has also divided culture into different levels of depth: symbols, heroes, rituals and values. It is represented in an onion diagram (fig. 3.1) in which "symbols" is the most superficial level and "values" is the most important (Hofstede, 2001, p. 11).

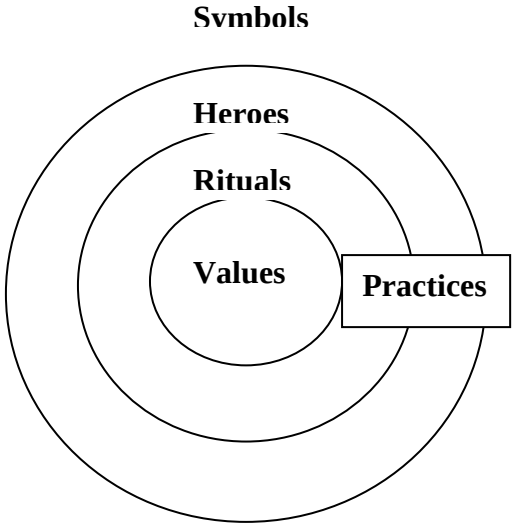

Fig 3.1 The "Onion Diagram": Manifestations of Culture at Different Levels of Depth

Value is a central component of culture defined by Hofstede as *"a broad tendency to prefer certain states of affairs over others"* (1984, p.18).

3.2 Dimensions of Cultural Values

In order to measure the values of a culture and compare them, Hofstede developed five different dimensions that classify countries according to: Power Distance, Uncertainty Avoidance, Individualism-Collectivism, Masculinity-Femininity and Long versus Short-Term Orientation. These dimensions derived from a survey conducted among employees at IBM worldwide. The data were collected between 1967 and 1973. Approximately 117.000 employees from 66 countries answered a questionnaire. The instrument was translated into 20 languages. Hofstede created these five dimensions based on a factor analyses. The classification of the countries in the five different dimensions was done using a formula that calculates an index for each dimension. The five dimensions are characterized below.

3.2.1 Power Distance (PDI)

Power distance is based on one main issue: human inequality. It is expressed in different levels in each society and it can occur in different areas like prestige, wealth, and power. In organizations this inequality occurs between boss and employee in a hierarchical relationship.

Power distance is defined by Hofstede (1984, p. 72) as:

"*The power distance between a boss B and a subordinate S in a hierarchy is the difference between the extent to which B can determine the behaviour of S and the extent to which S can determine the behaviour of B*."

In order to investigate the difference between countries in power distance Hofstede introduced three questions in his questionnaire. The answers were used to calculate an index for each country. The main question was "How frequently in your experience does the following problem occur: employees being afraid to express disagreement with their managers?". The other two were respectively: "subordinate's perceptions that their boss tends to take decisions in an autocratic (1) or persuasive/paternalistic (2) way" and "subordinates/s preferences for anything but a consultative (3) style of decision-making in their boss: that is for and autocratic (1), a persuasive/paternalistic (2) or a democratic (4)style.

The results show a large difference in indexes between countries. The five highest and lowest indexes belong to the following countries, as can be seen at the table 3.1.

Table 3.1
*Country Power Distance Index**

High PDI	Low PDI
Malaysia (104)	Austria (11)
Guatemala (95)	Israel (13)
Panama (95)	Denmark (18)
Philippines (94)	New Zealand (22)
Mexico (81)	Ireland (28)

*Hofstede, 2001, p. 87.

There are clear distinctions between countries with a high and low Power Distance index that can be seen in the examples below (Hofstede, 1984, p. 92).

However, it is important to have in mind while reading this characteristics, that they do not apply to all countries, that individuals within countries vary from societal norms[1] and countries maybe anywhere in between these two extreme points: high and low index. These observations are also valid for the examples of the other four dimensions of Hofstede.

High Power Distance Index:

- Parents put high value on children's obedience;
- Managers are seen as making decisions autocratically and paternalistically;
- Students put high value on conformity;
- Employees fear to disagree with their boss;
- Higher and low-educated employees show similar values about authority.

Low Power Distance Index:

- Parents put less value on children's obedience;
- Managers are seen as making decisions after consulting with subordinates;
- Employees less afraid of disagreeing with their boss;
- Employees show more cooperativeness;
- Higher-educated employees hold much less authoritarian values than lower-educated ones.

3.2.2 Uncertainty Avoidance (UAI)

This dimension is based on the extent in which members of a culture feel threatened by uncertain or unknown situations. Societies deal with uncertainty in different ways and institutions like family, school and the state, transfer and reinforce these ways of coping.

In order to measure the level of Uncertainty Avoidance in the country, Hofstede included three questions in his questionnaire. They were related to the following aspects: stress, need for fixed company rules and need for employment stability. The score of the countries in the questions related to these themes were used to form the Uncertainty Avoidance Index (Hofstede, 1984, p. 56).

There was a wide range of variety of UAI among countries, between 8 and 112. The top five of each one is demonstrated in the table below.

Table 3.2
*Country Uncertainty Avoidance Index**

High UAI	Low UAI
Greece (112)	Singapore (8)
Portugal (104)	Jamaica (13)
Guatemala (101)	Denmark (23)
Uruguay (100)	Sweden (29)
Belgium (94)	Hong Kong (29)

*Hofstede, 2001, p. 151.

[1] The societal norm is meant to be a value system shared by a majority in the middle classes of a society (Hofstede, 1984, p. 93).

Differences between the values of countries with low and high Uncertainty Avoidance are presented below (Hofstede, 1984, p. 132-133).

Countries with Low UAI:

- Less emotional resistance to change;
- More risk-taking;
- Loyalty to employer is not seen as a virtue;
- Rules maybe broken for pragmatic reasons;
- Higher tolerance for ambiguity in perceiving others.

Countries with High UAI:

- More worry about the future;
- Tendency to stay with the same employer;
- Preference for clear requirements and instructions;
- Fewer people prepared to live abroad;
- Pessimism about people's amount of initiative, ambition, and leadership skills.

3.2.3 Individualism - Collectivism (IDV)

Individualism is the third dimension of national culture. It is related to the relationship between individuals and the collectivity in a society. It reflects the way people live together linked to societal norms expressed by the values of the population. The differences between countries can be easy identified. The citizens in the United States of America see their culture as very individualistic and they consider this factor as a major contribution to the greatness of their country (Hofstede, 1984, pg 150). On the other hand in a country like China, individualism is seen as expression of selfish behaviour and aversion to discipline.

In order to measure this dimension, Hofstede included 14 questions in his survey about the following subjects: challenge, desirable area, earning, cooperation, training, benefits, recognition, physical conditions, freedom, employment security, advancement, manager, use of skills and personal time.

The top five countries with the highest and lowest IDV are demonstrated at table 3.3.

Table 3.3
*Country Individualism Index**

High IDV	Low IDV
U.S.A (91)	Guatemala (6)
Australia (90)	Ecuador (8)
Great Britain (89)	Panama (11)
Canada (80)	Venezuela (12)
The Netherlands (80)	Colombia (13)

*Hofstede, 2001, p. 215.

Examples of the differences between values of countries with low and high IDV are presented below (Hofstede, 1984, p. 166).

Low IDV Countries

- Emotional dependence on the company;
- More involvement with company;
- Group decisions are considered better than individual decisions;
- Social relations predetermined in terms of groups;
- More years of school needed to do a given job.

High IDV Countries

- Emotional independence from the company;
- Managers endorse "modern" point of view on stimulating employee initiative and group activity;
- Individual decisions are considered better than group decisions;
- Fewer years of school needed to do a given job;
- Managers rate having autonomy more important.

3.2.4 Masculinity – Femininity (MAS)

The main issue in this dimension is whether the biological differences between sexes should or should not have an influence on the roles of men and women in social activities.

Hofstede (1984, p.190) refers to "masculinity' and "femininity" as the dominant sex role pattern in the vast majority of modern and traditional societies in which the men are more assertive and the women are more nurturing.

The MAS Index reflects the extent into which respondents in a country tend to have working goals that are more popular among men (high MAS) or more related to women (low MAS).

The calculation of the MAS Index was done, based on the score of answers of 14 "work goals" questions, like for example: 'How important is it to you to have an opportunity for high earnings?' or 'How important is it to you to fully use your skills and abilities on the job?' These questions served also as the base for the calculation of the Individualism Index.

The table below presents the top five countries with the highest and lowest MAS Index.

Table 3.4
*Country Masculinity Index**

High MAS	Low MAS
Japan (95)	Sweden (5)
Austria (79)	Norway (8)
Venezuela (73)	The Netherlands (14)
Italy (70)	Denmark (26)
Switzerland (70)	Costa Rica (21)

*Hofstede, 2001, p. 286.

Differences between the values of countries with low and high Masculinity Index are presented below (Hofstede, 1984, p. 200-201).

Low MAS Countries

- Managers relatively less interested in leadership, independence and self-realization;
- Weaker achievement motivation;
- Students more benevolent;
- Smaller or no value differences between men and women in the same jobs;
- Students less interested in recognition.

High MAS countries:

- Managers have leadership, independence, and self-realization ideal;
- Stronger achievement motivation;
- Students less benevolent;
- Greater value differences between men and women in the same jobs;
- Students aspire for recognition.

3.2.5 Long versus Short-Term Orientation (LTO)

The fifth dimension of national culture is based on issues like persistence, thrift to personal stability and respect for tradition. This dimension is a result of a survey conducted in 1985 in 23 countries. The instrument was developed by Michael Harris Bond, in Hong Kong, based on values suggested by Chinese scholars (Hofstede, 2001, p. 351).

This dimension was not found in the IBM research. According to Hofstede, it happened probably due to the fact that the questionnaire for IBM was composed by Western minds that included Western values. On the other hand, the Chinese Value Survey (CVS) was designed using values suggested by Eastern minds (Hofstede, 2001, p. 354). For Long-Term Orientation the values are: persistence, ordering relationship by status and observing this order, thrift and having a sense of shame. Differently, for Short-Term Orientation the values are: personal steadiness and stability, protecting your "face", respect for tradition and reciprocation of greetings, favours and gifts.

The top five countries with a high and low LTO are respectively:

Table 3.5
Country Long-Term Orientation Index Values

High LTO	Low LTO
China (118)	Pakistan (0)
Hong Kong (96)	Nigeria (16)
Taiwan (87)	Philippines (19)
Japan (80)	Canada (23)
South Korea (75)	Zimbabwe (25)

* Hofstede, 2001, p. 356.

Differences between the values of countries with low and high LTO are presented below (Hofstede, 2001, p. 360).

Low LTO

- Quick results expected;
- Shame is not a common feeling
- Leisure time important;
- Respect for traditions;
- Reciprocation of greetings, favours and gifts.

High LTO

- Persistence, perseverance;
- Adaptation of traditions to new circumstances;
- Leisure time is not important;
- Students consider persistence an important personality trait;
- Most important events in life will occur in future.

All countries that took part in Hofstede survey received different index for each dimension (See Appendix A).

3.3 Using the Dimensions in Cross-cultural Studies

The dimensions of Hofstede have been used in previous cross-cultural studies related to the web and the Internet. These studies are presented in this section and serve as a support for the decision of taking the Hofstede's framework as the basis for the study reported here. Interesting is that the studies mentioned in this section show how different cultures do behave differently according to the same subject.

For instance, Muthitacharoen and Palvia (2002) made a comparison between 90 Thai and 89 Americans. The dimensions used in the study were: power distance, individualism and uncertainty avoidance. They wanted to find differences among consumer preferences and behaviours toward Internet stores. Another variable investigated which is relevant for this study is credit card possession. The results show that Americans preferred online shopping more than Thai. However, Americans and Thai admitted that shopping in conventional stores provides higher quality and higher shopping excitement. Regarding to the issue of credit card use, both countries expressed that conventional shopping provides better security of their credit card information. Nevertheless, Muthitacharoen and Palvia found that 87,64% of the Americans had at least one credit card whereas the 72,22% of Thai participants did not. As a matter of fact, a credit card is the major way to do transactions on the Internet (Turban et al., 2000) and if individuals do not have a credit card it may become the main factor why they do not shop online. The conclusion of this study demands further research in order to find out credit card possession worldwide. This issue will be addressed in the study reported in a cross-cultural perspective in order to analyse whether there is a relation between possession of credit card and e-commerce adoption. The study by Muthitacharoen & Palvia (2002) also brought an insight about differences between Thai and Americans according to the factors that may have influenced participants to buy through the internet or not. For instance, Americans perceived the convenience of Internet shops. In contrast, Thais considered traditional shops easier to access than virtual ones. It shows how two different cultures behave differently according to the same subject. In addition, Americans did not find much difference of prices between traditional and virtual shops. In contradiction, Thai participants reported

that they can get lower prices in traditional shops. These issues will be addressed in the study reported here (see section 2.2). As a conclusion of the study, Thai participants bought through the Internet much less than Americans do. As a matter of fact, Thailand has a high Uncertainty Avoidance index and it is a collectivist society. It seems that these two dimensions predict the frequency in which individuals buy trough the Internet. The relationship between these two dimensions and frequency of online purchases will be investigated in the study reported here.

Comparable results have been found in a study by Kacen and Lee (2002). They investigated the influence of culture on consumer impulsive buying behaviour. The sample included 706 students and non-students from Australia, United States, Hong Kong and Malaysia. The results indicated that impulsive buying behaviour differs according to the culture. For instance, people from collectivistic countries reported less tendency to make purchases by impulse than people from individualist countries. It happens because individuals from collectivistic countries suppress their impulse to buy by acting in a way that is consistent with the cultural norms.

The importance of taking the value of a culture into account were also confirmed in the study conducted by Zhang and Gelb (1996). For their experiment, they created different advertisements about the same product, a photo camera, for different cultures based on the values of each one. For Americans, who are more individualistic, the advertisement had a formal appeal and for the Chinese, who are more into family, more collectivistic, it had an appeal that took this value in account. Both slogans were respectively: “Come and indulge in the joy of self-expression” and “Share the moments of happiness with your family and friends”. The American and Chinese participants took part in the study and as a result the Chinese identify themselves with the version that was made for them and the Americans liked more the one that contain the self-expression appeal. As a conclusion, this study reinforces the statement that the values of a culture should be taking into account when there is the proposal of dealing with different cultures.

As a result, these previous studies have shown the difference of values between cultures and confirmed the importance of taking the cultural background into account when considering dealing with individuals from different cultures. The next section presents which dimensions were used in this study and the set of hypotheses that were tested.

3.4 Hypotheses

Uncertainty Avoidance (UAI) and Individualism-Collectivism (IDV) dimensions have been chosen for this study because of their intrinsic characteristics and its connection with e-commerce.

For instance, countries with high UAI have a more emotional resistance to change (Hofstede,1984, p.132). As a result, they may avoid buying through the Internet because e-commerce has introduced a complete new way to buy products and services in which many of the facilities presented in traditional shops are not available anymore. In this new environment, virtual shops, there is no interaction with the sales person, it is not possible to touch the product before buying it and cash payment does not exist, among other aspects. The lack of such facilities in the virtual environment introduces certain uncertainties about the shopping process. In addition, countries with high UAI are less-risk taking (Hofstede, 1984, p. 132). As a matter of fact, buying through the Internet offers higher risk because it is not possible to pay cash and usually there is no guarantee of security. Moreover,

countries with high UAI present preference for clear requirements and instructions (Hofstede, 1984, p.132), which is not easily available in the virtual environment. In the traditional shop the sales person can help in case clear information is required. However, in the virtual environment the user has to be satisfied with the information presented in the web page that is not always complete or clear. As a result, it is expected that individuals with a high UAI index tend to avoid buying through the Internet.

Therefore, the following hypothesis is presented:

H1: *Individuals with high UAI buy less through the Internet than individuals with low UAI.*

Individualism- Collectivism (IDV) is the second cultural dimension used in this study. Two main connotations, found as a result of this dimension, may help in the study of e-commerce. Countries with a low IDV have a more traditional time use pattern, and individual initiative is socially not encouraged. Thus, due to the nature of e-commerce, which is an individual activity and is not a traditional way of shopping, it may reflect on the adoption rate of Internet shopping in countries with a low IDV. On the other hand, countries with high IDV have a more modern time use pattern and individualistic initiative is socially encouraged (Hofstede, 1984, p. 166-167).

Therefore, the following hypothesis is presented:

H2: *Individuals with high IDV buy more through the Internet than individuals with low IDV.*

The two previous hypotheses stated for each dimension whether the individuals with low or high indexes (UAI, IDV) buy more through the Internet.

Therefore, the following hypothesis is presented:

H3: *Individuals with high IDV and low UAI buy more through the Internet than individuals with low IDV and high UAI.*

Considering the previous studies presented in the chapter 2, that indicated a relation between Internet experience and the rate of Internet shopping adoption, the following hypothesis is presented:

H4*:* *Individuals who spend more hours on the Internet, buy more through the Internet.*

Another relevant characteristic of the countries with high UAI is that achievement is defined in terms of security. It may have an impact on Internet shopping adoption because of two factors. First, based on the literature review, worries about security is one of the main factors influencing people not to buy through the Internet. Second, Internet shopping still needs better regulations and systems to protect its buyers (McKnight, Choudhury & Kacmar, 2002).

Therefore, the following hypotheses are presented:

H5: *Lack of security is a factor that influences more individuals with High Uncertainty Avoidance Index than individuals with Low Uncertainty Avoidance Index not to buy through the Internet.*

H6*: Information about how secure a specific site is, is more important for individuals with high UAI than for individuals with low UAI.*

H7: Offering privacy guarantees in the Internet is more important for individuals with high UAI than individuals with low UAI.

Individuals from countries that have a high UAI index are less risk-taking, have a fear of failure, have a preference for clear instructions, have a tendency to stay with the same employee, among others (Hofstede, 1984, p. 132). Based on this, it could be expected that individuals from this countries would be more willing to buy through the Internet if they would know the online shop, for example.

Therefore, the following hypothesis is presented:

H8: Individuals with high UAI are more willing to use the credit card on their Internet purchases when special conditions are offered than individuals with low UAI.

The next chapter presents the design of this study in which these hypotheses will be tested.

4. Method

This chapter explains the design of the study in three main parts. The first one specifies the participants. The second part presents the instrument used in this study. Finally, the information about the collection and analysis of data are presented.

4.1 Participants

Considering the studies mentioned in the chapter on literature review, which concluded that prior experience with the Internet has the strongest influence on intention to buy through the Internet, this study was conducted with individuals that are familiar with computers and have experience with Internet.

The sampling of this research was based on "convenience sampling", which means that the participants were selected due to the easy accessibility and/or availability (Schonlau, Fricker Jr. & Elliott, 2002). The University of Twente has many foreign students, which made it much easier to ask them to participate in the study since it was not possible to invite citizens worldwide living in their home country, mainly due to the lack of budget.

All international students registered at the University of Twente between 09-01-2002 and 08-31-2005 (n=1024) were invited via e-mail to participate in the study. Unfortunately, due to the change of e-mails addresses by the students, many invitations were returned to the sender. Nevertheless, about 500 international students did receive the message. Additionally, 150 international students from the Saxion Universities of Professional Education in Enschede were invited to take part in this study, via their e-mail account. In total, 126 international students filled in the questionnaire of the study reported here.

Selecting participants for a cross-cultural study must take the sub-cultural aspects into account (Hofstede, 1984). International students may not represent the citizens of their country because of the fact that they are studying abroad might differentiate them from their fellow country men/women. However, this is not a constraint because all these international students belong to the same sub-culture. They are probably open-minded, receptive and like to face challenges. Furthermore, they were not living in their home country and they moved (temporally) to an unknown country, The Netherlands.

Nevertheless, due to the fact that these students are not currently living in their home country and perhaps they have already received influence of the Dutch culture, I assessed in my research the respondent's scores on Hofstede's dimensions IDV and UAI instead of using the country scores.

4.2 Questionnaire

The instrument used in this study consisted of two parts. The first part consisted of 24 questions. From this number, seventeen were designated to measure the two Hofstede dimensions involved in this study. The other 7 were demographic questions. The second part, consisted of twenty-one questions related

to Internet usage, online shopping, privacy, security and credit card usage (see Appendix B).

The questionnaire was created in an online version using "Survey Monkey" as a tool and participants answered the questions mainly through the selection of radio buttons.

Cultural dimensions were measured using questions copied from the original version used by Hofstede in his studies (see Appendix C). However one significant change was introduced. The original instrument that was developed for a business environment did not fit with the university environment. For this reason, all the questions relevant for this study were adapted from the business to the university environment. For instance, the original question from Hofstede*: "Have a good working relationship with your manager"* was modified into "*Have a good relationship with your teacher"*. Each dimension from Hofstede was measured through a set of specific questions of his questionnaire. Uncertainty Avoidance was measured through 3 questions and Individualism-Collectivism dimension was measured through the addition of 14 specific questions.

In order to measure the Internet usage, the questions used in this study were derived from an online survey conducted by Georgia Institute of Technology's Graphics, Visualization, and Usability Centre and endorsed by the World Wide Web Consortium (W3C). The survey had many sections and for the purpose of this study the following sections were selected:

- Purchasing on the Internet questionnaire (Mathwick, 1998);
- Web and Internet usage questionnaire (Schlosser & Pirolli, 1998);
- Online privacy and security questionnaire (Schneck, 1998);
- Finding product information and purchasing questionnaire (Riggins, Rhee & Gupta, 1998).

Furthermore, three questions included in the questionnaire were derived from an instrument used by Ahuja & et al. (2003). Two of them were related to the factors that influence people to buy or not through the Internet and one question was about the kind of products that people buy.

Questions were mainly "closed" which classified the research as quantitative (Padua, 2004). Nevertheless, in some questions there was the possibility to fill out other answers than those suggested. This option was introduced in some questions in order to get personal and spontaneous answers from participants. There were also questions using 7-point scales and 5-point scales.

Before the questionnaire was available for participants, it was pre-tested in two steps. First, it was tested with three people. Based on their feedback, the order of the questions was changed. In addition, based on some comments about the lack of comprehension, a few words were changed.

The second step, consisted of pre-testing the questionnaire with five international students. These students were asked to think aloud while filling out the questionnaire. Moreover, after answering the questionnaire they were asked to evaluate the clarity of the instrument. The pre-test was also an opportunity to measure the time that participants took to fill out the questionnaire.

Based on the feedback from these students, some adjustments had to be introduced in the final version of the questionnaire. The main change implemented after this pre-test was to offer the alternative to skip questions. Initially, participants had to answer all the questions in a page before they could access the next page. However, this proved to be a problem because some participants did not understand a question or an English word and they did not have the opportunity to skip. Based on this fact, almost all questions were made non compulsory.

4.3 Collection and Analysis of Data

The collection of data was done through the Internet. Participants received via e-mail an invitation to take part in the survey. In this message there was a link to the questionnaire. The data were collected between June 14th and July 29th 2005.

The statistical analysis of data was mainly done using the technique Independent Samples T-Test. Nevertheless, when another technique was used, it was indicated.

Based on previous studies that have shown one direction for the majority of the hypotheses, all the statistical tests were one-sided. Additionally, differences between the groups were tested based on the level of α=0.05.

The results of the analysis of data are presented in the next chapter.

5. Results

This chapter describes the results of the study in three parts. The first part introduces the demographic data of the participants and relevant information about their Internet access. The second part presents information about the cultural background of participants and classifies them according to UAI (Uncertainty Avoidance Index) and IDV (Individualism - Collectivism Index). The third part tests the eight hypotheses from this study in order to obtain an understanding about the relation between e-commerce and cultural background.

5.1 Participants

From the 126 respondents that answered the questionnaire, 23 were excluded because they did not answer the questionnaire completely. Many of these participants answered only the demographic questions.

The final sample had 103 participants of 35 nationalities (see table 5.1). They consisted of 55 females and 46 male plus two participants that did not answer this question. The majority of the participants (70.6%) were between 21-30 years old. According to the level of education, almost fifty percent of the participants were studying at a master level. Only 4.9% of the participants were native speakers of English. The fact that the majority of the participants were not native English speakers could have been a problem, but this was not the case for participants had the opportunity to skip a question when there was a lack of comprehension. The results show that participants did skip questions, as it is specified in every table presented in this chapter. About one third of the participants were living in The Netherlands for a period over two years. Almost all participants, 97.1% have a computer in the Netherlands and 92% have a fast Internet connection. It means that almost all participants had the basic conditions to buy through the Internet.

5.2 Cultural Values

Hofstede calculated an index for the five dimensions for every country that took part in his survey. These indexes were not used in this survey for four reasons. First, the amount of people representing each country was very low, some countries were represented only by one participant. It means that the index of the country calculated by Hofstede could not be applied to a few representatives of this country. Second, the present survey had participants from 4 countries that did not participate in the Hofstede survey, which means that there were no indexes from Hofstede that could have served as base for this study. Third, for some countries Hofstede did not calculate an index but only an estimated value. The present survey had participants from 4 countries with estimated values, as can be seen in table 5.1. This does not lead to a precise analysis. Fourth, some countries have a region index calculated by Hofstede instead of having their own index (see Appendix A). It makes the country index less precise.

Based on these considerations, the indexes were calculated individually for each participant for the two dimensions considered in this study: Uncertainty Avoidance (UAI) and Individualism – Collectivism (IDV).

5.2.1 Uncertainty Avoidance (UAI)

The UAI index was calculated based on the answers of the three questions of Hofstede that measure this dimension:

- *How often do you feel nervous or tense at university? (q22)*
- *University rules should not be broken – even when the student thinks it is in the university's best interests. (q23)*
- *How long do you think you will continue studying or working in this professional field? (q24)*

The classification of the participants into low or high UAI was done using the median split, which consisted of the following calculation. Considering 102 participants (one participant that did not answer all the three questions was excluded), the overall mean for the three questions was M=2.85 and the overall standard deviation was SD=0.58. The overall SD=0.58 was divided by two, resulting in SD/2=0.29. This value was added to and diminished from the overall mean (M=2.85) resulting, respectively, in 3.14 and 2.56. All participants who had their own overall mean [(q22+q23+q24)/3) between these two values were excluded from the sample. Those who had an overall mean above 3.14 were classified as high UAI and those who had an overall mean lower than 2.56 were classified as low UAI. From the 102 participants, 24 were considered low UAI and 28 high UAI.

5.2.2 Individualism – Collectivism (IDV)

In order to calculate whether participants classified as individuals with low or high IDV the results of the following six questions adapted from Hofstede questionnaire were fundamental:

- *Have good physical studying conditions (good ventilation and lighting, adequate work space, etc.)? (physical conditions) (q8)*
- *Have the opportunity to take other courses, apart from your regular program? (Training) (q13)*
- *Fully use your skills and abilities on the course? (Use of skills) (q20)*
- *Have challenging tasks to do, from which you can get a personal sense of accomplishment? (Challenge) (q9)*
- *Have considerable freedom to adopt your own approach to the studies? (Freedom) (q16)*

- *Have sufficient time left for your personal or family life? (Personal time) (q21)*

Participants answered these questions by choosing among one of the following alternatives:

- of utmost importance to me (1)
- very important (2)
- of moderate importance (3)
- of little importance (4)
- of very little or no importance (5)

Due to the fact that questions 9,16,21 have a positive correlation coefficient and questions 8,13 and 20 have a negative correlation coefficient (Hofstede, 1984, p. 156), it was necessary to introduce a reverse scale for question 9,16, and 21 in order to properly calculate the mean of these six questions. Considering the 102 participants that answered these six questions (one participant that did not answer all the six questions was excluded), the overall mean and overall standard deviation of the six questions were respectively M=3.08 and SD=0.27. The same procedure used to calculate UAI was used for IDV, which resulted in two values: 2.94 and 3.22. All participants who had their own overall mean between these two values were excluded from the sample. Those who had an overall mean above 3.22 were classified as high IDV and those who had an overall mean lower than 2.94 were classified as low IDV. From the 102 participants, 26 were considered low IDV and 24 high IDV.

5.2.3 National Indexes x Individual Indexes

Table 5.1 shows the indexes for UAI and IDV for the countries that participated in this study (four participants who had a current nationality different from birth nationality are not included in this table) and for those countries that took part in the Hofstede study. He calculated a numeric value for each dimension that varies from 8 to 112 for UAI (Hofstede, 2001, p. 151) and from 6 to 91 for IDV (Hofstede, 2001, p. 215). The means of these values were respectively M=65 for UAI and M=43 for IDV. Instead of a value, the indexes from Hofstede in the study reported here were presented as low or high. This new classification is based on the UAI and IDV indexes (see Appendix A). All countries that had an UAI index higher than 65 and an IDV higher than 43 were classified as H (high). Conversely, all countries that had an UAI index lower that 65 and an IDV index lower that 43 were classified as L (low).

Table 5.1
IDV and UAI Indexes (n=99)

	# of	IDV			IDV	UAI			UAI
	Participants	L	N	H	Hofstede	L	N	H	Hofstede
Armenia	1	-	1	-	N/A	-	-	1	N/A
Belgium	1	-	-	1	H	-	1	-	H
Brazil	4	2	2	-	L	1	2	1	H
Bulgaria	2	-	1	1	L*	-	2	-	H*
China	11	4	3	4	L*	3	3	5	L*
Colombia	3	1	2	-	L	1	1	1	H
Croatia	1	1	-	-	N/A	-	1	-	N/A
Denmark	2	-	1	1	H	1	1	-	L
The Netherlands	7	-	6	1	H	-	7	-	L
Eritrea	1	1	-	-	L	-	1	-	L
Ethiopia	1	-	-	1	L	-	1	-	L
Philippines	1	1	-	-	L	-	-	1	L
Finland	1	-	1	-	H	-	1	-	L
Germany	22	5	13	4	H	11	8	3	L/H**
Greece	1	-	1	-	L	-	1	-	H
India	5	1	4	-	H	-	3	2	L
Indonesia	5	2	2	1	L	-	4	1	L
Ireland	1	1	-	-	H	-	1	-	L
Italy	1	-	-	1	H	-	-	1	H
Japan	2	-	1	1	H	-	1	1	H
Kuwait	2	-	1	1	L	-	-	2	H
Libya	2	1	1	-	L	-	1	1	H
Nigeria	1	-	1	-	L	1	-	-	L
Peru	1	-	1	-	L	-	1	-	H
Portugal	2	-	1	1	L	1	1	-	H
Romania	2	-	1	1	L*	-	2	-	H*
South Africa	3	1	2	-	H	1	2	-	L
Spain	6	3	1	2	H	2	1	3	H
Sweden	1	-	-	1	H	-	1	-	L
Tanzania	1	1	-	-	L	-	1	-	L
Turkey	1	-	1	-	L	-	-	1	H
Uganda	1	-	1	-	N/A	-	1	-	N/A
Ukraine	1	-	1	-	N/A	-	-	1	N/A
Venezuela	2	-	1	1	L	1	-	1	H
Vietnam	2	1	1	-	L*	-	2	-	L*

Index Scores for countries and regions from the IBM Set (Hofstede, 2001, p. 500)
*Index score estimates for countries not in the IBM set (Hofstede, 2001, p. 502)
** Germany has an UAI index of 65, exactly the mean of the UAI dimension
N/A – Countries without Hofstede dimension Index
L - Low Index
N – Participants that were not classified into the dimensions

H – High Index

As can been seen in table 5.1, there were differences between the scores given by Hofstede for the countries and the scores that the participants from this study received at an individual level. For example, according to Hofstede, people from India have low UAI. In contrast, the two Indian participants of the study reported here classified as high UAI. On the other hand, Hofstede classified people from Belgium and Sweden as high IDV. Likewise, the two participants from these countries classified as high IDV in the study reported here. This difference between Hofstede classification and this study can be mainly explained by the fact that Hofstede calculated indexes for countries and in this study the indexes were calculated at the individual level. Moreover, some indexes from Hofstede were estimated values.

Overall, considering that in the study reported here the values were calculated at the individual level, all the results of this study will be presented related to the scores of the participants on the cultural dimensions (UAI, IDV) and not related to their nationalities.

5.3 Hypotheses

This section presents the results of this study related to e-commerce and its relationship with cultural background. The following hypotheses will be tested:

1. *Individuals with high UAI buy less through the Internet than individuals with low UAI.*

2. *Individuals with high IDV buy more through the Internet than individuals with low IDV.*

3. *Individuals with high IDV and low UAI buy more through the Internet than individuals with high IDV and high UAI.*

4. *Individuals who spend more hours on the Internet, buy more through the Internet.*

5. *Lack of security is a factor that influences individuals with high UAI more than individuals with low UAI not to buy through the Internet.*

6. *Information about how secure a specific site is, is more important for individuals with high UAI than for individuals with low UAI.*

7. *Offering privacy guarantees on the Internet is more important for individuals with high UAI than individuals with low UAI.*

8. *Individuals with high UAI are more willing to use the credit card on their Internet purchases when special conditions are offered than individuals with low UAI.*

5.3.1 Purpose of Internet Usage

In order to have an insight of what participants do when connected to the Internet and to what extent shopping through the Internet is a purpose for Internet

usage, the following question was added to the questionnaire: *"What do you use the Internet for?"* The results showed that shopping through the Internet was not the main purpose for participants to use the Internet, as can be seen in table 5.2. The majority of the participants use the Internet for communication (100), followed by education (97), entertainment (77) and at the fifth position is shopping (56).

Table 5.2
Internet Purpose Usage (n=103)

Purpose	Total
Communication with others	100
Education	97
Banking	89
Entertainment	77
Shopping/gathering product information	56
Work/Business	53
Other	7

Since 'communication with others' was the purpose of Internet usage for 97% of the participants, as expected, it also kept as the main purpose for individuals with low and high UAI. However, regarding to the second purpose, there was a small difference between the two groups, as can be seen in table 5.3. While people with low UAI used Internet more for education (95.8%), high UAI used it more for banking (92.8%). The third purpose of Internet usage, indicates that low UAI used it for banking (84.6%) while high UAI for education (89.2%). In fact, these differences between groups were too small to be significant. More interesting results were found when comparing individuals with low and high UAI related to 'shopping/gathering product information' as a purpose of Internet usage. Individuals with low UAI used the Internet more (70.8%) for this purpose than individuals with high UAI (57.1%). This result is in accordance with what is predicted by hypothesis 1 "*Individuals with high UAI buy less through the Internet than individuals with low UAI"*. Nevertheless, before this hypothesis will be supported, further analysis has to be done. This hypothesis will be further tested at section 5.3.2.

Table 5.3
UAI and Internet Purpose Usage (n=52)

	UAI			
Purpose	Low	(n=24)	High	(n=28)
Communication with others	24	100%	27	96.4%
Education	23	95.8%	25	89.2%
Banking	22	84.6%	26	92.8%
Entertainment	19	79.2%	22	78.6%
Shopping/gathering product information	17	70.8%	16	57.1%
Work/Business	13	54.2%	14	50 %
Other	2	8.3%	3	10.7%

Comparing individuals with low and high IDV, as can be seen in table 5.4, there was a difference in the order of importance of the purpose of Internet usage. While, 'communication with others' was a purpose of Internet usage for 100% of the high IDV, it was for 84.6% of the low IDV. For low IDV, education was the most important purpose of Internet usage whereas for high IDV it was the second main purpose for Internet usage. Nevertheless, it was a purpose of Internet usage for 95.9% of the high IDV. Banking remained as the third purpose for Internet usage. However, high IDV (91.6%) used slightly more Internet for banking than low IDV (80.7%)%). Comparing individuals regarding to the shopping purpose, surprisingly, low IDV (57.7%) considered it slightly more a purpose of Internet usage than high IDV (50%). Nevertheless, shopping remained as the fifth purpose of Internet usage for both groups.

Table 5.4
IDV and Internet Purpose Usage (n=50)

	IDV			
Purpose	Low	(n=26)	High	(n=24)
Communication with others	22	84.6%	24	100 %
Education	24	92.3%	23	95.9%
Banking	21	80.7%	22	91.6%
Entertainment	18	69.2%	19	79.2%
Shopping/gathering product information	15	57.7%	12	50 %
Work/Business	14	53.8%	9	37.5%
Other	2	7.7%	2	8.3%

5.3.2 Online Purchases

Of the 103 participants that answered the question "*How often have you bought through the Internet in the past year?"*, 21 have never bought through the Internet. Thus, 79.6% of the participants have bought through the Internet in the past year. As can be seen in table 5.5, about two thirds (69%) can be considered regular buyers.

Table 5.5
Frequency of Online Purchases (n=103)

Frequency	Frequency
Never	21
Once	11
2-5 times	46
Over five times	25

Table 5.6 provides the figures to test the hypothesis 1 "*Individuals with high UAI buy less through the Internet than individuals with low UAI*" buy less through the Internet than individuals with low UAI ". As can be seen at section 5.3.1, individuals with high UAI (57.1%) used the Internet less for shopping purposes

than individuals with low UAI (70.8%). Likewise, comparing the frequency of online purchases of these two groups, the figures appear to show that individuals with high UAI bought less through the Internet (M=2.68, SD=1.09, n=28) than individuals with low UAI (M=3.00, SD=1.02, n=24). However, this difference is not statistically significant (t(50)=1.09, p=0.14). It was expected to be a negative correlation between UAI and frequency of online purchases. The Spearman's Correlation Test done with the complete sample seems to indicate that there might be a negative correlation between UAI and frequency of online purchases, however, not statistically supported (r= -.14, N= 102, p= 0.08).

Table 5.6
UAI and Frequency of Online Purchases (n=52)

	Never	Once	2-5 times	Over five times	Mean	SD
Low UAI (n=24)	3	3	9	9	3.00	1.02
High UAI (n=28)	6	4	11	7	2.68	1.09

When those participants who have never bought through the Internet were asked the following question " *How likely is it that you will buy through Internet in the next six months*?", participants with high UAI seemed to be more willing to buy through the Internet (M=2.00, SD=1.55, n=6) than participants with low UAI (M=1.67, SD=0.58, n=3), as can be seen in table 5.7. However, this difference is not significant (t(19)=-.35, p=0.37), perhaps due to the small number of respondents involved (6+3). As conclusion, based on the statistical analyses of the results presented in tables 5.6 and 5.7 it can be said that hypothesis 1 "*Individuals with high UAI buy less through the Internet than individuals with low UAI"* is not supported.

Table 5.7
UAI and Intention to Buy in the Next 6 Months (n=9)

	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely	M	SD
Low UAI (n=3)	1	2	0	0	0	1.67	0.58
High UAI (n=6)	5	2	0	2	0	2.00	1.55

The analysis of the two questions above is also important in order to test the hypothesis 2: *"Individuals with high IDV buy more through the Internet than individuals with low IDV"*. Table 5.8 shows that individuals with high IDV (M=2.71, SD=1.08, n=24) did not buy more than individuals with low IDV (M=2.73, SD=0.96, n=26). Based on the statistical analyses of these results (t(48) =0.08, p=0.47), it can be said that the hypothesis 2 is not supported. Additionally, the Spearman's Correlation Test done with the complete sample shows that there is no significant correlation between IDV and frequency of online purchases (r=0.06, N= 102, p= 0.29).

Table 5.8
IDV and Frequency of Online Purchases (n=50)

	Never	Once	2-5 times	Over five times	Mean	SD
Low IDV (n=26)	4	4	13	5	2.73	0.96
High IDV (n=24)	5	3	10	6	2.71	1.08

Nevertheless, when those participants who have never bought through the Internet were asked whether they were willing to do so in the next six months, it appears that individuals with high IDV (M=2.40, SD=0.89, n=6) were more willing to buy through the Internet than individuals with low IDV (M=1.75, SD=1.50, n=4), as can be seen in table 5.9. However, this difference is not statistically significant (t(7)= -.81, p=0.22), perhaps due to the small number of participants involved (4+6).

Table 5.9
IDV and Intention to Buy in the Next 6 Months (n=10)

	Very Unlikely	Somewhat Unlikely	Neither	Somewhat Likely	Very Likely	M	SD
Low IDV (n =4)	3	0	0	1	0	1.75	1.50
High IDV (n=6)	0	4	0	1	0	2.40	0.89

Table 5.10 provides the figures to test the hypothesis 3 "*Individuals with high IDV and low UAI buy more through the Internet than individuals with low IDV and high UAI*". It appears to show that individuals with high IDV and low UAI (M=2.71, SD=1.11, n=7) bought more through the Internet than individuals with low IDV and high UAI (M=2.50, SD=1.22, n=6). However, this difference is not statistically significant (t(11) = 0.33, p= 0.37). It can be a consequence of the small number of participants (7+6). Based on the statistical analysis, hypothesis 3 is not supported.

Table 5.10
IDV and UAI Associated with Online purchases (n=13)

	Never	Once	2-5 times	Over five times	Mean	SD
A (n=7)	1	2	2	2	2.71	1.11
B (n=6)	2	0	3	1	2.50	1.22

A= High IDV / Low UAI
B= Low IDV / High UAI

Overall, it seems that there is no correlation between IDV and the frequency of online shopping/adoption of e-commerce. However, this result may be a consequence of the fact that two thirds of the participants of the study reported

here were regular buyers, which made it more difficult to find differences among them.

On the other hand, the results appear to indicate a tendency of negative correlation between UAI and frequency of online purchases/e-commerce adoption. However, not statistically supported.

5.3.3 Internet Usage and Online Purchases

In order to test the hypothesis 4 "*Individuals who spend more hours on the Internet, buy more through the Internet"* a Spearman's Correlation Test was done between the frequency of online purchases and the frequency of hours spent on the Internet. The original question "*On average, how many hours a week do you use Internet?*" had six options of answers, as can be seen in table 5.11. In order to test whether there was a correlation between the frequency of online purchases (that had four possibilities of answers), and the frequency of Internet usage, the six answers were transformed into 4. Alternatives 1 and 2 were integrated into the 3.

The results of the test appear to indicate that there might be a correlation between the two variables, which means that more hours of Internet usage would indicate higher frequency of online purchases. Nevertheless, there is no statistical proof of it ($r=0.15$, $N=103$, $p=0.06$). Consequently, hypothesis 4 is not supported.

Table 5.11
Frequency of Internet Usage (n=103)

Experience (hours/week)	Participants
1 - Less than 1	1
2 - Less than 5	3
3 – Between 5 and 10	18
4 – Between 10 and 20	26
5- Between 21 and 40	29
6 - Over 40	26

5.3.4 Factors Influencing Online Purchases Positively

Table 5.12 shows that there were not many differences in factors that influenced participants to buy through the Internet. Better prices was the main factor influencing participants to buy through the Internet (55), followed by time savings (48), availability (43) and the last one, convenience (42). These results confirm the importance of these factors, as mentioned in chapter 2. Additionally, since there were not many differences between them, it indicates that participants considered them all important. What is still necessary to analyse is whether these equality also applies to individuals with different values.

As described in the chapter 2, it was not clear (see section 2.2) to what extent the factor customer service has a positive or negative influence in individuals decision to choose the Internet for their purchases. The results of the study reported here shows that customer service is not a factor that influences individuals to buy through the Internet. This factor was mentioned only by 3 of the 82 participants that answered this question.

Table 5.12
Factors Influencing People to Buy Through the Internet (n=82)

Factors	Total
Better prices	55
Time savings	48
Availability (an item is not available in your local area therefore you go online)	43
Convenience (shopping from home, lack of sales pressure, no need for parking/driving, no checkout lines)	42
Customer service (FAQs, ease of ordering, ease of returns, online help from customer service representative)	3
Other	3

At table 5.13 the results of a comparison between individuals with low and high UAI are presented. Although 'better prices' remained as the main factor influencing individuals to buy through the Internet, it was much more important for individuals with low UAI (85.7%) than for individuals with high UAI (59%). Regarding to the second factor influencing participants, there was a difference between the two groups. For low UAI 'availability' (61.9%) was important whereas for high UAI 'convenience' was important (50%). The groups also differ according to the third factor influencing them to buy through the Internet: for low UAI 'convenience' (52.4%) whereas for high UAI 'time savings' (45,4%) and 'availability' (45.4%). 'Customer service' remained as a factor only for individuals with low UAI, however mentioned only by 14.5% of the participants. The sum of these percentages was not equal to 100 because participants could choose more than one factor.

Table 5.13
UAI and Factors Influencing People to Buy Through the Internet (n=43)

	UAI			
Factors	Low	(n=21)	High	(n=22)
Better prices	18	85.7%	13	59 %
Time savings	10	47.6%	10	45,4%
Availability	13	61.9%	10	45,4%
Convenience	11	52.4%	11	50 %
Customer service	3	14.3%	0	0 %
Other	0	0%	0	0 %

A comparison between the IDV groups shows that 'better prices' was definitely the main factor influencing individuals with high IDV to buy through the Internet (84.2%). For individuals with low IDV, 'better prices' and 'time savings' were equally important factors with 72.7% each one, as can be seen in table 5.14. The groups differ completely according to the third factor influencing them to buy through the Internet. For low IDV it was 'convenience' (63.6%) while for high IDV it was 'availability'.

Table 5.14
IDV and Factors Influencing People to Buy Through the Internet (n=41)

	IDV			
Factors	Low	(n=22)	High	(n=19)
Better prices	16	72.7%	16	84.2%
Time savings	16	72.7%	8	42.1%
Availability	11	50 %	9	47.4%
Convenience	14	63.6%	5	26.3%
Customer service	1	4.5%	1	5.2%
Other	0	0 %	0	0 %

Interestingly, 'better prices' remained as the main factor for all four groups. However, for low IDV 'time savings' was equally important. Regarding to the second factor, this equality between groups (low IDV, high IDV, low UAI, high UAI) have changed. For low UAI and high IDV it was 'availability' and for low IDV and high UAI 'convenience'.

5.3.5 Most Important Features

When participants were asked the following question "*Which of the following features are most important to you, when buying or considering buying through the Internet?"* the three main answers were: easy payment procedures, as the most important feature (64), followed by lowest price (63) and security of sensitive information (60), as can be seen in table 5.15.

Table 5.15
Important Features When Buying Online or Considering It (n=102)

Features	
Easy payment procedures	64
Lowest price	63
Security of sensitive information	60
Quality of information about purchase choices	54
Internet vendor's reliability	48
Variety of choices	45
Ease of placing orders	40
Easy handling or returns or refunds	39
Ease of cancelling orders	31
Customer service and after-sales support	29
Getting orders/services in a timely manner	26
Ease of contacting the vendor	21
Satisfaction with using modern technology	11
Other	4

Nevertheless, when the analysis of the results of this question was done between low and high UAI the results valid for all participants have partially changed. For individuals with high UAI, 'security of sensitive information' was the most important feature when buying through the Internet or considering to do it (75%). Conversely, for individuals with low UAI 'easy payment procedures' was the main important feature (66.6%), as can be seen in table 5.16. The feature 'lowest price' remained as the second most important feature for both groups, however it seemed to be slightly more important for individuals with high UAI (64.2%) than for low UAI (62.4%). The third most important feature was different for both groups. For individuals with low UAI was 'security of sensitive information' (54.1%) and for individuals with high UAI 'quality of information about purchase choices' (60.7%). The sum of these percentages was not equal to 100 because participants could choose more than one feature.

As a conclusion, 'lowest price' is an important feature for individuals with low and high UAI when buying through the Internet or considering it. 'Security of information' is more important for individuals with high UAI than for individuals with low UAI. Additionally, 'easy payment procedures' is more important for individuals with low UAI whereas 'quality of information about purchase choices' is more important for individuals with high UAI.

Table 5.16
UAI and Important Features (n=52)

	UAI			
Features	Low	(n=24)	High	(n=28)
Easy payment procedures	16	66.6%	16	57.1%
Lowest price	15	62.5%	18	64.2%
Security of sensitive information	13	54.1%	21	75 %
Quality of information about purchase choices	12	50 %	17	60.7%
Internet vendor's reliability	11	45.8%	15	53.6%
Variety of choices	11	45.8%	11	39.3%
Ease of placing orders	9	37.5%	8	28.6%
Easy handling or returns or refunds	10	41.6%	15	53.6%
Ease of cancelling orders	7	29.2%	7	25 %
Customer service and after-sales support	9	37.5%	9	32.1%
Getting orders/services in a timely manner	7	29.2%	6	21.4%
Ease of contacting the vendor	2	8.3%	7	25 %
Satisfaction with using modern technology	4	16.7%	2	7.1%
Other	0	0 %	2	7.1%

Comparing individuals with low and high IDV, only one feature was important for both groups 'easy payment procedures', considering the three most important features, as can be see in table 5.17. It was slightly more important for individuals with high IDV (66.6%) than for individuals with low IDV (57.7%).

Nevertheless, for low IDV 'easy payment procedures' and 'quality of information about purchase choices' were considered equally the most important features when buying trough the Internet or considering it whereas for high IDV 'lowest price' was the most important feature (75%). The third most important feature for low IDV was 'security of sensitive information' (53.8%) while for high IDV it was 'Internet vendor's reliability'. The sum of these percentages was not equal to 100 because participants could choose more than one feature.

Table 5.17
IDV and Important Features (n=50)

	IDV			
Features	Low	(n=26)	High	(n=24)
Easy payment procedures	15	57.7%	16	66.6%
Lowest price	12	46.1%	18	75 %
Security of sensitive information	14	53.8%	12	50 %
Quality of information about purchase choices	15	57.7%	12	50 %
Internet vendor's reliability	8	30.8%	14	58.3%
Variety of choices	13	50 %	9	37.5%
Ease of placing orders	8	30.8%	8	33.3%
Easy handling or returns or refunds	8	30.8%	9	37.5%
Ease of cancelling orders	6	23 %	9	37.5%
Customer service and after-sales support	7	26.9%	4	16.6%
Getting orders/services in a timely manner	9	34.6%	3	12.5%
Ease of contacting the vendor	4	15.4%	4	16.6%
Satisfaction with using modern technology	3	11.5%	1	4.2%
Other	0	0 %	1	4.2%

Interestingly, that the four groups (low IDV, high IDV, low UAI, high UAI) differed almost completely. As expected, for individuals with high UAI, security is the most important feature. On the other hand, for high IDV, 'lowest price'. The other two groups, low UAI and low IDV, shared the same opinion: 'easy payment procedures' as the most important feature. However, for people with low IDV 'quality of information about purchase choices' was equally important.

5.3.6 Factors Influencing Online Purchases Negatively

As can be seen in table 5.18, three factors had mainly influenced participants not to buy online: worries about privacy and security, the fact that participants did not have a credit card and the lack of touching the product. The main factor was the worries with privacy/security. This result is in accordance with previous studies that revealed this factor as the main one for people avoid buying through the Internet. Another important result was the fact that participants did not have a credit card; 10 from 21 participants. Considering that the usage of a credit

card is the main way to purchase through Internet, not having a credit card definitely influenced participants not to buy.

Table 5.18
Factors Why People do NOT Buy Online (n=21)

Factors	
I am worried about privacy/security	13
I do not have a credit card	10
I cannot touch the product	9
Other	3
I miss interaction	2
I miss costumer service	1
It is too complex	1
I cannot find what I look for	0

A comparison between individuals with low UAI and high UAI showed that worries about security/privacy remained the most mentioned factor influencing both groups not to buy through the Internet. Interestingly, not having a credit card was a factor that influences only individuals with high UAI not to buy through the Internet. Nevertheless, the sample of individuals with low and high UAI was too small to provide insight about the differences between them, as table 5.19 demonstrates.

Table 5.19
UAI and Factors Why People do NOT Buy Online (n=9)

	U A I	
Factors	Low (n=3)	High (n=6)
I am worried about privacy/security	3	5
I do not have a credit card	0	2
I cannot touch the product	1	4
Other	0	1
I miss interaction	0	1
I miss costumer service	0	0
It is too complex	1	0
I cannot find what I look for	0	0

Table 5.20 demonstrates that three factors influence individualistic individuals not to buy through the Internet: worries about privacy/security, the fact that participants did not have a credit card and the fact that touching the product is not possible in an online purchase. Due to the small size of the sample (4+5), a comparison within the IDV group did not provide a valid insight whether there was a difference between them.

Table 5.20
IDV and Factors Why People do NOT Buy Online (n=9)

	I D V	
Factors	Low (n= 4)	High (n=5)
I am worried about privacy/security	2	4
I do not have a credit card	2	3
I cannot touch the product	2	1
Other	0	0
I miss interaction	0	0
I miss costumer service	0	0
It is too complex	0	0
I cannot find what I look for	0	0

5.3.7 Security Concerns

Participants who have bought through the Internet in the past year were asked the following question: "*How concerned are you about security in relation to buying through the Internet?*". To report the findings of the hypothesis 5 "*Lack of security is a factor that influences individuals with high UAI more than individuals with low UAI not to buy through the Internet"* the results of this question was relevant. Table 5.21 shows that of the 87 respondents, 89.7% expressed a degree of concern with the security in the Internet. These results are in accordance with previous work mentioned at chapter 2 (Udo, 2001; Ahuja et al., 2003; Lebo, 2001, 2003, 2004).

Table 5.21
Concern About Security on the Internet (n=87)

	Not at all concerned	A little concerned	Somewhat concerned	Very concerned	I know I should be concerned, but I'm not
(n=87)	4.6%	12.6%	29.9%	47.1%	5.7%

As can be seen at table 5.22 individuals with low UAI (M=3.24, SD=0.77, n=21) were a little more concerned with the security on the Internet than individuals with high UAI (M=3.08, SD=1.28, n=24). Nevertheless, this difference is not statistically significant (t(43)=0.48, p=0.32). Likewise, a Spearman's Correlation Test done with all participants that have answered this question showed that there is no significant correlation between UAI and concern with security on the Internet (r= 0.07, N=86, p=0.28). Consequently, hypothesis 5 is not supported.

Table 5.22
UAI and Concern About Security on the Internet (n =45)

	M	SD
Low UAI (n=21)	3.24	0.77
High UAI (n=24)	3.08	1.28

To report findings of the hypothesis 6 "*Information about how secure a specific site is, is more important for individuals with high UAI than for individuals with low UAI*" the results of the following question are relevant: *Do you think information about how secure a specific site is, is of any help or value to you?*". As can bee seen in table 5.23, 83.9% of the participants considered important the information about how a secure a site is.

Table 5.23
Security of a Site (n=87)

	No	Yes
(n=87)	16.1%	83.9%

As can be seen in table 5.24, a comparison between individuals with low and high UAI seems to indicate support for hypothesis 6, in which information about how secure a specific site is was more important for individuals with high UAI (87.5%) than those with low UAI (71.4%). Nevertheless, further analysis using Chi-Square Test in order to test the statistical significance of this difference was not possible. The number of respondents in one cell was lower than 5 (see table 5.24), which would have led to results with no sufficient precision.

Table 5.24
UAI and Security of a Site (n=45)

	No		Yes	
Low UAI (n=21)	6	(28.6%)	15	(71.4%)
High UAI (n=24)	3	(12.5%)	21	(87.5%)

5.3.8 Privacy Guarantees

In order to test the hypothesis 7 "*Offering privacy guarantees on the Internet is more important for individuals with high UAI than individuals with low UAI* " two questions were analysed. Participants had to answer these questions (44 and 45) based on a scale 1 (very strongly disagree) to 7 (very strongly agree), in which the alternative 4 was "neither disagree or agree". As can be seen in table 5.25, 85.9% of the participants agreed that there should be stronger laws to protect privacy on the Internet. Consequently, it will probably lead to a non-significant difference between individuals with low and high UAI. Anyway, this comparison will be discussed further on in this chapter. According to question 45, about two thirds of the participants supported the establishment of encryption while almost one third of the participants answered "neither".

Table 5.25
Guarantee of Privacy on the Internet

Question	1	2	3	4	5	6	7
44. There should be stronger laws to protect privacy on the Internet (n=85)	1.2%	2.4%	1.2%	9.4%	31.8%	16.5%	37.6%
45. I support the establishment of encryption (n=86)	1.2%	0%	1.2%	27.9%	39.5%	15.1%	15.1%

Comparing individuals with low and high UAI, the results of the first question "*There should be stronger laws to protect privacy on the Internet* " demonstrated in table 5.26 appears to show that individuals with low UAI (M=6.19, SD=0.98, n= 21) considered it slightly more important than individuals with high UAI (M=5.87, SD=1.42, n= 23). However, this difference is not statistically significant (t(42) = 0.86, p= 0.20). Likewise, a Person Correlation Test done with all participants who answered this question showed that there is no significant correlation between UAI and question 44 (r= -.06 N=84, p=0,29).

Table 5.26
UAI and Guarantee of Privacy on the Internet

	Low UAI			High UAI		
Question	M	SD	n	M	SD	N
44. There should be stronger laws to protect privacy on the Internet	6.19	0.98	21	5.87	1.42	23

The findings of the second question "*I support the establishment of encryption*" seems to show that individuals with high UAI (M=5.42, SD=1.35, n=24) considered establishment of encryption a little more important than individuals with low UAI (M=5.19, SD=0.98, n= 21), as can be seen at table 5.27. However, this difference is not statistically significant (t(43)=-.64, p=0.26). Similarly, a Pearson Correlation Test done with the complete sample showed that there is no significant correlation between UAI and question 45 (r=0.20, N=85, p=0.43).

Consequently, hypothesis 7 "*Offering privacy guarantees on the Internet is more important for individuals with high UAI than individuals with low UAI"* is not supported. As a conclusion, offering privacy guarantees in the Internet is very important to all the individuals independently of their cultural values.

Table 5.27
UAI and Establishment of Encryption

	Low UAI			High UAI		
Question	M	SD	n	M	SD	N
45. I support the establishment of encryption	5.19	0.98	21	5.42	1.35	24

5.3.9 Credit Card Usage

When participants who have bought through the Internet during the past year including those who have never bought through the Internet (but were willing to do so in the next six months) were asked whether they have a credit card or not, 63.2% answered yes (n=87). It can be said that two thirds of the participants were able to buy through the Internet.

To report the findings of hypothesis 8 "*Individuals with high UAI are more willing to use a credit card for their Internet purchases when special conditions are offered than individuals with low UAI* ", four questions were analysed (q39,q41,q42 and q43). The first one asked participants the following question: "*Are you willing to use your credit card on the Internet?*". From the 83 participants that answered this question, 83.1% were willing to use the credit card on the Internet. As can be

seen in table 5.28 a comparison between low UAI and high UAI showed that participants with low UAI were slightly more willing to use their credit card on the Internet (81%) than participants with high UAI (75%). Nevertheless, it was not possible to test the statistical significance of this difference using the Chi-Square test because the number of respondents were lower than 5 in one cell. It would have led to results without sufficient precision.

Table 5.28
UAI and Willingness to Use the Credit Card (n=45)

	No	Yes
Low UAI (n=21)	4 (19%)	17 (81%)
High UAI (n=24)	6 (25%)	18 (75%)

In questions 41,42 and 43 participants had to answer based on a scale 1 (very strongly disagree) to 7 (very strongly agree), in which the alternative 4 was "neither disagree or agree". As can be seen in table 5.29, the results from the first question (q41) "*I would be more willing to provide my credit card information through the Internet if the prices were considerably lower than traditional shops"* revealed disagreement in the answers. While 42,1% of the participants agreed with the statement, conversely, 34.9% disagreed and 22.8% answered neither (n=83). The second question (q42) "*I would be more willing to provide my credit card information through the Internet if the products/services were of a higher quality"* also revealed disagreement in the answers. While 27.71% of the participants agreed with the statements, conversely, 18.07% disagreed and 38.55% answered neither (n=83). The results of the third question (q43) "*I would be more willing to provide my credit card information through the Internet if the Internet shop was well known and reliable*" revealed that 76.8% of the participants agreed with the statement.

Table 5.29
Credit Card Usage and Special Conditions

Question	1	2	3	4	5	6	7
q41. I would be more willing to provide my credit card information through the Internet if the prices were considerably lower than traditional shops (n=83)	6%	4.8%	24.1%	22.9%	30.1%	6%	6%
q42. I would be more willing to provide my credit card information through the Internet if the products/services were of a higher quality (n=83)	4.8%	2.4%	26.5%	38.6%	20.5%	4.8%	2.4%
q43. I would be more willing to provide my credit card information through the Internet if the Internet shop was well known and reliable (n=82)	0%	1.2%	6.1%	15.9%	35.4%	23.2%	18.3%

In order to test hypothesis 8 "*Individuals with high UAI are more willing to use the credit card on their Internet purchases when special conditions are offered than individuals with low UAI* " the results of questions 41,42 and 43 were relevant. As can be seen in table 5.30, participants with high UAI appear to be more willing to use the credit card on the Internet under two special conditions - when the Internet shop is reliable and the prices are lower - than participants with high UAI. Nevertheless, this difference is not statistically significant, [q41 (t(42)=-.39, p=0.35), q43(t(41) =-.97, p=0.17)]. A Pearson Correlation Test done with the complete sample also indicated no correlation between UAI and the two special conditions. For q41 (r= 0.06, N=82, p=0.31) and for q43 (r= 0.08, N=81, p=0.23).

On the other hand, participants with low UAI seem to be more willing to use their credit card on the Internet when the products/services were of a higher quality that individuals with high UAI. Nevertheless, this difference seems not to be statistically significant q42 (t(42) =0.89, p=0.19). In addition, a Pearson Correlation Test done with the complete sample also indicated no correlation between UAI and this special condition (r= -.06, N=82, p=0.30). Consequently, hypothesis 8 is not supported.

Knowing, after the analysis of question 39, that the majority of participants were willing to use their credit card on the Internet, it could be expected that when special conditions (products/services with higher quality, prices considerably lower than traditional shops, etc) are offered to participants it would not dramatically increase their willingness to use their credit card on the Internet because they simply were already willing to use it.

Table 5.30
UAI - Credit Card Usage and Special Conditions

	Low UAI			High UAI		
Question	M	SD	N	M	SD	N
q41	3.85	1.14	20	4.00	1.38	24
q42	4.05	1.05	20	3.79	0.88	24
q43	5.21	1.18	19	5.54	1.06	24

5.3.9.1 Credit Card Fraud

In order to have an insight about the impact that negative experiences with credit cards (fraud or number stolen) have on the willingness of people in using their credit cards on the Internet again, the results of two questions were relevant. From 85 participants, 8 answered yes to the following question "*Have you ever had your credit card number stolen (either online or offline) or experienced other credit card fraud?"* These same participants when asked *" Are you willing to use your credit card on the Internet*?" also answered yes. Interestingly, although participants had a negative experience with credit cards it did not have any impact on them according to the willingness to use it again. Perhaps the results would have been different if the sample would have been larger.

5.4 Product / Service

This study also brings some insight in what kind of products or services people are purchasing through the Internet and whether there is a difference between cultures or not. As can be seen in table 5.31, two categories of products

were mainly purchased through Internet: travel (58) and books (53). The third and fourth most mentioned category scored alike. Computers (24) and audio & video products (23). These results showed the main products purchased by the participants but did not say anything about the differences between cultures, which are presented in the next two tables 5.32 and 5.33. The sum of these percentages was not equal to 100 because participants could choose more than one product.

Table 5.31
Products and Services Bought Online (n=82)

Item	
Travel (airline & hotel reservations, car rentals, vacation packages)	58
Books, magazines, newspapers	53
Computers (hardware, software, games), accessories, & communication equipment (palm pilot, fax, cell phones)	24
Audio & video products (CDs, DVDs, videos)	23
Other	19
Apparel & accessories (clothes, watches, belts, shoes, jewellery)	13
Home electronics/appliances	7
Sports & fitness equipment	7
Groceries	3

A comparison between individuals with low and high UAI showed that travel and books remained as the main items bought through the Internet for both groups. However, individuals with low UAI bought more books (71.4%) than travel (66.6%) whereas individuals with high UAI bought more travel (72.7%) than books (68.1%). The third product/service most bought through the Internet by the participants differed between the two groups. People with low UAI bought more audio & video products (42.8%) while people with high UAI bought more computers (31.8%).

Table 5.32
UAI and Products and Services Bought Online (n=43)

	UAI			
Item	Low	(n=21)	High	(n=22)
Travel	14	66.6%	16	72.7%
Books, magazines, newspapers	15	71.4%	15	68.1%
Computers	6	28.6%	7	31.8%
Audio & video products	9	42.8%	4	18.2%
Other	5	23.8%	5	22.7%
Apparel & accessories	6	28.6%	2	9 %
Home electronics/appliances	2	9.5%	1	4.5%
Sports & fitness equipment	3	14.3%	1	4.5%
Groceries	0	0 %	1	4.5%

A comparison between individuals with low and high IDV showed that travel and books kept as the main purchased products. However, there was a difference according to the third product/service most purchased by the two groups. While for low IDV it was apparel (28.6%), for high IDV it was a sort of other product/services (31.6%) not suggested by the instrument of this study.

Table 5.33
IDV and Products and Services Bought Online (n=40)

	IDV			
Item	Low	(n=21)	High	(n=19)
Travel	15	71.4%	14	73.7%
Books, magazines, newspapers	13	61.9%	11	57.9%
Computers	6	28.6%	4	21 %
Audio & video products	5	23.8%	3	15.8%
Other	2	9.5%	6	31.6%
Apparel & accessories	6	28.6%	4	21 %
Home electronics/appliances	0	0 %	3	15.8%
Sports & fitness equipment	0	0 %	3	15.8%
Groceries	2	9.5%	0	0 %

The next chapter presents the conclusions of this study and answers the research questions. Additionally, based on the decisions made during this study and on the results obtained, it underlines the limitations of this study and presents recommendations for further research.

6. Discussion

This chapter is divided in four parts. The first part presents the conclusions of the study and discusses the results. The main purpose is to answer the research questions.

The second part presents the analysis of the theoretical framework used – Hofstede cultural dimensions. The third part presents the limitations of this study and finally recommendations for further research are given.

6. 1 Conclusions

The main purpose of this study is to answer the following research questions:

What factors influence the individual decision to purchase online?

To what extent do these factors play the same role in different cultures?

The results of this study confirm that better prices, time savings, convenience and availability are important factors influencing individuals to buy through the Internet, as shown in the literature review in chapter 2. However, what this study adds is the degree of importance of these factors among cultures. To what extent are these factors relevant for cultures that share different values? For instance, 'better prices' is the main factor influencing individuals to choose the Internet for their purchases for all four cultural groups investigated in this study (low IDV, high IDV, low UAI, high UAI). However for low IDV, 'time savings' is equally important. Although 'better prices' is the main factor for all four groups, a comparison between these groups shows that the degree of importance varies among them. For instance, better prices is more important for low UAI, followed by high IDV, low IDV and for high UAI. It is an important indicator for companies that are operating online. Prices on the Internet should be lower than in traditional shops.

A distinction among groups can be seen according to the second more important factor that influences them to buy through the Internet. For low UAI and high IDV is it 'availability' whereas for low IDV and high UAI it is 'convenience'. Companies that trade in different cultures may take these results into consideration. For instance, for low UAI and high IDV cultures, offer products on the Internet which are not available on their traditional market.

The differences among the four cultural groups (low IDV, high IDV, low UAI, high UAI) definitely exist regarding to the feature that participants consider the most important when buying or considering to buy through the Internet. For low UAI - easy payment procedures; high UAI - security of sensitive information; low IDV- easy payment procedures and quality of information about purchase choices; and for high IDV- lowest price. These differences are mainly indicators for professionals that are designing web sites for different cultures. For example, how to make an easy payment procedure for their customers; that is the most important feature for individuals with low UAI and individuals with low IDV. In

addition, to be aware of these important features regarding to specific cultures is not only important to attract online shoppers but also to attract those who are not customers yet, those individuals that are considering to buy through the Internet.

Another contribution of this study is that according to some aspects related to e-commerce, the majority of participants shares the same opinion no matter what their cultural values are. For instance, there is a large concern with security on the Internet. From 87 participants, 89.7% expressed a degree of concern with it. Due to this high percentage, it was difficult to find significant differences between cultures. Additionally, the majority of the participants agrees that there should be stronger laws to protect privacy on the Internet and two-third of the participants support the establishment of encryption. As a conclusion, these two measures are important for everybody, independently from their cultural values.

Although the focus of this thesis is on cultural values and not on the nationality of the participants, it is remarkable this agreement among participants according to security/privacy aspects. It means an agreement among individuals from 35 nationalities.

Interesting is that when comparing cultural values (low IDV, high IDV, low UAI, high UAI) there are no significant differences between them according to who is buying more through the Internet. As a matter of fact, a large number of participants have bought through the Internet in the past year. Nevertheless, when participants were asked about their purpose of Internet usage, individuals with low UAI is the cultural group that use the Internet most for shopping/gathering product information. The results also appear to present a tendency of a negative correlation between UAI and frequency of online purchases/e-commerce adoption but it is not statistically supported ($p=0.06$).

The sample of participants that have never bought through the Internet was small ($n=21$). For these participants worries with privacy/security is the main factor influencing them not to buy through the Internet. The second, it is the fact that participants do not have a credit card. There is no statistical difference among the groups (low IDV, high IDV, low UAI, high UAI). This result was expected due to the small number of participants in each group.

Surprisingly, credit card usage is not an obstacle for online shopping as expected. The majority of participants are willing to use their credit card on the Internet. Comparing low and high UAI, as expected, high UAI are less willing to use credit cards on the Internet. However, it is a light difference, high UAI (75%) and low UAI (80.95%). Although credit cards are not an obstacle for participants to buy through the Internet, there is still one third of the participants who do not have a credit card. Regarding to this fact, the banks could do more in order to make the credit card possession more worldwide.

According to the kind of products which participants are buying through the Internet, the results show that there are only two main kind of products that all cultures have bought online last year: travel (airline & hotel reservations, car rentals, vacation packages) and books, magazines, newspapers.

The results of this study can be applied by designers in order to introduce changes in the web sites that are directed to specific cultures. Additionally, companies that are trading worldwide may take these results into consideration when deciding about new business or changes in the current business that have different cultures as target groups.

6.2 Analysis of the Theoretical Framework

Before presenting the limitations of this study it is necessary to make an analysis of the basic framework used: Hofstede's cultural dimensions. To what extent was it an appropriate framework in order to classify participants according to their cultural values?

The results of this master thesis concluded that to use the country scores from Hofstede based on the nationality of the participant is not recommended. It is indicated to calculate the indexes of each participant, based on Hofstede questionnaire. At this thesis, two cultural dimensions from Hofstede were used as base framework: Uncertainty Avoidance (UAI) and Individualism - Collectivism (IDV). A comparison between the country scores from Hofstede and the individual scores of participants of the study reported here shows that there were differences. For instance, Hofstede classified Philippines as low UAI and one citizen from Philippines that took part in this study scored a high UAI. Another example, Hofstede classified Spain as high IDV. From the Spanish people that took part in this master thesis, 2 classified as high IDV, 3 as low IDV and one participant was eliminated from the sample. As a conclusion, it would have been a mistake if I would have copied the country scores from Hofstede.

Before applying Hofstede's questionnaire it is necessary to consider the environment in which it will be used. Hofstede's instrument was developed for the business environment and, thus, it cannot be automatically applied in other environments such as with students at the university. Questions from Hofstede with issues like the "relationship with your manager" are not applicable. It requires an adaptation from Hofstede´s instrument to the environment in which the questionnaire will be used.

Another aspect of Hofstede's work that requires an analysis is the relevance or correlation between the two dimensions (IDV, UAI) and e-commerce. The highlight of Hofstede's work is that characteristics of the dimensions serve as a clear basis for predicting cultural values of the participants. For instance, based on the characteristics of UAI and the nature of e-commerce it was expected that individuals with a low UAI would be more risk taking, which would have led them to buy more through the Internet or adopt e-commerce. The results of the study reported here appear to show that they bought more through Internet than individuals with high UAI. However, it could not be statistically proved. Moreover, the results of this study indicate a negative correlation between UAI and frequency of online shopping. However, this correlation is not strong and could not be statistically supported ($p=0.08$). Perhaps it was difficult to support it since two third of the participants could be considered regular buyers.

According to Individualism – Collectivism, the results show no correlation between this dimension and e-commerce. This means that IDV is not a predictor of online shopping behaviour.

6.3 Limitations of the Study

Initially, the fact that the students were used as sample could indicate a limitation of the study and also a concern according to the generalization of the results. Nevertheless, the participants were tested in order to determine their cultural values instead of using the indexes found by Hofstede. Based on it, the participants were not students anymore but individuals with low or high Uncertainty Avoidance (UAI) and with low or high Individualism (IDV). As a conclusion, the

results are valid for the overall population with a high education level, computer literacy and Internet access.

Overall, the decisions made during this study have led to few limitations presented here.

First, using international students as a sample provides the results according to their cultural values, however it does not say anything according to nationalities since there were too many different nationalities and few participants from each one.

Second, when students are used as a sample the results provide an understanding about Internet shopping behaviour of highly educated people, with computer literacy and Internet access. On the other hand, computer literacy and Internet access are preponderant requirements for someone who intends to buy through the Internet.

Third, having students as a sample may bias some results. For example, the fact that education is the second purpose of Internet usage, mentioned by 97 from the 103 participants. Additionally, books, magazines and newspapers are the second product most bought through the Internet, mentioned by 53 from 82. A mixed sample could have led to other results.

Fourth, the fact that one third of the participants has been living in The Netherlands for over two years may have influenced their answers because they may already have had some kind of influence of Dutch culture.

Fifth, the questionnaire consists of 21 questions in which participants have to use an answering scale that may result in different meanings for participants. Some cultures tend to select more extreme answers and other cultures never choose these answers. It may cause what is called as “extremity of response problem” (Hoeken and Korzilius, 2003).

6.4 Recommendations for Further Research

In order to have a wider applicability of these results, it is recommended further research with participants with computer literacy, Internet access but a lower level of education. It may bring a different insight regarding to the factors that influences individuals to buy through the Internet.

Another recommendation is to increase the number of participants. Although this study had initially 126 participants, it became 103 due to the fact that 23 participants were excluded since they did not answer the questionnaire completely. Additionally, this number became even lower when participants were classified into UAI and IDV. Consequently, during the analysis of data, it appeared to have some differences between groups but they were not statistically significant. Perhaps the differences would have been statistically significant if the sample would be larger.

Additionally, instead of testing participants from many different nationalities, it would be interesting to have a sample of participants from few nationalities so that the results could be generalized to the country.

Moreover, the results of the study appear to indicate a tendency of negative correlation between the cultural dimension Uncertainty Avoidance and frequency of online shopping/adoption of e-commerce. This could not be statistically proved. It would be recommended to develop another study in which this tendency would be further investigated.

Finally, based on the fact that all participants mainly bought the products ´travel´ and ´books´, it would be interesting to conduct a study in order to investigate why individuals mainly buy these two products and also research the factors that positively influence these purchases. Moreover, it would be interesting to study why people buy much less other products and what is the correlation between these factors and products that are possible to buy through the Internet.

Overall, this study has shown that despite of better prices, individuals buy through the Internet or consider to do it influenced by different factors depending on their cultural values. On the other hand, individuals avoid e-commerce or buy less through Internet influenced by the same kind of factors, no matter what are their cultural values.

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Appendices

Appendix A. Hofstede - Country Dimensions Indexes
Appendix B. Questionnaire - E-commerce - Buying through the Internet
Appendix C. Original questions of Hofstede

APPENDIX A

Hofstede - Country Dimensions Indexes

Country	PDI	UAI	IDV	MAS	LTO
Arabic countries	80	68	38	53	
Argentina	49	86	46	56	
Australia	36	51	90	61	31
Austria	11	70	55	79	
Belgium	65	94	75	54	
Brazil	69	76	38	49	65
Canada	39	48	80	52	23
Chile	63	86	23	28	
Colombia	67	80	13	64	
Costa Rica	35	86	15	21	
Denmark	18	23	74	16	
East Africa	64	52	27	41	25
Ecuador	78	67	8	63	
Finland	33	59	63	26	
France	68	86	71	43	
Germany	35	65	67	66	31
Great Britain	35	35	89	66	25
Greece	60	112	35	57	
Guatemala	95	101	6	37	
Hong Kong	68	29	25	57	96
India	77	40	48	56	61
Indonesia	78	48	14	46	
Iran	58	59	41	43	
Ireland	28	35	70	68	
Israel	13	81	54	47	
Italy	50	75	76	70	
Jamaica	45	13	39	68	

(table continues)

Country	PDI	UAI	IDV	MAS	LTO
Japan	54	92	46	95	80
Malaysia	104	36	26	50	
Mexico	81	82	30	69	
Netherlands	38	53	80	14	44
New Zealand	22	49	79	58	30
Norway	31	50	69	8	20
Pakistan	55	70	14	50	0
Panama	95	86	11	44	
Peru	64	87	16	42	
Philippines	94	44	32	64	19
Portugal	63	104	27	31	
Salvador	66	94	19	40	
Singapore	74	8	20	48	48
South Africa	49	49	65	63	
South Korea	60	85	18	39	75
Spain	57	86	51	42	
Sweden	31	29	71	5	33
Switzerland	34	58	68	70	
Taiwan	58	69	17	45	87
Thailand	64	64	20	34	56
Turkey	66	85	37	45	
United States	40	46	91	62	29
Uruguay	61	100	36	38	
Venezuela	81	76	12	73	
Yugoslavia	76	88	27	21	
West Africa	77	54	20	46	16

PDI: Power Distance Index
IDV: Individualism Index
MAS: Masculinity Index
UAI: Uncertainty Avoidance Index
LTO: Long-term Orientation Index
Region Arab Countries: Egypt, Iraq, Kuwait, Lebanon, Libya, Saudi Arabia, United Arab Emirates.
Region East Africa: Ethiopia, Kenya, Tanzania, Zambia.
Region West Africa: Ghana, Nigeria, Sierra Leone.

APPENDIX B

Questionnaire

Title: E-commerce - Buying through the Internet

PART I

Thank you for your interest in participating in this Master Thesis Survey. Your personal information and answers to this questionnaire will remain completely confidential.

Good luck!

1. What is your nationality?

2. And what was your nationality at birth (if different from your present nationality)?

3. How long have you been living in The Netherlands?
   Less than 6 months
   Between 6 and 12 months
   Between 1 and 2 years
   More than 2 years

4. Is English your native language?
   Yes
   No

5. Are you?
   Male
   Female

6. How old are you?
   20 or less
   21-30
   31-40
   41-50
   51 or more

7. What level of study do you do?
   Bachelor
   Master
   Phd
   Other

Please think of an ideal study program disregarding your present program. In choosing an ideal study program, how important would it be to you to:

8. Have good physical studying conditions (good ventilation and lighting, adequate work space, etc.)?
   1. of utmost importance to me
   2. very important
   3. of moderate importance
   4. of little importance
   5. of very little or no importance

9. Have challenging tasks to do, from which you can get a personal sense of accomplishment?

   1. of utmost importance to me
   2. very important
   3. of moderate importance
   4. of little importance
   5. of very little or no importance

10. Live in an area desirable to you and your family?
   1. of utmost importance to me
   2. very important
   3. of moderate importance
   4. of little importance
   5. of very little or no importance

11. Have an opportunity for high grades?
   1. of utmost importance to me
   2. very important
   3. of moderate importance
   4. of little importance
   5. of very little or no importance

12. Work with colleagues who cooperate well with one another?
   1. of utmost importance to me
   2. very important
   3. of moderate importance
   4. of little importance
   5. of very little or no importance

13. Have the opportunity to take other courses, apart from your regular program? (to improve your skills or to learn new skills)?
   1. of utmost importance to me
   2. very important
   3. of moderate importance
   4. of little importance
   5. of very little or no importance

14. Get the recognition you deserve when you do well an assignment?
   1. of utmost importance to me
   2. very important
   3. of moderate importance

4. of little importance
5. of very little or no importance

15. Have extra-curricular opportunities (sports, shows, cultural events, etc)?
    1. of utmost importance to me
    2. very important
    3. of moderate importance
    4. of little importance
    5. of very little or no importance

16. Have considerable freedom to adopt your own approach to the studies?
    1. of utmost importance to me
    2. very important
    3. of moderate importance
    4. of little importance
    5. of very little or no importance

17. Have security of graduation?
    1. of utmost importance to me
    2. very important
    3. of moderate importance
    4. of little importance
    5. of very little or no importance

18. Have an opportunity for advancement to higher education levels?
    1. of utmost importance to me
    2. very important
    3. of moderate importance
    4. of little importance
    5. of very little or no importance

19. Have a good relationship with your teacher?
    1. of utmost importance to me
    2. very important
    3. of moderate importance
    4. of little importance
    5. of very little or no importance

20. Fully use your skills and abilities on the course?
    1. of utmost importance to me
    2. very important
    3. of moderate importance
    4. of little importance
    5. of very little or no importance

21. Have sufficient time left for your personal or family life?
    1. of utmost importance to me
    2. very important
    3. of moderate importance
    4. of little importance
    5. of very little or no importance

22. How often do you feel nervous or tense at university?
    5. I always feel this way
    4. Usually
    3. Sometimes
    2. Seldom
    1. I never feel this way

23. University rules should not be broken – even when the student thinks it is in the university's best interests.
    5. Strongly agree
    4. Agree
    3. Undecided
    2. Disagree
    1. Strongly disagree

24. How long do you think you will continue studying or working in this professional field?
    1. Two years at the most
    2. From two to five years
    3. More than five years (but I probably will change before I retire)
    4. Until I retire

PART II

Please answer these questions related to Internet and E-commerce.

25. On average, how many hours a week do you use Internet?
    1 - Less than 1
    2 - Less than 5
    3 - Between 5 and 10
    4 - Between 10 and 20
    5 - Between 21 and 40
    6 - Over 40

26. Do you have a computer at your home in The Netherlands?
    Yes
    No

27. What kind of connexion do you have at your home in The Netherlands?
    1 - Dial-up
    2 - Cable, ADSL
    3 - Wireless
    4 - I do not know

28. What do you use the Internet for? (Please check all that apply.)
    1 - Education
    2 - Shopping/gathering product information
    3 - Entertainment
    4 - Work/business
    5 - Communication with others
    6 - Banking
    7 - Other (please specify)

29. Which of the following features are most important to you, when buying or considering buying through the Internet? (Please check all that apply.)
    1 - Variety of choices
    2 - Easy handling of returns or refunds
    3 - Quality of information about purchase choices
    4 - Ease of placing orders
    5 - Ease of cancelling orders
    6 - Internet vendor's reliability
    7 - Easy payment procedures
    8 - Customer service and after-sales support
    9 - Security of sensitive information
    10 - Getting orders/services in a timely manner
    11 - Lowest price
    12 -Satisfaction with being using modern technology
    13 - Ease of contacting the vendor
    14 - Other (please specify)

30. How often have you bought through the Internet in the past year?
    1 – Never
    2 – Once
    3 - 2-5 times
    4 - Over five times

31. Why have you not bought through the Internet? (Please check all that apply.)
    1 - I am worried about privacy/security
    2 - I cannot find what I look for
    3 - I cannot touch the product
    4 - I miss costumer service
    5 - I miss interaction
    6 - It is too complex
    7 - I do not have a credit card
    8 - Other (please specify)

32. How likely is it that you will buy through Internet in the next six months?
    1 - Very Unlikely
    2 - Somewhat Unlikely
    3 - Neither Unlike nor Likely
    4 - Somewhat Likely
    5 - Very Likely

33. What kind of products or services have you bought ? (Please check all that apply.)
    1 - Books, magazines, newspapers
    2 - Computers (hardware, software, games), accessories, & communication equipment (palm pilot, fax, cell phones)
    3 - Home electronics/appliances
    4 - Audio & video products (CDs, DVDs, videos)
    5 - Sports & fitness equipment
    6 - Apparel & accessories (clothes, watches, belts, shoes, jewellery)
    7 - Travel (airline & hotel reservations, car rentals, vacation packages)
    8 – Groceries
    9 - Other

34. What are the main reasons you use the Internet when buying products/services? (Please check all that apply.)
    1 - Time savings
    2 - Better prices
    3 - Convenience (shopping from home, lack of sales pressure, no need for parking/driving, no checkout lines)
    4 - Availability (an item is not available in your local area therefore you go online)
    5 - Customer service (FAQs, ease of ordering, ease of returns, on-line help from customer service representative)
    6 - Other (please specify)

35. How concerned are you about security (privacy, confidentiality, proof of identity) in relation to buying through the Internet?
    1 - Not at all concerned
    2 - A little concerned
    3 - Somewhat concerned
    4 - Very concerned
    0 - I know I should be concerned, but I'm not

36. Do you think information about how secure a specific site is, is of any help or value to you?
    Yes
    No

37. Do you have a credit card?
    Yes
    No

38. Have you ever had your credit card number stolen (either online or offline) or experienced other credit card fraud?
    Yes
    No

39. Are you willing to use your credit card on the Internet?
    Yes
    No

40. Providing credit card information is the single most important reason for not buying through the Internet more often.
    1- Very strongly disagree
    2- Strongly disagree
    3- Disagree
    4- Neither disagree or agree
    5- Agree
    6- Strongly agree
    7- Very strongly agree

41. I would be more willing to provide my credit card information through the Internet if the prices were considerably lower than traditional shops.
    1- Very strongly disagree
    2- Strongly disagree
    3- Disagree

4- Neither disagree or agree
5- Agree
6- Strongly agree
7- Very strongly agree

42. I would be more willing to provide my credit card information through the Internet if the products/services were of a higher quality.
1- Very strongly disagree
2- Strongly disagree
3- Disagree
4- Neither disagree or agree
5- Agree
6- Strongly agree
7- Very strongly agree

43. I would be more willing to provide my credit card information through the Internet if the Internet shop was well known and reliable.
1- Very strongly disagree
2- Strongly disagree
3- Disagree
4- Neither disagree or agree
5- Agree
6- Strongly agree
7- Very strongly agree

44. There should be stronger laws to protect privacy on the Internet.
1- Very strongly disagree
2- Strongly disagree
3- Disagree
4- Neither disagree or agree
5- Agree
6- Strongly agree
7- Very strongly agree

45. I support the establishment of encryption (where a trusted party keeps a key that can read encrypted messages).

1- Very strongly disagree
2- Strongly disagree
3- Disagree
4- Neither disagree or agree
5- Agree
6- Strongly agree
7- Very strongly agree

Thank you very much for your participation!

APPENDIX C

Original questions of Hofstede

QUESTIONS FOR INDIVIDUALISM AND COLLECTIVISM - IDV (Hofstede, 2001, p.256)

Please think of an ideal job – disregarding your present job. In choosing an ideal job, how important would it be to you to (please circle one answer number in each line):

- Have challenging work to do, from which you can get a personal sense of accomplishment
- Live in an area desirable to you and your family
- Have an opportunity for high earnings
- Work with people who cooperate well with one another
- Have training opportunities (to improve your skills or learn new skills)
- Have good fringe benefits
- Get the recognition you deserve when you do a good job
- Have good physical working conditions (good ventilation and lighting, adequate work space, etc.)?
- Have considerable freedom to adopt your own approach to the job
- Have the security that you will be able to work for your company as long as you want to
- Have an opportunity for advancement to higher level jobs
- Have a good working relationship with your manager
- Fully use your skills and abilities on the job
- Have a job which leaves you sufficient time for your personal or family life

For each question should be chosen one of the following answers:

1. of utmost importance to me
2. very important
3. of moderate importance
4. of little importance
5. of very little or no importance

QUESTIONS FOR UNCERTAINTY AVOIDANCE - UAI (Hofstede, 1984, p.118-119)

- How often do you feel nervous or tense at work?
  1. I always feel this way
  2. Usually
  3. Sometimes
  4. Seldom
  5. I never feel this way

- A company or organization's rules should not be broken – even when the employee thinks it is in the organization's best interests.
  1. Strongly agree
  2. Agree
  3. Undecided
  4. Disagree
  5. Strongly disagree

- How long do you think you will continue studying or working in this professional field?
  1. Two years at the most
  2. From two to five years
  3. More than five years (but I probably will change)
  4. Until I retire