Willingness to disclose personal information when shopping online:

a comparison between consumers from the Netherlands, Germany, and Indonesia

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September 25th, 2015

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Management summary

E-commerce is growing rapidly. However, still many users avoid purchasing online due to privacy and security concerns, consumers are mainly hesitant to disclose personal information online. Consumers' personal information is a valuable asset for organizations as this can create competitive advantages when used in for example information driven programs (e.g. CRM) (Wakefield, 2013).

Objectives – The question remains which factors influence consumers' willingness to disclose personal information online. Increasingly, scholars stress the need for including cultural values in online privacy research. Therefore, this study will try to fill this theoretical gap by including Hofstede's framework. The research is conducted with participants from three countries: the Netherlands, Germany, and Indonesia. These countries are chosen as in all three countries e-commerce is high and/or is rapidly growing. Also, even though the Netherlands and Germany are neighboring countries, there are many differences in cultural values making it highly interesting to detect differences in the willingness to disclose personal information. Additionally, Internet skills are taken into account since to know how to use computers and the Internet is a prerequisite for online shopping. The purpose of this research is to develop and validate a research model concerning the factors that influence a consumer's willingness to disclose personal information.

Methods - The research model was tested using data collected with an online survey that was completed by 362 17-30 years old participants from the Netherlands, Germany, and Indonesia that have made an online purchase in the last twelve months. This method was chosen because providing the survey online is a necessity to easily and quickly obtain data from participants outside the Netherlands. For the data analysis, the research model was tested with multiple regression analyses executed in SPSS.

Findings – The results of this study confirm that perceived risk, perceived benefits, and website trust influence an individual's willingness to disclose personal information. The moderating influence of Internet skills and cultural values are only partially confirmed. When comparing the influence of these variables between the samples of the Netherlands, Germany, and Indonesia, various differences can be noticed. An important finding of this study is that the willingness to disclose personal information cannot be measured in general or as one scale. The willingness to disclose personal information should be measured in four subscales: required-, unrequired-, age-, and sensitive information. Another important finding is that when using Hofstede's framework, individual scores differ from national scores, which indicates the need to measure cultural values on an individual level in intercultural research.

Preface

This thesis is the end of my journey in obtaining my Master's degree in Communication Science. There are many people who made invaluable contributions.

I first, and most importantly want to thank my supervisors dr. Thea van der Geest and dr. Alexander van Deursen for their guidance and motivation. Our meetings were very pleasant and helpful.

Many thanks to my classmates in the "afstudeerkring" for their input and motivation, even outside of the meetings. Marcel, Hendrik, Casper, Svenja, and Arie, thank you for always being there for me.

For the Indonesian contacts of my supervisor dr. Thea van der Geest, I am very thankful that you were willing to distribute my survey among your students. Without you it would not have been possible to obtain so many Indonesian respondents.

Last but not least, I want to thank the unconditional support and motivation of my dear friends, family and colleagues.

Enschede, September 2015
Astrid Uilenberg

Table of content

1. Introduction

E-commerce is growing rapidly. Where consumers used to go to physical stores, nowadays many products and services are bought online. Therefore, many companies only have a web shop and not a physical store. Since many web shops are (or want to be) active in more than one country (e.g. Zalando, Amazon), which factors influence a consumer's willingness to disclose personal information, and whether there are differences between cultures becomes more interesting than ever before.

When conducting an online purchase, the consumer has to disclose certain types of information. Personal consumer information is a valuable asset to organizations, as this can create a strategic competitive advantage when used in for example information driven programs (e.g. CRM) (Wakefield, 2013). However, even though the popularity of purchasing online increases, many Internet users avoid shopping online because of privacy and security concerns (Lian & Lin, 2008; Treiblmaier & Chong, 2012). This is mainly due to their hesitation to disclose personal information on the Internet (Roca, García, & de la Vega, 2009). Also, privacy beliefs in e-commerce vary across cultures (Treiblmaier & Chong, 2012). Therefore, researchers stress the need for investigating cultural differences, preferably with the Hofstede framework. Furthermore, researchers stress the importance of including the privacy calculus theory in future models since Internet users clearly differentiate between the risk associated with the disclosure of different data types (Treiblmaier & Chong, 2012).

This research aimes to find out more about this topic by exploring factors that influence the willingness to disclose personal information when shopping online. In the remainder of this chapter an introduction to privacy and the e-commerce market is given. Subsequently, the goal and the practical and theoretical relevance will be described.

1.1 Information privacy

Since this study focuses on the willingness to disclose *personal information* online, privacy comes in. The term privacy is a broad concept. Already in 1995, Collier defined it as the state of being free from intrusion or disturbance in one's private life or affairs which includes a group of values like people's right to privacy of their own body, private space, privacy of communications and information privacy. The latter is of relevance in this study. In his book, van Dijk (2012) defines information privacy as: "the right to selective disclosure" and he states that "information privacy is about the grip the individual has and keeps over his or her personal data and over the information or decisions based on these data" (p.122). The user should be able to control what personal information will be disclosed and how this information will be used. Unfortunately, this is not always the case online. Even though that for this reason many people avoid shopping online (e.g. Treiblmaier & Chong, 2012), e-commerce is still growing.

1.2 E-commerce market

Mail order companies and web shops are at the moment the best performing businesses in the retail sector in the Netherlands (CBS, 2014). This finding is related to the number of e-shoppers in the Netherlands that is still increasing. In 2013, no less than 83% of the Internet users in the age of 12 to 75 stated that they shop online. This amounts to 10,3 million people. CBS states that frequent e-shoppers are people who made at least one online purchase in the last three months. Compared to 2012, the amount of frequent e-shoppers increased from 57% to 60%, this amounts to approximately 6 million people (CBS, 2014).

Germany is one of the global markets with the highest online shopping penetration rate as of the first quarter of 2015 (Statista, 2015). Of the Internet users in Germany, 72% had bought a product online during the last month.

Indonesia is also one of the global markets with the highest online shopping penetration rate as of the first quarter of 2015 as reported by Statista (2015). It was found in their survey that 62% of Internet users in Indonesia had bought a product online during the last month. This is a significant increase since Statista reported in 2014 that only 16% of the Internet users in Indonesia purchased goods online. Statista (2014) reported that the main reason for this low percentage was the distrust of online paying methods; the majority of Indonesians do not trust giving their credit card information to shopping websites. It can be expected due to this major increase, that nowadays the distrust of online paying methods is lower or is reduced by other factors, for example benefits of online shopping. Therefore it is very possible that consumers perform a risk-benefit analysis prior to conducting an online purchase.

With regard to sharing their personal information online to private companies, 54% of Indonesians and 26% of Germans find this not a problem (Statista, November 2014). This is in line with the findings of Statista (November, 2014) about the concerns of misuse of personal information; 65% of Indonesians and 30% of Germans feel that the chance of having their personal information compromised is small enough to not worry about it. A report of TNO (2015) shows that in the Netherlands, 58,4% have little to very little trust that web shops handle their personal information carefully.

Thus, e-commerce is growing rapidly, which makes the question what factors influence consumers' willingness to disclose when shopping online more interesting than even before.

1.3 Research goal

This study aims to explore factors that influence the willingness to disclose specific types of information when shopping online. These factors are derived from previous research. In the next chapter for each of those, definitions will be given as well as their relation to the context of this study.

In this paper, I investigate factors that influence the willingness to disclose personal information in e-commerce in the Netherlands, Germany, and Indonesia. These countries are chosen because in all three countries e-commerce is high and/or rapidly growing. Also, even though the Netherlands and Germany are neighboring countries, there are many differences in cultural values, which makes it highly interesting to detect differences in the willingness to disclose personal information.

Therefore, this study aims to answer the following research questions:
RQ1: What factors influence an individual's willingness to disclose personal information?
RQ2: To what extent does the influence of these factors differ between consumers from the Netherlands, Germany, and Indonesia?

1.4 Practical relevance

Businesses and organizations develop strategies, based on consumer's personal information, to enhance the online experience and maximize profitability (Gupta, Iyer, & Weisskirch, 2010). Thus, organizations that can influence consumers to disclose information online are likely to have a competitive advantage since they are more cabaple to customize their strategy

and therefore increase revenues (Gupta et al., 2010). This study wants to contribute to this by exploring factors that drive the willingness to disclose specific types of personal information.

1.5 Theoretical relevance

There are many studies that investigate the willingness to disclose personal information online. However, few of these investigate specific types of personal information consumers are willing to disclose and whether there are any differences between cultures (Gupta, et al., 2010; Treiblmaier & Chong, 2012). This study aims to fill this theoretical gap by exploring the moderating effect of culture on the relationship between perceived risk, website trust, and the willingness to disclose personal information. Furthermore, this study investigates whether consumer's level of Internet skills influences the relationship between perceived risk, website trust, and the willingness to disclose personal information.

2. Literature review

This study focuses on consumers' willingness to disclose personal information in the context of e-commerce. To answer the two main research questions "what factors influence an individual's willingness to disclose personal information?" and "to what extent does the influence of these factors differ between consumers from the Netherlands, Germany, and Indonesia?" first these factors have to be identified. In the following sections these are derived from previous research: perceived risk, perceived benefits, website trust, cultural values, and Internet skills.

2.1 Willingness to disclose personal information

The dependent variable in this study is the willingness to disclose personal information. According to Dinev and Hart (2006) personal information refers to the type of information necessary to complete transactions on the Internet. In order to make an online purchase, users have to disclose a variety of personal data, such as their name, address, e-mail address, telephone number, and credit card information. The willingness to disclose is often called intention to disclose or intention of self-disclosure. These terms already indicate that it is not the actual behavior, but the intention towards disclosure that is measured. Thus, the disclosure of information is behavior, and the willingness to disclose information is a behavioral intention.

Consumers may be more or less willing to disclose specific types of information. For example, online shoppers understand that providing the shipping and billing addresses is necessary to make an online purchase. However, they may be reluctant to provide other information to the same website if they assess it as too risky, too personal, or too private to disclose (Wakefield, 2013), in other words, sensitive information. Information sensitivity contributes to the level of uncertainty or risk regarding information disclosure (Treiblmaier & Chong, 2012; Wakefield, 2013). The level of sensitivity of information varies with individual differences, however, in general consumers assess financial data and medical information as more sensitive and lifestyle characteristiscs and shopping habits as less sensitive (Malhotra, Kim, & Agarwal, 2004). In their cross-cultural e-commerce research, Gupta, Iyer, and Weisskirch (2010) stress that several studies have confirmed that when it comes to sharing sensitive personal information, such as health, medical, financial and social security data, consumers have higher concerns and are less willing to provide this information. Therefore, in order to detect differences, this study measures the willingness to disclose specific types of information (e.g. name, phone number, financial information).

2.2. The Privacy Calculus Theory

The privacy calculus theory will be used as the theoretical starting point for this study. This theory is commonly used in studies that analyze privacy perception and behavioral intention (Li, 2012). According to the privacy calculus theory, a person's intention to disclose information is based on a calculus of behavior, in which a person performs a risk-benefit analysis and makes decisions on whether or not to disclose their personal information (Dinev & Hart, 2006). If individuals perceive that the overall benefits of disclosure are at least balanced by the perceived risks involved, they are more willing to disclose personal information (Dinev & Hart, 2006). The privacy calculus theory identifies perceived risks and perceived benefits as independent variables that influence the behavioral intention: willingness to disclose personal information.

2.2.1 Perceived Risk

Perceived risk is defined by Dinev, Xu, Smith, and Hart (2013) as "the user's perceived expectation of suffering a negative outcome as a consequence of online disclosure of personal information". Smith, Dinev, and Xu (2011) state that the calculation of risk includes a consideration of the probability of negative consequences including the degree of severity of those consequences. Thus, risks are an expectation, in other words, a probability of an occurrence.

There are many different types of risks related to the disclosure of personal information, and they depend on the amount and sensitivity of the types of information that is disclosed (Beldad, de Jong, & Steehouder, 2011). Malhotra et al. (2004) state that disclosing more sensitive information is perceived as more risky than releasing less sensitive information. Smith, et al. (2011) stress that previous research has identified the types of perceived risks with regard to the disclosure of personal information. These risks are the misuse of personal information, for example unauthorized access and theft, and sharing personal information without knowledge or consent of the consumer (Dinev & Hart, 2006; Dinev et al., 2013; Smith et al., 2011).

When people feel that their personal information is being misused, individuals will engage in an evaluation about the extent of the uncertainty involved; the higher the uncertainty, the higher the perceived risk (Xu, Dinev, Smith, & Hart, 2011). Xu et al (2011) conducted a study including among other constructs, perceived risk and privacy concerns in e-commerce. They concluded that with high perceived risk with regard to information disclosure, the individual will have high concerns about what may happen to the disclosed information. A consumer may therefore be less willing to disclose personal information. Several studies have supported the negative impacts of perceived risk on the intention to disclose personal information in e-commerce (e.g. Malhotra, Kim, & Agarwal, 2004; Treiblmaier & Chong, 2012). Therefore, this study expects that when perceived risk is high, people are less willing to disclose personal information.

H1: Perceived risk negatively influences the willingness to disclose personal information.

2.2.2 Perceived benefits

Sun, Wang, and Shen (2014) state that perceived benefits include all the benefits resulting from disclosing personal information. Furthermore they state that perceived benefits vary across research contexts. Thus, perceived benefits in e-commerce differ from perceived benefits in for example social networking sites. Following Beldad, de Jong, and Steehouder (2011), benefits for the disclosure of personal information can be tangible or intangible.

Tangible benefits for online information disclosure can include vouchers, cash, or gift items (p. 226). Several studies confirm that financial benefits make individuals more likely to disclose personal information (e.g. Xu, Teo, Tan, and Agarwal, 2010; Beldad et al., 2011).

Intangible benefits are the convenience of shopping online, and the experience of the enjoyment of personalization and personalized services (Beldad et al., 2011, p. 226). Chellapa and Sin (2005) define personalization as "the ability to proactively tailor products and product purchasing experiences to tastes of individual consumers based upon their personal preference information" (p. 181). In their study Chellapa and Sin (2005) surveyed consumers from various webshops and found that perceived benefits of personalization are almost two times more influential than the perceived risk of the misuse of their disclosed personal information. Therefore, this study presumes that when the perceived benefits are higher, consumers are more willing to disclose personal information.

H2: Perceived benefits positively influences the willingness to disclose personal information.

2.3 Website trust

The level of trust a consumer has in a website plays a decisive role in the willingness to disclose personal information. Several studies found that consumers who trust the organization, are more willing to disclose their personal information (e.g. Schoenbachler and Gordon, 2002; Gefen, Karahanna, and Straub, 2003; Dinev and Hart, 2006). Therefore, when users trust a specific website, and hold beliefs that this website is reliable and safe, the willingness to disclose personal information should increase.

In the context of information disclosure, trust is about that consumers feel secure about disclosing personal information to the organization (Wirtz & Lwin, 2009). According to Wakefield (2013, p. 161), "website trust reflects the user's belief that the website will keep its promises and commitments, and cares for the interests of the website user". Wakefield (2013) found support that website trust beliefs are positively related to intentions to disclose personal information. In this study, website trust is used, because this specifically refers to trust in a web retailer and is therefore an excellent fit for this study.

H3: Website trust positively influences the willingness to disclose personal information.

2.4 The moderating effect of Internet skills

Internet skills are the skills needed to operate computers and the Internet. Many studies have operationalized Internet skills; sometimes it is called digital skills (van Dijk, 2012), digital literacy (Park, 2012) or Internet literacy (Dinev & Hart, 2006). Van Deursen, Helsper, and Eynon (2014) use the term Internet skills. This study will use their design to measure Internet skills and therefore will also use this term.

When a person does not know how to use computers or the Internet, he or she simply can't make an online purchase. Thus, to know how to use computers and the Internet is a prerequisite for online shopping. Furthermore, Park (2011) reveals in his study that people who are more digital literate (i.e. have better Internet skills) are more aware of privacy risks, in his study privacy risk regards phishing. Dinev and Hart (2006) confirm in their study that people with better Internet skills feel that they have more control over their computer, have more knowledge of potential dangers, are more able to protect themselves against these dangers and therefore have lower privacy concerns. Even though their privacy concerns are lower, they are more aware of potential dangers. Therefore it is interesting to test the moderating effect of Internet skills between perceived risk and the willingness to disclose personal information.

H4a: The relationship between perceived risk and the willingness to disclose personal information is moderated by Internet skills.

Dutton and Shepherd (2006) claim that people with appropriate Internet skills are more likely to trust the Internet and are able to authenticate the value of products, services and information, and are therefore more able to protect themselves against cyber fraud and crime. This might be due to the higher comfort level with being able to protect themselves online. The relationship between Internet skills and Website trust has not been confirmed yet. Even though both constructs have been researched in the same study, the relationship between these two has not been tested. Therefore it is interesting to research if the relationship between

website trust and the willingness to disclose changes when Internet skills are being taken into account.

H4b: The relationship between website trust and the willingness to disclose personal information will be moderated by Internet skills.

To measure Internet skills properly, the frequency of using the Internet and for what purposes it is used can be surveyed (van Deursen et al. 2012). Therefore, Van Deursen, et al. (2014), designed a set of measures of Internet skills. These skills are operational, information navigation, social, mobile, and creative skills. Mobile and creative skills are excluded from this study because mobile skills regard skills with apps on a mobile device and creative skills are about creating content and website design. These skills are not necessary for online shopping and are therefore excluded in this study.

The other three sets of skills are needed to be able to conduct an online purchase. Operational skills are defined as the skills to operate digital media (van Deursen et al., 2014). This construct measures a set of basic skills, for example how to open a new tab in the browser. Information navigation skills include the skills to search, select, and evaluate information in digital media. These skills include being able to find certain websites. When looking for a certain product online, it is important that one knows how to find the website that offers this product. Social skills include skills about information sharing (van Deursen et al., 2014). These skills include knowing when to share information and with whom.

2.5 The moderating effect of cultural values

Previous research shows that culture is one of the constructs that influences consumer's willingness to disclose personal information when shopping online (e.g. Chong, Yang, & Wong, 2003; Gupta, Iyer, & Weisskirch, 2010). Researchers also stress the need for including cultural values in e-commerce research (e.g. Treiblmaier & Chong, 2012). Since this study includes consumers from different countries, cultural values are used as a moderator to see if certain relationships change when culture is taken into account.

To date a lot of research on culture has been conducted, and definitions of culture are myriad. The most frequently used conceptualization of culture is Hofstede's (1980, 2001) classification of cultural dimensions. Even though the research of Hofstede is in a work-related context, his dimensions are now used increasingly in business and marketing studies (Yoon, 2009). Hofstede defines culture as: "*the collective programming of the mind that distinguishes the members of one group or category of people from others*" (Hofstede, Hofstede, & Minkov, 2010, p. 6). Hofstede focused on differences between cultures. He identified the following dimensions on which cultures can differ: individualism (IND), power distance (PDI), masculinity (MAS), uncertainty avoidance (UAI), long-term orientation (LTO) and indulgence versus restraint (IVR). The latter will not be taken into account in this study, as this dimension is new and lacks applicable scientific research.

2.5.1 Cultural values on an individual level

A major problem with Hofstede's indices is, is that they are defined on a national level. This means that individuals from a specific country are equally assigned to Hofstede's indices. However, for example, a Dutch consumer who is, according to Hofstede's index, individualistic and feminine, may show a different cultural orientation (Yoo, Donthu, & Lenartowicz, 2011). Furthermore, Hofstede emphasized that culture is learned, not innate, and that it derives from one's social environment (Hofstede, Hofstede, & Minkov, 2010, p. 6).

Therefore it is important to measure *individual* cultural orientation, mostly in countries with a heteregenous population with different cultural backgrounds (Yoo et al., 2011). Furthermore, several researchers have unsuccesfully tried to use Hofstede's scales to measure cultural orientation at an individual level (Yoo et al., 2011). Therefore, Yoo and Donthy (1998) developed the CVSCALE (individual Cultural Values SCALE) to measure culture at an individual level. The scale is based on Hofstede's original questions, and has been validated in different countries (Yoo et al., 2011). Thus, this study will also measure the culture orientation of the respondents at an individual level.

In the following paragraphs, the choice of countries will be explained and the dimensions of Hofstede will be defined. Furthermore, previous research will be highlighted that showcases the relationship between the dimension and the independent variables in this study.

2.5.2. Choice of countries

In this study the cultural values of respondents from The Netherlands, Germany and Indonesia are measured. These countries are chosen for several reasons. First, in all three countries e-commerce is high and/or is rapidly growing. Second, even though the Netherlands and Germany are neighboring countries, there are many differences in cultural values (table 1) making it highly interesting to detect differences in the willingness to disclose personal information. Third, to obtain a level of contrast, a country outside of Europe was needed. Finally, Indonesia is chosen, not only for their growing e-commerce, but also for practical reasons: easy access to respondents thanks to contacts of the researcher's supervisor.

Table 1.
Country Index Values on Hofstede's dimensions (Hofstede, Hofstede, & Minkov, 2010)

Dimension	The Netherlands	Germany	Indonesia
Power distance	38	35	78
Individualism/Collectivism	80	67	14
Masculinity/Femininity	14	66	46
Uncertainty avoidance	53	65	48
Long term orientation	67	83	62

Note. Maximum score is 100

In table 1 the *national* scores of the Netherlands, Germany, and Indonesia are listed. This will give an indication of the cultural values of the consumers from these countries, and the differences between these countries. The following observations can be made from this table:

- The Netherlands has a low PDI, is individualistic, feminine, has a somewhat low UAI, and has a somewhat high LTO.
- Germany has the lowest PDI of the three, is more individualistic than collectivistic, is masculine, has a somewhat high UAI, and a high LTO.
- Indonesia has a high PDI, is collectivistic, the score for the MAS dimension is just below the middle, which means Indonesia is somewhat more feminine than masculine, has a low UAI, and a somewhat high LTO.

In the following sections, the dimensions will be defined and placed in context with e-commerce research.

2.5.3 Power distance index (PDI)

Power distance is "the extent to which the less powerful members of institutions and organizations within a country expect and accept that power is distributed unequally" (Hofstede, Hofstede, & Minkov, 2010, p.61). A low, or small-power-distance score, means there is limited dependence of subordinates on bosses, there is a preference for interdependence among boss and subordinate, and the emotional distance between them is small (Hofstede et al., 2010). A high, or large-power-distance score, means there is considerable dependence of subordinates on bosses, and the emotional distance is large (Hofstede et al., 2010).

Bellman, Johnson, Kobrin, and Lohse (2004) analyzed the effects of cultural values (PDI, MAS, UAI, IND), on a national level, on concerns about information privacy. They found that consumers from a culture with a low PDI score have higher levels of concern about unauthorized secondary use. Thus, people with a low PDI score are more concerned that their personal information will be misused. The unauthorized secondary use construct can be compared with the perceived risk construct in this study. In contrast, for the reason that consumers from a high PDI country hold higher expectations that a service provider (e.g. a web shop) will engage in unethical behavior, several scholars argue that consumers from a high PDI country may express less trust towards a service provider (web shop) than consumers from a low PDI country (e.g. Gefen & Heart, 2006; Gupta, Iyer, & Weisskirch, 2010). However, this expectation has not yet been confirmed. Due to these findings, this study expects that people who score low on PDI will also have a higher perceived risk, and are therefore less willing to disclose personal information. Furthermore, power distance will have a moderating effect on website trust and the willingness to disclose personal information, however it is unclear if this effect will be positive or negative.

H5a: PDI moderates the relationship between perceived risk and the willingness to disclose personal information.
H5b: PDI moderates the relationship between website trust and the willingness to disclose personal information.

2.5.4 Individualism/Collectivism (IND)

Individualism pertains to "societies in which the ties between individuals are loose: everyone is expected to look after him- or herself and his or her immediate family". Collectivism pertains to "societies in which people from birth onward are integrated into strong, cohesive in-groups, which throughout people's lifetime continue to protect them in exchange for unquestioning loyalty" (Hofstede, Hofstede, & Minkov, 2010, p. 92).

Higher collectivistic cultures have lower risk perceptions compared to higher individualistic cultures (Gupta et al., 2010). This is due to the lack of value on personal privacy in collectivistic cultures. They are comfortable with sharing their personal thoughts, beliefs, and trust within their family and community, but not necessarily with people outside these circles (Gupta et al., 2010). This manifests in reduced perceived risk, as collectivistic people rely on their friends, family, and society to help bear the negative consequences of risk (Gupta et al., 2010). Moreover, collectivistic cultures have a greater acceptance that organizations can intrude one's private life (Bellman et al., 2004). This acceptance also suggests that collectivistic cultures are less concerned about their privacy, and have lower levels of perceived privacy risk. Thus, more collectivistic consumers will have lower levels of perceived risk and are therefore more willing to disclose personal information.

H6a: IND moderates the relationship between perceived risk and the willingness to disclose personal information.

According to Gupta et al. (2010), several studies confirm that high IND is related to higher trust towards others. Individualistic countries have higher trust because in these cultures, people expect others to follow the rules of conduct (Hofstede, 1980). Individualists trust others, until they give them reasons not to trust them (Chong, Yang, & Wong, 2003). Thus, in high individualistic cultures, people are more willing to rely on strangers and trust them (Gefen and Heart, 2006). Therefore, individualistic consumers should be more likely to trust websites, and be more wiling to disclose personal information (Gupta et al., 2010).

H6b: IND moderates the relationship between website trust and the willingness to disclose personal information.

2.5.5 Masculinity/Femininity (MAS)

A society is called masculine when emotional gender roles are clearly distinct: men are supposed to be assertive, tough, and focused on material success, whereas women are supposed to be more modest, tender, and concerned with the quality of life. A society is called feminine when emotional gender roles overlap: both men and women are supposed to be modest, tender, and concerned with the quality of life (Hofstede, Hofstede, & Minkov, 2010, p. 140).

Masculinity is positively related to perceived risk. Bellman et al. (2004) explain this by the fact that masculine cultures prefer achievement and material rewards, and therefore perhaps prefer the economic benefits that derive from disclosing personal information. Masculine consumers may therefore care less about perceived risk. They confirm this finding in their study as consumers who score low on MAS have higher levels of concern about perceived risk.

H7: MAS moderates the relationship between perceived risk and the willingness to disclose personal information.

Even though no literature can be found on the relationship between MAS and trust, this study will research this. This is due to the emphasis of Hwang and Lee (2012) that research is needed to explain how cultural factors influence website trust and consumer behavior. This study aims to contribute to this research gap.

H7b: MAS moderates the relationship between website trust and the willingness to disclose personal information.

2.5.6 Uncertainty Avoidance Index (UAI)

Uncertainty avoidance is defined as “the extent to which the members of a culture feel threatened by ambiguous or unknown situations” (Hofstede, Hofstede, & Minkov, 2010, p. 191). People from high UAI cultures are more hesitant towards new products and information. They are slower in introducing electronic communications tools (e.g. mobile phones, e-mail, the Internet) (Hofstede, Hofstede, & Minkov, 2010, p. 207). Furthermore, high UAI cultures have a higher need for general security, whereas low UAI cultures have a higher need for adventure and stimulation (Lowry, Cao, & Everard, 2011). Finally, people

from high UAI cultures avoid uncertainty about their personal information by limiting access from others to this information (Lowry, Cao, & Everard, 2011).

People with low UAI deal more easily with uncertainty or risk than people with high UAI (Hwang & Lee, 2012). In cultures with high UAI, the sensitivity to possible risks is higher, and therefore the perceived risk is higher (Dinev, Bellotto, Hart, Russo, Serra, & Colautti, 2006). In their e-commerce study between Italy and the United states, Dinev et al. (2006) confirmed this finding and showed the moderating effect of uncertainty avoidance on perceived risk and purchase intention. Although the dependent variable in this study is different from Dinev et al (2006), this study expects the same results because making an online purchase requires disclosing information. Thus, when people who score high on UAI are less willing to make an online purchase due to high perceived risk (Dinev et al., 2006), they may also be less willing to disclose personal information.

H8a: UAI moderates the relationship between perceived risk and the willingness to disclose personal information.

Cyr (2013) found in her cross-cultural e-commerce study that in cultures where UAI is high, there is less website trust. Yoon (2009) states that UAI and perceived risk may have the same effect on website trust in e-commerce and therefore website trust would have less effect on people's behavior when UAI is high. He confirms this finding in his study; the higher the degree of UAI, the lower the effects of website trust on the intention to use online shopping.

H8b: UAI moderates the relationship between website trust and the willingness to disclose personal information.

2.5.7 Long-term versus short-term orientation (LTO)

Hofstede (2010) defines long-term orientation as: "the fostering of virtues oriented toward future rewards – in particular, perseverance and thrift" (p.239). The opposite, short-term orientation is defined as: "the fostering of virtues related to the past and present – in particular, respect for tradition, preservation of "face", and fulfilling social obligations" (Hofstede, 2010; p. 239).

One of the characteristics of long-term orientation is investment in the future. Which, according to Goodrich and de Mooij (2011), can suggest that consumers with high long-term orientation are less receptive to e-commerce, and have less desire for convenience. Furthermore, according to Gupta et al. (2010), individuals from cultures low in long-term orientation have a higher trust with impersonal activities, for example activities online. Gupta et al. (2010) also state that individuals from cultures high in long-term orientation have beliefs in future rewards that allow them to take risks during vulnerability or uncertainty. This can suggest that these individuals are less concerned with privacy risk.

H9a: LTO moderates the relationship between perceived risk and the willingness to disclose personal information.

H9b: LTO moderates the relationship between website trust and the willingness to disclose personal information.

2.8 Research model

Several hypotheses are derived from the theoretical framework. An overview of all the hypotheses of this study can be found in table 2.

Table 2.
Overview of this study's hypotheses

H1	Perceived risk negatively influences the willingness to disclose personal information.
H2	Perceived benefits positively influences the willingness to disclose personal information.
H3	Website trust positively influences the willingness to disclose personal information.
H4a	The relationship between perceived risk and the willingness to disclose personal information will be moderated by Internet skills.
H4b	The relationship between website trust and the willingness to disclose personal information will be moderated by Internet skills.
H5a	PDI moderates the relationship between perceived risk and the willingness to disclose personal information.
H5b	PDI moderates the relationship between website trust and the willingness to disclose personal information.
H6a	IND moderates the relationship between perceived risk and the willingness to disclose personal information.
H6b	IND moderates the relationship between website trust and the willingness to disclose personal information.
H7a	MAS moderates the relationship between perceived risk and the willingness to disclose personal information.
H7b	MAS moderates the relationship between website trust and the willingness to disclose personal information.
H8a	UAI moderates the relationship between perceived risk and the willingness to disclose personal information.
H8b	UAI moderates the relationship between website trust and the willingness to disclose personal information.
H9a	LTO moderates the relationship between perceived risk and the willingness to disclose personal information.
H9b	LTO moderates the relationship between website trust and the willingness to disclose personal information.

With these hypotheses, the following model can be drawn (figure 1) that incorporates all the independent and moderating variables from the theoretical framework.

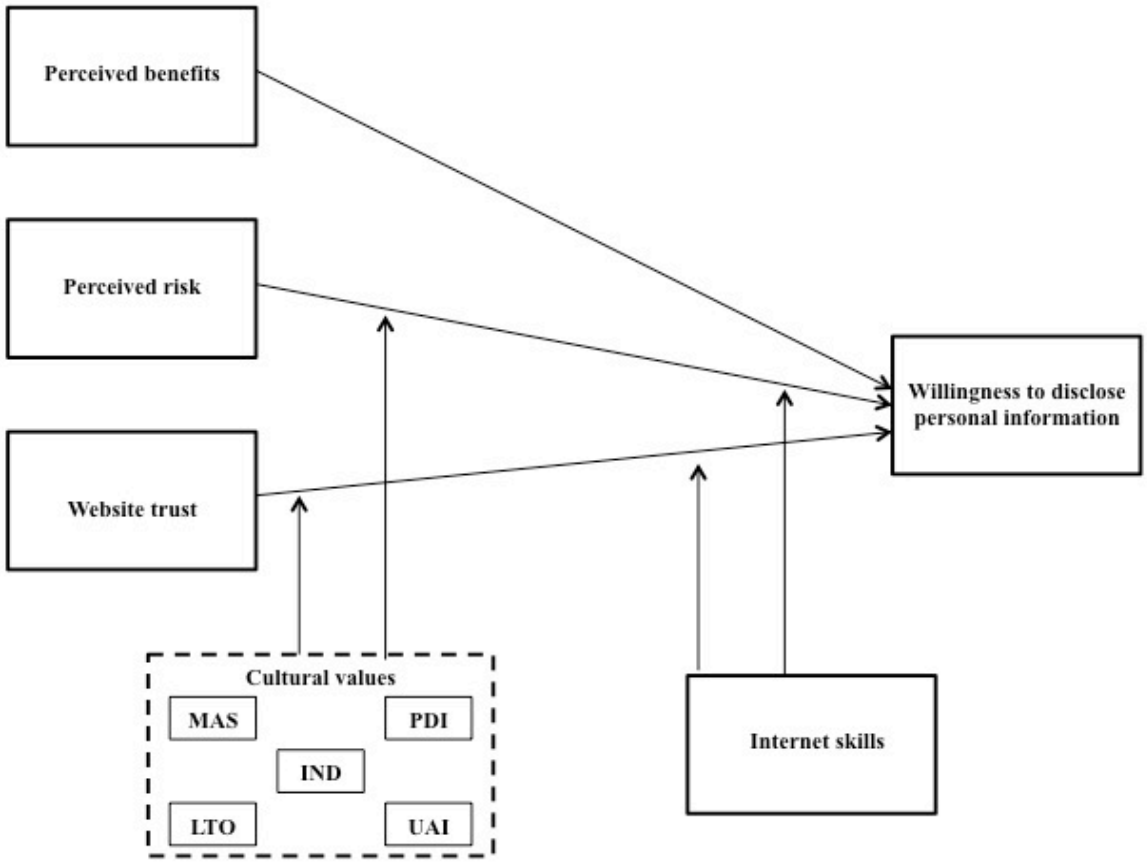

Figure 1: a model for an intercultural study in online privacy research.

3. Research design

The research model was tested using data collected with an online survey that included items for the constructs stated in the model. This method was chosen because providing the survey online is a necessity to easily and quickly obtain data from participants outside the Netherlands. The development of the survey as well as the participants and procedure will be presented in the following sections.

3.1 Development of Measurement Scales

To measure the constructs, several scales from existing literature have been selected. All of these scales have been widely used in online privacy studies and have proven their reliability. The phrasing of the scales has been adapted to fit this study. An overview of all scales can be found in appendix A.

It has been found that 7-point Likert scales will prevent participants from responding too neutral (Colman & Norris, 1997). Therefore, even though the website trust, perceived benefits, and perceived risk scales are measured on a 5-point Likert scale in their original study, this study will measure these constructs on a 7-point scale.

The willingness to disclose personal information

To measure the willingness to disclose personal information, participants rated thirteen items of specific personal information. This scale has been developed by Gupta et al. (2010) for their privacy study to measure differences between United States and Indian customers. The alphas were 0.88 for the US respondents, and 0.87 for the Indian respondents.

Website trust

Wakefield (2013) adapted the scale of Jarvenpaa et al. (2000) to measure website trust. In his study he indicated the reliability of this scale with a 0.95 alpha. He used this scale to measure the willingness to disclose personal information to a website. Therefore this scale is an excellent fit for this study and thus this scale is used to measure participants' website trust.

Perceived risk

In order to measure perceived risk, the scale of Xu et al. (2011) is used. In their study they researched information privacy concerns of consumers on four different types of websites including an e-commerce website. The alpha of this scale is 0.87.

Perceived benefits

To measure perceived benefits, the scale of Dinev et al (2013) is used. The reliability of their scale is indicated with an alpha of 0.76 and a composite reliability of 0.86. In order to measure if financial aspects have an influence on consumers, the fourth item has been self-developed and added to the construct.

Internet skills

For the Internet skills construct, the scale of Van Deursen et al. (2014) is used. The alphas for the scales are 0.86 for operational skills, 0.90 for information navigation skills, and 0.88 for social skills. The items are measured on a 5-point Likert scale with self-reported truth response items from "not at all true of me" to "very true of me". Van Deursen et al. added the option "I do not understand what you mean by that" for the reason that not knowing what something is, is different to knowing what something is but not knowing how to do it.

Cultural values

Yoo and Donthy (1998) developed the CVSCALE (individual Cultural Values SCALE) based on Hofstede's original questions, Hofstede's other works, and non-Hofstede works which carries the core meanings of Hofstede's dimensions. The CVSCALE is "a scale that measures Hofstede's five cultural dimensions at the individual level for a more general context while achieving satisfactory psychometric properties" (Yoo et al., 2011; p.197). The CVSCALE has been validated in different countries and showed high reliability. According to Yoo et al. (2011), this shows cross-national generalizability of the scale. Furthermore, since 1998, the CVSCALE has been used by many scholars to test theories where individual cultural orientations are of interest (Yoo et al., 2011). Thus, this scale is used since this is an excellent fit for this study because cultural values on an individual level are of interest.

3.2 Participants

To be able to participate in this study, participants had to meet specific criteria to guarantee a reasonable level of homogeneity. The first requirement is that they conducted an online purchase in the last twelve months. Second, they have to be from the Netherlands, Germany or Indonesia. Lastly, they have to be between 17 and 30 years old.

The survey is offered in English and not in the native language of the participants, making the answering of the survey comparable for the three nationalities. This decision was made for the reason that translation into Bahasa could cause problems. First, the right people had to been found to translate into Bahasa and back to English. Second, problems with the context could occur. Even though these problems would not occur with translation into Dutch or German, every participant had to answer in English.

3.3 Pre-test

After creating a draft version of the survey, 15 respondents were asked to fill out the survey while speaking their comments out loud. These respondents included people from the Netherlands, Germany and Indonesia to make sure that the survey is understandable for respondents from these countries. After the pre-test, the wording of several questions was changed to avoid ambiguity. Furthermore, the order of the questions was changed to create a better flow.

3.4 Procedure

After the pre-test, the final survey was programmed into the online survey platform Qualtrics. Participants were recruited in several ways. First, the researcher sent the survey to her contacts via social media and e-mail. Second, students from behavioural sciences at the University of Twente were invited to participate in exchange for SONA-credits, which they need to successfully complete their first year. Third, through contacts of the supervisor of the researcher, the survey was sent to Indonesian respondents via e-mail.

The scales are developed with the focus on a specific web shop or website. Thus a way had to be devised to let respondents think about a specific web shop. Therefore, to obtain a level of generalizability, respondents had to think of their latest online purchase while completing the survey. To ensure that respondents could remember their latest purchase better, several general questions about this purchase where asked, such as what they bought and on which web shop.

When participants accessed the survey, first a welcome message was shown with information about the study and about their voluntary participation. After answering

demographic questions, they were led to the questions for each scale. After finishing the survey, a thank you message was shown and they were informed with actions they could take when wanting to contact the ethics commission or if they wanted their data removed. The survey can be found in appendix B.

4. Results

This chapter will reveal which factors influence the willingness to disclose personal information in e-commerce. First, an overview of the groups will be introduced including the differences between the groups for each construct. Additionally, the quality of the data had to be validated to ensure that the data is consistent and reliable. Finally, the research model will be tested and each hypothesis will be addressed.

4.1 Participants

A total of 651 surveys were collected. After removing incomplete surveys (i.e. respondents who quit after the demographic questions), 448 surveys were entered in IBM SPSS Statistics 20. In this sample, 46 respondents indicated they had never made an online purchase, and were led to the end of the survey. Furthermore, 36 respondents were not part of the target group because they were older than 30 years and 4 respondents came from other countries (China, UK, Sierra Leone, and Thailand) and were therefore excluded. This resulted in 362 surveys suitable for further analysis.

4.1.1 Demographics

In this paragraph, the findings of the demographic questions are presented (table 3). All of the respondents are between 17 and 30 years old. The research sample contains mostly students, and slightly more women than men. Furthermore, in Germany, 1 respondent did not want to reveal his or her gender.

Since most respondents are students (81,2%), Mann-Whitney tests have been performed to reveal systematic differences between students and non-students on the willingness to disclose personal information. These tests revealed that the distribution of students and non-students scores is the same on willingness to disclose personal information, except on WDIunrequired (Mdn students = 2.5, Mdn non-students = 2), U = 6620.5, p = .004. Therefore, no additional measures were taken.

Table 3.
Demographics of the respondents

	Netherlands	Germany	Indonesia	Total
Responses	113 (30.9%)	109 (29.8%)	140 (38.3%)	362 (100%)
Male	40 (35.7%)	40 (36.7%)	62 (44.3%)	142 (39.3%)
Female	72 (64.3%)	68 (62.4%)	78 (55.7%)	218 (60.4%)

Since the sample contains slightly more women than men, chi square tests were performed to determine if gender is related to the willingness to disclose personal information. These tests revealed that no relationship exists between gender and the willingness to disclose personal information (X^2 (58) = 66.29, p >.05).

4.1.2 Internet use

Respondents were asked how many hours per day they use the Internet. The Internet use is high in the total sample (M = 3.40, SD = 1.05), whereby Internet use is the highest in the Indonesian group (M = 3.95, SD = 0.99), followed by German respondents (M = 3.11, SD = 0.92) and Dutch respondents (M = 3.00, SD = 0.96). A mean of 3.00 represents 3-4 hours of Internet use per day.

In order to check for alternative explanations caused by the difference in Internet use between the three groups of respondents, a one-way ANOVA test was performed. The test

revealed that there were no extreme outliers and the data was normally distributed for each group, as assessed by the boxplot and Shapiro-Wilk test ($p < .05$). Homogeneity of variances was violated, as assessed by Levene's Test of Homogeneity of Variance ($p < .05$). The daily Internet use was statistically significantly different between the three countries, Welch's F (2, 228.31) = 34.887, $p < .001$. Tukey's multiple comparisons revealed that there is a statistically significant difference ($p < 0.001$) between the Internet use of Indonesian respondents compared to the Internet use of Dutch and German respondents. There was no statistically significant difference between the Internet use of the Dutch and German respondents ($p = .675$).

For the reason that the daily Internet use of the respondents was significantly different, it is tested if this would have an influence on further analysis. When including daily Internet use in the regression analysis with all independent variables in this study, no significant influence was found on willingness to disclose in the separate country groups, only in the total group. Therefore, daily Internet use is not included as an independent variable in further analysis.

Before the regression analysis is executed, an overview will be given of how respondents rate the independent variables: perceived risk, perceived benefits, website trust, Internet skills and cultural values. Furthermore, it is tested whether these ratings significantly differ between the groups. To test this, one-way ANOVA tests were performed for every independent variable. For every test the normal distribution was checked followed by the assumption of homogeneity. When the homogeneity of variances was found tenable, Tukey's HSD test was used to evaluate differences. When homogeneity of variances was not found tenable, the Welch ANOVA test was used.

These tests are helpful in order to detect group differences, which can help explain the results of the regression analysis.

4.1.3 Perceived risk

The overall rating of perceived risk in this study is M = 3.90, SD = 1.31. Respondents from the Indonesian group have the highest perceived risk, followed by German and Dutch respondents (table 4).

The assumption of homogeneity of variances was tested and found tenable using Levene's Test (2, 339) = 1.874, p .155. The ANOVA was significant F (2, 339) = 46.501, p <.001. Thus, there is a significant difference on perceived risk between the three groups. Post hoc comparisons to evaluate differences among group means were conducted with the use of Tukey HSD test. This test revealed significant pairwise differences between the mean scores of respondents from all three groups (table 4). Dutch respondents score significantly lower than German and Indonesian respondents. German respondents score significantly higher than Dutch respondents, and lower than Indonesian respondents. Finally, Indonesian respondents score significantly higher than Dutch and German respondents.

Table 4.
ANOVA post hoc comparisons on perceived risk

Nationality	Nationality	Mean difference	Std. Error
Dutch (M = 3.20, SD = 1.22)	German	-0.50	.16**
	Indonesian	-1.43	.15***
German (M = 3.70, SD = 1.09)	Dutch	0.50	.16**
	Indonesian	-0.93	.15***
Indonesian (M = 4.63, SD = 1.17)	Dutch	1.43	.15***
	German	0.93	.15***

*Note. *p < .05 **p < .01 *** p < .001*

4.1.4 Perceived benefits

The overall rating of perceived benefits in this study is M = 4.48, SD = 1.30. Indonesian respondents have the highest score on perceived benefits, followed by Dutch and German respondents (table 5).

The assumption of homogeneity of variances was tested and found tenable using Levene's Test (2, 340) = 1.585, p .206. The ANOVA was significant F (2, 340) = 7.434, p <.01. Thus, there is a significant difference on perceived benefits between the three groups. Post hoc comparisons to evaluate differences among group means were conducted with the use of Tukey HSD test. This test showed significant pairwise differences (table 5). Dutch respondents score significantly higher than German respondents. German respondents score significantly lower than Dutch and Indonesian respondents. Finally, Indonesian respondents score significantly higher than German respondents. However, Dutch and Indonesian respondents do not differ significantly.

Table 5.
ANOVA post hoc comparisons on perceived benefits

Nationality	Nationality	Mean difference	Std. Error
Dutch (M = 4.52, SD = 1.39)	German	0.42	.17*
	Indonesian	-0.22	.16
German (M = 4.10, SD = 1.39)	Dutch	-0.42	.17*
	Indonesian	-0.64	.16***
Indonesian (M = 4.74, SD = 1.20)	Dutch	0.22	.16
	German	0.64	.16***

*Note. *p < .05 **p < .01 *** p < .001*

4.1.5 Website trust

The rating of website trust in this study is high (M = 5.44, SD = 0.98). Website trust is the highest in the Dutch group, followed by the German and Indonesian group (table 6).

The assumption of homogeneity of variances was not found tenable (2, 341) = 8.772, p .000. Thus, the Welch ANOVA is used. This test is statistically significant (p <.001) and thus it can be concluded that not all group means are equal. Games-Howell post hoc tests revealed significant pairwise differences. Dutch respondents score significantly higher on website trust than German and Indonesian respondents. German respondents score significantly lower than Dutch respondents. Indonesian respondents score significantly lower than Dutch respondents. German and Indonesian respondents do not differ significantly.

Table 6.
ANOVA post hoc comparisons on website trust

Nationality	Nationality	Mean difference	Std. Error
Dutch (M = 5.88, SD = 0.75)	German	0.58	.11***
	Indonesian	0.68	.11***
German (M = 5.30, SD = 0.93)	Dutch	-0.58	.11***
	Indonesian	0.10	.13
Indonesian (M = 5.20, SD = 1.07)	Dutch	-0.68	.11***
	German	-0.10	.13

*Note. *p < .05 **p < .01 *** p < .001*

4.1.6 Internet skills

Internet skills are high among the respondents of the three countries (table 7). Respondents from the Netherlands have the highest Internet skills and Indonesian respondents the lowest. Furthermore, respondents scored the highest on operational skills and the lowest on information navigation skills.

Table 7.
Internet skills per group

	Netherlands n = 108		Germany n = 108		Indonesia n = 136		Total n = 352	
	M	SD	M	SD	M	SD	M	SD
Operational skills	4.77	0.43	4.76	0.43	4.58	0.73	4.69	0.57
Information navigation skills [a]	3.82	0.87	3.61	0.67	3.26	0.81	3.54	0.82
Social skills	4.63	0.42	4.54	0.48	4.35	0.79	4.49	0.62
Total Internet skills	4.41	0.43	4.30	0.36	4.06	0.54	4.24	0.48

Note. [a] recoded

The assumption of homogeneity of variances was not found tenable (2, 349) = 6.372, p <.001. Thus, the Welch ANOVA was used. This test was statistically significant (p <.001) and thus it can be concluded that there are significant differences on Internet skills between the groups. Games-Howell post hoc tests revealed significant pairwise differences between Dutch and Indonesian respondents and between German and Indonesian respondents. The differences between German and Dutch respondents were not significant.

Table 8.
ANOVA post hoc comparisons on Internet skills

Nationality	Nationality	Mean difference	Std. Error
Dutch (M = 4.41, SD = 0.43)	German	0.11	.11
	Indonesian	0.35	.11***
German (M = 4.30, SD = 0.36)	Dutch	-0.11	.11
	Indonesian	0.24	.13***
Indonesian (M = 4.06, SD = 0.54)	Dutch	-0.35	.11***
	German	-0.24	.13***

*Note. *p < .05 **p < .01 *** p < .001*

4.1.7 Cultural values

Table 9 shows that Indonesian respondents have the highest power distance, uncertainty avoidance, long-term orientation, and are more collectivistic and masculine than respondents from the Netherlands and Germany. Respondents from the Netherlands and Germany have almost equal cultural values, except that Dutch respondents score higher on masculinity than German respondents. Thus, respondents from the Netherlands and Germany have a somewhat low power distance, high uncertainty avoidance, are somewhat more collectivistic than individualistic, and have a high long-term orientation.

Table 9.
Cultural values per group on an individual level

	Netherlands n =112		Germany n = 109		Indonesia n = 139		Total n = 360	
	M	SD	M	SD	M	SD	M	SD
Power distance (PDI) [b c]	2.06	0.53	2.04	0.59	2.53	0.66	2.23	0.64
Individualism (IND) [b c]	3.10	0.58	3.18	0.59	3.55	0.59	3.30	0.62
Masculinity (MAS) [b c]	2.63	0.73	2.46	0.81	3.58	0.66	2.95	0.89
Uncertainty avoidance (UAI) [b c]	3.72	0.46	3.73	0.41	4.01	0.62	3.84	0.53
Long term orientation (LTO) [b c]	3.59	0.46	3.56	0.48	3.91	0.48	3.70	0.50

Note. Significant difference between [a] NL- DE [b] NL-ID [c] DE-ID

Individual results of the respondents are different than the country scores of Hofstede (table 10). In this study, Indonesian respondents have higher uncertainty avoidance, and are more masculine than the country score. Dutch respondents also have higher uncertainty avoidance and are more collectivistic. German respondents also have higher uncertainty avoidance and are more collectivistic than individualistic, and are somewhat more feminine than masculine. This indicates the need to measure cultural values on an individual level.

To test whether the scores on the dimensions are significantly different in the groups; several one-way ANOVA test were performed. These tests revealed significant differences on PDI, UAI, IND, MAS and LTO between Dutch and Indonesian respondents, and between German and Indonesian respondents. There could not be found a significant difference between Dutch and German respondents on any of the dimensions.

Table 10.
Differences between Hofstede's classification and individual level

	Hofstede's classification			Individual level		
	NL	DE	ID	NL	DE	ID
PDI	Low	Low	High	Somewhat low	Somewhat low	High
IND	IND	IND	COL	Somewhat more COL	Somewhat more COL	COL
MAS	Feminine	Masculine	Somewhat more masculine	Somewhat more masculine	Somewhat more feminine	Masculine
UAI	Somewhat low	Somewhat high	Low	High	High	High
LTO	Somewhat high	High	Somewhat high	High	High	High

4.2 Quality of the instrument

The reliability of the results is highly dependent on the quality of the instrument. Therefore a principal components analysis was conducted and Cronbach's Alpha was calculated for each of the constructs.

4.2.1 Validation of constructs

A factor analysis (PCA) was run on the 68 scale items to investigate whether the scales effectively measure the 12 different constructs in this study. Prior to analysis, the suitability of PCA was assessed. The overall Kaiser-Meyer-Olkin (KMO) measure was 0.794, which is above the minimum criteria of 0.5. Bartlett's Test of Sphericity was statistically significant ($p < .0005$), indicating that the data was likely factorizable.

PCA revealed that 18 components had eigenvalues greater than one and explained 68,27% of the total variance. However, the 68 items are not going to be distributed among 18 components but on 16. According to the PCA the constructs "Long Term Orientation" and "Individualism/Collectivism" of the CVSCALE should be taken apart. The CVSCALE has proven its validity in several studies (see chapter 2) and therefore the researcher will use these scales as developed by Yoo and Donthy (1998). However, a few adaptions will be made as a result of the PCA. The last item in the social skills construct "I know how to remove friends from my contact list" loads higher on the component with the operational skills. These scales are relatively new (van Deursen et al., 2014) and tested on a different target group than the current study. Therefore, this item is removed from the social skills construct and placed into the operational skills construct. The rotated matrix of the PCA can be found in appendix C.

A very important result from the factor analysis is that the willingness to disclose items load on 4 different components. This suggests that it is likely to get different results when measuring the constructs separately instead of as a whole. Therefore, this indicates the need to measure willingness to disclose on several constructs. To confirm this presumption, these items are classified into 4 information constructs and are as such included in further research, as well as the total willingness to disclose construct. Thus, the dependent variable in this study now consists of 4 different dependent variables. Therefore it is expected that not every hypothesis will be completely supported or rejected. The final results are revealed in §4.3 and the table with the overview of the hypotheses results can be found in Appendix E. Table 11 shows the classification of the four personal information constructs as well as their factor loadings.

Table 11.
Categorization of the willingness to disclose personal information and factor loadings

Required information (WDIrequired)	Unrequired information (WDIunrequired)	Age information (WDIage)	Sensitive information (WDIsensitive)
Name (.716)	Work address (.868)	Date of birth (.733)	Medical history (.813)
Home address (.779)	Work e-mail (.843)	Age (.729)	Lifestyle data (.792)
Home e-mail (.685)	Work phone (.853)		Financial info (.771)
Credit card (.515)	Home phone (.460)		Media habits (.755)
			Weight (.687)

4.2.2 Reliability of scales

Cronbach's Alpha is a common measure of internal consistency and is used to determine how much the items on a scale are measuring the same underlying dimension. Cronbach's Alpha has a value between 0 and 1 and there is no lower limit. However, the general rule of thumb is that a Cronbach's Alpha (α) from .70 to .80 is acceptable, from .80 to .90 is good, and .90 or higher is excellent (Gliem & Gliem, 2003).
Overall, the scales exceed the recommended value of 0.70 (Appendix C). Only power distance and long term orientation are slightly below 0.70. No items could be deleted to increase the alphas.

Items who could improve the reliability when deleted were only deleted when this would not damage the integrity of the scale. In the perceived benefits scale (α .792), a higher Cronbach's alpha (α .813) was obtained by deleting item 4 "I am more willing to provide my personal information to this web shop when this results in a better price or a discount for a future purchase". This item was developed by the researcher and was not part of the original perceived benefits scale developed by Dinev et al. (2013), and is therefore excluded from further research.

4.3 Model testing

This section will reveal which factors influence an individual's willingness to disclose personal information, and to what extent the influence of these factors differ between respondents from the Netherlands, Germany, and Indonesia.

With the results of the factor analysis, a new model (figure 2) is developed which includes the willingness to disclose information constructs.

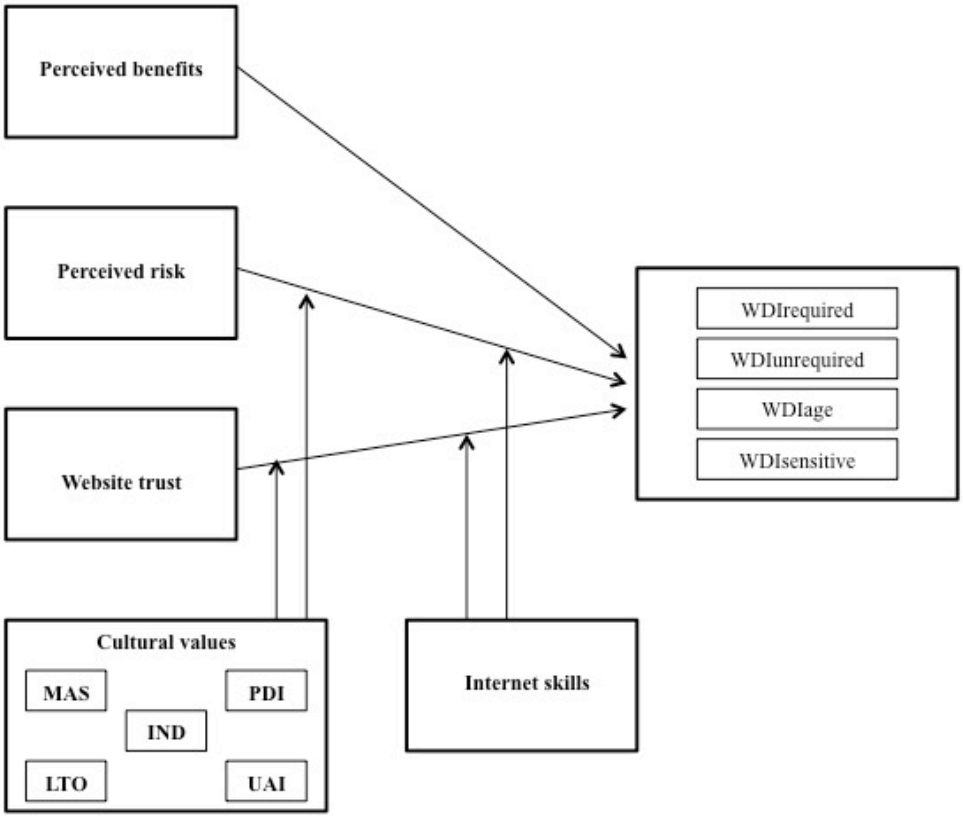

Figure 2. Adapted model for an intercultural study in online privacy research

4.3.1 Willingness to disclose personal information

Before testing the model, an overview of the respondents' willingness to disclose personal information is given. Additionally, it is tested whether there are significant differences on these constructs between the groups.

The respondents were asked to indicate their willingness to disclose specific information on a scale from 1 (very unwilling) to 5 (very willing). As is shown in table 12, overall (WDItotal) the Indonesian respondents are most willing to disclose personal information. However, when looking at the separate scales, Indonesian respondents are not the most willing on WDIrequired, and WDIage. This may indicate that different results are obtained when different subscales are taken into consideration.

Table 12.
The willingness to disclose personal information per group

Type of personal information	Netherlands		Germany		Indonesia		Total	
	M	SD	M	SD	M	SD	M	SD
WDIrequired [b]	3.54	0.70	3.31	0.83	3.22	0.68	3.35	0.75
WDIunrequired [a b c]	2.37	0.87	2.00	0.95	2.93	0.81	2.47	0.95
WDIage [a b]	3.67	0.97	3.23	1.11	3.26	0.97	3.38	1.03
WDIsensitive [b c]	1.77	0.72	1.55	0.67	2.53	0.84	1.99	0.87
WDITotal [a b c]	2.65	0.53	2.36	0.57	2.92	0.61	2.66	0.62

Note. Significant influence between [a] NL- DE [b] NL-ID [c] DE-ID

In order to test whether the scores on the constructs are significantly different between respondents from the Netherlands, Germany, and Indonesia, one-way ANOVA Tests were conducted for each of the four types of information, as well as for the total scale.

The assumption of homogeneity of variances was tested and found tenable using Levene's Test (2, 341) = 2.738, p .066. The ANOVA was significant F (2, 341) = 5.423, p <.01. Thus, there is a significant difference on WDIrequired between the three groups. Post hoc comparisons to evaluate differences among group means were conducted with the use of Tukey HSD test. This test revealed significant pairwise differences between the mean scores of respondents from the Netherlands and Indonesia. Respondents from Germany do not significantly differ from the other two groups.

For WDIunrequired, the assumption of homogeneity of variances was found tenable using Levene's test (2, 341) = 1.288, p .277. The ANOVA was significant F (2, 341) = 33.829, p <.001. Post hoc comparisons revealed significant pairwise differences between all three groups.

The assumption of homogeneity of variances was not found tenable for WDIage (2, 340) = 3.831, p .023. Therefore, the Welch ANOVA is used. This test is statistically significant (p <.001) and thus it can be concluded that not all group means are equal. Games-Howell post hoc tests revealed significant pairwise differences between Dutch and German respondents and between Dutch and Indonesian respondents. The differences between German and Indonesian respondents were not significant.

For WDIsensitive the assumption of homogeneity of variances was also not found tenable (2, 340) = 4.398 p .013. The Welch ANOVA was statistically significant (p <.001) and thus it can be concluded than not all group means are equal. Games-Howell post hoc tests revealed significant pairwise differences between the mean scores of Dutch and Indonesian respondents and between German and Indonesian respondents. The differences between Dutch and German respondents were not significant.

As for WDItotal, the assumption of homogeneity of variances was found tenable, (2, 341) = 0,660 p .518. The ANOVA was significant F (2, 341) = 27.078, p <.001. Thus, there is a significant difference on WDItotal between the three groups. Post hoc comparisons revealed significant pairwise differences between all three groups.

Results from analysing the willingness to disclose personal information in the three groups may indicate that different results are obtained on the different subscales. Furthermore, these results may differ between countries. This may already indicate the importance of measuring willingness to disclose in separate types of information and therefore on subscales. In the next section, the final results are revealed.

4.3.2 Factors predicting the willingness to disclose personal information

In order to assess if perceived risk (PR), perceived benefits (PB), and website trust (WT) predict willingness to disclose (WDI) a multiple regression analysis was conducted separately for the groups of the Netherlands, Germany, and Indonesia. Furthermore, in order to assess if Internet skills and cultural values influence the relationship between perceived risk and WDI, and website trust and WDI, a moderating analysis was executed. Before conducting the moderating analysis, first a few steps were completed: centralization of the independent and moderating variables and computing the new predictor (multiplying the centralized variables). After these steps, the variables were used in the regression analysis.

As expected from the results of the first series of analyses (§4.3.1), the significant influence of the independent variables differed per WDI construct and per group. Furthermore, when conducting the regression analysis to research hypotheses 1, 2 and 3, results were different when including the variables for the moderating analyses.

In the next sections, the results of the tested model per country are revealed. The results will be showcased with the use of tables and models. The tables contain the results of the regression analysis of the independent variables, and the results of the regression analysis including the moderating variables. The models per country with the results for the regression analysis can be found in Appendix D. An overview of the results of the hypotheses can be found in Appendix E.

4.3.2.1 Results of the Dutch group

In the Dutch group (table 13) not many significant influences were found. H1 is only supported for WDItotal in the analysis without the moderating variables. When including the moderating variables, perceived risk had a significant positive influence on WDIrequired. Thus, the higher the perceived risk, the higher the willingness to disclose required personal information. H2 is rejected in the Dutch group, no significant influences could be found. H3 is supported for WDIrequired and WDIage, however when including the moderating variables, there could not be found a significant influence of website trust on a WDI scale. Also, there could not be found a significant moderating influence of Internet skills (H4a, H4b). With regard to cultural values, there could only be found two significant moderating influences: uncertainty avoidance negatively influences the relationship between perceived risk and WDIrequired (H8a), and long-term orientation negatively influences the relationship between website trust and WDIrequired (H9b). Thus, the higher the score on uncertainty avoidance, the lower the influence of perceived risk on the willingness to disclose required information. The higher the score on long-term orientation, the lower the influence of website trust on the willingness to disclose required information.

Table 13.
Results of the regression analysis of the Dutch group

	WDIrequired β	WDIunrequired β	WDIage β	WDIsensitive β	WDItotal β
(constant) R^2	.192	.049	.202	.028	.133
PB	-.063	-.100	-.055	-.121	-.129
PR	-.194	-.183	-.163	-.122	-.240*
WT	.338**	.062	.373**	-.055	.209
(constant) R^2	.451	.170	.284	.134	.266
PB	-.040	-.086	-.067	-.155	-.135
PR	3.257*	1.874	-.221	1.423	2.506
WT	.500	-.930	1.313	-.122	.065
insk	-.775	.050	.365	1.193	.347
inskPR	.351	-1.096	.538	-.789	-.551
inskWT	1.477	.559	-.951	-1.417	-.089
ind	.771	.251	-.260	.777	.654
mas	.051	.302	.598	.852	.681
uai	-.834	-1.678	.050	-.977	-1.416
lto	2.405**	1.118	-.462	-.731	.907
pdi	1.183	.211	1.013	-.523	.532
indPR	-.367	.652	.515	-.218	.180
indWT	-.761	-.540	-.042	-.782	-.858
masPR	-.198	-.686	-.321	-.175	-.516
masWT	-.099	-.028	-.647	-.737	-.544
uaiPR	-2.068*	-.668	-.021	.211	-.947
uaiWT	2.050	2.728	-.046	1.353	2.480
ltoPR	-1.789	-.757	-.678	-.755	-1.421
ltoWT	-2.560*	-1.382	.847	1.039	-.874
pdiPR	.192	.409	-.053	.239	.315
pdiWT	-1.162	-.304	-.997	.399	-.605

*Note. *p < .05 **p < .01 *** p < .001*

4.3.2.2 Results of the German group

Table 14 shows the results of the German group. H1 is supported for WDIage and WDItotal, however when including the moderating variables in the analysis, no significant influence of perceived risk was found. H2 is supported for WDIrequired, thus perceived benefits had a positive influence on the willingness to disclose required information. H3 is supported for WDIrequired, WDIage, and WDItotal, however the influence was not significant in the analysis including the moderating variables. As in the Dutch group, no significant moderating influence of Internet skills was found. Regarding cultural values, the only significant moderating influence that was found was a negative influence of uncertainty avoidance on the relationship between perceived risk and the willingness to disclose unrequired information (H8a). Thus, the higher the score on uncertainty avoidance, the lower the influence of perceived risk on the willingness to disclose unrequired information.

Table 14.
Results of the regression analysis of the German group

	WDIrequired β	WDIunrequired β	WDIage β	WDIsensitive β	WDItotal β
(constant) R^2	.294	.058	.224	.045	.184
PB	.306**	-.017	.118	.075	.168
PR	-.067	-.084	-.234*	-.177	-.190*
WT	.310**	.211	.276**	-.172	.220*
(constant) R^2	.456	.286	.296	.175	.317
PB	.287**	-.104	.082	.029	.097
PR	-1.375	.618	.099	1.392	.339
WT	.163	-.109	-.626	.003	-.115
insk	-.332	-.998	-.443	-.811	-.959
inskPR	1.998	1.690	-.270	-.107	1.404
inskWT	-.688	1.286	1.126	1.856	1.218
ind	.163	1.163	.704	1.358	1.287
mas	1.694	-1.769	.563	.527	.228
uai	-.316	1.023	-.023	.632	.585
lto	-.598	.169	-.064	.077	-.149
pdi	-.354	.271	-1.371	.050	-.416
indPR	.079	-.476	-.507	-.758	-.585
indWT	-.539	-1.356	-.452	-1.262	-1.429
masPR	-.979	1.208	-.245	-.333	-.030
masWT	-1.188	1.102	-.511	-.199	-.201
uaiPR	-1.284	-2.723**	-.008	-.534	-1.952
uaiWT	1.431	-.077	-.237	-.786	.170
ltoPR	.869	-.949	.002	-.206	-.168
ltoWT	.525	.494	.285	-.074	.482
pdiPR	.373	1.200	.738	.092	.902
pdiWT	.341	-1.018	.898	-.082	-.055

*Note. *p < .05 **p < .01 *** p < .001*

4.3.2.3 Results of the Indonesian group

Of the three groups, the most significant influences could be found in the Indonesian group (table 15). H1 is not supported, thus no significant influence of perceived risk on the willingness to disclose was found. H2 is supported, perceived benefits had a significant positive influence on all WDI scales. H3 is supported for WDIrequired, thus website trust had a significant positive influence on the willingness to disclose required information. However, when including the moderating variables in the analysis, no significant influence of website trust was found. H4a is supported for WDIsensitive, thus Internet skills had a moderating influence on the relationship between perceived risk and the willingness to disclose sensitive information. The higher the Internet skills, the lower the influence of perceived risk on the willingness to disclose sensitive information. H4b is supported for WDIunrequired, WDIage, and WDItotal. The higher the Internet skills, the lower the influence of website trust on the willingness to disclose unrequired and age information. Also when looking at the willingness to disclose personal information as one whole scale, Internet skills had a negative moderating influence on the relationship between website trust and the willingness to disclose personal information. With regard to cultural values, only two significant influences were found: long-term orientation had a positive moderating influence on the relationship between website trust and WDIrequired (H9b), and power distance had a negative moderating influence on the

relationship between website trust and WDIsensitive (H5b). The higher the score on long-term orientation, the higher the influence of website trust on the willingness to disclose required information. The higher the score on power distance, the lower the influence of website trust on the willingness to disclose sensitive information.

Table 15.
Results of the regression analysis of the Indonesian group

	WDIrequired β	WDIunrequired β	WDIage β	WDIsensitive β	WDItotal β
(constant) R^2	.117	.088	.091	.047	.114
PB	.214*	.322**	.206*	.194*	.308**
PR	-.073	.000	-.095	.089	.002
WT	.185*	-.081	.134	.009	.060
(constant) R^2	.239	.330	.216	.225	.294
PB	.298**	.323**	.292**	.223*	.367***
PR	.228	.575	.399	1.704	1.084
WT	.630	.904	.675	1.416	1.328
insk	1.769**	1.743**	1.201	1.260	1.967**
inskPR	-.706	-.781	-.245	-1.557*	-1.237
inskWT	-2.576	-3.160***	-2.098*	-1.335	-2.935**
ind	.966	-.264	-.664	-.297	-.096
mas	.207	1.270	.066	1.022	1.010
uai	-.220	-1.465*	.086	.051	-.541
lto	-1.407*	.049	-.489	-.711	-.836
pdi	-.203	-.105	.367	.685	.307
indPR	-.209	1.094	.638	.649	.775
indWT	-1.418	-.308	.580	-.048	-.419
masPR	-.158	-1.091	-.133	-.961	-.904
masWT	-.189	-1.040	.099	-.875	-.829
uaiPR	.063	1.493*	.083	.239	.686
uaiWT	.408	1.697	-.424	-.542	.371
ltoPR	.315	-1.371	-.980	-.547	-.828
ltoWT	2.879*	1.134	1.650	1.869	2.461
pdiPR	.470	-.101	.271	.503	.395
pdiWT	-.314	.162	-.826	-1.323*	-.834

*Note. *p < .05 **p < .01 *** p < .001*

4.3.2.4 Comparing the three groups

As the previous sections revealed, there are differences between consumer's from the Netherlands, Germany, and Indonesia in this study. An overview of these differences can be found in table 16.

With regard to disclosing required information, website trust had a positive influence in all three groups. Perceived benefits had a positive influence in the German and Indonesian group. In the Dutch group, perceived risk had a positive influence and uncertainty avoidance a negative moderating influence on the relationship between perceived risk and WDIrequired. Only in the Indonesian group a significant influence of Internet skills was found. Moreover, in this construct several noticeable differences between the Dutch and Indonesian group were found. First, long-term orientation had a strong positive influence in the Dutch group, whereas long-term orientation had a negative influence in the Indonesian group. Second, a

strong negative moderating influence of long-term orientation on the relationship between website trust and WDIrequired was found in the Dutch group, in contrast to a strong positive influence in the Indonesian group.

For the construct of disclosing unrequired information, no significant influence of the independent variables was found in the Dutch group. In the German group, the only significant influence was a negative influence of uncertainty avoidance on the relationship between perceived risk and WDIunrequired. The most significant influences were found in the Indonesian group. Perceived benefits and Internet skills had a positive influence and uncertainty avoidance a negative influence. Finally, Internet skills had a negative influence on the relationship between website trust and WDIunrequired.

On the willingness to disclose age information, website trust had a positive influence in the Dutch and German group. Perceived risk had a negative influence in the German group. In the Indonesian group, perceived benefits had a positive influence. Finally, Internet skills had a negative influence on the relationship between website trust and WDIage.

With regard to the willingness to disclose sensitive information, no significant influences were found in the Dutch and German group. As well as for all other information disclosure constructs in the Indonesian group, perceived benefits had a strong positive influence. Two moderating influences were found: Internet skills negatively influenced the relationship between perceived risk and WDIsensitive, and power distance negatively influenced the relationship between website trust and WDIsensitive.

Table 16.
Differences between the groups per WDI construct

Construct	Influence	NL	DE	ID
WDIrequired	Positive	WT, PR, lto	WT, PB	WT, PB, insk, ltoWT
	Negative	uaiPR, ltoWT	-	lto
WDIunrequired	Positive	-	-	PB, insk
	Negative	-	uaiPR	uai, inskWT
WDIage	Positive	WT	WT	PB
	Negative	-	PR	inskWT
WDIsensitive	Positive	-	-	PB
	Negative	-	-	inskPR, pdiWT

Note. Significant influences per group

5. Discussion

This chapter summarizes the findings into conclusion. The research questions are answered in the first section. Subsequently, the research contribution, limitations, and suggestions for further research are discussed.

5.1 Conclusion

The main research questions of this study were: *"what factors influence an individual's willingness to disclose personal information?"* and *"to what extent differs the influence of these factors between the Netherlands, Germany, and Indonesia?"*. The results of this study confirm that perceived risk, perceived benefits, and website trust influence an individual's willingness to disclose personal information. The moderating influence of Internet skills and cultural values are only partially confirmed. When comparing the influence of these variables between the groups of the Netherlands, Germany, and Indonesia, several statements can be made.

In the Indonesian group, the second strongest and in the Dutch and German groups the strongest predictor of willingness to disclose required information (WDIrequired) is website trust. This is not a surprising finding since all of the respondents filled out the survey with their latest online purchase in mind; a web shop that they've trusted enough to fill in the required personal information to conduct an online purchase. This is confirmed by the high mean score on website trust in all groups. This may also be the reason for the lack of influence of perceived risk on the willingness to disclose personal information.

Based on prior research (e.g. Gupta et al., 2010), I expected a negative influence of perceived risk on the willingness to disclose sensitive information (WDIsensitive). A reason for this lack of influence can be the very low mean score on WDIsensitive in all groups. Respondents are simply not willing to share this information at all. Also, the explained variance of the independent variables (R^2) is very low on WDIsensitive, which indicates that there must be other factors that have to be taken into account when explaining this construct, for example personality traits (Malhotra et al., 2004).

The strongest predictor for the willingness to disclose personal information in the Indonesian group is perceived benefits. These have a strong positive influence on all WDI constructs. The Indonesian group also has the highest mean score on perceived benefits. In contrast, the Indonesian group also had the highest mean score on perceived risk. This result may reveal that even though there are risks involved, the Indonesian respondents place more value on the benefits that they gain by disclosing personal information. Thus, it is suspected that a risk-benefit analysis is performed. However, this is not statistically confirmed, as the relationship between perceived risk and perceived benefits is not measured.

The mean scores for Internet skills are high in all groups. This can be due to the fact that all respondents have already made an online purchase, which requires some Internet skills. Another explanation could be the relatively young age of the respondents (17-30). As already found in the study of van Deursen et al. (2014), younger people (to 30 years old) have better Internet skills than older people. This could explain the limited influence of Internet skills in this study. This presumption is confirmed, as the only group where Internet skills had a significant influence, was the Indonesian group, which had the lowest mean score on Internet skills. In this group, it is found that the higher the Internet skills, the lower the relationship between website trust and WDIunrequired, WDIage, and WDItotal. This can be due to that people who have better skills think that they can better judge a website's integrity (Dinev & Hart, 2006). Also Internet skills as an independent variable positively influences

WDIrequired, WDIunrequired and WDItotal in the Indonesian group. People with better Internet skills are therefore more willing to disclose personal information.

Increasingly, scholars stress the need for including cultural values in online privacy research (e.g. Gupta et al., 2010). Therefore, this study tried to fill this theoretical gap by exploring the moderating effect of culture on the relationship between perceived risk and website trust and the willingness to disclose personal information.

Results of the cultural values are different on an individual level than on Hofstede's (2010) national scores. This emphasizes the need to measure cultural values on an individual level. This is an important finding and a strong contribution to intercultural research.

Also, the findings of this study are not in line with existing literature on cultural values. However, it should be noted that these studies did not measure cultural values on an individual level and used Hofstede's national scores. As this study has revealed, measuring cultural values on an individual level shows different results. Thus, these studies could have obtained different results when measuring their sample's cultural values on an individual level. This raises questions as to how reliable and generalizable the findings of these studies actually are. A low score on power distance should mean a high score on perceived risk (Bellman et al., 2004). This is not confirmed by this study since the Indonesian group has the highest mean score on power distance, and the highest mean score on perceived risk. Additionally, all groups score high on collectivism and should therefore have a low score on perceived risk and website trust (Gupta et al., 2010). This is also not confirmed by this study since all groups scored high on website trust and perceived risk. Furthermore, the Indonesian group is masculine and has the highest long-term orientation and should therefore have a lower perceived risk, which is also not confirmed by this study. However, the findings on uncertainty avoidance are partially in line with existing research. A high score on uncertainty avoidance should mean a high score on perceived risk (Dinev et al., 2006). The Indonesian group has the highest score on UAI as well as on perceived risk. The findings of Cyr (2013), that in cultures where UAI is high, there is less website trust are not confirmed by this study, since website trust is high in all samples.

The moderating influence of cultural values on the relationship between perceived risk and website trust and WDI is low in this study. The most influential dimension is uncertainty avoidance. This dimension has a negative influence on the relationship between perceived risk and WDIrequired in the Dutch group, and in the German group on perceived risk and WDIunrequired. The higher uncertainty avoidance, the lower the relationship between perceived risk and WDI. Perhaps people who are naturally uncertainty avoidant are always aware of all the risks and therefore this relationship is weaker. In the Indonesian sample, UAI has a positive influence on the relationship between perceived risk and WDIunrequired. It is possible that unrequired information triggers people to think more about the risks because it is information that is not necessary for a purchase and therefore not necessary to disclose.

In sum, different variables influence the disclosure of different types of personal information. Furthermore, there are many differences between the Netherlands, Germany, and Indonesia. This is partly explained by Internet skills and cultural values.

The willingness to disclose personal information in e-commerce has been widely studied. Many studies research willingness to disclose by asking respondents if they are willing to disclose personal information in general, and not by asking about specific types of information. In contrast, Gupta et al. (2010) developed a scale to measure the disclosure of specific types of information. Their research and scale has been used as the starting point for researching the willingness to disclose personal information in this study. The results of this study supported my expectation: the willingness to disclose cannot be measured in general and cannot be measured as one whole scale. Already in the factor analysis it became evident that the scale of Gupta et al. actually consists of four subscales, which I named required-,

unrequired-, age-, and sensitive information. As a result of this factor analysis, I researched the influence of my independent variables on each separate subscale, as well as the scale as a whole in order to reveal different results. As already revealed, the results differ between the four scales and therefore it can be concluded that when measuring the willingness to disclose personal information in e-commerce, different sets of subscales have to be used. This is an important finding and a strong contribution to online privacy research in e-commerce.

5.2 Theoretical and practical implications

This study has several important theoretical contributions. First, it validated the research model, which proves valuable insights on which factors influence a consumer's willingness to disclose personal information in e-commerce. Second, in this study it appeared that the willingness to disclose scale (Gupta et al., 2010) actually consists of four subscales. This is a very important theoretical contribution since every subscale has different significant predictors. Third, this study takes online privacy research a step further by adding Internet skills and cultural values as moderating variables. Fourth, where most intercultural studies use Hofstede's national scores as determinants, this study measured cultural values on an individual level where it became evident that individual scores differ from national scores. Finally, by comparing results from this study with the privacy calculus theory, which serves as a theoretical starting point of this study, we can see similarities. Especially in the Indonesian sample it appeared that consumer's perform a risk-benefit analysis when disclosing personal information.

As revealed by this study, there are many differences between consumers from the Netherlands, Germany, and Indonesia. This could also be the case in other countries. Given this fact, e-vendors may differ their e-commerce strategies towards consumers per country. Indonesian consumers require a different approach than the consumers from the Netherlands or Germany. For example, perceived benefits were a very strong predictor in the Indonesian sample. Thus, the Indonesian participants in this study were impressionable by benefits that they can obtain by disclosing personal information. Therefore, practitioners and e-vendors can use this research results as a basis for enhancing their web shops to gain competitive advantages.

5.3 Limitations and suggestions for future research

This study can serve as a starting point for future research, given the pioneering character of the research; this was one of the first studies to research the willingness to disclose personal information in separate constructs. Measuring consumers' willingness to disclose personal information is very complex since this depends on a number of variables, both for the consumers as well as the web shop in question. Thus, this study is subject to several limitations.

The respondents of this study were rather young (17-30). The number of older adults online is rapidly growing (Lian & Yen, 2014), making it highly interesting to research the drivers and barriers affecting older consumers' willingness to disclose personal information since most studies focus mainly on the youth market. Cultural values may be different in age groups, which offers an opportunity for future research to investigate this more thoroughly. Furthermore, the relatively young age of the respondents may be the reason that the moderating effect of Internet skills is not so great. Also, the high mean of Internet skills indicates a technology savvy population that would probably be very capable of using the Internet to shop online. Future research should therefore examine whether significant discrepancies are found among consumers with different levels of Internet skills. If so, for example, those who lack Internet skills might require different kinds of marketing or a different website interface. The same goes for different cultural values. Moreover, Internet

skills consist of separate constructs, however this study has summed up the scores of these constructs as one Internet skills score. Thus, the influence of the separate constructs is not measured. For further research it is interesting to investigate the influence of the separate constructs, especially when taking different age groups into account.

The privacy calculus theory was used as the theoretical starting point of this study. However, the relationship between perceived risk and perceived benefits is not measured in this study. It is suspected that the risk-benefit analysis of the privacy calculus theory appeared in the Indonesian sample, however this is not statistically confirmed. Future research should therefore explore this matter more thoroughly.

Respondents had to fill in the survey with their last online purchase in mind, which may have a great influence on website trust. Furthermore, this may result in different willingness to disclose results than when also considering unknown web shops. This raises questions to the generalizability of this research results. Also, specific website- or brand evaluations are not taken into account in this study, which may have had an influence on the willingness to disclose personal information.

The explained variance for the willingness to disclose sensitive information is very low in this study. This means that there are a number of other factors that should be taken into account when trying to explain this variable. This is very interesting for future researchers as this involves information about consumers that web shops can use for improving their e-commerce strategy.

Since the dependent variable of this study is a behavioural intention, scores might not reflect the actual behaviour that consumer's display when conducting an online purchase. Interesting for future research is taking it a step further and observe actual disclosing behaviour of consumers, taking the separate willingness to disclose personal information constructs into account.

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Appendix A. Overview of the scales

Scale 1: Willingness to disclose personal information (adapted from Gupta et al., 2010)

WDI1	Name
WDI2	Home e-mail address
WDI3	Home address
WDI4	Home phone number
WDI5	Work e-mailadress
WDI6	Work address
WDI7	Work phone number
WDI8	Credit card details
WDI9	Date of birth
WDI10	Age
WDI11	Weight
WDI12	Medical history
WDI13	Media habits
WDI14	Financial information (e.g. income, credit history)
WDI15	Lifestyle data (e.g. number of pets, house owner or rental)

Scale 2: Website trust (adapted from Wakefield, 2013)

WT1	This web shop appeared to be one that would keep promises and commitments
WT2	I believed the information given to me by this web shop
WT3	I trusted this web shop to keep my best interests in mind
WT4	This web shop seemed trustworthy

Scale 3: Perceived risk (adapted from Xu et al., 2011)

PR1	In general, it would be risky to give personal information to this web shop
PR2	There would be high potential for privacy loss associated with giving personal information to this web shop
PR3	Personal information could be inappropriately used by this web shop
PR4	Providing this web shop with my personal information would involve many unexpected problems

Scale 4: Perceived benefits (adapted from Dinev et al., 2013)

PB1	Revealing my personal information to this web shop will help me obtain information/products/services I want
PB2	I need to provide my personal information so I can get exactly what I want from this web shop
PB3	I believe that as a result of my personal information disclosure, I will benefit from a better, customized service and/or better information and products
PB4	I am more willing to provide my personal information to this web shop when this results in a better price or a discount for a future purchase (self-developed, deleted after reliability analysis)

Scale 5: Internet skills (van Deursen et al., 2014)

Operational skills	
OS1	I know how to open downloaded files
OS2	I know how to download/save a photo I found online
OS3	I know how to use shortcut keys (e.g. CTRL-C for copy, CTRL-S for save)
OS4	I know how to open a new tab in my browser
OS5	I know how to bookmark a website

Information navigation skills	
IN1	I find it hard to decide what the best keywords are to use for online searches
IN2	I find it hard to find a website I visited before
IN3	I get tired when looking for information online
IN4	Sometimes I end up on websites without knowing how I go there
IN5	I find the way in which many websites are designed confusing

Social skills	
SK1	I know which information I should and shouldn't share online
SK2	I know when I should and shouldn't share information online
SK3	I am careful to make my comments and behaviors appropriate to the situation I find myself in online
SK4	I know how to change who I share content with (e.g. friends, friends of friends, or public)
SK5	I know how to remove friends from my contact lists

Scale 6: CVSCALE (Yoo & Donthy, 1998)

Power distance	
PDI1	People in higher positions should make most decisions without consulting people in lower positions
PDI2	People in higher positions should not ask the opinions of people in lower positions too frequently
PDI3	People in higher positions should avoid social interaction with people in lower positions
PDI4	People in lower positions should not disagree with decisions by people in higher positions
PDI5	People in higher positions should not delegate important tasks to people in lower positions

Uncertainty avoidance	
UAI1	It is important to have instructions spelled out in detail so that I always know what I'm expected to do
UAI2	It is important to closely follow instructions and procedures
UAI3	Rules and regulations are important because they inform me of what is expected of me
UAI4	Standardized work procedures are helpful
UAI5	Instructions for operations are important

Individualism/Collectivism	
IND1	Individuals should sacrifice self-interest for the group
IND2	Individuals should stick with the group even through difficulties
IND3	Group welfare is more important than individual rewards
IND4	Group success is more important than individual success
IND5	Individuals should only pursue their goals after considering the welfare of the group
IND6	Group loyalty should be encouraged even if individual goals suffer

Masculinity	
MAS1	It is more important for men to have a professional career than it is for women
MAS2	Men usually solve problems with logical analysis; women usually solve problems with intuition
MAS3	Solving difficult problems usually requires an active, forcible approach, which is typical of men
MAS4	There are some jobs that a man can always do better than a woman

Long-term orientation	
LTO1	Careful management of money (Thrift)
LTO2	Going on resolutely in spite of opposition (Persistence)
LTO3	Personal steadiness and stability
LTO4	Long-term planning
LTO5	Giving up today's fun for success in the future
LTO6	Working hard for success in the future

Appendix B. Survey

Welcome to the intercultural study of online privacy in e-commerce by Astrid Uilenberg from the University of Twente in the Netherlands. The purpose of this study is to identify factors that influence consumer's willingness to disclose personal information when shopping online. In this survey, you will be asked about your personal experiences regarding online shopping, your Internet skills and cultural values. The survey will take approximately 10 minutes of your time. The questions focus on you and your opinion so there is no right or wrong answer. Please answer the questions as accurate and honest as possible. Your responses will be kept confidential and anonymous. You will not have to provide your name or e-mail address. Also, all results will be stored safely and will only be accessible to the researcher. Your participation is voluntary; you can choose to withdraw your participation at any time. If you do not want to continue, you can leave this website. By starting this survey, you acknowledge that you have read the previous information and agree to participate in this study. Thank you for your time!

How many online purchases have you conducted in the last 12 months?
Never (1) (redirected to the end of the survey)
1-5 times (2)
6-10 times (3)
11-15 times (4)
16 times or more (5)

What is your age?

What is your gender?
Male (1)
Female (2)
I do not want to reveal (3)

What is your nationality?
Dutch (1)
German (2)
Indonesian (3)
Other (4) _____

Highest degree or level of school you have completed
No schooling completed (1)
High school (2)
Trade/technical/vocational school (3)
Bachelor's degree (4)
Master's degree (5)
Doctorate's degree (6)

Professional status
Student (1)
Employed part-time (2)
Employed full-time (3)
Self-employed (4)
Out of work (5)

Retired (6)
Unable to work (7)
Other (8) _____

Power distance (strongly disagree – strongly agree, 5 point)
PD1. People in higher positions should make most decisions without consulting people in lower positions.
PD2. People in higher positions should not ask the opinions of people in lower positions too frequently.
PD3. People in higher positions should avoid social interaction with people in lower positions.
PD4. People in lower positions should not disagree with decisions by people in higher positions.
PD5. People in higher positions should not delegate important tasks to people in lower positions.

Uncertainty avoidance (strongly disagree – strongly agree, 5 point)
UA1. It is important to have instructions spelled out in detail so that I always know what I'm expected to do.
UA2. It is important to closely follow instructions and procedures.
UA3. Rules and regulations are important because they inform me of what is expected of me.
UA4. Standardized work procedures are helpful.
UA5. Instructions for operations are important.

Collectivism (strongly disagree – strongly agree, 5 point)
CO1. Individuals should sacrifice self-interest for the group.
CO2. Individuals should stick with the group even through difficulties.
CO3. Group welfare is more important than individual rewards.
CO4. Group success is more important than individual success.
CO5. Individuals should only pursue their goals after considering the welfare of the group.
CO6. Group loyalty should be encouraged even if individual goals suffer.

Masculinity (strongly disagree – strongly agree, 5 point)
MA1. It is more important for men to have a professional career than it is for women.
MA2. Men usually solve problems with logical analysis; women usually solve problems with intuition.
MA3. Solving difficult problems usually requires an active, forcible approach, which is typical of men.
MA4. There are some jobs that a man can always do better than a woman.

Long-term orientation (not at all important – extremely important, 5 point)
LT1. Careful management of money (Thrift)
LT2. Going on resolutely in spite of opposition (Persistence)
LT3. Personal steadiness and stability
LT4. Long-term planning
LT5. Giving up today's fun for success in the future
LT6. Working hard for success in the future

What is your daily Internet use?
Less than 1 hour (1)
1 - 2 hours (2)
3 - 4 hours (3)
5 - 6 hours (4)
7 hours or more (5)

How much do the following statements reflect you?
Not at all true of me – very true of me, 5 point + I don't know what you mean by that

Operational skills
OS1. I know how to open downloaded files
OS2. I know how to download/save a photo I found online
OS3. I know how to use shortcut keys (e.g. CTRL-C for copy, CTRL-S for save)
OS4. I know how to open a new tab in my browser
OS5. I know how to bookmark a website

Information navigation skills
IN1. I find it hard to decide what the best keywords are to use for online searches
IN2. I find it hard to find a website I visited before
IN3. I get tired when looking for information online
IN4. Sometimes I end up on websites without knowing how I go there
IN5. I find the way in which many websites are designed confusing

Social skills
SK1. I know which information I should and shouldn't share online
SK2. I know when I should and shouldn't share information online
SK3. I am careful to make my comments and behaviors appropriate to the situation I find myself in online
SK4. I know how to change who I share content with (e.g. friends, friends of friends, or public)
SK5. I know how to remove friends from my contact lists

Have you ever had a bad experience with regard to your online privacy before? (e.g. misuse of your personal information or a hacked e-mail account)
Yes (1)
No (2)

When answering the following questions, please think of your most recent online purchase.

On which web shop did you make your last purchase?
I can't remember the name of the web shop (1)
On: (2) _____

How many times have you bought something on this web shop?
Once (1)
Twice (2)
3 or more times (3)

Which product(s) did you buy during your last purchase? (more than one answer is possible)
CD / DVD / Video / Games / Computer software (1)
Books/Magazines (2)
Electronics (e.g. TV, Radio, Computer hardware, Kitchen appliances) (3)
Clothing/ Shoes (4)
Jewellery (5)
Beauty products (6)
Travel ticket / Hotel reservation (7)
Flowers (8)
Toys (9)
Sporting goods / equipment (10)
Groceries (11)
Furniture (12)
Financial services (e.g. stocks and shares, insurance, mortgage, banking) (13)
Other: (14) _____

How willing are you to disclose the following personal information to the web shop of your last purchase?

WPI1. Name
WPI2. Home e-mail address
WPI3. Home address
WPI4. Home phone number
WPI5. Work e-mail address
WPI6. Work address
WPI7. Work phone number
WPI8. Credit Card details
WPI9. Date of birth
WPI10. Age
WPI11. Weight
WPI12. Medical history
WPI13. Media habits
WPI14. Financial information (e.g. income, credit history).
WPI15. Lifestyle data

How much do you agree with the following statements about the web shop of your last purchase?
Strongly disagree – strongly agree, 7 point

TR1. This web shop appears to be one that would keep promises and commitments
TR2. I believe the information given to me by this web shop
TR3. I would trust this web shop to keep my best interests in mind
TR4. This web shop is trustworthy

PB1. Revealing my personal information to this web shop will help me obtain information/products/services I want
PB2. I need to provide my personal information so I can get exactly what I want from this web shop
PB3. I believe that as a result of my personal information disclosure, I will benefit from a better, customized service and/or better information and products

PB4. I am more willing to provide my personal information to this web shop when this results in a better price or a discount for a future purchase

PR1. In general, it would be risky to give personal information to this web shop
PR2. There would be high potential for privacy loss associated with giving personal information to this web shop
PR3. Personal information could be inappropriately used by this web shop
PR4. Providing this web shop with my personal information would involve many unexpected problems

Thank you for participating in this study!

The results will be used exclusively for scholarly purposes. If you have any concerns or complaints about this study, please contact the ethics commission of the behavioral sciences department of the University of Twente, Drs. J. Rademaker (+31534894059 / j.rademaker@utwente.nl).

If you have any questions or want your data to be deleted, please contact the researcher Astrid Uilenberg (e-mail: a.uilenberg@student.utwente.nl).

Many thanks for your time!

Appendix C. Tables for the quality of the instrument

Principal component analysis

Rotated Component Matrix[a]

	Component																	
	1	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*	*14*	*15*	*16*	*17*	*18*
Medical history	**,813**	-,168	-,056	,093	,211	,094	-,021	-,035	,049	,038	,104	,063	,012	,054	,000	-,046	-,108	-,006
Lifestyle data (e.g. number of pets, house owner or rental)	**,792**	,024	-,090	,087	,187	,050	-,089	,066	,062	,100	,049	,028	,046	,036	,013	,006	,000	-,073
Financial information (e.g. income, credit history)	**,771**	-,048	-,086	,145	,272	,066	-,013	,082	,061	,082	-,003	,161	,001	,038	-,101	-,024	-,007	,065
Media habits	**,755**	,059	-,077	-,018	,152	,084	,013	,009	-,021	,030	,048	,021	,098	,014	,226	,007	,068	,014
Weight	**,687**	,023	,158	-,023	,064	,079	,091	-,098	,001	-,023	,000	,145	-,111	-,041	,324	,179	-,127	,063
I know how to open a new tab in my browser	-,098	**,828**	-,029	-,035	-,033	-,044	,226	,074	,039	,032	,072	,007	-,037	-,042	,043	,076	-,013	-,006
I know how to download/save a photo I found online	,005	**,781**	-,001	-,106	-,063	-,104	,175	,000	,005	,048	,063	-,136	,081	-,066	,029	-,054	-,083	,160
I know how to bookmark a website	-,018	**,739**	-,089	,036	,110	,041	,085	,136	-,149	-,045	-,159	,138	-,063	,014	-,006	,061	,147	-,124
I know how to open downloaded files	-,068	**,698**	,113	-,082	-,100	-,078	,265	,136	,009	,064	-,036	-,150	-,041	,019	-,008	,052	-,117	-,070
I know how to use shortcut keys (e.g. CTRL-C for copy, CTRL-S for save)	,106	**,662**	,197	,027	-,049	-,109	-,051	-,022	-,128	,062	,027	-,074	,115	,140	,031	-,078	,139	,053
-I know how to remove friends from my contact lists	-,031	**,523**	,117	,081	-,018	,030	,460	,009	-,050	,005	,164	-,143	,006	,025	,074	,098	,050	-,342
This webshop seemed trustworthy	-,093	,045	**,788**	-,187	-,052	-,013	,107	,139	-,082	,157	,024	-,054	,086	-,061	,075	-,017	,001	-,086
I believed the information given to me by this webshop	-,093	,021	**,781**	-,169	,029	,051	,090	,249	-,032	,130	-,109	-,043	,034	-,065	,110	,059	,052	-,032
This webshop appeared to be one that would keep promises and commitments	-,025	,083	**,770**	-,105	,037	,015	,145	,290	-,053	,158	-,043	-,056	,022	-,098	,010	,092	,108	-,017
I trusted this webshop to keep my best interests in mind	,009	,035	**,741**	-,103	,062	,069	,069	,017	-,016	,320	,038	,061	,167	,016	,134	,007	,034	,079
There would be high potential for privacy loss associated with giving personal information to this webshop	,055	-,045	-,114	**,836**	,036	,086	,000	-,096	,098	,041	,057	,143	,132	,079	-,049	,013	,010	,019
In general, it would be risky to give personal information to this webshop	,085	-,046	-,060	**,829**	-,003	,118	,029	-,176	,108	-,006	,102	,095	,033	,035	-,054	,072	-,021	,012

Personal information could be inappropriately used by this webshop	-,020	-,001	-,144	**,818**	,002	,063	-,026	,040	,093	-,001	,010	,029	,050	,000	-,041	,004	,058	-,053
Providing this webshop with my personal information would involve many unexpected problems	,144	-,025	-,178	**,780**	,057	,108	-,042	-,072	,146	-,008	,074	,158	,137	,107	-,081	,053	-,004	,046
Work address	,245	-,006	,020	,013	**,868**	,094	-,008	,013	,059	,002	,025	,096	,001	-,021	,065	,068	,026	-,023
Work phone number	,218	-,082	-,012	,076	**,853**	,075	-,047	,040	,097	,026	,088	,110	-,004	,020	-,003	,038	,012	,039
Work e-mail address	,249	-,031	,018	,010	**,843**	,051	-,068	,001	,077	,001	,069	,014	-,008	-,024	,047	,045	,060	,000
Home phone number	,215	-,003	,214	-,020	**,460**	-,064	-,034	,359	-,047	,106	,159	,081	,042	,176	-,106	,014	-,161	,240
-Individuals should only pursue their goals after considering the welfare of the group	,001	-,065	-,025	,031	-,028	**,747**	-,008	-,091	,028	,070	,041	-,018	,182	,086	-,057	-,046	-,100	-,077
Group welfare is more important than individual rewards	,138	-,046	-,011	,158	,031	**,725**	,040	,084	,003	-,112	-,006	,105	,001	,038	-,021	,079	,141	,013
Group success is more important than individual success	,185	-,065	,129	,096	,060	**,691**	-,082	-,074	-,035	-,088	,086	,183	,033	,087	-,136	-,115	-,064	-,164
Group loyalty should be encouraged even if individual goals suffer	-,018	-,042	,094	,065	,119	**,662**	-,042	-,072	,084	-,028	,122	,105	-,050	,036	,060	,069	-,065	,032
Individuals should stick with the group even through difficulties	,097	-,044	-,040	,039	-,033	**,542**	,070	,178	,017	-,004	,074	-,055	,021	-,062	,028	,068	,154	,367
Individuals should sacrifice self-interest for the group	,025	,001	-,139	,032	,158	**,483**	,071	-,046	,056	,140	-,009	,014	,128	,208	,104	,220	,116	,366
I know when I should and shouldn’t share information online	,023	,206	,131	-,021	-,054	,032	**,835**	,003	,027	-,020	,013	-,117	-,021	-,128	-,042	-,068	-,037	,134
I know which information I should and shouldn’t share online	-,017	,263	,102	-,042	-,041	,013	**,769**	,019	,061	,029	-,061	,006	,003	-,102	-,134	-,056	-,008	,232
I am careful to make my comments and behaviors appropriate to the situation I find myself in online	-,083	,152	,087	,022	,012	-,054	**,676**	,048	-,058	-,124	-,077	,100	-,005	,155	,114	,161	,141	-,107
I know how to change who I share content with (e.g. friends, friends of friends, or public)	,048	,168	,040	-,006	-,084	-,016	**,673**	,025	-,085	,071	,203	-,128	,030	-,016	,045	,016	,017	-,436
Home address	-,038	,090	,118	-,128	,027	-,019	,007	**,779**	-,112	,112	,071	,030	-,058	,038	,080	,025	-,089	,102
Name	,013	,078	,289	-,060	-,067	-,008	,062	**,716**	-,011	,131	,004	-,068	,019	,063	,112	,162	,030	,007
Home e-mail address	-,017	,154	,313	-,074	,071	-,045	,037	**,685**	-,036	,016	,061	-,067	-,016	-,125	,199	-,037	,072	-,077
Credit card details	,210	-,021	-,066	-,063	,393	,009	-,017	**,515**	-,068	,148	-,008	-,148	,146	,036	,001	-,225	-,008	-,159
I get tired when looking for information online	-,154	-,033	,023	-,046	,069	,038	-,049	-,025	**,762**	-,006	-,084	,010	,008	,041	,027	,063	,040	-,186
I find it hard to find a website I visited before	,091	-,157	-,062	,120	,079	,035	-,007	-,016	**,726**	,030	,096	,197	,034	,087	-,076	-,183	-,014	,074
Sometimes I end up on websites without knowing how I got there	,098	-,037	,051	,192	,067	,009	,052	,002	**,724**	-,025	,015	-,174	-,040	,135	,124	,156	-,003	,061

I find it hard to decide what the best keywords are to use for online searches	,095	-,004	-,159	,135	,061	-,014	-,099	-,061	**,667**	-,017	,112	,151	,028	,001	-,053	-,287	-,057	,018
I find the way in which many websites are designed confusing	,096	,023	-,099	,183	-,060	,093	,083	-,148	**,546**	,109	,059	,165	,066	,006	-,019	,173	-,120	,169
I need to provide my personal information so I can get exactly what I want from this webshop	,018	,017	,141	,027	-,015	-,074	,050	,170	,042	**,841**	-,035	,013	-,050	-,017	-,003	,119	,084	-,066
Revealing my personal information to this webshop will help me obtain information/products/services I want	-,012	,075	,222	-,063	-,001	-,005	-,049	,138	,018	**,829**	-,080	,033	-,034	-,068	,092	,078	,004	-,045
I believe that as a result of my personal information disclosure, I will benefit from a better, customized service and/or better information and products	,195	,023	,244	,100	,063	-,042	-,063	,007	-,023	**,703**	,091	,112	,108	,187	,030	-,085	-,023	,104
I am more willing to provide my personal information to this webshop when this results in a better price or a discount for a future purchase	,256	,098	,230	-,034	,144	,055	-,031	,018	,036	**,476**	,070	,016	,319	,163	,021	-,125	,127	,228
Working hard for success in the future	,047	-,003	,056	,123	,089	,026	,007	,122	,072	-,038	**,711**	,135	,108	-,011	,015	,087	,008	-,075
Giving up today’s fun for success in the future	,025	-,047	-,071	-,012	,084	,171	-,070	-,031	-,015	-,037	**,703**	,154	-,012	,055	,008	,052	-,112	-,024
Careful management of money (Thrift)	,021	,181	,044	,008	,071	,079	,058	-,019	,101	,088	**,595**	-,009	,188	-,005	-,022	,036	,189	,055
Long-term planning	,148	-,080	-,135	,153	-,050	-,023	,074	,099	-,034	-,023	**,580**	,204	,130	,055	-,076	-,006	,251	,063
Solving difficult problems usually requires an active, forcible approach, which is typical of men	,151	-,052	-,040	,167	,108	,129	-,051	-,049	,066	,133	,213	**,747**	,100	,186	-,047	-,069	,034	,012
Men usually solve problems with logical analysis; women usually solve problems with intuition	,085	-,096	-,041	,172	,064	,074	-,060	-,076	,113	-,002	,179	**,736**	,126	,125	-,016	,070	-,066	-,008
It is more important for men to have a professional career than it is for women	,181	-,174	-,074	,222	,149	,274	-,051	-,085	,111	,089	,153	**,585**	,006	,183	,015	,105	-,071	,059
There are some jobs that a man can always do better than a woman	,286	,004	,143	-,034	,010	,043	-,021	,189	,153	-,025	,186	**,372**	-,080	,116	-,366	,244	,146	,041
It is important to closely follow instructions and procedures	,074	,086	,128	,121	,031	,062	-,002	-,033	-,038	-,018	,106	,069	**,731**	,094	,019	,169	,047	,109
It is important to have instructions spelled out in detail so that I always know what I’m expected to do	-,013	-,057	-,004	,177	,036	,071	,041	-,028	,078	,080	,095	,188	**,663**	-,066	,030	,042	-,025	-,146

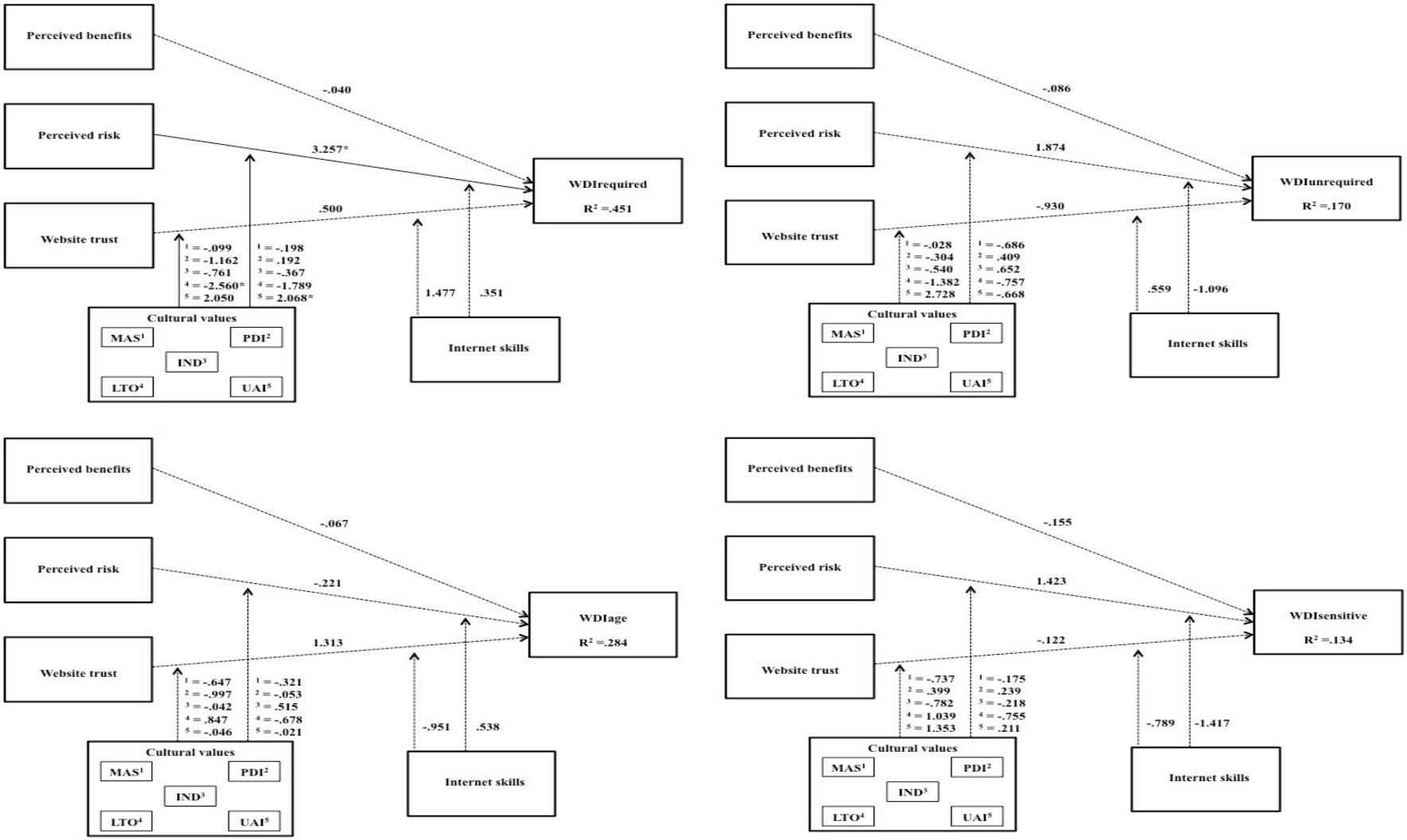
Rules and regulations are important because they inform me of what is expected of me	,026	,008	,133	,083	-,077	,055	-,108	,069	,051	-,019	,142	-,112	**,632**	-,010	-,099	,332	-,096	,074
People in higher positions should make most decisions without consulting people in lower positions	-,029	,114	-,038	-,022	-,017	,061	-,089	,113	,101	-,008	,081	,025	-,019	**,741**	-,025	-,076	,038	-,002
People in higher positions should not ask the opinions of people in lower positions too frequently	,103	-,003	,049	,082	-,085	,050	-,054	,009	,014	,011	-,062	,233	-,038	**,661**	-,136	,031	,137	-,021
People in higher positions should avoid social interaction with people in lower positions	,139	-,117	-,260	,120	,129	,132	,005	-,134	,163	,107	-,045	,165	,146	**,519**	-,094	-,004	-,213	-,196
People in lower positions should not disagree with decisions by people in higher positions	-,035	-,046	-,173	,113	,123	,112	,119	-,057	,083	,152	,051	,129	,022	**,475**	,142	-,093	-,140	,265
People in higher positions should not delegate important tasks to people in lower positions	-,016	-,054	-,059	,258	,063	,159	,088	-,166	,019	-,068	,307	-,004	,099	**,439**	,130	,164	-,379	,098
Date of birth	,277	,077	,229	-,168	,083	-,029	-,027	,322	,049	,118	-,005	-,042	-,027	-,055	**,733**	-,016	,052	,044
Age	,280	,064	,263	-,161	,022	-,064	-,018	,279	,016	,064	-,018	-,045	-,004	-,063	**,729**	-,069	-,044	-,017
Standardized work procedures are helpful	,114	-,032	,021	,060	,074	,080	,020	,010	-,019	,206	,178	-,014	,310	-,002	-,104	**,708**	,028	-,057
Instructions for operations are important	-,038	,139	,084	,120	,112	,060	,041	,064	-,037	-,075	,061	,160	,330	-,111	,012	**,620**	,071	,067
Going on resolutely in spite of opposition (Persistence)	-,071	,085	,194	,210	,170	,039	,024	-,101	-,087	,100	,195	-,092	-,122	,009	-,046	,130	**,656**	,087
Personal steadiness and stability	-,172	-,026	,054	-,186	-,109	,073	,231	,023	-,050	,091	,211	,045	,412	,041	,077	,001	**,530**	-,072

Internal consistency

Construct	Items	Mean	SD	α
WDI1 Required information	4	3.35	0.75	.715
WDI2 Unrequired information	4	2.47	0.95	.851
WDI3 Age information	2	3.38	1.03	.886
WDI4 Sensitive information	5	1.99	0.87	.870
Website trust	4	5.44	0.98	.883
Perceived risks	4	3.90	1.31	.893
Perceived benefits	3	4.48	1.30	.813
Cultural values				
Individualism/Collectivism	6	3.30	0.62	.779
Uncertainty avoidance	5	3.83	0.53	.738
Masculinity/Femininity	4	2.95	0.89	.759
Power distance	5	2.23	0.64	.682
Long term orientation	6	3.70	0.50	.651
Internet skills				
Operational skills	6	4.69	0.57	.841
Information navigation skills	5	3.54	0.82	.749
Social skills	4	4.49	0.62	.822

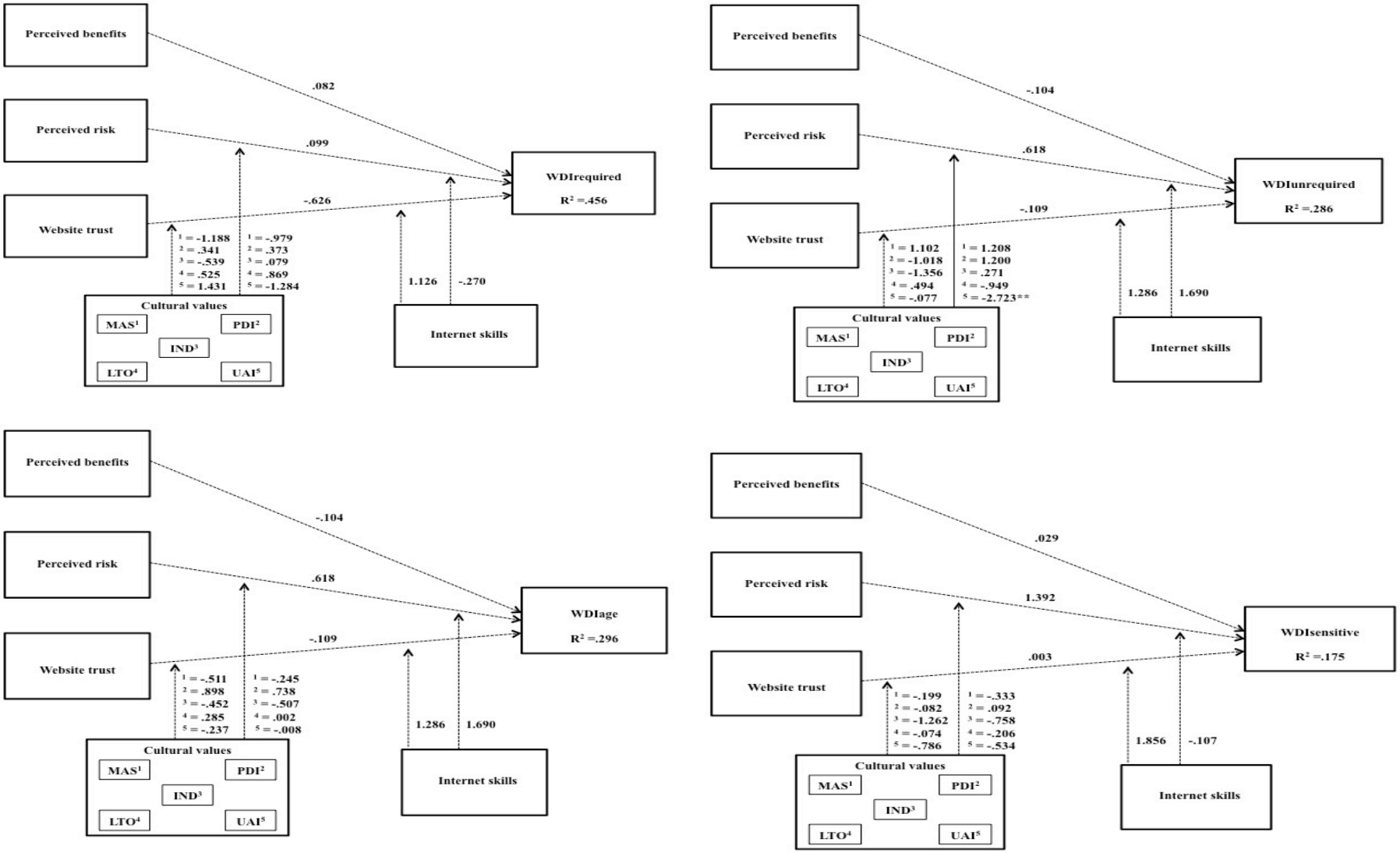
Appendix D. Models per group

Models for the Dutch group



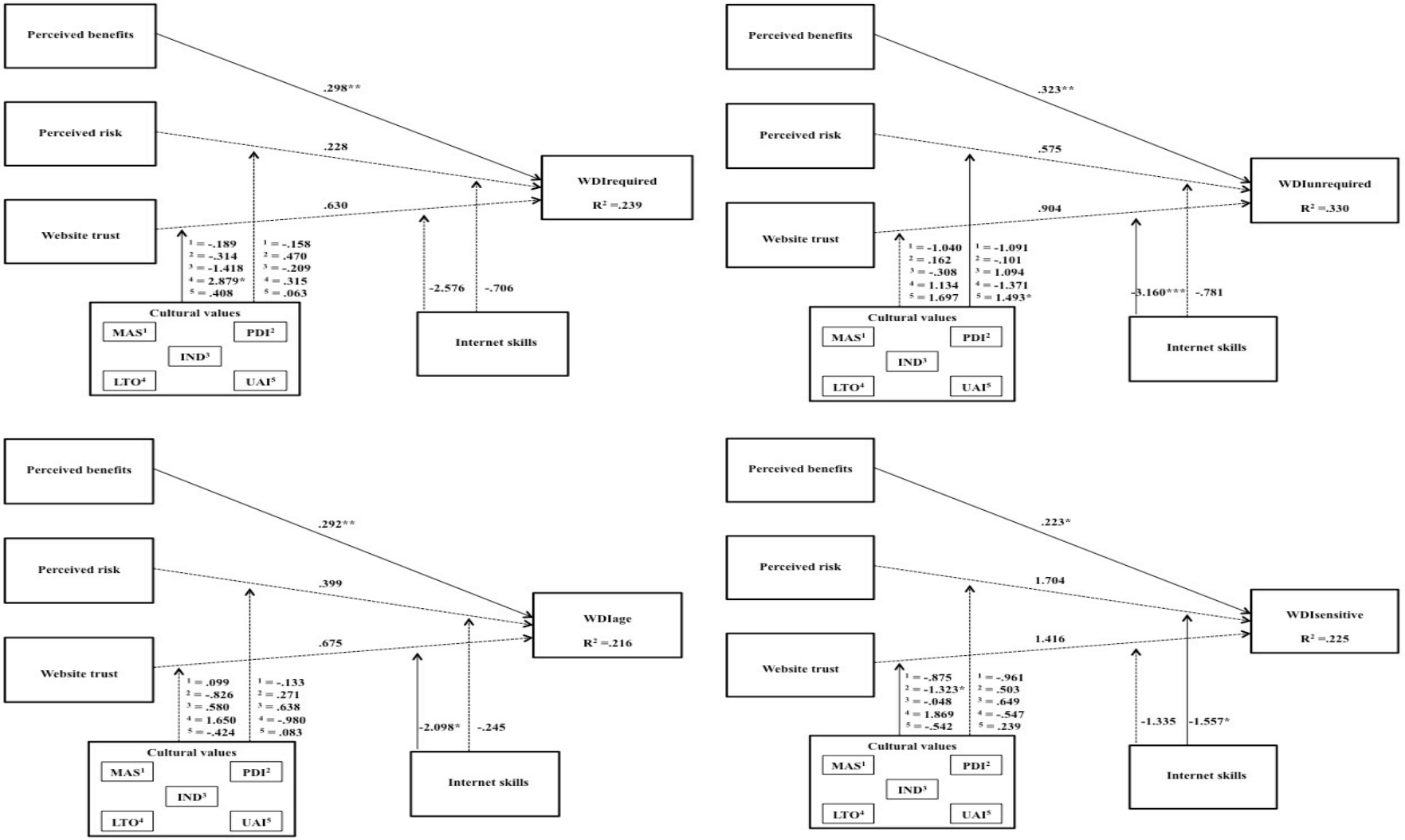
*Note. Results of the regression analyses *p < .05 **p < .01 *** p < .001. A dashed line represents an insignificant link*

Models for the German group



*Note. Results of the regression analyses *p < .05 **p < .01 *** p < .001. A dashed line represents an insignificant link*

Models for the Indonesian group



*Note. Results of the regression analyses *p < .05 **p < .01 *** p < .001. A dashed line represents an insignificant link*

Appendix E. Overview of the hypotheses

Table 9.
Results of the hypotheses

Hyp.	Variable relation	Sample	Result	WDI1	WDI2	WDI3	WDI4	WDI total
H1	PR(-)→WDI	Total	Partially	Supp.	-	Supp.	-	-
		NL	Partially	-	-	-	-	Supp.
		DE	Partially	-	-	Supp.	-	Supp.
		IND	Rejected	-	-	-	-	-
H2	PB(+)→WDI	Total	Supported	Supp.	Supp.	Supp.	Supp.	Supp.
		NL	Rejected	-	-	-	-	-
		DE	Partially	Supp.	-	-	-	-
		IND	Supported	Supp.	Supp.	Supp.	Supp.	Supp.
H3	WT(+)→WDI	Total	Partially	Supp.	-	Supp.	-	Supp.
		NL	Partially	Supp.	-	Supp.	-	-
		DE	Partially	Supp.	-	Supp.	-	Supp.
		IND	Partially	Supp.	-	-	-	-
	Moderating Internet skills							
H4a	PR → WDI	Total	Partially	-	-	-	Supp.	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Partially	-	-	-	Supp.	-
H4b	WT → WDI	Total	Rejected	-	-	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Partially	-	Supp.	Supp.	-	Supp.
	Moderating cultural values							
H5a	PDI PR→WDI	Total	Rejected	-	-	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Rejected	-	-	-	-	-
H5b	PDI WT→WDI	Total	Rejected	-	-	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Partially	-	-	-	Supp.	-
H6a	IND PR→WDI	Total	Rejected	-	-	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Rejected	-	-	-	-	-
H6b	IND WT→WDI	Total	Rejected	-	-	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Rejected	-	-	-	-	-
H7a	MAS PR→WDI	Total	Rejected	-	-	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Rejected	-	-	-	-	-
H7b	MAS WT→WDI	Total	Partially	Supp.	-	-	-	Supp.
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Rejected	-	-	-	-	-
H8a	UAI PR→WDI	Total	Rejected	-	-	-	-	-
		NL	Partially	Supp.	-	-	-	-
		DE	Partially	-	Supp.	-	-	Supp.
		IND	Partially	-	Supp.	-	-	-
H8b	UAI WT→WDI	Total	Partially	-	Supp.	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Rejected	-	-	-	-	-
H9a	LTO PR→WDI	Total	Rejected	-	-	-	-	-
		NL	Rejected	-	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Rejected	-	-	-	-	-
H9b	LTO WT→WDI	Total	Rejected	-	-	-	-	-
		NL	Partially	Supp.	-	-	-	-
		DE	Rejected	-	-	-	-	-
		IND	Partially	Supp.	-	-	-	-

Note. Supp. Supported; - Rejected