CROSS-NATIONAL COMPARISON ON THE IMPACT OF ONLINE CONSUMERS' TRUST AND RISK PERCEPTIONS ON B2C ONLINE MARKETPLACE ACCEPTANCE: AN EMPIRICAL ANALYSIS OF ONLINE CONSUMERS IN THAILAND AND GERMANY

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ABSTRACT

Title of Dissertation	CROSS-NATIONAL COMPARISON ON THE IMPACT OF ONLINE CONSUMERS' TRUST AND RISK PERCEPTIONS ON B2C ONLINE MARKETPLACE ACCEPTANCE: AN EMPIRICAL ANALYSIS OF ONLINE CONSUMERS IN THAILAND AND GERMANY
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The usage of B2C online marketplaces for shopping online is different around the world. While most online consumers in North America and several western countries in Europe as well are used to shop online via well-established B2C online marketplaces such as Amazon for quite some time, online consumers in some Asian countries have started using B2C online marketplaces quite recently. Analyzing cross-country differences in the influences of online consumers' beliefs and perceptions of B2C online marketplaces on the online consumers' acceptance of such technologies can help to understand differences in the popularity and success of B2C online marketplaces between and across countries. This study analyzed the influence of online consumers' trust, perceived risk, usefulness and ease of use in/of B2C online marketplaces in Thailand and Germany. The influences were compared between online consumers in Thailand and online consumers in Germany to show that country specific differences exist. In addition, moderation effects of consumer characteristics such as cultural dimensions at the individual level, years of experience with B2C online marketplaces, and income were controlled to identify the effects of the national specific environment that surrounds online consumers in these two countries. The results of the analysis of 404 online consumers in Thailand and 405 online consumers in Germany show among others that for online consumers in Thailand the influence of trust in the community of sellers has a higher influence on their intention to use B2C online marketplaces than for online consumers in Germany. In contrast, German online consumers' intention to use B2C online marketplace is highly influenced by their perceived usefulness of B2C online marketplaces. Trust in the intermediary has shown to be an important factor that should

be explored in more detail in future studies about B2C online marketplaces. Online consumers' values of cultural dimensions, their level experience, and income gave some more insights on differences between the respondents of the survey. The study has implications for theory and managers, operators of, and retailers on national and international B2C online marketplaces with intercultural consumers as it poses the use of B2C online marketplaces in an international context. It can be worthwhile to examine consumers' beliefs, perceptions, and characteristics that are particularly related to their country specific environment in order to get more insights on country specific differences in the intention to use and usage of B2C online marketplaces. The implications are discussed and limitations and future research are provided in this study.

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CHAPTER 1

INTRODUCTION

The first chapter gives the reader an overview of the study. After the background of the study is presented, the problem statement and the objective of the study will be specified. Then, it is described how the study will contribute to expand the knowledge in the respective area. Finally, this chapter describes key terms of this study and the overall organization of the dissertation.

1.1 Background of the Study

At the end of 2018, the number of internet users has reached more than half (3.924 billion individuals) of the population worldwide (Internet Telecommunication Union, 2020). With the development of information and communication technologies (i.e. the internet and the platforms, applications, and hardware that are based on the internet), not only a new communication channel but also another distribution channel for buying and selling products and services emerged. Today, consumers can buy products or services online by accessing the internet via several different internet-enabled electronic devices (smartphone, tablet, notebook, desktop personal computer, etc.). This process of buying online is called online shopping (Schoder, 2015). Because of the internet-based commerce, consumers not only can buy from large but also small and medium sized companies from almost every country (Erdem & Erdem, 2017; Nisar & Prabhakar, 2017).

In the 1990s, consumers bought products online for the first time. Sellers offered products to customers in online shops via the internet. In 1995, US American company Amazon.com started its online shopping website as did the US American company eBay (primarily customer-to-customer commerce (C2C)) launched their websites in the same year. These two are one of the most successful online shopping websites in

European and American countries up to the present day. A few years after the launch of Amazon.com and eBay, the Chinese company Alibaba introduced Taobao (in 2003) and Tmall (in 2008). These two online shopping platforms are one of the most successful in China and several other Asian countries as well (Tech in Asia, 2015).

In business-to-consumer (B2C) e-commerce markets, consumers can find "pure-click" retailer companies (e.g., Amazon.com) and brick-and-mortar retailers (e.g., Wal-Mart), too (Erdem & Erdem, 2017). E-commerce retail sales worldwide reached 2.304 trillion US dollar in 2017 (24.8 percent increase over 2016) and made up 10.2 percent of total retail sales worldwide (8.6 percent in 2016) (eMarketer, 2018b).

For customers, online shopping can have several advantages compared to browsing and purchasing in traditional brick and mortar stores. For example, these advantages can be convenience, flexibility, and reduced cost to seek information (Ahmad, Omar, & Ramayah, 2010; Ashraf, Thongpapanl, & Spyropoulou, 2016; Chaparro-Peláez, Agudo-Peregrina, & Pascual-Miguel, 2016; Lee, Sener, Mokhtarian, & Handy, 2017; Lissitsa & Kol, 2016; Yoon & Occeña, 2015), large product variety and comparing prices (Kacen, Hess, & Chiang, 2013) as well as discrete shopping and personalized shopping (Schafer, Konstan, & Riedl, 2001).

Different technologies for selling and buying products online are available, e. g. online shops, online marketplaces, or social media. An online shop is an online information system that is used by a single vendor to sell products online to several consumers (in general online shops support in addition other business processes of vendors as well, e.g., the management of the product inventory, payment process etc.). An online marketplace is an online technology that has similar functions as online shops, but it is managed by an intermediary and used by several different vendors to sell their products online at the same virtual location (platform). Amazon is a popular example of an online marketplace. This company sells products on its own platform, but also offers other vendors to provide their product information and sell products on Amazon's platform. When vendors sell products through Amazon's platform to customers, Amazon is the intermediary who processes the transaction and charges a fee from the vendor. Another technology that is used for selling and buying products is social media more specifically social networks (e.g., Facebook, Instagram) and instant messengers (e.g., Facebook Messenger, WhatsApp, LINE, WeChat or Viber). These

technologies were primarily developed for communication purposes between users, e.g. texting, sharing image or video content. More and more, vendors are also using social media, e.g. for marketing purposes or to get into direct contact with consumers to answer their questions and to offer after sales service.

1.2 Statement of the Problem

Globally, online shopping in general seems to be a popular way of buying products. However, when comparing countries there can be differences in using the internet for buying products online, e.g., the percentage of consumers buying online, the online consumers' frequency of usage, the consumers' level of experience, the type of vendor (B2C versus C2C), the market shares of different types of online shopping platforms (e. g., online shop, online marketplace, social media), the type of products sold online, etc. For the international and national development of online shopping, it is important to understand why consumers shop online (Iglesias-Pradas, Pascual-Miguel, Hernández-García, & Chaparro-Peláez, 2013) and what factors influence consumers' intention to buy online and their frequency of actually buying online (Hao Suan Samuel, Balaji, & Kok Wei, 2015; Lee et al., 2017). Consumers' characteristics, beliefs, perceptions, and behaviors have often been the main focus of academic and market research that was designed to analyze the advantages of e-commerce and the success of e-commerce in general (Zendehdel, Paim, & Osman, 2015) and online shopping specifically (e.g., Chang, Cheung, & Lai, 2005; Ha & Stoel, 2009; Jarvenpaa & Todd, 1997; Lee et al., 2017; Li & Zhang, 2002; Park & Kim, 2003; Vijayasarathy, 2004; Zhou, Dai, & Zhang, 2007). For example, characteristics of the web as a sales channel can result in influencing factors that play an important role in consumers' intentions, e.g., risk (financial risk, transactional risk, product risk etc.), trust, service quality, relative advantage, and online shopping experience. Further, characteristics of consumers have an influence on the intention to use online shopping, e.g., consumers' (previous) experiences, shopping orientations, computer/internet knowledge and usage, innovativeness, psychological variables, and demographic variables. In addition, characteristics of the product and the website itself play an important role, e.g., product

price, tangibility of the product type, website design, information content on the website, and security or privacy concerns.

Researchers have stated that e-commerce is still not developed fully and better research on online consumers' shopping intentions and behaviors is necessary (Aldousari, Delafrooz, Ab Yajid, & Ahmed, 2016). Customers' intention to use and usage of online shopping are of great interest and importance for not only e-commerce researchers but also online retailers (Hao Suan Samuel et al., 2015).

In the beginning, e-commerce research had been conducted in fields of information systems and marketing and focused on analyzing how results of brick-and-mortar retailing research can be applied to online shopping (e.g., trust, hedonic and utilitarian shopping motivations and consumers habits and values) (Alba et al., 1997; Floh & Madlberger, 2013; Li, Kuo, & Rusell, 1999). In contrast to complex research models, early research on online shopping tried to identify and build profiles of online shoppers to understand consumer characteristics that facilitate online shopping adoption (Cheung, Chan, & Limayem, 2005). Consumer satisfaction and loyalty have become more the focus of research since competitiveness in e-commerce is increasing (Gong, 2009). Although researchers have already analyzed factors influencing usage of online shopping in general, relatively few studies have been conducted that have tried to explain differences in the usage of online shopping from one country to another specifically (Cheung et al., 2005; Gefen & Heart, 2006). This cross-country specific view of online shopping is important because of the increasing internationalization and globalization of online shopping (and diffusion of multinational online shopping platforms as well).

More cross-country and cross-cultural studies can help to determine how a society's and consumers' social and cultural values and perceptions might influence the intention to use and usage of online shopping (Crabbe, Standing, Standing, & Karjaluoto, 2009). In general, culture has always been of great interest in technology acceptance research (e.g., Erdem & Erdem, 2017; Hwang, Jung, & Salvendy, 2006; McCoy, Galletta, & King, 2005, 2007; Singh, Fassott, Chao, & Hoffmann, 2006; Singh, Fassott, Zhao, & Boughton, 2006). However, many studies have the limitation that their analysis was conducted in a single country (Natarajan, Balasubramanian, & Kasilingam, 2017; Shaikh & Karjaluoto, 2015) or the research findings are primarily

based on analysis in western countries while environmental influences and non-western countries are not well known (Gong, 2009). This makes it difficult for academics and practitioners to make generalizations out of the findings and conclusions of these studies. In addition, research has shown that well-known theoretical frameworks and research models did not work exactly the same in different countries (Venkatesh & Zhang, 2010). Thus, academics called for more research to control the applicability of these frameworks in different countries and analyze the role of national culture in the context of these frameworks. The problem with the majority of the few existing studies which use culture as an argument when comparing countries is that these studies assumed cultural values to be uniform across the population of a country (Tong, 2010). In existing e-commerce research, culture was controlled and measured on the individual level of analysis between and within countries very rarely.

Besides culture, additional factors that are related to country specific characteristics can be of great interest when comparing the usage of a technology between two or more countries. For example, countries' economics, politics, legal and socio technical infrastructures can influencethe way online shopping is adopted across nations as well (AlGhamdi, Drew, & Al-Ghaith, 2011; Kshetri, 2007; Laosethakul & Boulton, 2007; Lee et al., 2017; Steinfield & Klein, 1999; Takieddine & Sun, 2015; Zhu, 2004). Further, these factors can be interrelated. Together with the norms and values of a society, these factors can form the degree of the usage of online shopping in a society (Kshetri, 2001). These factors might not only influence the use or non-use of online shopping but also the frequency of using online shopping, e.g., differences in numbers of frequent online shoppers and non-frequent online shoppers might be different in a country and from one country to another as well. More cross-country research is necessary to analyze these potential coherencies (Brashear, Kashyap, Musante, & Donthu, 2009).

Several studies have analyzed consumers' intention to use and usage of online shopping in general without mentioning a specific online shop or vendor that consumers should evaluate. Further, online shops that were fictional or offered products of one specific type or from one vendor were assessed. In contrast, research on B2C online marketplaces is scarce (Gefen & Pavlou, 2012; Pavlou & Gefen, 2004) even though it has become the most frequently used way of shopping online particularly in many North

American countries and other western countries in Europe for a considerable time (eMarketer, 2018a). Particularly, differences from one country to another in the intention to use and usage of B2C online marketplaces had not been analyzed to date. Several Asian countries and other countries of eastern culture have started using B2C online marketplaces not so long ago. Compared to online shops, B2C online marketplaces are managed by one intermediary but the products are also offered and sold by several other different sellers on the same platform. Thus, online consumers' trust beliefs and risk perceptions related to people in B2C online marketplaces should be differentiated between the intermediary and the community of sellers on the B2C online marketplace. While trust and risk perceptions are social predictors, perceived usefulness and perceived ease of use are technological predictors. Analyzing international differences in the influences of these online consumers' beliefs and perceptions of B2C online marketplaces together on online consumers' adoption of such technologies might help to understand differences in the intention to use and usage of B2C online marketplaces between and across countries.

1.3 Objectives of the Study

Given that there is significantly little research on explaining differences in online consumers' intention to use and usage of B2C online marketplaces between countries (particularly for eastern versus western countries and/or developing versus developed countries), the objectives of this study are

1. to analyze the influences of online consumers' trust, perceived risk, perceived usefulness, and ease of use on their intention to make purchases in B2C online marketplaces in Thailand and in Germany,

2. to compare these influences between Thailand and Germany.

Thailand and Germany were selected for analysis and comparison as these countries differ widely on certain consumer characteristics (e.g., cultural values, level of experience with B2C online marketplaces) and are different from one another economically as well (Chapter 2.1.4). In addition to the objectives mentioned above, the effect of online consumers' cultural dimensions, level of experience with the online

marketplace, and income on the relationship between the intention to use B2C online marketplaces and its antecedents will be controlled.

This research uses the research models of Pavlou and Gefen (2004) and Pavlou (2003) as the theoretical framework. While the model of Pavlou and Gefen (2004) helps analyze the factors that are relevant in the context of B2C online marketplaces, the framework of Pavlou (2003) integrates trust and risk with the technology acceptance model (Davis, 1989; Davis, Bagozzi, & Warshaw, 1989).

1.4 Contributions of the Study

With the help of this study, the researcher aims to address the gaps to better understand factors explaining differences in the online consumers' intention to use B2C online marketplaces in and between countries. The study aims to provide academic and practical contributions as follows:

Provide information about the influences on online consumers' intention to use and usage of B2C online marketplaces that can be different between two or more countries.

Provide information about the current status of online consumers' intention to use and usage of B2C online marketplaces by selected sample of online consumers (i.e., online consumers in Thailand and online consumers in Germany).

Provide recommendations for academics about environmental influences that should be considered when analyzing and comparing the intention to use and usage of B2C online marketplace and their antecedents in two or more countries.

Provide recommendations for managers and practitioners in general on the influences that should be considered, focused on, and be improved when developing strategies for national and international B2C online marketplaces in different countries or with intercultural consumers.

1.4.1 Academic Contribution

This study extends the knowledge about the role of country and consumer specific characteristics, beliefs and perceptions in the context of e-commerce, especially B2C online marketplaces. The research provides data and knowledge about

the influences on the intention to use and usage of B2C online marketplaces in two selected countries (i.e., Thailand and Germany). Regarding online shopping in general, these two countries have not been analyzed by researchers as frequent as other countries have (e.g., the United States or China) (Chapter 2.3.2). Thus, this study adds external validity to the results of existing studies that have frequently analyzed specific countries. Altogether, this study provides academic insight on online shopping from an international perspective. This research also follows the call for more research on existing technology acceptance frameworks and their extension (Venkatesh, Thong, & Xu, 2016). This study includes the factors that are important in the context of online shopping in general (i.e., trust and risk) (Gefen, Karahanna, & Straub, 2003b; Pavlou, 2003) and in B2C online marketplaces specifically (Pavlou & Gefen, 2004). Empirical testing and validation of the influences of these factors are provided and additional insights are given by the comparison of the influences between two counties.

1.4.2 Practical Contribution

From the viewpoint of practical contribution, this study aims to provide vital implications for consumer research and for strategies for the management and decision makers of companies, especially marketing, e-commerce and sales departments. It may help national as well as international companies to understand the influence of consumers' beliefs and characteristics and environmental factors on consumers' intention to use and usage of B2C online marketplaces, especially regarding different nationality or culture of consumers. This can be a guidance for companies that are striving for success not only in online distribution channels but also in offline distribution channels. In addition, companies that are expanding their online shopping platforms and particularly online marketplaces to markets in foreign countries might benefit from the results of this research. The study will also support the development of international online shopping in general as it will provide insight on consumers' perceptions and their intention to use B2C online marketplaces that might also be transferable to other countries. Furthermore, the findings of this study can indicate that companies should offer different services depending on the economic, political, infrastructural, or cultural environment of a country and their online consumers' perceptions and experiences with online shopping. Understanding the influences on the

intentions of online consumers in Thailand and online consumers in Germany can help online retailers in segmenting and targeting strategies and decisions in general and online marketing specifically (Lee, Qu, & Kim, 2007; Liu & Forsythe, 2011).

1.5 Organization of the Dissertation

The study will be structured in five sequential chapters as follows:

Chapter 1: The first chapter briefly gave an introduction to the subject of this study. The context of the study was described as well as the objective of this research and its relevance for academia and practice.

Chapter 2: The second chapter begins with an overview that shows detailed information about the two countries that are subjects in this study. Then, it gives an overview of the literature that has made vital contributions to the research context of this study. It will provide understanding of related theories, approaches, and findings and helps to develop the hypotheses and conceptual model of this study. The conceptual model of the study is proposed together with the developed hypotheses.

Chapter 3: In the research methodology chapter, the research approach, sampling method, and data collection will be described. Further, the variables to measure the concepts of the conceptual framework will be presented in this chapter.

Chapter 4: The fourth chapter will describe the study's results, i.e., analysis of data with the help of the statistical tools and its interpretation.

Chapter 5: After the presentation of the results, these will then be discussed in chapter five.

Chapter 6: In the final chapter, the findings and implications of the study will be summarized. The limitations of the study will also be described in this chapter. In conclusion, recommendations and suggestions for future research will be given.

CHAPTER 2

LITERATURE REVIEW

This literature review will give an overview of the specific context of this study to get better understanding and knowledge of existing findings and research relevant to this study. This will help to understand and develop the hypotheses and the theoretical framework of the study that are presented at the end of this chapter. First, the countries that will help to test the theoretical framework of this study will be described in the following.

The diffusion/adoption of e-commerce technologies in general has been successful in many developed countries. In general, these countries have a very well developed physical infrastructure and competitive marketing (Lawrence & Tar, 2010). Developing countries are relatively slower in the adoption of e-commerce technologies (Datta, 2011; MacGregor & Kartiwi, 2010) . Some of the reasons might be explained by country specific characteristics and environments, e.g., inhabitants' income level, payment systems for online transactions, literacy rate, or national culture that are not compatible with online shopping (United Nations Conference on Trade and Development, 2017). Ho, Kauffman, and Liang (2007)'s overview of sample country-level factors comprise gross domestic product (GDP), geography, demography, urbanization, information infrastructure (and investment intensity in telecommunications), cost of online shopping (and credit card penetration), adequate resources, cosmopolitanism, education, and human capital (and venture capital available). Gibbs, Kraemer, and Dedrick (2003) analyzed key global, environmental and policy factors that might influence e-commerce diffusion. They have stated that B2C commerce is facilitated by strong ICT infrastructure, government promotion, consumers' purchasing power and their demand to buy online and the desire of vendors to expand a market or compete. In contrast, inequality in socioeconomic levels, security or privacy concerns, lack of payment options, and existence of convenient alternatives

might limit the adoption of online shopping or slow it down. Further, country specific consumer habits and trends, market and vendor fragmentation, and lack of consumers' trust in e-commerce are factors that one should be aware of when comparing e-commerce adoption (aCommerce, 2017a).

The following will give an overview of the macro level factors of Thailand and Germany that are relevant in the context of online shopping. Thus it will be easier to understand the historical and current variables that can characterize the national environment in these countries (Ho et al., 2007).

2.1 Thailand and Germany

2.1.1 Choice of Countries

Models to analyze consumers' intention to use and usage of online shopping have been predominantly developed and tested in specific countries. Instead of generalizing the results that were found in industrialized countries, literature has called for more research to test the validity of these models for other countries (e.g., less industrialized countries, developing countries) and cultures as well (Dash & Saji, 2008; Khare & Rakesh, 2011; McCoy et al., 2007). For the comparison of two or more countries, it can be useful to select countries that differ widely on selected consumer characteristics (e. g., cultural dimensions (Sia et al., 2009)) and are different from one another economically (Tong, 2010). Thailand and Germany differ widely on most of the cultural dimensions by Hofstede (Hofstede Insights, 2018). According to Hofstede's survey in the context of the workplace, Thailand represents high power distance, high collectivism, high feminism, and low long term orientation, while Germany represents low power distance, low individualism, low masculinity, and high long term orientation (Hofstede Insights, 2018). In online shopping context, individuals might show different degrees in these dimensions than the nation that they belong to (Zendehdel, Paim, & Delafrooz, 2016). Economically, Thailand is less developed than Germany (see the following chapters), but Thailand's economy is catching up with Germany's economy with enormous increase growth in some areas. Information about countries' socioeconomics can be helpful to get a broad understanding of countries' circumstances. An overview of Thailand's and Germany's socioeconomics are

presented and discussed in the sections below in order to understand the socioeconomic aspects in each country. For example, this socioeconomics can incorporate laws and legal regulations, tax customs, cultures, religion, consumer habits and trends, logistics and infrastructure, market and vendor fragmentation, and education and skills of the workforce and consumers (aCommerce, 2017a). In studies that analyzed other parts of the world, poor information and communication technology infrastructure, trust and privacy issues, cultural specifics, lack of legislation, no clear regulations, and lack of consistent procedures on how to protect the consumers' and vendors' rights played an important role (AlGhamdi et al., 2011). Choosing countries because of their varying degrees of online maturity and legal protections in their markets has proven to be useful to demonstrate country specific differences in online shopping (Clemons et al., 2016).

2.1.2 Literature Search

Up-to-date information about B2C online shopping usage is often collected by practitioners, thus the literature review about the two countries incorporates both academic sources (peer-reviewed journal publications and conference papers) and practitioner sources (non-peer-reviewed consultants reports and surveys) as well. In order to find up-to-date information about online shopping usage in Thailand and Germany, the author used the Google search engine (http://www.google.com and http://www.google.de). "Online shopping", "Thailand", and "Germany" and their combinations were used as the primary search terms but others as well (terms similar to online shopping were used as well, e.g., "e-commerce", "e-shopping"). In addition to keyword searches, the authors also reviewed references in relevant search results in order to obtain more relevant sources.

2.1.3 Geography, People and Society, and Government

Thailand is a developing Southeast Asian country with an area of 513,120 km^2 (CentralIntelligenceAgency, 2016) having a population of approximately 69.4 million people in 2017 (United Nations, 2017) and population density (people per km^2 of land area) of 133 (The World Bank, 2016a). The populations' median age is 37.7 years. The percentage of urban population is 52.7. About 9.27 million people are living in the capital city area Bangkok. Buddhism is the religion that is followed by nearly 95 percent

of the population in Thailand. The type of government is a constitutional monarchy (interim military-affiliated government since May 2014).

Germany is the second most populous country in Europe (after Russia) and has the largest economy in Europe (Central Intelligence Agency, 2018). In Germany, the population of approximately 82.5 million people in 2017 were living in an area of 357,170 km^2 (United Nations, 2017). The population density is 233.6 people per km^2 (The World Bank, 2016a). The populations' median age is 47.1 years. The percentage of urban population is 75.7% and 3.56 million people are living in the capital city area of Berlin. Religion is diverse in Germany: 29 percent are Roman Catholic, 27 percent Protestant, 4.4 percent Muslim, 1.9 percent Orthodox Christian, 1.7 percent follow other religions, and 36 percent are non-religious or members of unrecorded religious groups (Central Intelligence Agency, 2018).

The key figures of geography, people and society in Thailand and in Germany are summarized in Table 2.1.

Table 2.1 Summary of Key Figures of Geography, People and Society in Thailand and in Germany

	Thailand	Germany
Area (km^2, 2016)	513,120	357,380
Population (in million, 2016)	68.86	82.67
Age Structure (% between 25-54 years old, 2016)	46.32	40.45
Median Age (2017)	37.7	47.1
Urban Population (%, 2017)	52.7	75.7
Religion (%, 2015)	94.5 Buddhism	29 Roman Catholic, 27 Protestant, 36 non- or members of unrecorded religious groups (est.)

The area of Thailand is much larger than Germany. However, Thailand has fewer residents than Germany. Hence, the population density of Germany is larger than the population density in Thailand (The World Bank, 2016a). In Germany, four cities have more than 1 million residents (Berlin, Hamburg, Munich and Cologne) and one

city with more than 3 million (Berlin) (Statistisches Bundesamt, 2018). According to the United Nations (2018), Thailand has large provinces, apart from Bangkok and Nakhon Ratchasiama (2.5 million inhabitants). These are Khon Kaen, Ubon Ratchathani and Udon Thani in the north-east, Nakhon Si Thammarat and Songkla (where Hat Yai city is located) in the south, and Chiang Mai, Chiang Rai in the north of Thailand (United Nations, 2018). Altogether, Germany has more major urban areas, but Thailand's capital city is much larger than Germany's. In Germany, religion is more diverse than in Thailand. Compared to Germany, Thailand has a higher percentage of inhabitants who are between 25 and 54 years old. Germany has more inhabitants who are younger than 25 years or older than 54 years compared to the inhabitants of Thailand. Further, the median age is lower in Thailand than in Germany. This can have an influence on the income (younger consumers might have lower income than older consumers) and tech savvy of consumers (younger consumers might be more tech savvy than older consumers). Because of the relatively high political and religious diversity in Germany, German consumers might be used to having freedom of choice in other areas as well, e.g. in shopping.

2.1.4 Economy and Economic Wealth

Thailand has a free enterprise economy with relatively well-developed infrastructure (CentralIntelligenceAgency, 2016). In 2011, Thailand was upgraded from the category of lower-middle economy to the upper middle income category (TheWorldBank, 2011). The long-term economic progression of Thailand has been noteworthy. The economy has been healthy and growing in the past 40 years. Over 5.2 million entrepreneurs are registered in Thailand. As per the World Bank Database, the GDP for 2018 was about 504 billion US dollar (The World Bank, 2020). The world bank defines the per capita annual income in Thailand between 1,026 US dollar and 12,475 US dollar. The middle- and affluent-class population comprises more than half of the citizens (making over 10,000 baht (= 100 US dollar) per month). Thailand’s affluent class is expected to grow faster than the middle class by 2030. Poverty has dropped significantly from 67 percent in 1986 to 11 percent in 2014 (TheWorldBank, 2015). Consumer demand and number of purchases are expected to raise as consumers’ income increases (Bharadwaj, Chaudhary, Kittikachorn, & Rastogi, 2017). In 2013, the

Thai government introduced a minimum wage policy of approximately 10 US dollar per day (Central Intelligence Agency, 2018).

Germany's economy is the fifth largest in the world in terms of purchasing power parity (PPP) (Central Intelligence Agency, 2018). The GDP was 3,948 billion US dollar in 2018. Structural reforms in the social welfare system in the past years lead to a strong economic growth and a decrease in the unemployment rate.

The key figures of economic data for Thailand and Germany are summarized in Table 2.2.

Table 2.2 Summary of key figures economic data for Thailand and Germany

	Thailand	Germany
Type of country	developing / emerging	developed / industrial
GDP (billion US dollar, 2018)	504	3,948
GDP per capita (US dollar, est. 2017)	17,900	50,800
GNI per capita (Atlas method, US dollar 2018)	6,610	47,090
Unemployment rate (in %, 2018)	1.1	3.1

Notes: GDP: Gross Domestic Product; GNI: Gross National Income

Overall, GDP is approximately eight times higher, GDP per capita is approximately three times higher, and gross national income (GNI) per capita is approximately seven times higher in Germany than in Thailand (the GNI comprises the GDP plus net receipts from incomes earned by residents who work abroad minus the income earned in the domestic economy by people who live abroad).

2.1.5 Infrastructure

Infrastructure represents the basic facilities of a national economy. Normally, these facilities are part of the national economical capital stock, but are used by private business activities as well (Klodt, 2020). Examples of infrastructure are transport networks or utility services (e.g., for water). Examples of technical infrastructures are communication networks, e.g., the internet (mobile and fixed broadband). Online

shopping requires a certain infrastructure. These infrastructures can be supply-side factors as well as demand-side factors. For example, a reliable and secure communication network (internet and secure servers) to execute financial transactions safely and to guarantee privacy of personal data and financial infrastructure are required to fulfill online payment methods (e.g., credit card, PayPal) in online shops. Similarly, a transportation network for the delivery of products bought online is needed. Further, online shopping requires consumers to have access to the communication network/online shop by a device that is connected to the internet (smartphone, notebook, desktop computer, or tablet). In general, these devices are owned by the consumers.

Thailand has a relatively low percentage of secure internet servers (between 54 and 61 per cent secure internet servers per 1 million people in 2016, normalized) (The World Bank, 2016b; United Nations Conference on Trade and Development, 2016). In contrast, the logistics' performance and reliability are relatively high in Thailand (The World Bank, 2016a; Universal Postal Union, 2020). Almost every household can get mail delivered at home (United Nations Conference on Trade and Development, 2016). The number of households with internet access varies in studies from approximately 60 to 82 per cent (Internet Telecommunication Union, 2017b; National Statistical Office Ministry of Digital Economy and Society, 2017). In Thailand, full end-to-end e-commerce solution providers (e.g., aCommerce.asia) offer full service for companies to enter the e-commerce market successfully. For instance, the e-commerce service company aCommerce.asia cooperated with the popular social network service LINE to sell products in time-limited "flash sales" to LINE users. The Thailand Post launched a delivery service for packages in 2014. This service delivers small packages to 7-eleven convenience stores (aCommerce, 2017a). Bangkok and Jakarta are home to some of the most high-end malls and department stores across the region such as Central World, Paragon and Grand Indonesia. However, outside of the capital cities, there might be a lack of offline retail infrastructure. This might foster the use of shopping online by consumers outside bigger cities. Based on aCommerce's aggregate numbers, 70 percent of orders are from outside Bangkok (qcommereiq, 2016). Thai consumers tend not to use online shopping because of high shipping costs (Startup Thailand, 2018). Cash on Delivery is the most frequently used way to pay for purchases made online (79 percent)

(Accenture, 2017). Other frequently used payment solutions are bank transfer, over-the-counter service at offline point of sales, or credit cards (although the credit card penetration rate is very low at 6 percent) (Tech in Asia, 2018). Cash on delivery is not available for every region in Thailand. Lazada (a company that operates a B2C online marketplace) was part of enhancing the infrastructure for a stronger e-commerce in Southeast Asia by collecting and analyzing their customer data and providing infrastructure on their own for logistics (Lazada Express) and payment (Hellopay). These were huge investments that were compensated by Alibaba (Chinese company) absorbing Lazada (aCommerce, 2017b).

Germany has a high percentage of secure internet servers (between 93 and 94 per cent secure internet servers per 1 million people in 2016, normalized) (The World Bank, 2016b; United Nations Conference on Trade and Development, 2016). Germany's logistics' performance and reliability is one of the highest in the world (The World Bank, 2016a; Universal Postal Union, 2020). Every household in Germany can get mail delivered at home (United Nations Conference on Trade and Development, 2016). The number of households with internet access varies in studies from approximately 89 to 93 per cent (Eurostat, 2017; Internet Telecommunication Union, 2017a). Penetration rates for credit cards and debit cards in particular are high. Overall, Germany's infrastructure is well-suited for online shopping.

The infrastructure key figures for online shopping in Thailand and Germany are summarized in Table 2.3.

Table 2.3 Summary of Infrastructure Key Figures for Online Shopping in Thailand and Germany

	Thailand	Germany
Secure Internet servers per 1 million people (normalized, 2016)	54	94
Population Having Mail Delivered at Home in %	96	100
Logistics Performance Index (Rank/Score, 2016)	45/3.26	1/4.23
Postal Reliability Index	90	86.7
Fixed Broadband subscriptions (per 100 inhabitants)	9.24	37.19

	Thailand	Germany
Mobile Broadband Subscriptions (per 100 inhabitants)	99	79.8
Credit Card Owners % Age 15+	5.69	45.81
Debit Card Owners % Age 15+	54.75	91.97

According to the Logistics Performance Index 2016 (The World Bank, 2016a) Germany is leading this ranking with a score of 4.23. Thailand is ranked 45th with a score of 3.26 (160 countries total, lowest score 1.60). ("The World Bank's LPI analyzes countries in six components: the efficiency of customs and border management clearance, the quality of trade and transport infrastructure, the ease of arranging competitively priced shipments, the competence and quality of logistics services, the ability to track and trace consignments, the frequency with which shipments reach consignees within scheduled or expected delivery times." (The World Bank, 2016a, p. 6)). Germany has more secure internet servers than Thailand. This might show that consumers' demand for internet security might differ from one country to another. Further, more secure internet servers can lead to lower security concerns for German consumers than Thai consumers when shopping online. In Thailand and Germany, more than 95 percent of consumers can get mail delivered at home. Some vendors also offer delivery to local stores (e. g. convenience stores (7 eleven) in Thailand, small shops for office supplies in Germany) or other places for pick up where consumers can collect their products purchased online. Thailand's infrastructure has less secure servers, less fixed broadband, but more mobile broadband subscriptions, less credit and debit card penetration than Germany's infrastructure. While the number of fixed internet access is lower in Thailand, the number of mobile broadband subscriptions is higher in Thailand than in Germany. This number is even stronger for the devices that are used for communication. On the one hand, Thailand has less than 10 percent households with fixed telephone line subscriptions. In contrast, 55 percent of German households have fixed telephone line subscriptions (Central Intelligence Agency, 2018). On the other hand, Thailand has 176 mobile-cellular subscriptions per 100 people, Germany has 129.1 mobile-cellular subscriptions per 100 people. This shows that Thai people might be more mobile oriented when accessing the internet than German people. This hypothesis can be supported by the fact that in Thailand only 28.4 percent of households

have a computer which is a small number compared to Germany with 91.4 percent of households having a computer (Internet Telecommunication Union, 2017a, 2017b).

In very large urban areas such as Bangkok, busy traffic and public transportation might imply more effort for customers to travel to local shops. The quality of packing and parcel logistics and services might influence the consumers' trust in delivery. The quality of the service might be measured by the time for delivery, service fees, and condition of the package. Security of the internet and payment systems might influence consumers' risk perception. An insecure infrastructure might lead to loss of money or disclosure of consumers' private data. Availability of payment options might influence the intention to use and usage of online shops. For example, there are far less Thai consumers owning a credit card than German consumers. The access to the internet and the quality of the connection can influence the users' intention to use online shopping. Some households might not be connected to the internet because there is no mobile or broadband connection available in the area they are living in. Another requirement for consumers is to own a device that is able to connect to the internet and is compatible with online shopping. Households that suffer from low connection speed or consumers with slow/old devices might not use online shopping because of a negative user experience.

2.1.6 Laws and Regulations in the Context of Online Shopping

The lack of direct contact to sellers in online shopping and the usage of internet technologies can imply high levels of uncertainty and concerns about financial loss or loss of personal data. Laws and regulations of a government in a country and the enforcement of these laws can protect consumers and lower the level of uncertainty and concerns when shopping online (United Nations Conference on Trade and Development, 2015). These e-commerce legislations can be e-transaction laws, consumer protection laws, privacy and data protection laws, and cybercrime laws. To establish and being able to enforce these laws, a country needs skilled or trained personnel. These personnel have to be able to understand the current problems and challenges and then develop adequate policies and laws, allocate funds, and expedite information and communication technology infrastructure.

In an online shopping context, legal rights of consumers are important because the evaluation of the quality of a product and possible opportunistic behavior is more difficult than in offline stores. Low quality or fake products can result in a general distrust of online shopping (Gong, Maddox, & Stump, 2012). Although laws and regulations might lower the risk of uncertainties, consumers in some countries (particularly eastern countries) might not make use of their legal rights because it can imply that they made a bad decision and result in losing face in front of others. Further, some consumers might tend to avoid confrontations in general and with online sellers specifically that are difficult to contact via the internet.

In Thailand, the Electronic Transactions Act is a law to regulate electronic transactions (Thailand Law, 2013). Internet vendors are required to own an e-commerce business license to do business online (Australian Government Austrade, 2018). If a vendor offers credit card payment, the vendor has to fulfill specific security requirements (Pugnatorius Thailand, 2018). Further, the government introduced an electronic approval stamp and a trust mark for websites that aim to increase consumers' trust. Violation of the e-commerce laws can result in the payment of fines or imprisonment. Other laws that are related to e-commerce and online shopping are the Consumer Protections Act, Thailand's Civil and Commercial Code, Computer Crime Act, Patent and Trademark laws, and the Direct Sales and Direct Marketing Act. The leading online shops and online marketplaces in Thailand, e.g., Lazada, Shopee, offer a timespan of about 7 to 15 days for returning products bought online and getting money back.

In Germany, several laws, regulations, and institutions exist that clarify the legal conditions of online shopping and protect online consumers' rights. Some of these are: Regulation on distance agreements, right of return (14 days without any reason), and conciliation committees. Not only in online shopping but also in daily life, privacy and data protection are in general important and highly valued in Germany because of the country's history. Several laws and regulations exist to protect consumers from losing control of their personal data, e.g. Federal Data Protection Act, General Data Protection Regulation, German Banking Act and the Money Laundering (Prevention) Act, the Telemedia Act and the Telecommunications Act (Getting to Global, 2018). In an

economic context, consumer rights are protected based on the German Civil Code, The Unfair Competition Act, and the Regulation on Price Quotations.

To summarize, Thailand's and Germany's governments have implemented several acts in their country to protect online consumers conducting private business on the internet specifically and boost e-commerce in general.

2.1.7 Political Investments and Strategies

Political investments and strategies might improve the consumer acceptance of online shopping technologies when governments carry out programs for modernization that foster innovation, digitalization, information and communication technologies, and e-commerce. Examples for national policies and strategies to enable e-commerce are: affordable information and communication technology infrastructures and services, logistics and trade facilitation, fostering an environment for e-commerce and online payment solutions, strengthening the legal and regulatory framework, skills development, promoting government e-procurement, and raising awareness of all stakeholders (United Nations Conference on Trade and Development, 2015).

Thailand 4.0 is a program from the Thai government that focuses on modern smart technologies, automation, and digitalization to foster prosperity, social health, education, and environmental protection (Royal Thai Embassy, Washington D.C., 2020). Regarding online shopping, the government will construct a broadband network that is expanded to regions outside of large cities and will promote online activities in general, including online shopping (International Trade Administration, 2019). E-commerce strategies are also promoted by the public organization Electronic Transactions Development Agency, strategies to support entrepreneurs, to strengthen the ecosystem for e-commerce and trade facilitation (e.g., payment system, logistics, e-Tax), and strategies for trust building (encourage self-regulation, ensure consumer protection) (Australian Government Austrade, 2018; Wayuparb, 2018). The Thai government fosters a digital payment infrastructure, e.g., terminals for consumers to pay invoices via card, PromptPay (using mobile phone number or citizen ID to transfer money between consumer and business) (J.P. Morgan, 2020).

In Germany, the Digital Agenda is a Europe 2020 strategy that aims to increase the growth of the European Union. The potential of information and communication

technologies should be used to promote innovations. Further, the Digital Agenda aims to foster a digital market of fair competition, and a high level of consumer and personal data protection (Eurostat, 2017).

Thailand's and Germany's governments introduced and pursue programs to promote digitalization of business in general and e-commerce in particular. While Thailand is focusing on national growth in e-commerce, Germany is not only following its national objectives but also objectives that are important for growth of the online market of the European Union.

2.1.8 Online Market Structure

One of the largest online shopping platforms in Thailand are Lazada (founded by German company Rocket Internet in 2012 and sold to Chinese Alibaba Group in 2016), Shopee (owned by Singaporean company Sea Group), 11street (an online shop from Korea, which launched in Thailand 2017 (Euromonitor, 2018b)), and Central (owned by the Thai company Central Group) (aCommerce, 2017b). Lazada is not only the leading online marketplace in Thailand but also a preferred platform for online transactions by consumers in Malaysia, Indonesia, Philippines, and Vietnam (Bain & Company, 2016). One of its most popular competitors is Shopee (The Nation Thailand, 2019). Shopee, launched in Singapore in 2015 (Shopee, 2020), has become more and more popular in Thailand and has caught up to lazada.co.th in terms of monthly page visits (Shopee 28 million, lazada.co.th 42 million) (iprice insights, 2019). While Lazada offers a huge variety of products in the category of mobile and electronics, Shopee focuses on fashion and beauty products (ecommerce IQ, 2018). Another successful competitor is the joint-venture between JD.com and Central Group, who created a new online marketplace JD (Euromonitor, 2018b; Thomson Reuters, 2017). While the online marketplace Amazon is very successful in several western countries, Amazon is not used by many consumers in Thailand. Local and regional companies seem to provide online shopping solutions that provide a better fit to the local consumers than global online shopping solutions (Bain & Company, 2016). Strong mobile commerce players in Thailand include Wish, Chilindo, eBay and AliExpress (ASEAN UP, 2017). According to the estimated monthly web traffic by SimilarWeb (ASEAN UP, 2019),

Lazada and Shopee are by far the leading online shopping platforms in Thailand (Table 2.4).

Table 2.4 Top 10 E-commerce Sites in Thailand in 2019 and Their Estimated Monthly Traffic from SimilarWeb

Rank	E-commerce platform	Type	Monthly traffic estimate in millions in 2019
1	Lazada Thailand	Online department store and marketplace for retailers	44.9
2	Shopee Thailand	Primarily mobile online shop and marketplace	30.1
3	JIB	Online shop for computer and IT products	2.3
4	Chilindo	E-commerce auctions platform	1.75
5	Advice	Online shop for smartphones and IT products	1.6
6	Power Buy	Online shop for electronics	1.5
7	JD Central	Online marketplace	1.2
8	Se-ed	Online shop for books	1.2
9	Central	Online shop of leading chain of department stores in Thailand	1.2
10	HomePro	Online shop for home and family equipment, tools, and accessories	1.15

Lazada stated a revenue of about 260 million US dollar in Thailand in 2018, Shopee 131 million US dollar, and JD Central 15 million US dollar (Bangkok Post Public Company Limited, 2019). In addition to online marketplaces and online shops, alternative forms of online shopping are C2C commerce or social media commerce in Thailand. For example, Kaidee.com is a popular C2C online shopping platform for second-hand items (Bangkok Post Public Company Limited, 2016) that had 11 million

(estimated) visitors per month in 2019 (ASEAN UP, 2019). With reference to revenues from online sales, data differs from source to source. According to Thailand's Electronic Transaction Development Agency, sales via social media were 10.9 billion US dollar in 2017 (Electronic Transactions Development Agency Thailand, 2018). In 2016, the value of retail and wholesale e-commerce for SMEs were 2.8 billion US dollar through e-marketplaces, 2.66 billion US dollar via e-commerce operators owned websites or applications, and 3.89 billion US dollar via social media. This shows the importance of social media as an online shopping channel in Thailand. According to aCommerce (2017a), online retail sales were 2.5 billion US dollar in 2016 and the average revenue per user was 212 US dollar in 2016.

In Germany, Amazon is the leading platform for online shopping. In 2018, Amazon made 46 percent of all online revenues in Germany through their online marketplace (Handelsverband Deutschland, 2019). Besides Amazon, eBay is a popular online auction platform where businesses and consumers as well can sell to other consumers. One of the largest German internet retailer companies is Otto who offers a wide range of products in their online shop. Zalando is another popular German online shop that is selling fashion and with good growth in 2017 (Euromonitor, 2018a). Table 2.5 gives an overview of the most frequently visited online shopping platforms in Germany in 2019 based on estimated monthly traffic by SimilarWeb (Disfold, 2019).

Table 2.5 Top 10 E-commerce Sites in Germany in 2019 and Their Estimated Monthly Traffic from SimilarWeb

Rank	E-commerce platform	Type	Monthly traffic estimate in millions in 2019
1	Amazon Germany	Online marketplace for wide array of products	434.5
2	eBay Germany	Online auction platform for businesses and consumers to sell directly to consumers	221.0

Rank	E-commerce platform	Type	Monthly traffic estimate in millions in 2019
3	Otto	Online shop for a wide array of product from furniture and home appliances, fashion, and electronics computer	40.3
4	MediaMarkt	Online shop of chain of electronic store for electronics, household appliances, media, and home entertainment	21.8
5	Lidl	Online shop of discount supermarket chain for groceries and diversified array of products and services	21.5
6	Thomann	Online shop for musical instruments and equipment	19.6
7	Zalando	Online shop for selling fashion	14.3
8	Saturn	Online shop of chain of electronic store for electronics, household appliances, media, and home entertainment	13.0
9	Tchibo	Online shop of a coffee products retailer selling clothing, household items, and electronics	10.0
10	Obi	Online shop for home improvement supplies	9.5

In 2017, the net revenues excluding value added tax in online shopping in Germany were about 58.5 billion US dollar (Handelsverband Deutschland, 2019). Table 2.6 gives an overview of the top B2C-shops for physical goods in Germany and their revenues in 2018 (EHI Retail Institute, 2019).

Table 2.6 Top 10 B2C-shops for Physical Goods in Germany in 2018 Based on Revenue

Rank	E-commerce platform	Type	E-commerce revenue 2018 in US dollar millions
1	Amazon	Generalist	9,278
2	Otto	Generalist	3,200
3	Zalando	Fashion	1,441
4	MediaMarkt	Consumer electronics	988
5	Notebooksbilliger	Consumer electronics	879
6	Lidl	Generalist	757
7	Bonprix	Fashion	601
8	Cyberport	Consumer electronics	555
9	Saturn	Consumer electronics	546
10	Alternate	Consumer electronics	525

Overall, the revenue of B2C online shopping platforms is much higher in Germany than in Thailand. However, the sales and revenues of vendors via different online shopping platforms is difficult to measure and thus to compare. While in Germany Amazon has a very high market share in online sales, in Thailand, sales via social media make up a large amount of the total online sales (The Nation Thailand, 2019; yStats.com, 2018b).

2.1.9 Internet Usage

According to the Internet Telecommunication Union, the Asia and Pacific region had a growth in the number of internet users from 873 million in 2010 to 1,697 million in 2016 (Internet Telecommunication Union, 2018). Europe had a growth in the number of internet users from 410 million in 2010 to 490 million in 2016 (Internet Telecommunication Union, 2018). Thailand had a growth in the number of internet users from 15 million in 2010 to 33 million in 2016. Germany had a growth in the number of internet users from 66 million in 2010 to 73 million in 2016. In Thailand, 47.5 per cent of the total population were using the internet in 2017 (Internet Telecommunication Union, 2017b; National Statistical Office Ministry of Digital

Economy and Society, 2017). In Germany, 89.6 per cent of the total population were using the internet in 2017 (Internet Telecommunication Union, 2017a). In terms of experience with the internet in years, people in Thailand are not as experienced as people in Germany.

In other studies, the reported percentages of consumers using the internet vary. While the numbers that can be found for Thailand range from 42 to 82 percent, the numbers for Germany are consistently at nearly 90 percent (Eurostat, 2017; The World Bank, 2016b). According to KPMG International (2017), 54 per cent of the total population of Thailand are active internet users. The report of the United Nations Conference on Trade and Development (2016) has stated that 86 per cent are using the internet. Numbers by The World Bank indicate that Thailand had 34.5 per cent internet users in 2014, which is an increase of more than 10 per cent compared to 2010 (The World Bank, 2016b). The growth in Germany is described as almost stagnating (4 percent) (The World Bank, 2016b). While the experience in years is higher in Germany than in Thailand, Thai consumers spend more time on the internet on a daily basis than German consumers (We Are Social, 2018). Compared to other countries in Southeast Asia, Thailand's mobile traffic is the second highest (after Indonesia) (Tech in Asia, 2018). For the usage of mobile devices, there are no differences in the percentages between Thai and German consumers. Thailand has 144.4 mobile cellular subscriptions per 100 people, which is an increase of more than 35 per cent compared to 2010 (The World Bank, 2016b). Germany has 120.4 mobile cellular subscriptions per 100 people, which has been relatively stable since 2007 (The World Bank, 2016b). While the percentage of the adult population who own a smartphone device is similar between Thailand and Germany, fewer Thai people own a laptop, desktop computer, or tablet device compared to German people (We Are Social, 2019). Thai consumers spend about three times more hours on using the mobile internet than German consumers.

Thailand has considerably more social media users than Germany. In Thailand 52 percent of the total population are active social media users (e.g., posting content online) (KPMG International, 2017)). The social network Facebook is used by 46 million people in Thailand (over 50 million Facebook users according to data from January 2018 (Euromonitor, 2018b)). Facebook is also popular in Germany, but Germany has less Facebook users than Thailand. Thailand has the third most Facebook

users worldwide and Bangkok is considered as the city that has the most Facebook users in the world. While 47 percent of internet users globally access Facebook weekly, 93 percent of Thai internet users access Facebook at least once a week. In addition, 33 million people in Thailand were using the instant messaging service LINE in 2015, which makes Thailand the leading country in using LINE followed by Indonesia (30 million users in 2014) and Malaysia (10 million users in 2014) (KPMG International, 2017). Thailand also has a high number of users on other social media platforms, e.g., Instagram, and Twitter (Euromonitor, 2018b).

2.1.10 Online Shopping

Comparable figures about the usage of online shopping in Thailand and Germany are rare to find. Only few reports (e.g., (United Nations Conference on Trade and Development, 2017)) show data that is comparable between countries when describing the usage of online shopping. Often, reports present statistics by aggregating data from different surveys and statistics. Further, data of different studies are difficult to compare because of differences in age ranges and variances in year/period of sampling across reports and surveys. In addition, the definition of online shopping can differ with respect to the types of platforms that are included in the statistics or not (B2C or C2C; online shop, online marketplace, or social media;). A major problem of statistics about the usage of online shopping is that B2C commerce and C2C commerce are not always strictly separated. High numbers of usage of social networks in Thailand might indicate that in Thailand C2C commerce might be more popular than B2C e-commerce. On the other hand, businesses can use social networks as well to sell products. Selling and buying products using the social network technologies Facebook, LINE, Instagram and similar platforms might be more familiar for Thai consumers. It is questionable whether C2C commerce is included or not in these statistics about e-commerce. Further, it can be difficult to differentiate between B2C and C2C commerce because informal enterprises participate in e-commerce as well (Nisar & Prabhakar, 2017). These problems of inconsistent data about online shopping exist for Thailand specifically. According to the National Statistical Office Thailand 2018, the number of online shoppers in Thailand increased from 2.4 million at the beginning of 2016 to 3.6 million at the beginning of 2017 (individuals who have ever purchased goods or

services via the internet; based on 83,880 households with respondents aged 6+) (yStats.com, 2018a). According to the United Nations report in 2015 (United Nations, 2015), the number of users in Thailand who made an online purchase was below 5 per cent of the population. While this number of online shoppers is relatively low compared to other countries, Thailand was ranked first in the ranking of differences between predicted and actual share of population buying online in 2014 (United Nations, 2015). The difference between predicted and actual share of population buying online in 2014 was 380 per cent. This indicated that online shopping was growing surprisingly fast in Thailand. This is supported by the report by Accenture (2017) that showed that 17 percent of Thai consumers were digital buyers, 51 percent purchased a product or service online. More information about Thai online consumers were presented in this report as follows. 79 percent of online purchases were made through Cash on Delivery. 39 percent of Thai digital consumers prefered shopping at stores where the sales executive answers all their questions. 51 percent bought products by interacting with the merchant on social media. 50 percent of all online purchases in Thailand are made through mobile devices. In contrast to the varying numbers in reports about Thai online consumers, the numbers in reports for the percentage of internet users in Germany is predominantly consistent. According to Eurostat (2018), 82 percent of German internet users purchased goods or services online.

Overall, studies show a difference in the usage of online shopping between Thailand and Germany: The percentage of the population using online shopping is lower in Thailand (varies heavily between 5 and 60 percent) than in Germany (about 80 percent) (Bain & Company, 2017; Electronic Transactions Development Agency Thailand, 2016; Eurostat, 2018; National Statistical Office Ministry of Digital Economy and Society, 2017; Statistisches Bundesamt, 2018; The Paypers, 2014; United Nations Conference on Trade and Development, 2017). The most recent data states that 19 percent of Thai consumers and 81 percent of German consumers made online transactions in 2019 (The World Bank, 2020). According to Accenture (2017), Thai consumers made digital purchases worth 198.90 US dollar on average. Data from Worldpay (2018) shows that on average Thai consumers spend less money per capita online (358 US dollar) than German consumers (1,074 US dollar) (Table 2.7). Relative

to total retail expenditure, the share spend for e-commerce is slightly higher in Thailand than in Germany.

Table 2.7 Comparison of E-commerce Spendings between Thailand and Germany

	Thailand	Germany
E-commerce spend per capita in US dollar	358	1,074
Point-of-sale spend per capita in US dollar	2,608	12,241
E-Commerce spend as a share of retail spend in %	12	8.1

Compared to other countries in Southeast Asia, Thailand and the Philippines have the lowest conversion rate in online shopping (Tech in Asia, 2018). Online shopping sales in Thailand have been increasing very fast in the last few years. However, the percentage of total retail sales is still relatively low (Bloomberg, 2017; Deloitte, 2016).

In Thailand, mobile devices are in general more commonly used than in Germany. In Germany, computers are preferred by several German web users. Thai consumers use ways for buying online that are similar to social media such as Facebook or LINE and their popular mobile applications. Thailand's mobile commerce adoption rate is one of the highest in Southeast Asia (58.8 percent) (ASEAN UP, 2015). However, the conversion rate is much higher on desktop computers than on mobile devices and the basket size (in US dollar) is slightly higher on desktop computers (47 percent) than on mobile devices (39 percent) (iprice insights, 2017). The usage of devices for online shopping can differ depending on the area where the consumers live. In big cities, 34 percent of consumers use mobile devices. In other areas the usage of mobile devices is considerably higher with 85 percent (Bain & Company, 2016).

According to Electronic Transactions Development Agency Thailand (2017), Eurostat (2018), National Statistical Office Ministry of Digital Economy and Society (2017), and Statistisches Bundesamt (2018), popular product categories bought online in both Thailand and in Germany are fashion, electronics, health and beauty products, and travel and event tickets. Groceries is a category that is becoming more popular in both countries, but Thai consumers are more likely to purchase groceries online (35 percent) than German consumers (14 percent) (PricewaterhouseCoopers International,

2018). The consumers' preference of the buying channel can depend on the product category and the household income. In Thailand, consumers prefer minimarkets to purchase confectionery, packaged foods, and beverages. Low income households prefer to buy clothing and footwear from street hawkers, and middle and high income households at department stores. Consumers prefer hypermarkets to purchase personal hygiene products and household cleaning products. Audio and video electronics, digital cameras and other gadgets, major household appliances, and small household appliances are preferably bought in hypermarkets by low and middle income households. Higher middle and high income households prefer to buy these in specialty stores or department stores (Deloitte, 2016).

According to The World Bank (2020), 78 percent of Thai consumers (over the age of 15) have a bank account, but only 54.7 percent of Thai consumers own a debit card, and only 5.6 percent of Thai consumers own a credit card. In contrast, bank account penetration in Germany is at 99 percent, 92 percent own a debit card and 45 percent own a credit card. In Thailand, payment has been a large barrier for online shopping. Bank transfers and cash on delivery are the most frequently used payment methods in online shopping. By contrast, digital payment methods (e.g., Alipay in China) might accelerate the adoption of online shopping, but have failed to be adopted in the past (aCommerce, 2017b; qcommereiq, 2016). Other sources reported a higher usage of credit cards in online shopping: bank transfer was used by 30 percent, credit and debit cards by 24.5 percent, payment over the counter by 20 percent, cash on delivery by 15 percent, other payment methods by 5.7 percent, and e-wallets by 4.8 percent of the consumers (The Paypers, 2014). The percentage of merchants offering such payment solutions are stated as follows: 90 percent offer payment by credit card, 81 percent by bank transfer, 52 percent by cash on delivery, 46 percent by offline point of sale, and 25 percent by instalment (iprice insights, 2017). In Mastercard's mobile shopping survey (online survey with 8,738 consumers aged 18-64), 12 percent of consumers with mobile internet access used digital wallets in 2016 and 30.1 percent mobile banking apps (MasterCard, 2017). Compared to Indonesia, Vietnam, and Philippines, Thailand's bank account penetration rate is relatively high (78 percent) and similar to Singapore's and Malaysia's bank account penetration rate. Compared to Singapore and Malaysia, Thailand's credit card penetration rate is relatively low (6

percent) and similar to Indonesia's, Vietnam's, and Philippines' credit card penetration rate (World Bank, 2017).

In Germany, commonly offered online payment methods by online sellers are credit card (MasterCard and Visa), PayPal, Giropay, Sofortüberweisung.de (direct online transfer), prepaid voucher, prepaid card, and bank transfer (The Paypers, 2014). Payment methods that had been used at least once by German online consumers are invoice (94 percent), PayPal (83 percent), debit card (74 percent), prepayment (71 percent), direct online transfer (66 percent), and credit card (65 percent) (Handelsverband Deutschland, 2019).

In 2017, most Thai consumers used Lazada to purchase online followed by social commerce platforms, e.g., Facebook, Instagram (Table 2.8). Online marketplaces such as Lazada charge sellers an annual fee and fees based on a percentage of sales. Thus, low-cost products without warranties or after sales service are often sold via social media (Siam Commercial Bank Economic Intelligence Center, 2017).

Table 2.8 Percentage of Thai Consumers that Bought Products via Each Online Channel in 2017

Online shopping platform	Percentage of Thai consumers
Lazada	65
Social commerce (Facebook, Instagram)	51
Company websites	26
Weloveshopping	18
Tesco, Big C, 7-11	14
AliExpress, eBay, Amazon	9
Tarad.com	3

In Thailand, about 50 percent (global average 16 percent) of online shoppers make purchases through a social network (PricewaterhouseCoopers International, 2016). Worldwide, the top reasons for consumers to make a purchase on social media are the enjoyment of looking at a variety of products from multiple retailers, the consumers' perception of faster purchase as they are frequently on social networks and can make the purchase as a part of their routine browsing on social media sites, and the

ease of seeing and sharing purchases of/with others (United Parcel Service, 2016). Compared to other countries, Thailand is the biggest social commerce market in the world (aCommerce, 2017b). C2C e-commerce is unregulated and untaxed but governments have announced plans about introducing an e-tax (qcommereiq, 2016).

The market share of social commerce is estimated to be at least 30 percent but it is difficult to measure because the process of buying and selling is negotiated on social networks, e.g., Facebook, LINE, but the payment is often conducted offline. The process of buying and selling through social networks can have the following steps: Consumers are visiting a Facebook or Instagram shop, browse products, inquire about a product from the seller via LINE, receive payment details from the seller via LINE, the consumer confirms the payment via LINE with a photo of the bank transfer, and the seller sends information about the shipping and tracking of the order (aCommerce, 2017c). LINE is the leading messaging application in Thailand (with more than 22 million users). LINE's flash sales have been popular shopping events that have generated high revenues in a short period of time. Via instant messaging services, exclusive product offerings are sent to users and products can be bought directly through the messaging application (ASEAN UP, 2015). LINE and Facebook add online shopping features to enhance the online shopping experience and performance on their platform, e.g., chatbots or secure online payments (Siam Commercial Bank Economic Intelligence Center, 2017). These and other features support this type of "conversational commerce" in which sellers and buyers communicate directly through messaging application (Bain & Company, 2017). In Thailand, cross-border online shopping seems not to be very attractive for consumers because of restrictive import duties and high fees on imported products (PayPal, 2016) (a popular sources of passive income is purchasing products from foreign online platforms and reselling it for a margin via social media (qcommereiq, 2016)).

The strategic marketing research company Euromonitor International specified types of consumers in Thailand as follows (Euromonitor International, 2019): secure traditionalists (36 percent) who avoid shopping, avoid strong or premium branded products, and prefer to save rather than spend. Impulsive spenders (30 percent) are looking for bargains, prefer to live in the moment, and make impulsive purchases. Empowered activists (25 percent) feel they can make a difference, are concerned with

global issues, and seek products with green or eco-conscious labeling. Lastly, inspired adventurers (9 percent) like to try new things, are future-focused, and are interested in living abroad and being self-employed.

In contrast to these consumers type (online and offline), Bharadwaj et al. (2017) found that online consumers in Thailand in general are more likely to spend and indulge than other Southeast Asian countries. Further, Thai consumers are brand conscious and loyal. In terms of gender, Thai women have a substantial buying power because of high employment rates and the income of women in particular compared to other countries in the world. The data showed that more women (29 percent) than men (18 percent) are making a purchase online in Thailand. The study of Bharadwaj et al. (2017) supports the strong role of social media commerce in Thailand (40 percent of online sales in product categories such as phones and accessories, cosmetics, and clothing). Reasons for using social media for shopping online are negotiating with sellers and seeking bargains. Online shopping is conducted in urban (27.2 percent), suburban (21.6 percent), and rural (20.8 percent) areas. Reasons to shop online are a wide product variety and limited access to offline stores. Most online purchases are made by consumers who are 20 to 39 years old. Convenience stores are well spread in Thailand and offer advantages for consumers who tend to buy few items and more frequently. These advantages are long opening hours and short queues. In general, convenience stores' sales have increased in recent years (Bharadwaj et al., 2017). Trust is especially important for Thai consumer behavior, because Thai consumers prefer a more personal touch when buying online (Janio, 2018). Further, cash on delivery is a payment method that is especially preferred by Thai consumers to prevent fraud and being able check the condition of the delivered item before paying. According to Deloitte's consumer survey in 2016 (Deloitte, 2016), the top reasons for online shopping in Thailand were convenience (41 percent), price (18 percent), product variety (17 percent), promotions (16 percent), and reviews (7 percent). The top reasons not to use online shopping were security concerns (45 percent), lack of knowledge about how to use (22 percent), product variety (10 percent), price (9 percent), no credit card (9 percent), and no internet access (4 percent).Forecasts predict that more than one-quarter of Thailand's population is expected to shop online in 2022 (yStats.com, 2018b).

In Germany, online shopping is often associated with Amazon. 90 percent of German online consumers have bought at least once on Amazon; 45 percent start their online product search on Amazon. 48 percent of online consumers use Amazon to check product prices. In addition, Amazon tries to bind their customers by offering additional services. For example, 35 percent of Amazon's customers pay an extra fee to benefit from Amazon Prime, a service for faster delivery and delivery free of charge. Further, with Amazon Prime customer have access to music streaming, video-on-demand, e-books, and cloud-service (PricewaterhouseCoopers International, 2017). Despite the popularity of shopping online, 46 percent of German online consumers still make a purchase in a brick and mortar store at least once a week. Products that more consumers prefer to buy in brick and mortar stores rather than online are groceries, health and cosmetic products, furniture and household goods, and home improvement products. Further, consumers who buy luxury goods prefer to buy in brick and mortar stores because they can touch and inspect the goods, and like to get advice from a salesperson (PricewaterhouseCoopers International, 2017). In addition, studies recommend following an omni- or cross-channel approach to promote the growth of online shopping in Germany (Euromonitor, 2018a).

Social media is not used by German consumers to make a purchase directly but to get inspiration for shopping. 27 percent of German online consumers use social networks like Facebook and Twitter, 15 percent use visual-oriented social networks like Instagram and Snapchat to get ideas for shopping. This number is considerably higher for young consumers: 43 percent of German online consumers who are between 18 and 34 years old use Facebook and Twitter and 26 percent use Instagram, Snapchat, Pinterest, and YouTube as an inspiration for their purchases. Most of the time German consumers use social media to read reviews, comments, or feedback, or to explore new brands and products (PricewaterhouseCoopers International, 2017). The need for shopping via Facebook, Instagram, etc. is low. German consumers are skeptical about connecting social media to their online shopping (Euromonitor, 2018a). 38 percent of online consumers already buy online via their smartphone at least once a month (PricewaterhouseCoopers International, 2017). Forecasts predict that online shopping via smartphone will increase in Germany. One of the reasons might be the increase of omni- and cross-channel approaches in shopping. 53 percent of German online

consumers are loyal customers who buy their favorite brands and products and also buy these most of the time. 47 percent like to try new products (PricewaterhouseCoopers International, 2017).

Overall, the data available about online shopping in Thailand and in Germany shows that the percentage of online shoppers of the country's total population is lower in Thailand than in Germany. Thai consumers spend less money for purchases made online than German consumers. Online shopping platforms in Thailand make less revenue than online shopping platforms in Germany. The usage of mobile devices is very high in Thailand and while C2C social media commerce is very popular in Thailand combining social media with shopping is still skeptical in Germany.

2.1.11 Culture

National culture is another component that can shape consumers' characteristics, beliefs, perceptions, and behaviors in a country. On the one hand, individuals can differ in their cultural values within countries (McCoy et al., 2005). Therefore, assuming the same degree of cultural orientations for the whole population within a country is misleading (Hallikainen & Laukkanen, 2018). Globalization and an increasing number of people traveling abroad, might increase heterogeneity of cultural orientations within a country. On the other hand, some countries may have higher values in some cultural dimensions than other countries in general. Theories on cultural dimensions assumed that Thailand and Germany hold different values in cultural dimensions (Hall, 1989; Hofstede, 1980; Schwartz, 1999; Trompenaars & Hampden-Turner, 1998)

According to Hofstede's well-known survey on national cultural dimensions in the workplace environment, Thailand and Germany are two cultural distinct countries. The data from Hofstede Insights (2018) indicates that Thailand and Germany show high differences in cultural dimensions, e.g., power distance, individualism/collectivism, and masculinity/femininity (Table 2.9).

Table 2.9 Values for the Cultural Dimensions by Hofstede for Thailand and Germany

	Power Distance	Individualism	Masculinity	Uncertainty Avoidance
Thailand	64	20	34	64
Germany	35	67	66	65

On Hofstede's scales, Thailand has a high score on power distance, while Germany has a low score. Thus, Hofstede's study assumed that in Thailand inequalities are more accepted, strict chain of commands are more common, approaching managers is more formal, and information flows hierarchically compared to low power distance countries. In contrast to Thailand, Germany has a low score on power distance. Therefore, it is assumed that in Germany a direct communication, participation in meetings and decision making are common. While Germany is assumed to be a highly individualistic culture (small families, a strong belief in the ideal of self-actualization), Thailand represents a highly collectivistic country (long-term commitment and loyalty to the member group, non-confrontational communication style, high value of personal relationships). Germany is considered a masculine society that values performance, while Thailand is assumed to be a feminine society that is less assertive and competitive. According to Hofstede's data, Thailand and Germany have similar scores on the dimension of uncertainty avoidance. Hofstede's study assumed that both countries prefer strict rules, laws, policies, and regulations that reduce uncertainty (Hofstede Insights, 2018).

According to Hall's framework of communication style (Hall, 1989), Thailand represents a high context culture (messages are often implicit) while Germany is considered a low-context culture (more words are needed to explain the meaning of words and the content of the messages).

While these cultural values can be different between consumers of the same country, national cultural values may have formed and influenced the environment (Leung & Ang, 2009) that surrounds consumers in a specific country and may influence their perceptions and behavior.

2.1.12 Conclusions

In Thailand's capital city Bangkok, a lot of different opportunities for shopping are available and heavy traffic seems to be a big hustle to reach offline shops. In contrast, there are several rural areas in Thailand where a lack of infrastructure can limit the options that are available for shopping (e.g., few shops available in rural areas, no or slow internet access, no delivery service or a long time for delivery). In Germany, cities are smaller than Bangkok, but nationwide infrastructure is more developed than in Thailand. The Thai government's investments are focusing heavily on expanding infrastructure and fostering e-commerce usage for sellers and consumers. A study by Farag, Weltevreden, van Rietbergen, Dijst, and van Oort (2006) showed that "people living in a (very) strongly urbanized area have a higher likelihood of buying online, but people with a low shop accessibility buy more often online" (Farag et al., 2006, p. 59). Religion, i.e. Buddhism, may influence not only the culture of Thailand but also Thai consumers' characteristics, perceptions and behavior. Economically, Thailand is less developed than Germany but Thailand's economy is growing which means more income for consumers to spend online in the future and lots of market potentials. In addition, the age distribution in Thailand is economically promising with a greater population between 25-54 years old.

Compared to Germany, Thailand has fewer internet users in general. Some of the requirements for using online shopping for purchasing that are common in western countries (e.g. consumers owning a credit card, secure web servers) are less well established in Thailand than in Germany. Instead, Thailand has a very good network of banks and automatic teller machines, and online shops also deliver to 7 eleven stores, which are almost everywhere to be found in the Bangkok area. Further, Thai consumers are tech savvy and interested in new technologies in general. Nevertheless, the percentage of users who made a purchase online is lower in Thailand than in Germany. Hence, it seems that Thai consumers might have less experience with online shopping than German consumers (figures on the number of online shoppers might not cover the actual number of consumers' online transactions, particularly in Thailand).

According to Laosethakul and Boulton (2007), some characteristics of Thais' buying and selling behavior can prevent the use of online shops as well. For example, business in Thailand is commonly also done at night (e.g., night markets) and some

stores are open all night (e.g., convenience stores such as 7 eleven). While bargaining is part of shopping in offline stores or at small local vendors, negotiating prices can be more difficult in online shopping. The lack of face to face communication in online shopping might not fit the communication style of Thai consumers. In addition, some Thai consumers (e.g., with low income) might avoid shopping online when there are high expenses for service fees. The popularity of social media in Thailand means that this channel is used as an alternative to online shops or online marketplaces for shopping online. In contrast, the online market in Germany is characterized by the high market share of the online marketplace Amazon. Well established infrastructure, and laws and legal regulations for online shopping exist in Germany. The percentage of online shopping users is relatively high in Germany compared to other countries worldwide.

2.2 Theories

Theory can be described as a set of statements, ideas, principles, assumptions, or acknowledged facts that help to explain some phenomenon. Several conceptual frameworks have been applied in research to analyze consumer usage and acceptance of innovations in electronic environments. Well-known frameworks in the context of technological innovations and information systems are Diffusion of Innovations (Rogers, 1995), Theory of Reasoned Action (TRA) (Fishbein & Ajzen, 1975), Technology Acceptance Model (TAM) (Davis, 1989), Theory of Planned Behavior (TPB) (Ajzen, 1991), Information Systems Success Model (ISSM) (Delone & McLean, 1992), and Unified Theory of Acceptance and Use of Technology (UTAUT) (Venkatesh, Morris, Davis, & Davis, 2003).

In an online shopping context, these models and theories are common and robust approaches to analyze factors that have an influence on the intention to use online shopping (Chang et al., 2005; Zhou et al., 2007). Other theories (e.g., stimulus-organism-response, social presence) were adopted to the context of e-commerce as well. Several studies exist that adapted the abovementioned frameworks or other theories, extended these, or combined them. Researchers who developed well-established or extended research models still call for more studies that extend existing

frameworks and more research on exogenous, endogenous, and moderation mechanisms to identify more factors that can improve existing research models, e.g., Venkatesh et al. (2016), Gefen, Benbasat, and Pavlou (2008).

2.2.1 Literature Search

In order to identify the previous research on online shopping from a consumer perspective, literature was reviewed by performing a literature search in the digital libraries of publishers of scientific journals (e.g., Science Direct, Taylor & Francis) and Google Scholar (search engine for scientific publications). Google Scholar was included in the literature search as it covers a wide variety of publications, e.g., conference papers and dissertations to prevent publication bias (journals are more likely to publish significant results) and to include articles that might not be accessible in the digital libraries (Zhang, Zhu, & Liu, 2012). Criticism to Google Scholar for literature reviews is related to issues of inaccuracy because the search results also include items that are not matching the search expression but are matches according to the developed search algorithm and ranking system which are not fully transparent (van Dijck, 2010). However, including Google Scholar had a positive effect on the literature search in several academic research (Loan & Sheikh, 2018; Mikki, 2009). One of the advantages of Google Scholar is the full-text search capability (Beckmann & Wehrden, 2012). Thus, Google Scholar can provide comprehensive and useful results for literature review in addition to the digital libraries of scientific journals. The results by Google Scholar might have to be reviewed more carefully due to the lack of quality review compared to the database of scientific journals (Bergman, 2012).

The search terms were “online shopping” and similar strongly related terms (e.g., e-commerce, buying online, purchasing online). These search terms were entered separately into the search form using the advanced search function of the search engine. The year of publication was limited to the period of the years from 2008 to 2018 to analyze recent research findings. To narrow down the number of search results more, a maximum of the first 100 search results for each search term were considered for further review. These search results were scanned manually by the author of this study to find articles that are relevant for the topic of this analysis. In addition, articles were included in the review process that were shown as similar or recommended articles in the digital

libraries when downloading a topic-relevant article. The literature search was conducted in 2018.

2.2.2 Results Overview

129 studies were identified that meet the criteria (years 2008-2018, analyzing frameworks or influencing factors in consumers' online shopping or very similar context). One study was removed because it analyzed retailers' acceptance of online shopping (AlGhamdi et al., 2011). Another one was removed, because it was published twice. The number of articles in online shopping context published per year was between 4 to 17 over the past 10 years (Table 2.10).

Table 2.10. Number of Studies in Online Shopping Context by Year

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
No. of Studies	7	13	15	8	12	9	13	13	17	16	4

The journals with the most publications in an online shopping context were Computers in Human Behavior (19), Journal of Business Research (11), Journal of Retailing and Consumer Services (9), Electronic Commerce Research and Applications (8), Journal of Internet Commerce (8), and International Journal of Information Management (7) (Table 2.11).

Table 2.11. Journals with Two or more Articles in Online Shopping Context from 2008-2018 Ranked by the Number of Articles

Journal	Number of Studies
Computers in Human Behavior	19
Journal of Business Research	11
Journal of Retailing and Consumer Services	9

Journal	Number of Studies
Electronic Commerce Research and Applications	8
Journal of Internet Commerce	8
International Journal of Information Management	7
Journal of International Consumer Marketing	4
Cogent Business & Management	3
Information & Management	3
International Journal of Electronic Commerce	3
Telematics and Informatics	3
International Journal of Retail & Distribution Management	2
Journal of Fashion Marketing and Management: An Int. Journal	2
Online Information Review	2
Procedia - Social and Behavioral Sciences	2
Psychology and Marketing	2
Tourism Management	2

Although online shopping was the primary keyword in the literature search of this study, articles were found in the search results and in the publishers' lists of recommend articles that have very similar topics to online shopping context. Mobile shopping (12), online banking (6), mobile banking (4), and social commerce (4) were the most frequent topics that were analyzed in the articles besides online shopping (94) (Table 2.12).

Table 2.12. Research Contexts Ranked by Number of Articles

Research context	Number of studies
Online Shopping	94
Mobile Shopping	12
Online Banking	6
Mobile Banking	4
Social Commerce	4

Research context	Number of studies
Mobile Payment	2
Brand Commitment	1
Mobile Internet Usage	1
Multichannel Shopping	1
Online Information Quality	1
Product Recommendations	1

The most frequently used frameworks/theories that analyzed the intention to use or usage of online shopping or very similar technology were TAM (32), Culture (18), UTAUT (13), TRA (11), DOI (9), and TPB (9) (Table 2.13).

Table 2.13. Frameworks and Theories Ranked by Number of Articles from 2008-2018

Main framework/theory	Number of studies
Technology Acceptance Model	32
Culture	18
Unified Theory of Acceptance and Usage of Technology	13
Theory of Reasoned Action	11
Diffusion of Innovation	9
Theory of Planned Behavior	9
Inormation Systems Success Model	5
Unified Theory of Acceptance and Usage of Technology 2	3

Others: Consumer Characteristics (5), Stimulus-Organism-Response (5), Consumer Behavior (4), Repurchase Intention (3), Shopping Orientation (3), Social Presence (3), Complexity Theory (2), Flow Theory (2), Consumer Segmentation (2), Consumer Lifestyle (1), Consumer Shopping Inventory (1), Continuance Intention (1), Fluency Theory (1), General Cohort Theory (1), Grounded Theory (1), Innovation Resistance Theory (1), Mental Account Theory (1), Meta-Analysis (1), Motivational Approach-Avoidance Conflict (1), Personal Construct Theory (1), Prospect Theory (1), Social

Main framework/theory	Number of studies
Identity Theory (1), Social Influence Theory (1), E-Commerce Adoption Model (1), Motivational Model (1), Transaction Cost Economics (1), Elaboration Likelihood Model (1), Information Adaption Model (1), Social Shopping (1), Initial Trust Model (1)	

These results are in line with other literature reviews in a similar context, e.g., by Shaikh and Karjaluoto (2015) in a mobile banking context.

Besides well-established frameworks and theories, several authors extended these frameworks by adding additional factors into the research models. Some of the studies focused on single factors or relationships between factors that were not constituted as in well-established research frameworks. The most frequently found factors that were the main focus in these studies were trust (29) and risk (13) (Table 2.14).

Table 2.14 Factors being the Main Focus or Added to the Main Framework Ranked by Number of Studies

Factor	Number of studies
Trust	29
Risk	13
Age	6
Motivation	6
Experience	5
Satisfaction	4
Gender	4
Brand commitment (2), subjective Norm (2), verbal product information (2), innovativeness (2), price (2), product types (2), website quality (2), privacy (2), collective self-esteem (1), nationality (1), consumer price index (1), novelty-seeking (1), income (1), online information quality (1), self-efficacy (1), anxiety (1), habit (1),	

Factor	Number of studies
benefit (1), security (1), travel to in-store (1), reputation (1), uncertainty (1), retailer visibility (1)	

29 of the 127 articles that were analyzed in this literature review used culture or cultural dimensions to argue the differences between countries in their study (Appendix 1). Most studies used Hofstede's cultural dimensions (Hofstede Insights, 2020a) to explain cultural differences, followed by Hall's framework (Hall, 1989), and Schwartz's theory (Schwartz, 1992). Only 4 studies collected and analyzed primary data for the cultural dimensions and tested the influence of the cultural dimensions in their analysis. All of the other studies assumed the degree of the cultural dimensions based on the classifications and data by Hofstede's or Hall's studies for their countries of interest. Therefore, the results of these studies were appropriate to make comparisons between countries but did not give any evidence or confirmation about the actual values of the cultural dimensions of the sample countries and unit of analysis in the respective study. Only 3 studies measured the cultural dimensions at the individual level. The cultural dimensions that were most frequently used to argue for national cultural differences were individualism (18), uncertainty avoidance (14), and power distance (11); followed by masculinity (7), long-term orientation (7), context orientation (6), and time orientation (4).

Almost all of the 127 studies used a quantitative empirical method to analyze the intention to use or usage in online shopping context. Only 4 studies were found that used a qualitative approach to examine acceptance in online shopping context. More than half of the studies used the questionnaire method to collect primary data. In nearly half of the studies, students were the sample that was analyzed.

The following theoretical approaches underlying most online shopping studies are described.

2.2.3 Adoption and Diffusion of Innovations

Adoption is the individual's psychological process (not the aggregated market process) to decide whether to use an innovation in the future or not. Diffusion is the spread of an innovation over time in a system (Kittl, 2009). An innovation is an idea,

product, and practice perceived as new by individuals (Rogers & Shoemaker, 1971). It is important for an innovation to arouse consumers' interest to get adopted by the consumers and accepted by the market. Consumers will decide whether an innovation becomes a constant need that they will continue to fulfill in the future. The market dissemination is called diffusion of innovations. An innovation is established if the innovation offers a benefit to and is consumed by people. The consumers' adoption process was described by Rogers in his diffusion theory in 1962. The process comprises the first perception of the innovation to its implementation and usage. The process is divided into five phases. The first phase is knowledge. This is the first time a consumer notices the innovation and gets basic knowledge of its functionality. This is followed by a positive or negative consumer reaction. This is part of the second phase called persuasion. After the consumer evaluated the persuasion phase as positive or negative, the decision phase determines whether the innovation will be accepted or declined by the consumer. The fourth phase is the innovation phase which is determined by the consumer's usage of the innovation. The last phase is the confirmation phase which will strengthen the consumer's decision. If the consumer does not get a positive confirmation in this phase, this might change his or her decisions.

Rogers also described different types of adopters (Rogers, 2010). The speed by which the innovation is disseminated in the market is the diffusion rate. Rogers assumed that different factors (e.g., consumers' innovativeness, culture, social affiliation) are influential when innovations are accepted. Further, attributes of innovations can influence the rate of adoption (e.g., relative advantage, compatibility, complexity, trialability, observability). The five adopter types are innovators, early adopters, early majority, late majority, and laggards. Innovators tend to have the ability to take risks, have a good technical understanding, and a high social status. Early adopters tend to follow a status ascribed orientation, are well integrated into the social system, are opinion leaders, and have a very active communication behavior. Early majority consumers tend to have a conservative attitude, a social economic status over average, wait for experience reports from other, and thus take more time for innovation adoption. The late majority tends to be skeptical of innovations, have few financial resources, and adopt innovations because of social compulsion. Laggards tend to have a tradition orientated attitude, refuse change, and adopt innovation only if they exist for a long

time in the market already. The types of Rogers' sociological model where summarized in his technology adoption lifecycle (Rogers, 2010). The lifecycle is based on a Bell curve with 2.5 percent innovators, 13.5 percent early adopters, 34 percent early majority, 34 percent late majority, and 16 percent laggards.

2.2.4 Acceptance and Usage

Regarding online shopping, the difference between the consumers' adoption of the technology and the consumers' acceptance of the technology is as follows. Adoption is the decision of a consumer to make his or her first purchase via the online shopping technology. Acceptance is the decision of a consumer (who made at least one purchase already through this technology), to re-use the online shopping technology to make a purchase (Dennis, Merrilees, Hernández, Jiménez, & Martín, 2009). Thus, the post adoption use of online shopping should be examined when the success of an online shopping technology is analyzed.

Innovations only stay in a market if they are accepted by consumers. Research about acceptance and usage of technology is analyzing reasons for accepting or declining technological innovations (Schlohmann, 2012). The individuals' excepted benefits by the product or service are essential for individuals' acceptance. These benefits are determined by individuals' ideals and attitudes. It is a psychological dimension that is formed by social, cultural and ideal norms. Hence, benefit is a subjective value that should compensate a deficit. The overall success of a product or service is determined by the degree of how good or bad it compensates this deficit.

Most recent models for explaining acceptance build upon other models and are successors of previous models used for analyzing acceptance. These most recent models are explained in the following chapters.

2.2.5 Approaches for Explaining and Forecasting Acceptance

2.2.5.1 Theory of Reasoned Action

The Theory of Reasoned Action (TRA) was introduced by Fishbein and Ajzen in 1975 (Fishbein & Ajzen, 1975). It serves to predict human behavior and explains the relationship between belief, attitude, and behavior (

Figure 2.1). Individual's actual behavior is influenced by the individual's usage intention. The usage intention is influenced by attitude and subjective norm (influence by social environment). The model assumes that humans are rational and choose their actions consciously and in a controlled way. Acting based on habit or automated acting is not incorporated in this model (Schlohmann, 2012).

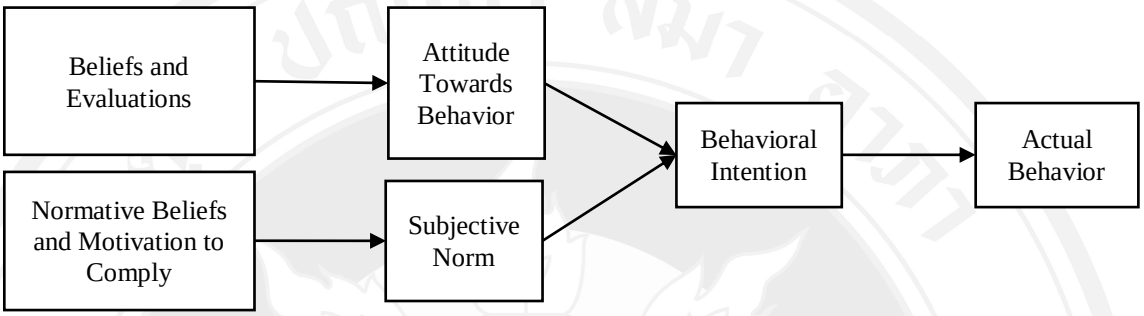


Figure 2.1 Theory of Reasoned Action by Fishbein and Ajzen

2.2.5.2 Theory of Planned Behavior

The Theory of Planned Behavior (TPB) is a successor of the TRA. In 1985, Ajzen extended the TRA by adding perceived behavioral control to the research model (

Figure 2.2). Behavioral control is the degree of subjective perceived control that an individual thinks he or she has over performing a behavior. Behavioral control can be evaluated as negative if the individual for example has a lack of information or skills or notices other potential risks such as losing control over personal data.

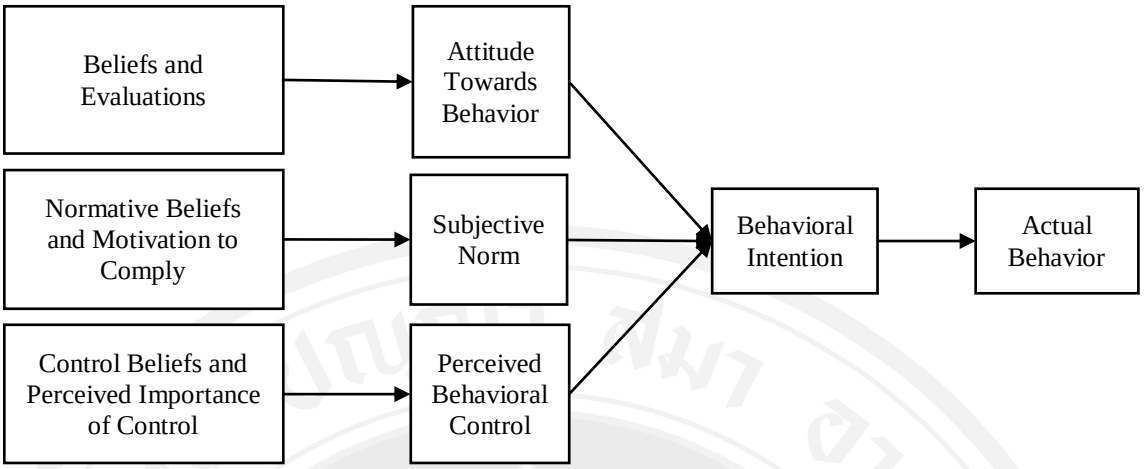


Figure 2.2 Theory of Planned Behavior by Ajzen

2.2.5.3 Technology Acceptance Model

Based on the TRA, the technology acceptance model (TAM) was developed by Davis to explain technology acceptance at work (Davis, 1989; Davis et al., 1989). It is based on prior frameworks that have proposed that a person's actual behavior is influenced by his or her intention to use/behave with a certain object. In turn, the intention is influenced by the person's attitude, which is influenced by a person's beliefs. Davis extended the prior framework to technology acceptance by proposing that a person's beliefs about technology usage can be explained by perceived usefulness and perceived ease of use of technology (Figure 2.3).

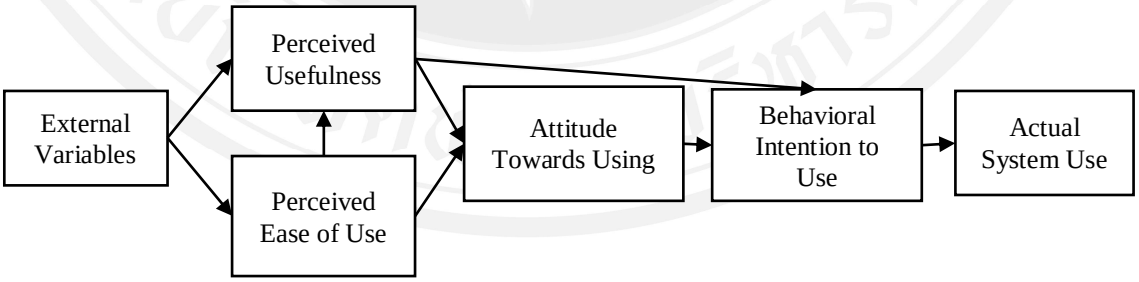


Figure 2.3 Technology Acceptance Model by Davis, Bagozzi, and Warshaw

The TAM has been adapted to several fields of information technology in general and in e-commerce context in particular. For example, Bhatiasevi and Yoopetch (2015) applied the TAM to Thai users to identify the factors that influence the intention to use e-booking in a tourism context. Singh, Fassott, Chao et al. (2006) used the TAM and cultural factors to compare 80 Brazilian, 130 German, 140 Taiwanese online consumers from higher educational institutions. Yoon (2009) analyzed the acceptance of e-commerce of Chinese students with the help of the constructs of the TAM. Moon and Domina (2015) analyzed and compared the acceptance of mobile application for shopping fashion products of 83 mobile application users from the United States and 82 from South Korea. Smith et al. (2013) adopted the TAM to analyze differences in the consumers' shopping behavior between Germany, Norway, and the United States and tested the role of cognitive and affective involvement. Wu and Wang (2005) investigated technology acceptance of mobile commerce of customers of Taiwan security investment companies. Amoroso and Hunsinger (2009) compared technology acceptance of online shopping between students from United States and students from Australia. Koufaris (2002) used the TAM in a web context and incorporated consumers intention to return as an extension. Perea y Monsuwé, Dellaert, and Ruyter (2004) proposed a research model that is based on TAM and extended it by incorporating enjoyment. Further, they stated that the relationships between the constructs of the model will be moderated by consumer traits, situational factors and previous online shopping experience. Vijayasarathy (2004) analyzed 3000 US citizen and their intention to use online shopping. He applied the TAM and extend it by variables such as compatibility, privacy, security, normative beliefs and self-efficacy. van der Heijden, Verhagen, and Creemers (2003) used the TAM to analyze Dutch students' online shopping intention and extend it by incorporating perceived risk and trust. Similarly, Pavlou (2003) explained the consumer acceptance of electronic commerce by integrating trust and risk within the TAM. Limayem, Khalifa, and Frini (2000) analyzed 705 consumers' acceptance of online shopping with an extended TAM (behavioral control, subjective norm, personal innovativeness, and perceived consequences). Gefen et al. (2003b) analyzed 196 students online shopping intention in the United States by using the TAM and incorporating trust.

2.2.5.4 Unified Theory of Acceptance and Use of Technology

The Unified Theory of Acceptance and Use of Technology (UTAUT) is a representation and reprocessing of different theories and models for explaining the use of technology (Venkatesh, Thong, & Xu, 2012). The authors of the UTAUT (Venkatesh et al., 2003) recognized that many different approaches for explaining technology acceptance can be found in research. These approaches are Theory of Reasoned Action (TRA), Theory of Planned Behavior (TPB), Technology Acceptance Model (TAM), Combined TAM and TPB (C-TAM-TPB), Model of PC Utilization (MPCU), Innovation Diffusion Theory (DOI), and Social Cognitive Theory (SCT). Their aim was to develop a unified and preferably comprehensive theory by analyzing and identifying these previous approaches. The resulting UTAUT contains critical factors for predicting behavioral intention in relation to technology usage. The model of Venkatesh et al. (2003) analyzed the use of technology in organizational environments. They stated that a technology has to be accepted by the workforce first, before it increases productivity. Since the publication of the theory in 2003, the UTAUT has been a framework for several studies analyzing the use of technology in organizational as well as non-organizational context. These studies have contributed to improving the understanding of the use of technology (Venkatesh et al., 2016). The theoretical model consists of four independent variables, i.e. performance expectancy, effort expectancy, social influence, and facilitating conditions (Figure 2.4). The dependent variables in this model are behavioral intention and use behavior. The model suggests that the relationships between the independent and dependent variables are influenced by control variables. These control variables are gender, age, experience, and voluntariness of use. From the consumers' perspective, voluntariness of use can be dropped because consumers do not act in organizational context.

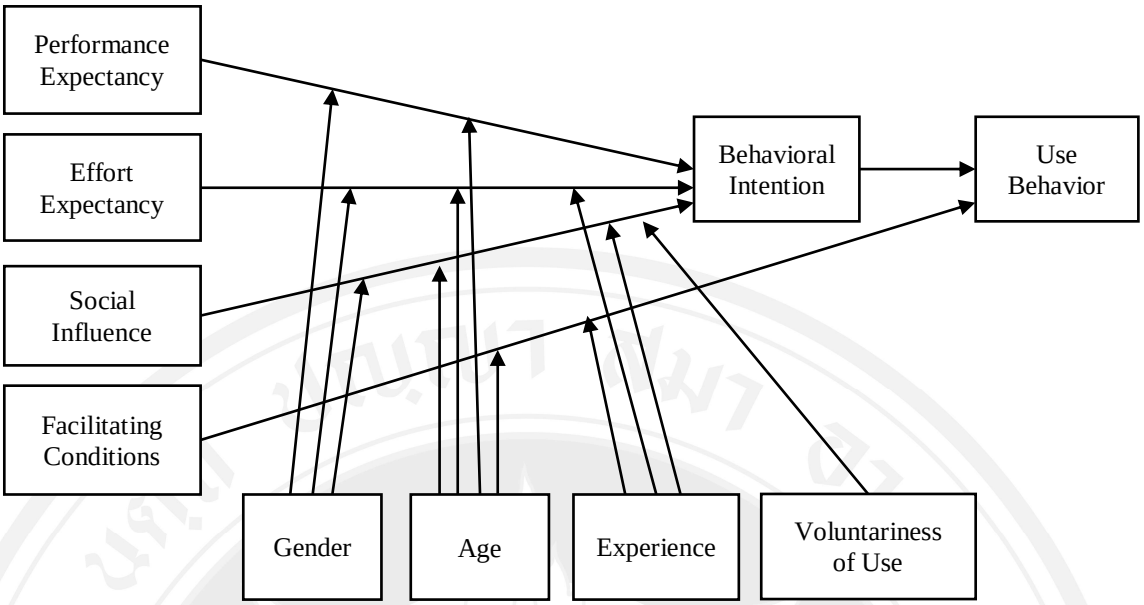


Figure 2.4 Unified Theory of Acceptance and Use of Technology by Venkatesh, Morris, and Davis

Since the publication of the UTAUT in 2003, the model has been applied, adapted, and extended by researchers to a variety of technologies to explain user acceptance, e.g., location-based services (Xu & Gupta, 2009), mobile technologies (Park, Yang, & Lehto, 2007), mobile banking (Zhou, Lu, & Wang, 2010), Internet banking (Im, Hong, & Kang, 2011), and health information technologies (Kijsanayotin, Pannarunothai, & Speedie, 2009).

In 2012, the originators Venkatesh et al. extended their UTAUT by three more constructs (Venkatesh et al., 2012) (Figure 2.5). These constructs are habit, hedonic motivation, and price value. The goal was to make the UTAUT more applicable in a non-organizational context, i.e. to analyze consumer behavior. Venkatesh et al. showed that the UTAUT2 improved the variance explained in behavioral intention from 56 percent to 74 percent and in the actual use of technology from 40 percent to 52 percent in comparison to the original UTAUT. Nonetheless, the original UTAUT has been applied to consumer context several times instead of the UTAUT2. In contrast to the UTAUT2, the original UTAUT has a lower complexity (less independent variables and moderating effects).

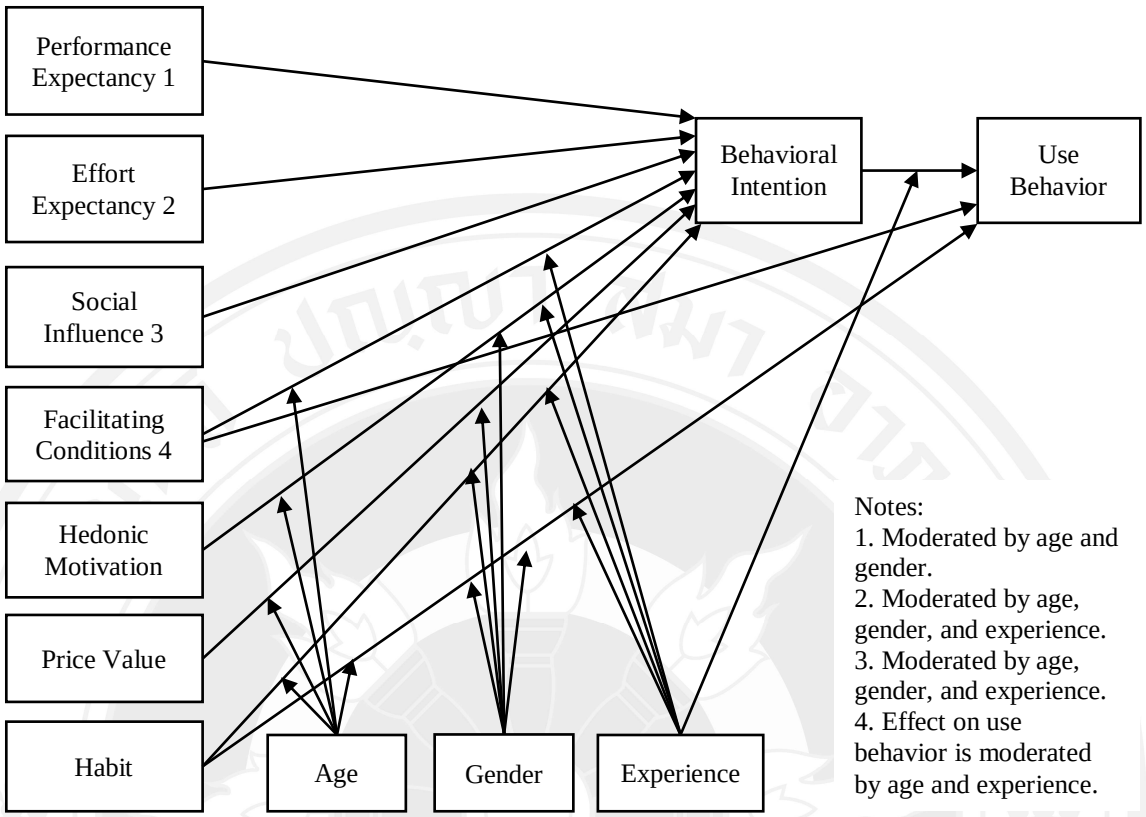


Figure 2.5 Unified Theory of Acceptance and Use of Technology 2 by Venkatesh, Thong, and Xu

2.2.6 Influencing Factors in Online Shopping Context

The fundamental theoretical frameworks mentioned above have been applied frequently to online shopping or similar context. Several studies extended these frameworks by adding new factors to their research models to make these frameworks more adaptable to their research context. Factors included are age, attention, anxiety, bargaining, brand, brick and mortar-stores, convenience, commitment, compatibility, complexity, costs, credibility, design, education, enjoyment, entertainment, experience, experimental, familiarity, gender, habit, income, infrastructure, level of information, involvement, innovativeness, inertia, impulsiveness, job relevancy, lifestyle, loyalty, motivation, personalization, privacy, price, product category, purchase intensity, relative advantage, result demonstrability, risk, satisfaction, security, self-efficacy,

service, social influence, time, trialability, trust, utilitarian value, variety, visibility, and website quality (Appendix 1).

Because of the quantity of research about factors influencing online shopping acceptance, researchers summarized the existing findings in comprehensive overviews. Chang et al. (2005) analyzed empirical studies where factors for adoption of online shopping were analyzed. They used and adapted Jarvenpaa and Todd's scheme (Jarvenpaa & Todd, 1997) to categorize these factors into three categories. These categories are perceived characteristics of the web as a sale channel, characteristics of the consumer, and characteristics of the website or products.

Perceived characteristics of the web as a sales channel describe uncertainty and concerns regarding trust, risk, privacy and security. These risks can relate to the product (quality, expectation) or the transaction process (payment, delivery). Further, the perceived relative advantage (convenience, time saving) of online shopping compared to brick and mortar stores, the online shopping experience of the web user, and service quality can play an important role when evaluating the web as a sales channel.

The second category is the characteristics of the consumer. These are the consumer's shopping orientations (i.e. price, recreational, brand, and impulsiveness), demographics, knowledge of and experience with the internet as well as the consumer's innovativeness in general.

The third category of characteristics relates to the specific website or product which can reduce (providing additional service, e.g., money back guarantee) or raise the perceived risks (e.g., high cost product, infrequently purchased). Similar work had been conducted by Perea y Monsuwé et al. (2004) and Li and Zhang (2002) who found fewer though similar factors and categories. Zhou et al. (2007) also combined research about consumer characteristics that might influence the attitude toward online shopping in order to develop an Online Shopping Acceptance Model. Their model incorporated factors about demographics, internet experience, shopping motivation, innovativeness, perceived outcome, shopping orientation, normative beliefs attitude, online shopping experience, online shopping intention, and satisfaction.

2.2.7 Culture

Culture is an established factor in marketing literature to analyze consumer behavior. Cultural frameworks by Hofstede (1980), Hall (1989), Schwartz (1999), and others (e.g., Trompenaars and Hampden-Turner (1998)) are used to describe the different cultural values of a nation by several cultural dimensions. A widespread definition of culture was made by Hofstede: Culture is "…the collective programming of the mind which distinguishes the members of one human group from another" (Hofstede, 2001, p. 9). Trompenaars and Hampden-Turner (1998) have stated that culture is "…the way in which a group of people solves problems and reconciles dilemmas" (Trompenaars & Hampden-Turner, 1998, p. 6). Culture can help societies, organizations, and groups to find orientation. Members' perception, thinking, the way they evaluate and their behavior are influenced by culture. It defines the affiliation of members to a society (Thomas, 1993). The idea of cultural dimensions is to describe universal categories or topics that cultures all over the world are confronted with. Every culture has to develop answers for these universal categories and topics. These answers should allow researchers to compare cultures.

In research, different concepts of cultural dimensions exist. In the following, the cultural concepts of Hofstede, Hall, and Schwartz are described.

2.2.7.1 Hofstede

Hofstede is well known for his research on the influence of cultural dimension in an organizational context (Towers & Peppler, 2017). He extended his original model of four cultural dimensions (power distance, individualism versus collectivism, masculinity versus femininity, uncertainty avoidance) to six cultural dimensions (adding long term orientation and indulgence versus restraint).

The Power Distance Index is a cultural dimension that describes the extent to which a society or member of a society accepts an unequal distribution of power among parties (hierarchy, class structure). Some characteristics of high power distance cultures are explained in the following. In high power distance cultures parents often teach their children to obey authority. Further, subordinates are often dependent on their superiors. However, in exchange, superiors provide favors to subordinates for their unquestioning loyalty. Because information sharing is unequal in high power distance culture, it is expected that these cultures have a lower rate of innovations. In contrast, countries with

low power distance have norms to differentiate prestige, power and wealth in society. In addition, countries with low power distance have norms for cooperation and interdependence. In low power distance cultures, solidarity and affiliation are more important than titles and social standing.

Individualism versus Collectivism is a cultural dimension that describes the extent to which a loosely knit social framework is preferred in which people are expected to take care of themselves (individualism). Characteristics of individualism are that people tend to put more values on their own interests than interests of the group as they prefer loose interpersonal ties and not relying too much on others. Consequently, people's behavior is characterized by autonomy rather than group action. Further, individual accomplishments and individual rewards are preferred in cultures with high individualism. These cultures are more open to individual opinions and behavior but have little loyalty to other people and institutions as they often act individually and competitively. While individualism favors equity over equality, collectivism is characterized by equity for out-groups only and equality for in-groups. Hence, collectivism has a strong group orientation with strong loyalty to other group members and strong interpersonal ties focusing on the goals of the community. Thus, it is also expected that the normative influence of others on decision making is stronger in collectivistic cultures than in individualistic cultures.

Masculinity versus Femininity is a cultural dimension that describes the extent to which competition, assertiveness and achievement (masculinity) are valued more than cooperation and relationships (femininity). In cultures with high masculinity scores, economic success and materials are symbols of wealth (materialism). Further, survival of the fittest can be an accepted norm. In contrast, femininity cultures focus more on the quality of life in terms of being concerned for the welfare of others and caring for the weak. Solidarity is more important in femininity cultures than in masculinity cultures. Cultures with high masculinity do not avoid confrontation and are open for independent actions and thoughts while cultures with high femininity favor norms for cooperation.

The Uncertainty Avoidance Index is a cultural dimension that describes the extent to which anxiety under uncertain circumstances is perceived. Cultures with high uncertainty avoidance try to rely on clear rules, guidance, social norms, rituals,

bureaucratic processes and try to add structure and control to their environments in general in order to avoid the uncomfortable feeling of novel, unknown, surprising and unstructured situations. These cultures have a need for structure and institutions and experts to put their faith in. In contrast, cultures with low uncertainty avoidance are risk takers who are tolerant of deviance and rules and norms that are less formal. Nevertheless, low uncertainty avoidance cultures have norms for conflicts and these are more often observed as they have weak faith in institutions and people, because human behavior is seen as unpredictable. Uncertainty avoidance "should not be confused with risk-avoidance" in general (Hofstede, 2001, p. 145).

Long Term Orientation versus Short Term Orientation is a cultural dimension that describes the extent to which a pragmatic, think-of-the-future perspective is preferred rather than a traditional historic perspective focusing on past and present actions. Cultures with high long term orientation favor forward thinking and future orientation, e.g., saving for the future. Further, persistence and honoring relationships by status are characteristics of long term orientation. Cultures with high short term orientation prefer values that respect tradition and the fulfillment of social obligations. Hence, personal steadiness, reciprocity, and stability play an important role.

Indulgence versus Restraint is a cultural dimension that was adapted by Hofstede's colleague Minkov in 2010 (Towers & Peppler, 2017). High indulgence is the extent to which people follow their own wishes and gratification, e.g., enjoying life and having fun. High restraint describes societies in which it is important for people to keep their composure and keep control of their own behavior to conform with social norms.

Criticism of Hofstede's cultural dimensions include his generalization of a country as one group (McSweeney, 2002). In contrast to this generalization, several different (ethnic) groups exist in one country who should be differentiated when analyzing culture. Further, a person's behavior in a group might differ from the person's individual behavior. Individuals and their behavior might be outside of the stereotypical grid and thus difficult to measure. Concerning some of this criticism, Hofstede has stated that "national identities are the only means we have of identifying and measuring cultural differences" (Hofstede, 1998, p. 481). Another essential criticism is that Hofstede's original study is more than 40 years old. Although the study has been

repeated over the years, some values of countries might still be problematic because of limited types of workers answering the questionnaire. Dorfman and Howell (1988) criticize the statistical integrity of Hofstede's survey (high cross loadings between questionnaire items, low sample sizes/sample error).

2.2.7.2 Hall

In contrast to Hofstede, Hall focused on getting insights by qualitative interviews (Thomas & Utler, 2013). Over several years, he described his findings in four publications, each focusing on a certain dimension of culture. The four cultural dimensions of Hall are context (low context versus high context), time (monochronous cultures versus polychromous cultures), space (cultures that need more (private) space versus cultures that need less (private) space), and information (cultures with a slow flow of information versus cultures with fast flow of information).

Low context versus high context is a cultural dimension that describes the tendency of a culture to use high context communication over low context communication in its daily routine (Hall & Hall, 1989). High context cultures communicate with messages that are often implicit. This means that things can be left unsaid, because the unsaid can be explained by the group's culture and rules of communication (e.g., non-verbal elements, status of a person, the situation, usage of facial expressions, tone of voice). Hence, complex messages can be communicated to group members by only using a few words. These words have to be of good choice as their meaning can be complex. Further, face-to-face meetings are preferred to identify contextual aspects more easily than in written communication. However, to process and decode this type of information may require more time, especially for people who are not part of the group. In contrast to high context culture, more words are needed to explain the content of messages to a group member in low context cultures. In addition, the person who sends the message has to explain the rules of how to interpret the meaning of the said words explicitly.

Monochronic cultures versus Polychronic cultures describes to which extent time is perceived and which behavioral consequences follow this perception. Monochronic cultures favor doing one task at a time. People in these cultures are proceeding to their next tasks in a linear or sequential manner. These cultures tend to stick to their plans. They try to solve problems immediately and are task oriented in

general. In contrast, polychronic cultures are able to work parallel on more than one task. These cultures proceed with their tasks in a concurrent or simultaneous manner. Further, these Polychronic cultures favor relationships rather than task orientation, which is in line with their tendency to change plans often.

Space orientation is a cultural dimension that differentiates between private space and territory. Private space is an invisible circle that surrounds a person and should not be entered by others without permission. Territory is the material objects and places that are a person's property.

The dimension speed of information describes a cultures preference for slow or high speed of information. Slow speed information is expected to be more carefully planned and detailed than fast speed information. Cultures that prefer fast speed information do not value detailed information in general.

According to Morden (1999), nationalities that are considered to have a high context culture are for example Japanese, Chinese, Italians, Spanish, Portuguese, French, Mediterranean peoples, Latin Americans, Arabs, Africans, Indians and other Indian sub-continent, Koreans, South East Asians, and Central Europeans. Low context nationalities might be Slavs, other American cultures, Benelux countries, British, Australians, Scandinavians, Finns, North Americans (USWASPs and Canadians), New Zealanders, (white) South Africans, and Germans, Swiss, Austrians. Nationalities that are considered monochromic are for example Germans, Swiss, Austrians, Americans (White Anglo-Saxon Protestant or WASP), Scandinavians, Finns, British, Canadians, New Zealanders, Australians, (white) South Africans, Japanese, Dutch, Flemish Belgian, other American cultures, French, Walloon Belgian, and Koreans, Taiwanese, Singaporeans. In contrast, polychronic nationalities might be Czechs, Slovakians, Slovenians, Croats, Hungarians, Chinese, Northern Italians, Chile, other Slavs, Portuguese, Spanish, Southern Italians, Mediterranean peoples, Indians, and other Indian sub-continent, Polynesians, and Latin Americans, Arabs, Africans.

2.2.7.3 Schwartz

Schwartz tried to find solutions for some of the criticism on Hofstede's cultural dimensions. He developed questions to cover more human values-related differences between cultures (Schwartz, 1992). These values were divided into cultural dimensions. The dimension conservatism versus autonomy describes whether a society wants to

maintain the status quo and tries to avoid things that can disrupt the existing order of the group (conservatism) or wants to view people as unique autonomous entities who try to express their own characteristics (autonomy). Hierarchy versus egalitarianism describes whether in a society social behavior is legitimately assured by a hierarchal system with fixed roles and resource allocation (hierarchy) or shared interests are important that will lead to have a voluntary agreement to cooperate and feel concern for everyone's welfare (egalitarianism). Mastery versus harmony describes a society's preference to bend the world to their own will (mastery) or accept the world as it is and preserve (harmony). Schwartz's concept is considered complex and difficult to apply (Towers & Peppler, 2017).

2.3 Country Comparison in an Online Shopping Context

Online consumers can be different between countries because of different national environments (e.g., the economic, political, infrastructural, or cultural environment), cultural perspectives, different lifestyles, different ways of thinking, and different perception (Ahmed & Aguilar, 2013; Srinivasan, Anderson, & Ponnavolu, 2002). When online shopping behaviors differ across countries (Blake, Valdiserri, Neuendorf, & Valdiserri, 2007), comparing and analyzing countries and their consumers' perceptions might help to explain differences.

2.3.1 Literature Search

A literature review was conducted to get an overview of the current literature and methods for country comparison in online shopping context. First, relevant keywords were noted and combined to build search terms that can be entered into search engines. The relevant keywords (groups of keywords) were: online shopping, e-commerce, electronic commerce, internet shopping, e-shopping, e-shoppers, online shoppers, internet shopper, online purchasing, internet purchasing, purchase online, online purchase, online buying, shop online, internet consumer, cross-country, countries, cross-national, national, internationalization, cross-market, global, comparison, differences, moderating effect, culture, cross-cultural, cultural. The author selected (based on experience) the following search terms from the keywords to limit

the number of keyword combination/search terms. These search terms were used for literature search: “online shopping” AND cross-country”, “online shopping” AND comparison, “online shopping” AND “cross-cultural”, “online shopping” AND culture, “online shopping” AND “cross-national”, “e-commerce” AND “cross-country”, “e-commerce” AND comparison, “e-commerce” AND “cross-cultural”, “e-commerce” AND culture, “e-commerce” AND “cross-national”. These search terms were entered into the search functions of the scientific digital libraries/publishers and search engines presented in Table 2.15. The selected digital libraries have a high density of studies in information systems, marketing and communication (quantitative) that are likely to be related to online shopping (Kim & Peterson, 2017).

Table 2.15 Sources for Literature Search on Country Comparison in Online Shopping Context

Type	Name	URL
Digital Library, Publisher	ACM	https://dl.acm.org/advsearch.cfm
	Science Direct	https://www.sciencedirect.com/
	JSTOR	https://www.jstor.org/action/showAdvancedSearch
	Proquest Direct	https://search.proquest.com/
	Emerald	https://www.emeraldinsight.com/search/advanced
	IEEE Xplore	https://ieeexplore.ieee.org/search/advsearch.jsp
	Springer Link	https://link.springer.com/advanced-search
	Taylor & Francis	https://www.tandfonline.com/search/advanced
	Wiley	https://onlinelibrary.wiley.com/search/advanced
Search Engine	Google Scholar	https://scholar.google.com/
	Mircosoft Academic	https://academic.microsoft.com/
	Semantic Scholar	https://www.semanticscholar.org/

Where available, the advanced search function of each digital library was used and the date of publication was limited to 2009 to 2018 in order to contain the number of search results and ensure the inclusion of current research findings. Google Scholar, Microsoft Academic and Semantic Scholar were also used for literature search with the

same search terms to include conference papers and dissertations to prevent publication bias (journals are more likely to publish significant results) and to include articles that might not be accessible in the digital libraries (Zhang et al., 2012).

The author scanned the search results manually by the following criteria: The content of the article had to examine the consumer perspective of online shopping and the article had to involve two or more countries. A maximum of the first 100 results for each search term was scanned. More studies (published between 2009 and 2018 and relevant to the topic) were identified by scanning the retrieved relevant articles' references. Thereby, relevant publications were identified that did not show up in the search results. Articles that were written by the same authors and based on the same samples were eliminated (Zhang et al., 2012).

2.3.2 Results Overview

Overall, 27 studies that were published between 2009 and 2018 and analyzed two or more countries in online shopping or similar context were found (Table 2.16).

Table 2.16 Literature Review Results on Country Comparison in Online Shopping Context

Author (year)	Context	Sample	Base model	Culture theory (level of analysis)	Data collection	Approach of analysis
Hallikainen and Laukkanen (2018)	online shopping	409 Chinese, 207 Finnish bookstore customers	trust	Hofstede (IDV)	questionnaire	pooled sample (SEM and mediation analysis of direct and indirect influences of cultural dimension by Hofstede)
Zhang, Weng, and Zhu (2018)	online banking	62 secondary samples from 27 countries	UTAUT; trust, risk	Hofstede (NAT)	meta-analysis	moderator analysis based on cultural dimension scores by Hofstede
Chopdar, Korfiatis, Sivakumar, and Lytras (2018)	mobile shopping	221 Indian, 145 US consumer panelists	UTAUT2, risk	Hofstede (NAT)	questionnaire	country comparison (path coefficients)

Author (year)	Context	Sample	Base model	Culture theory (level of analysis)	Data collection	Approach of analysis
Kim and Peterson (2017)	online shopping	150 empirical studies	trust	Hofstede (NAT)	meta-analysis	moderator analysis (collectivism vs individualism)
Erdem and Erdem (2017)	online shopping	Turkish and US students (number not specified)	purchase involvement, website design appeal	Hofstede (NAT)	questionnaire	country comparison (mean values)
Lu, Yu, Liu, and Wei (2017)	mobile shopping	656 US, 866 Chinese mobile shoppers	UTAUT	Hofstede (IDV)	questionnaire	country comparison (path coefficients, moderation of cultural dimensions)
Clemons et al. (2016)	online shopping	72 US, 111 Germany, 111 China, 91 Singapore	trust	-	questionnaire	country comparison (regression coefficients)
Zendehdel et al. (2016)	online shopping	375 Chinese, Indian, and Malay students	TPB; risk	Hofstede (IDV)	questionnaire	moderation analysis of pooled sample (individualism vs collectivism)

Author (year)	Context	Sample	Base model	Culture theory (level of analysis)	Data collection	Approach of analysis
Takieddine and Sun (2015)	online banking	33 EU countries	DOI	Hofstede (NAT)	secondary data	country comparison of north and west vs south and east countries (mean values)
Moon and Domina (2015)	mobile shopping	83 US, 82 South Korean students using smartphones	TAM	Hofstede (NAT)	qualitative	country comparison (mean values and path coefficients)
Shaikh and Karjaluoto (2015)	mobile banking	55 studies	TAM	-	literature review	(literature review)
Frasquet, Mollá, and Ruiz (2015)	online shopping	1533 multichannel retail shoppers in UK and Spain	TAM, Motivational Model	-	questionnaire	pooled sample (multiple linear regression)
Khare and Sadachar (2014)	online shopping	438 US, 408 Indian students	TAM, collective self-esteem	-	questionnaire	country comparison (mean values)

Author (year)	Context	Sample	Base model	Culture theory (level of analysis)	Data collection	Approach of analysis
Ahmed and Aguilar (2013)	online shopping	100 Canadian, 100 Mexican students	achievement motivation, Rokeach values	Hofstede, Hall (NAT)	questionnaire	country comparison (mean values)
Smith et al. (2013)	online shopping	137 US, 484 Norwegian, 149 German students	TAM, cognitive, affective involvement	Hofstede, Hall, Schwartz (NAT)	questionnaire	country comparison (path coefficients)
Sabiote, Frías, and Castañeda (2012)	online shopping	150 UK, 150 Spanish tourists	e-service quality; e-satisfaction	Hofstede (NAT)	questionnaire	country comparison (path coefficients)
Gong et al. (2012)	online shopping	503 Chinese consumers, 1,684 US consumers	DOI, risk	Hofstede (NAT)	questionnaire (China), secondary data (USA)	country comparison (mean values)

Author (year)	Context	Sample	Base model	Culture theory (level of analysis)	Data collection	Approach of analysis
Zhang et al. (2012)	mobile shopping	53 quantitative studies	TAM; TPB; DOI; risk; trust	Hofstede (NAT)	meta-analysis	group comparison (eastern vs western)
Goodrich and Mooij (2011)	online shopping	28 countries	shopping frequency, product categories	Hofstede (NAT)	secondary data	regression analysis based on countries cultural dimension scores by Hofstede
Alsajjan and Dennis (2010)	online banking	232 UK, 386 Saudi Arabian students	TAM	Hofstede (NAT)	questionnaire	country comparison (path coefficients)
Tong (2010)	online shopping	246 US, 273 Chinese students	TAM	Hofstede (NAT)	questionnaire	country comparison (confirmatory factor analysis)
Brashear et al. (2009)	online shopping	790 US, 201 UK, 184 New Zealand, 194 Chinese, 199 Brazilian, 188 Bulgarian consumers	consumer characteristics	Hofstede (NAT)	questionnaire	country comparison (shoppers' vs non-shoppers' and mean values)

Author (year)	Context	Sample	Base model	Culture theory (level of analysis)	Data collection	Approach of analysis
Hirst and Ashwin (2009)	online shopping	210 UK and Thai consumers	TAM	-	questionnaire	country comparison (qualitative)
Gong (2009)	online shopping	58 countries	DOI	Hofstede, Hall (NAT)	secondary data	group comparison (context, time, uncertainty avoidance; mean values)
Hassanein, Head, and Ju (2009)	online shopping	80 Chinese, 78 Canadian online consumers	social presence	Hofstede, Hall (NAT)	questionnaire	country comparison (path coefficients)
Sia et al. (2009)	online shopping	166 Australian, 128 Hong Kong students	TPB; trust	Hofstede (NAT)	questionnaire	country comparison (path coefficients)
Amoroso and Hunsinger (2009)	online shopping	1,850 US and Australian consumers	TAM	-	questionnaire	pooled sample (regression analysis)

Notes: DOI: Diffusion of Innovation Theory; TAM: Technology Acceptance Model; TPB: Theory of Planned Behavior. IDV: Individual level of analysis; NAT: national level of analysis.

Hallikainen and Laukkanen (2018) analyzed the indirect influence of Hofstede's cultural dimensions on the consumers' perceived trustworthiness of an online shop for Chinese and Finnish consumers. They assumed that the cultural dimensions would be mediated by disposition of trust. The results showed that disposition to trust is a strong predictor of perceived trustworthiness and that the cultural dimensions are mediated differently to the perceived benevolence, ability, and integrity of the online shop. Zhang et al. (2018) conducted a meta-analysis to analyze the moderation effects of national culture dimensions in acceptance models for explaining the use of electronic banking. They analyzed 62 samples from 27 countries to show the moderation effects on the influence of the independent variables of the UTAUT (and TAM respectively) and trust and risk on behavioral intention. For the use of electronic banking, power distance positively moderates for social influence and trust. Individualism positively moderated the influence of performance expectancy, effort expectancy, and perceived risk. Uncertainty avoidance moderated positively the influence of performance expectancy and trust on behavioral intention. Chopdar et al. (2018) examined the adoption of mobile shopping apps by consumers in India and USA and their risk perceptions. They found that perceived security risk and perceived privacy risk had a stronger influence on the adoption of mobile shopping apps for Indian consumers than for US consumers. Kim and Peterson (2017) analyzed 150 empirical studies to explore the impact of online trust in B2C e-commerce. Their results showed that trust has proven to be a significant construct in this context. They emphasize that methodological characteristics play an important role when measuring trust relationships. While the influence of perceived risk on dependent variables were stronger in individualistic cultures than in collectivistic cultures, the influences of perceived information quality on dependent variables were stronger in collectivistic than in individualistic cultures. Erdem and Erdem (2017) compared shopping preferences of consumers between Turkey and USA. They conclude that differences between these countries with regard to online shopping can be explained by a moderating effect of nationality on the influence of attitude towards online credit card payment and online purchase involvement. Lu et al. (2017) analyzed the continuance intention of mobile shoppers in the US and in China and the impact of cultural dimensions by Hofstede. The results of the moderation analysis did not show a strong

impact of culture on the influence of the perceived mobile social influence and perceived privacy protection on the continuance intention toward mobile shopping. Clemons et al. (2016) explored factors such as risk and reputation that lead to trust in online shopping context across different vendor types. By comparing USA, Germany, China, and Singapore, they found that reputation is a significant factor that can lead to trust specifically in China. Zendehdel et al. (2016) conducted an analysis on the moderation of individualism vs collectivism on the influences on attitude toward online shopping behavior. The results showed that influences of subjective norm and perceived risk on online shopping attitudes was significant for collectivism but not for individualism. Takieddine and Sun (2015) examined the diffusion of internet banking in different countries. With secondary data from 33 European countries, their analysis showed that socio-economic (GNI per capita) and technology-related factors (internet speed, access and security) influenced internet banking diffusion. This influence was mediated fully by internet access and national culture had been identified as a moderator. Countries that are assumed to have a culture of high power distance, masculinity, high uncertainty avoidance, and low individualism showed lower diffusion rates of internet banking than cultures with low power distance, masculinity, high uncertainty avoidance, and high individualism. Moon and Domina (2015) analyzed the intention to use fashion mobile applications to purchase fashion products in USA and South Korea and the influence of culture. The comparison showed that social influence had a stronger influence for South Korean consumers than for US consumers which was explained by South Koreans collectivist culture. Shaikh and Karjaluoto (2015) analyzed literature on mobile banking adoption. Compatibility, perceived usefulness, and attitude were identified as the most significant influences on intention to adopt mobile banking services in developed and developing countries as well. They have stated that only three of the 55 studies that they analyzed were transnational. Frasquet et al. (2015) analyzed the motivations for channel usage for the shopping process in UK and Spain. Their main focus was not on country comparison but on exploring the usage patterns and motivations of channel usage across the different stages of the buying process. Khare and Sadachar (2014) compared online shopping attitudes between US and Indian college students and the influence of collective self-esteem. For US college students, the influence of perceived ease of use was found significantly higher than for

Indian students. Perceived risk showed similar influence for US and Indian college students. Ahmed and Aguilar (2013) analyzed the online shopping behavior of Canadian and Mexican students. They found that Canadians perceive online shopping more positively than Mexicans. Mexicans have less trust in new online shops and are less critical of traditional shopping. Smith et al. (2013) examined the online shopping behavior in Norway, Germany, and USA. They analyzed the TAM extended by cognitive and affective involvement and compared this model between countries. The results showed that the full model held for the US sample, but not for the Germany and the Norway sample. Sabiote et al. (2012) compared the differences between British and Spanish tourists in their e-satisfaction (satisfaction with online purchase). They proposed that e-satisfaction is influenced by e-service quality (ease of use, availability, efficacy, privacy, relevant information) and this relationship is moderated by national culture. They conclude that uncertainty avoidance and individualism/collectivism moderated this relationship significantly. While privacy and relevant information on the website significantly influenced the satisfaction of Spanish tourists (assumed to be a high uncertainty, low individualism culture), relevant information influenced the satisfaction of British tourists (assumed to be a low uncertainty avoidance, high individualism culture). Gong et al. (2012) explored the attitudes of online consumers in China and in USA toward online shopping. Their results showed that Chinese consumers are less concerned about risk in online shopping, perceive a higher relative advantage of online shopping compared to other ways of shopping, but perceive higher complexity of online shopping than US consumers. The authors argued that these difference are based on cultural difference. Zhang et al. (2012) conducted a meta-analysis to explore the adoption of mobile commerce in different countries. They analyzed the moderating effect of culture on the adoption of using mobile commerce for eastern and western culture. Perceived usefulness was found to have a stronger influence in western culture than in eastern cultures. In contrast, perceived risk had a stronger influence on intention to use in eastern culture than in western cultures. Goodrich and Mooij (2011) analyzed national cultural differences and internet shopping for different product categories. Cultural dimensions showed significant correlation with several product categories, but the authors conclude that the product categories bought online mirror the product categories that were bought offline.

Alsajjan and Dennis (2010) compared the acceptance of internet banking in the UK and Saudi Arabia. The results showed that the influence of trust and perceived usefulness on attitudinal intentions vary between UK and Saudi Arabia. These variances might be explained by cultural differences in adopting new technologies such as internet banking. Tong (2010) applied an extended technology acceptance model to online shopping context to test cross-national differences in USA and China. While perceived usefulness had a strong influence on intention to shop online in the US, perceived risk had a strong influence on intention to shop online in China. Further, prior online shopping experience had a strong effect on perceived usefulness in the US and a strong effect on perceived risks in China. Brashear et al. (2009) analyzed consumers from six countries (USA, England, New Zealand, China, Brazil, and Bulgaria) to develop a profile of online shoppers. The results showed that consumers shopping online share similar traits in these countries. These traits are desire for convenience, impulsive behavior, positive attitude toward direct marketing and advertising, wealthy, and frequent users of e-mail and internet in general. Hirst and Ashwin (2009) conducted a cross-cultural study by analyzing online shoppers in London and in Bangkok. Their qualitative research showed that for both groups perceived ease of use, perceived usefulness, and enjoyment are more important for the consumers' satisfaction than internet security, privacy, and post purchase fulfillment. Gong (2009) examined the influence of national culture on the diffusion of B2C e-commerce. Gong argued with Hall's and Hofstede's cultural dimensions and tested the hypotheses with time-series secondary data across 58 countries. The results show that high context and polychronic cultures tend to adopt online shopping at a higher diffusion rate than low context and monochromic cultures. Hassanein et al. (2009) conducted a study based on the social presence theory to analyze consumers' website trust, usefulness, and enjoyment. They compared Chinese with Canadian online consumers. The results were similar for usefulness and enjoyment but not for trust. High levels of social presence could not establish trust for Chinese consumers. Sia et al. (2009) explored the influence of consumers' cultural values on trust in online shopping. They analyzed and compared consumers from Australia (individualistic culture) and Hong Kong (collectivistic culture). Their findings showed that peer customer endorsements influence trust perceptions and this relationship was stronger for subjects in Hong Kong than in

Australia. Amoroso and Hunsinger (2009) extended the TAM to analyze online shopping for consumers from USA and Australia. They included privacy, trust, perceived risk, e-satisfaction, and e-loyalty into the TAM. They did not differentiate between consumers' nationality in the analysis. Their results showed that the extended model can explain a high amount of variance for the behavioral intention of consumers.

Most of these studies were published in 2009 (6 studies) and 2015 (4 studies). From 2010 to 2018, the number of publications varied between 1 and 4 (Table 2.17).

Table 2.17 Number of Studies with Country Comparison by Year

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Number of studies	6	2	1	3	2	1	4	2	3	3

The articles differ in research design, methods, geographic regions, and number of countries included in the studies. Table 2.18 shows that most studies compared two countries. Eight studies compared five countries or more, mostly by analyzing secondary data or conducting a meta-analysis on existing literature. The most frequently used research method was the quantitative approach.

Table 2.18 Number of Studies by Number of Countries analyzed in Studies

Number of countries	2	3	4	5 or more
Number of studies	18	1	1	7

The USA and China were the most frequently analyzed countries in the reviewed articles that examined 4 or less countries (Table 2.19). Developed economies (according to the United Nations (2019)) have been analyzed 28 times (10 different countries) and developing economies 20 times (11 different countries).

Table 2.19 Countries Ranked by Number of Studies that Compared 2 to 4 Countries

Country	Economy status (United Nations, 2019)	Number of studies
USA	developed	11

Country	Economy status (United Nations, 2019)	Number of studies
China	developing	8
United Kingdom	developed	5
India	developing	3
Australia	developed	2
Canada	developed	2
Germany	developed	2
Spain	developed	2
Brazil	developing	1
Bulgaria	developed	1
Finland	developed	1
Hong Kong	developing	1
Malaysia	developing	1
Mexico	developing	1
New Zealand	developed	1
Norway	developed	1
Saudi Arabia	developing	1
Singapore	developing	1
South Korea	developing	1
Thailand	developing	1
Turkey	developing	1

21 studies used the theories about culture as an explanation for differences between countries (Table 2.16). 10 studies used the TAM to compare countries acceptance of technologies (Table 2.20). Trust and risk were included in 6 and 5 studies, respectively.

Table 2.20 Base Models for Country Comparison Sorted by Number of Studies

Base model	Number of studies
TAM	10
Trust	6

Base model	Number of studies
Risk	5
Diffusion of Innovation	4
TPB	3
UTAUT	3
Consumer characteristics	1
Motivational Model	1
Social Presence Theory	1
Others	6

Each of the 21 studies that used culture to support country-specific differences mentioned Hofstede's framework of cultural dimensions. Hall's theory was utilized in 4 studies and Schwartz's theory in 1 study. Only 3 of the 21 studies that used culture to assume differences between countries, measured the actual cultural values at the individual level of analysis for their sample. The other 18 studies assumed the cultural values on the national level of analysis for the country of interest based on Hofstede's country scores or previous categorizations for countries based on Hall's cultural values.

From the 7 studies that examined 5 or more countries, 1 study used a literature review approach and 6 studies conducted a meta analyses and used secondary data. From the 19 studies with 3 or less countries, 1 study used a qualitative research approach and 18 studies used a quantitative approach and analyzed primary data collected by questionnaires (1 of these studies used primary and secondary data).

On the whole, the approaches for finding differences involved comparing the results between the sample of each country or cultural group (mean values, path coefficients) or analyzing the pooled sample (analyzing the data of both countries together and testing for moderation effects).

2.4 Eligibility of the Approaches

The theoretical framework of this study intends to exploit the validity, reliability, and parsimony of an existing framework in order to focus on the comparison of influences on the online consumers' intention to use and usage of B2C online

marketplaces between Thailand and Germany. Literature review has shown that intention to use and usage of online shopping can be influenced by several different factors. Hence, a holistic approach might be helpful for the comparison of countries. At the same time, the number of variables should be kept to an appropriate size that allows a meaningful statistical analysis within the scope of this thesis (Allen, 1974). The literature review in this study showed that a frequently and successfully applied parsimonious and robust framework in online shopping context is the TAM (Table 2.20). The results in several empirical studies substantially supported that this framework is eligible for analyzing intention to use and usage of online shopping. At the same time, the research model in this study should incorporate trust and risk which have been shown to be of particular importance in explaining variances in intention to use online shopping in general. The incorporation of trust and risk can enhance the framework of this study in order to improve the explanatory and predictive power (Amaro & Duarte, 2015). Gefen et al. (2003b) were one of the first researchers who integrated trust into the TAM to analyze online shopping acceptance. Their extended model had been applied successfully by Yoon (2009) in a cross-cultural study as well. Pavlou (2003) extended the TAM in online shopping context similarly to Gefen et al. (2003b) by integrating not only trust but also risk into the framework. Pavlou and Gefen (2004) specified the roles and types of trust and risk in online marketplaces. In online marketplaces, trust can be differentiated into trust in the community of sellers and trust in the intermediary. Risk in online marketplaces is specified as the perceived risk from the community of sellers.

For the comparison of countries, the literature review (Table 2.16) showed that consumers' culture, experience, and income were included frequently in studies on online shopping differences between countries.

2.5 Theoretical Framework of the Study

The framework for the empirical study of this thesis is based on the extended TAM by Pavlou (2003) and adapted to the specifics of online marketplaces as in the study by Pavlou and Gefen (2004). The theoretical framework will cover both the online consumers' assessment of the online marketplace technology and the online

consumers' trust and risk perceptions in the online marketplace context (intermediary, sellers, web environment). In the following, the exogenous latent variables (constructs that explain other constructs in the model) and the endogenous latent variables (constructs that are being explained by other constructs in the model) of this study are defined and explained.

2.5.1 Technology Acceptance

Shopping in online marketplaces requires consumers to interact with the online shopping technology (e.g., website, application) and other internet technologies as well (e.g., digital payment services). Thus, the technology based antecedents of behavioral intention to use and actual use that form the TAM can help to explain variances in these dependent variables in online shopping context (Gefen et al., 2003b). The key beliefs that lead to intention to use and usage of a technology are perceived usefulness and perceived ease of use. Perceived usefulness and perceived ease of use are the consumers' assessment of the online shopping technology itself (Gefen et al., 2003b).While attitude towards using was included in Davis' original TAM (Davis et al., 1989), Davis and Venkatesh (1996) removed this construct because of its weak prediction of both the intention to use and the actual usage. This is confirmed and consistent with several TAM-based research in general (Srite & Karahanna, 2006) and online shopping context specifically, e.g., by Driediger and Bhatiasevi (2019), Smith et al. (2013), Tong (2010), Yoon (2009), Wu and Wang (Pavlou; 2005), and Gefen et al. (2003b).

2.5.1.1 Perceived Usefulness

In an organizational context, perceived usefulness was defined as the user's belief that using a technology will increase his or her job performance (Davis et al., 1989). In the consumer context, perceived usefulness is "…the degree to which using a technology will provide benefits to consumers in performing certain activities." (Venkatesh et al., 2012, p. 159). Adapted to B2C online marketplaces, perceived usefulness is the consumer's expected benefit of using the B2C online marketplace to make a purchase.

From the consumers' perspective, shopping online has several advantages compared to shopping in brick and mortar stores. Shopping online can reduce

consumers' time, cost, and effort and burden for traveling to stores (e.g., long distances, traffic, parking spaces) and in stores (e.g., avoid social interaction with sales persons, crowded stores, standing in checkout lanes) (Ahmad et al., 2010; Chaparro-Peláez et al., 2016; Lee et al., 2017; Overby & Lee, 2006; Pate & Adams, 2013). Further, consumers are not restricted by time or location. They can shop 24 hours a day, every day and from almost any location (Yoon & Occeña, 2015). Having access to online shopping platforms that can be located almost everywhere in the country or in other countries, consumers have more choices and can compare shops, products, and prices easily (Chaparro-Peláez et al., 2016; Yoon & Occeña, 2015). Consumers can also get more information about the shops or products online from other customers who shared their experience online (Yoon & Occeña, 2015). Online shopping might lead to lower prices for consumers, when stores pass on their savings for not having to rent a showroom or storage in expensive pedestrian areas.

2.5.1.2 Perceived Ease of Use

Perceived ease of use is the degree to which the user expects the technology to be free of effort (Davis et al., 1989). In consumer context, perceived ease of use is "…..the degree of ease associated with consumers' use of technology." (Venkatesh et al., 2012, p. 159). It is a measure of the perceived effort that is expected by the user to learn and use the technology (Gefen et al., 2003b). Adapted to the context of B2C online marketplaces, perceived ease of use is the extent to which a consumer believes that the interaction with the B2C online marketplace platform for making purchases will be effortless. For some consumers, the process and handling of online shopping might be an overwhelming activity that requires basic information technology skills (Liu & Forsythe, 2010).

2.5.1.3 Behavioral Intention to Use

Behavioral intention to use describes an individual's intention to perform a given behavior. It is the motivation with which an individual is willing to behave in the future (Davis et al., 1989). The behavior of interest in this study is the consumers' intention to use the B2C online marketplace for making a purchase. Behavioral intention does not guarantee the actual behavior to use the B2C online shopping, but is an essential variable that influences the actual use behavior (Ajzen & Fishbein, 1980).

2.5.1.4 Use Behavior

Use behavior describes the actual behavior of using a technology. Often, it is measured by the frequency of using the technology (Venkatesh et al., 2012). In online shopping in general, using online shopping platforms can imply using the platform for searching and browsing only or for actually making a purchase on the platform. In this study, the use behavior of interest is the consumer's actual transaction on a B2C online marketplace.

2.5.2 Trust

In general, trust is defined as an individuals' or groups' expectation to rely on a word, promise, or oral or written statement of another individual or group (Rotter, 1967). Trust is given in advance without knowing how and when this advance will be returned (Rossmann, 2010). Trust is based on expecting trust-objects (persons, systems) not to misuse an originated relationship opportunistically and respectively to prove as functioning (Petrovic, Fallenböck, Kittl, & Wolkinger, 2003). Because of the positive expectations of a person in other people's or systems' behaviors, regardless of whether the trustee can be controlled or supervised, trust is always associated with a certain risk because of this vulnerability of the person who has trust in others. Trust plays an important role when individuals or groups are exposed to certain risks because of uncertainty whether the expected service will be provided or not.

In customer relationships, trust plays a significant role, because customers rely on the integrity benevolence, and ability of the vendor without knowing beforehand whether the agreed service will be provided positively (Kaiser & Ringlstetter, 2006). Therefore, trust implies an intentional abdication of information and control for the customer to be capable of acting even in insecure circumstances. Consequently, trust is a mechanism for complexity reduction in customer relationships (Luhmann, 2014). Trust can be a strategy that might be necessary when examining the characteristics of a person or an object in detail is not possible (Schwaiger & Mahr, 2015).

The individuals' propensity to trust is his or her natural tendency to trust other people (McKnight, Choudhury, & Kacmar, 2002a). Trust building is a long-term and gradually process (Rossmann, 2010). The basic concept for building a bond of trust with a customer is trusting beliefs. Trusting beliefs are the positive beliefs of the person

who believes that the trustee will act in the trust givers interests in certain situations. These trusting beliefs are shaped by the customers' subjective perception of the vendors' integrity, benevolence, and ability (Gefen, 2003; Pavlou & Fygenson, 2006). Integrity is the extent to which consumers believe or perceive sellers as honest, promise-keeping, and acting ethically. Benevolence captures the consumers' beliefs or perceptions that the sellers' behaviors are in the interest of the consumers. Ability is the degree that consumers' belief or perceive sellers' as skillful and competent in what they are expected to do (Mayer, Davis, & Schoorman, 1995). The trusting beliefs can lead to the trust intention, i.e., to begin a trust-related behavior, e.g., placing an order, with an online seller.

In an online shopping context, trust constructs and the mechanisms for trust building are of particular interest, because of the lack of interpersonal communication in online shopping (Chang, Cheung, & Tang, 2013). Some studies in an online context assumed that trust is the consumer's set of beliefs about the characteristics and possible behavior of the vendor (Flavián & Guinalíu, 2006). Kim and Peterson's (2017) meta-analysis of online trust shows that online trust is a complex construct. Several studies have analyzed online trust and its relationships to different antecedents (e.g., perceived security, disposition to trust) and consequences (e.g., intention to purchase) (Chang et al., 2005). Often, previous research used trust as a construct with the three sub-dimensions, i.e., ability, integrity, and benevolence (Gefen & Straub, 2004). The relative priorities of these trust components can vary depending on the type of adopter (early adopters, early majority adopters, late majority adopters) (Viardot, 2017).

According to McKnight and Chervany (2001), several different types of trust are closely related in e-commerce. McKnight and Chervany propose that dispositional trust (e.g., trust in general others) influences institutional trust (i.e., trust in the situation or structures) and interpersonal trust (trust in specific others (trusting beliefs and trusting intentions)). Institution-based trust influences trusting beliefs and trusting intentions. Trusting intentions can lead to trust-related behaviors. These concepts of trust can vary with scientific disciplines. From psychologists' perspective, trust is a personal trait. Trust is a social construct from sociologists' view, and an economic choice mechanism from economists' perspective (McKnight, Choudhury, & Kacmar,

2002b). Across countries, trust is a factor that influences the adoption of information and communication technologies (Kirs & Bagchi, 2012).

Trust in online shopping requires trust in the internet and institution-based trust first (Gefen et al., 2003b). Most people are willing to use the internet even if not being able to control all the operations. Thus, internet users commonly take certain risks (Heckersbruch, Öksüz, Walter, Becker, & Hertel, 2013). Because the internet often tends to have some degree of security flaws, it is almost impossible to use the internet without trust on the internet. If the users' personal benefits predominate the risks, it can be worth trusting the internet. Many disadvantages of online shopping compared to stationary vendors lead back to the lack of physical and social contact and result in canceling the ordering process. Hence, vendors offer information substitutes to customers as a strategy to decrease the lack of information, minimize insecurities, and influence the trust building positively. These information substitutes can be service- or product-related, e.g. product information, customer reviews, and/or overall performance-related, e.g. reputation, delivery conditions, options for contact (Heckersbruch et al., 2013).

Trust in the sellers is also influenced by the user interface and the usability of the online shop platform, because these are way the sellers communicate with the consumers. Usability has proven to be a factor to build up trust (Acemyan & Kortum, 2012). Components of an online shopping platform's usability are ease of navigation, consistency, ease of learnability, perception and support (Roy, Dewit, & Aubert, 2001). The ability of an online vendor is influenced by ease of navigation, support, and perception. Benevolence is influenced by ease of navigation, ease of learnability, support, and perception. Integrity is influenced by perception. According to Zhang, Liu, Liu, and Tian (2016), online consumers' trust forming factors are perception of business scale, sellers' visibility, perception of business reputation, perception of service ability, online consumer shopping experience, perceived risk, price variance, perception of site safety, and e-commerce technology. More antecedents of trust are familiarity, structural assurance in general (McKnight et al., 2002a), feedback mechanisms, trust in online payment systems, credit card guarantees in particular (Gefen & Pavlou, 2012).

While the sub-dimensions and antecedents of trust have been analyzed extensively in previous research, this study analyzed the role of trust in B2C online

marketplaces. In online marketplaces, consumers interact with different actors during the purchasing process: the intermediary who operates the technical platform for offering products, sellers who offer their products on the platform of the intermediary, and third parties who might be involved in the payment and delivery completion. Thus, consumers' behavioral intentions or actual behavior can be affected by their trust in the intermediary, trust in the sellers, trust in third parties, trust in the internet as a shopping channel (e.g., reliability, understandability, security and payment) (Hasslinger, Hodzic, & Opazo, 2017), and structural assurances in general.

2.5.3 Risk

While trust is often associated with social vulnerability, risk is associated with economic vulnerability most of the time (Gefen & Pavlou, 2012). According to Mayer et al. (1995), the need for trust only arises in risky situations. In the consumer context, Bauer (1960) and Cox and Rich (1964) define risk as the degree of uncertainty that a consumer perceives in a purchasing decision.

In online shopping, risks preexist because of the nature and basic structure of the internet (Hossein Momeni & Pahlavanyali, 2015) and can be explained by technical but also human failure (Javadi, Dolatabadi, Nourbakhsh, Poursaeedi, & Asadollahi, 2012). Consumers can feel confused and, particularly in a purchasing decision in a virtual, online environment, may experience uncertainty and fear possible risks (Chaparro-Peláez et al., 2016). Risks in online shopping also result from incomplete information (Fassott, 2007). Because of the physical distance between the vendor and the consumer, online shopping has an impersonal nature (Zhou et al., 2007). Consumers cannot inspect the product or services personally as is possible in stationary commerce even if online shops offer textual and visual information about the product. Some information can only be obtained by consumers when touch and feel or even smell the product (e.g., fashion or grocery products) (Chen, Yan, Fan, & Gordon, 2015).

Perceived risk is often considered as a multidimensional construct (Jacoby & Kaplan, 1972) that has different facets namely functional, financial, social, and privacy risk (Dash & Saji, 2008). Some studies also analyzed time risk (loss of time because of researching, malfunctioning product, replacement) and psychological risk (potential loss of self-esteem from the frustration of not achieving the goal of purchasing) as

additional sub-dimensions (Crespo, del Bosque, & los Salmones Sánchez, 2009). Functional or performance risk is the uncertainty whether the product or service will meet the description and actually fulfills the promise. In online shopping, consumers naturally are not able to check or test the characteristics of the product or services physically. Further, malfunction cannot be identified in advance. Financial risk is the probability to lose money or other resources because of using online shopping. There can be an uncertainty whether the financial transaction between the consumer and the vendor will be successful and secure. A lack of security might lead to losing money when the consumer's financial data (e.g., credit card information) is misused by non-authorized others. should be used for the consumer's intended purchases only (Hanafizadeh, Behboudi, Koshksaray, & Tabar, 2014). In addition, a consumer expects to receive the product or service after he or she made the payment in advance. Social risk is the risk that the product or online shopping is not accepted by the consumer's social reference group. Thus, the consumer feels under pressure to act in a way that conforms with the expectations of his or her social group. Privacy risk refers to the risk that the consumer will lose control of his or her personal data (e.g., address, phone number, payment data). In an online environment insecure hard- or software can lead to personal data being attained by actors on the internet than the necessary actors for the financial transaction (Lee, 2009). Non-delivery risk is the risk that the purchased product or services will not be delivered to the customer. For physical products, there can be uncertainties in the physical delivery to the customer's postal address, e.g., when the product is handed over several times between different people or service providers before the product arrives at the consumer's door step. In the case of digital products, there can be uncertainties when the customer has to rely on hard- and software that are necessary to receive and actually use the digital product.

2.5.4 Online Marketplaces

An online marketplace is a virtual market that is located in an electronic environment such as the internet and is used for trading goods and services (Schoder, 2020). The online marketplace is used by several different sellers and consumers and supports the processes that are necessary for the coordination between sellers and buyers. The host of the online marketplace plays the role of an intermediary for

transactions between sellers and buyers. Other terms for online marketplace are internet marketplace or e-marketplace.

2.5.4.1 Trust in the Community of Sellers

B2C online marketplaces are platforms that are used by several different sellers to offer their products to online consumers at the same virtual location. Because of the large number of different sellers on popular B2C online marketplaces (e.g., Amazon or Lazada), online consumers often transact with new or unknown sellers in online marketplaces. In contrast to other online shopping platforms such as online shops of one specific seller, the online consumers' trust targets a group of sellers in an online marketplace context (Pavlou & Gefen, 2004). Trust in the community of sellers is defined as the "buyer's subjective belief that online transactions with sellers in a specific marketplace will occur in a manner with his or her expectations of trustworthy behavior" (Pavlou & Gefen, 2004). As shown in another online context, consumers make their generalized impressions about an unknown target (community of sellers) based on their perceptions about interactions with similar, related targets (multiple individual sellers in the community of sellers) (Stewart, 2003). According to Pavlou and Gefen (2004), this generalization of an opinion based on limited information (about a certain number of sellers of a community) is common in other research contexts as well.

2.5.4.2 Risk from the Community of Sellers

While the sub-dimensions and antecedents of risk have been analyzed extensively in previous research (Featherman & Pavlou, 2003) this study analyzed the influence of online consumers' perceived risk from the community of sellers on the intention to make a purchase on an online marketplace. Previous research has shown that risk in the context of online marketplaces predominantly came from the community of sellers (Gefen & Pavlou, 2012).

Online consumers' perceived risk from the community of sellers is defined as the "buyers' perception that there is some probability of suffering a loss when pursuing transactions among members of the community of sellers in the specific marketplace" (Pavlou & Gefen, 2004). The same transferring approach that is assumed for trust in the community of sellers is applied to risk from the community of sellers. In contrast to

other, multifaceted perspectives on risk, perceived risk from the community of sellers only implies the types of risks that are related to the behavior of the sellers.

2.5.4.3 Trust in the Intermediary

Trust in the intermediary is the consumer's perception of the integrity, competence, and reliability of the operator and host of the B2C online marketplace who manages the platform. In online marketplaces, the intermediary ensures that "appropriate conditions are in place to facilitate the transaction success with the marketplace's sellers" (Pavlou & Gefen, 2004). Online marketplace intermediaries also commonly act as middlemen who can increase online consumers' trust and reduce perceived risks.

2.5.4.4 Structural Assurances

While trust in the community of sellers focuses on consumers' trust in a trading partner, consumers' trust in the context of online shopping also includes trust in the infrastructure and the respective control mechanisms (Ratnasingam, Pavlou, & Tan, 2002). Structural assurance is the perceived "security from guarantees, safety nets, or other impersonal structures in a specific context" (Gefen et al., 2003b). In the context of online shopping in general, it is the consumer's trust perception in the institutional environment such as legal protections and technical infrastructure (i.e., the internet) for online shopping (McKnight et al., 2002a). Structural assurance can lower the level of perceived vulnerability and uncertainty. In contrast, it can positively influence the intention to use online shopping (Kim, H.-W., Xu, Y., & Gupta, S., 2012).

2.5.5 Overview of the Constructs

The main concepts in the theoretical framework of this study and their definitions are summarized in Table 2.21.

Table 2.21 Overview of the Main Constructs in this Study

Concept	Definition	Key references
Perceived Usefulness (PU)	The consumer's expected benefit of using the B2C online marketplace to make a purchase.	Venkatesh et al. (2012); Davis et al. (1989)

Concept	Definition	Key references
Perceived Ease of Use (PEOU)	The extent to which a consumer believes that the interaction with the B2C online marketplace platform to make a purchase will be effortless.	Venkatesh et al. (2012); Davis et al. (1989)
Behavioral Intention (BI)	The consumer's intention to make a purchase on the online marketplace.	Davis et al. (1989); Ajzen and Fishbein (1980)
Use Behavior (USE)	The consumer's actual transaction on a B2C online marketplace.	Venkatesh et al. (2012); Davis et al. (1989)
Trust in the Community of Sellers (TCS)	The buyer's subjective belief that online transactions with sellers in a specific marketplace will occur in a manner with his or her expectations of trustworthy behavior.	Pavlou and Gefen (2004)
Risk from the community of Sellers (RCS)	The buyers' perception that there is some probability of suffering a loss when pursuing transactions among members of the community of sellers in the specific marketplace.	Pavlou and Gefen (2004)
Trust in the Intermediary (TIM)	The consumer's perception of the integrity, competence, and reliability of the operator and host of the B2C online marketplace who manages the platform.	Pavlou and Gefen (2004)
Structural Assurances (SA)	The consumer's trust perception in the institutional environment such as legal protections and technical infrastructure (i.e., the internet) for online shopping.	McKnight et al. (2002a)

2.5.6 Country Comparison

This study aimed to analyze differences in the influence of online consumers' trust and risk perceptions and their perceived usefulness and perceived ease of use on their behavioral intention to use and usage of B2C online marketplaces between

Thailand and Germany. Individuals in Thailand and Germany were analyzed and compared as they showed distinct contextual differences according to academic and market research studies (Chapter 2.1). Contextual differences refers to the "stimuli and phenomena that surround and thus exist in the environment external to the individual, most often at a different level of analysis" (Mowday & Sutton, 1993, p. 198). The comparison of the influence of TCS, RCS, PU, and PEOU on BI helps to show that differences can be found between countries as previous studies have shown about other specific countries in online shopping in general, e.g., by Smith et al. (2013) and Tong (2010). The hypothesized differences are described in the following chapter. Complementary, the influences on intention to use and usage of B2C online marketplaces are controlled by the degree of online consumers' cultural dimensions, online consumers' level of experience with online marketplaces, and online consumers' income.

2.6 Hypotheses Development

In this study, the following hypotheses are proposed based on the results found in academic literature and reports as mentioned in the previous chapters. The hypotheses describe the influences that are expected to be found between the constructs in the research framework. The research framework is tested and compared for each country, i.e., the Thailand sample and the Germany sample (Chen & Zahedi, 2016; Chopdar et al., 2018; Hong, Chan, Thong, Chasalow, & Dhillon, 2013; Tong, 2010). The main variables of this research are SA, TIM, TCS, RCS, PU, PEOU, BI, and USE. The main interest of the researcher is to hypothesize and understand the relationship between independent and dependent variables and compare these relationships between Thailand and Germany. Dependent variables are variables that are assumed to be influenced by the variability of independent variables in the conceptual framework. The dependent variables of this study are the behavioral intention to make a purchase on a B2C online marketplace and the actual usage of a B2C online marketplace for purchasing. These variables are taken as the outcome or effect of the independent variables in the study. The control variables are variables that are not part of the

hypotheses but are controlled as moderators that might impact the relationships between the main variables of this research.

2.6.1 Relationship between SA and RCS

Consumer's perception of high SA can make them feel more safe in online transactions situation (McKnight et al., 2002a). The presence of reliable legal regulations and secure infrastructures can lower the amount of uncertainties that consumers are exposed to when shopping in the B2C online marketplace. This relationship was empirically confirmed in online shopping studies, e.g., by McKnight et al. (2002a, 2002b).

Hypothesis 1: Structural assurance has a negative influence on risk from the community of sellers in the online marketplace.

2.6.2 Relationship between SA and TCS

SA can represent a safe and secure environment for processing transactions with others (Shapiro, 1987; Zucker, 1986). Hence, consumers' perception of strong SA can positively affect their trust in online sellers (McKnight et al., 2002a). If the consumers perceive that strong rules and regulations exist that can cost sellers or other third parties more than they would benefit from cheating, then consumers might have higher trust in sellers (calculative-based trust paradigm, (Akerlof, 1970)). Thus, the more the internet is perceived as effectively regulated, the more the consumers trust the seller when they make a purchase online. This relationship was confirmed in McKnight et al. (2002a) and Vance, Elie-Dit-Cosaque, and Straub (2008) in e-commerce. Beliefs of SA had the most effect on trust in the study of Gefen et al. (2003b). In mobile banking adoption, SA has also shown a positive influence on initial trust (Oliveira, Faria, Thomas, & Popovič, 2014).

Hypothesis 2: Structural assurance has a positive influence on trust in the community of sellers in the online marketplace.

2.6.3 Relationship between TIM and RCS

An intermediary offers an online marketplace as fair and secure environment that should prevent opportunistic behavior and fraud of sellers or buyers. Thus, the

online consumers perception about an intermediary can enhance the online consumer's trust building and reduction of consumers' risk perceptions (Palmer, Bailey, & Faraj, 2000).

Hypothesis 3: Trust in the intermediary has a negative influence on the perceived risk from the community of the sellers in the online marketplace.

2.6.4 Relationship between TIM and TCS

Following the argumentation for the influence of TIM on RCS above, it is hypothesized that trust in the intermediary has a positive influence on trust in the community of sellers. This relationship was confirmed in online shopping, e.g., by Gefen and Pavlou (2012), Pavlou and Gefen (2004), and Hong and Cho (2011).

Hypothesis 4: Trust in the intermediary has a positive influence on the trust in the community of the sellers in the online marketplace.

2.6.5 Relationship between RCS and BI

Purchasing on the internet is assumed to be a risky activity. Risk, including sub-dimensions such as financial risk, product risk, and privacy risk, has been identified as a main barrier to the adoption of online shopping (Forsythe & Shi, 2003). Previous studies have shown that risk had a negative influence on behavioral intention to use online shopping (Amaro & Duarte, 2015; Chang, Fu, & Jain, 2016; Dash & Saji, 2008; Gunawan & Huarng, 2015; Liu, Forsythe, & Black, 2011; Tong, 2010). According to Kim and Lennon (2010), performance risk and financial risk had a negative influence on the online purchase intention. Similar results were found by Marriott and Williams (2018) in mobile shopping. Perceived risk had a negative influence on behavioral intention to use for consumers who are already using online shopping as well (Crespo et al., 2009). Chen et al. (2015) also found that perceived risk had a negative influence on the repurchase intention. In mobile commerce, perceived risk has shown to have a negative influence on behavioral intention to use mobile commerce (Zhang et al., 2012). Regarding mobile shopping apps adoption, privacy risk had a negative influence on behavioral intention to use mobile shopping apps (Chopdar et al., 2018; Natarajan et al., 2017). Featherman and Pavlou (2003) found that perceived risk had a negative influence on the consumers' adoption intention of e-services. In internet banking

adoption, Martins, Oliveira, and Popovič (2014) showed that perceived risks had a negative influence on the behavioral intention to use internet banking. In online marketplaces, RCS had a negative influence on the online consumers' transaction intentions (Gefen & Pavlou, 2012; Pavlou & Gefen, 2004).

Hypothesis 5: Perceived risk from the community of sellers has a negative influence on the behavioral intention to make purchases on the online marketplace.

Studies by Forsythe, Liu, Shannon, and Gardner (2006) and Tong (2010) showed that the influence of risk is specifically negative for consumers who use online shopping less frequently. Innovative consumers tend to perceive less risk buying online (Venkatesh et al., 2003). But even experienced online shoppers might perceive risks as a barrier for adoption (Chaparro-Peláez et al., 2016). In electronic banking adoption, the influence of risk on behavioral intention is stronger for individualistic cultures (Zhang et al., 2018). This influence was found to be stronger for eastern cultures in mobile commerce (Zhang et al., 2012) and in online shopping (Tong, 2010). In general, privacy and security concerns tend to be greater in high uncertainty avoidance cultures and individualistic cultures. Gong et al. (2012) assumed that people in collectivistic cultures are at ease to share their personal information with family and community. Thus, privacy concerns might not be as high in collectivistic cultures as in individualistic cultures. Further, risk might be perceived as lower in collectivistic cultures than in individualistic cultures because in collectivistic cultures people can rely on other group members when negative consequences arise from the risk taken. In individualistic cultures, the consumers have to face the consequences of the risk taken on their own. On the contrary, consumers from individualistic cultures are used to taking actions to pursue positive outcomes, while consumers from collectivistic cultures try to avoid problems and conflicts (Elliot et al., 2012).

In Thailand online marketplaces often offer the payment option "cash on delivery" because the credit card penetration rate is relatively low compared to other countries. Cash on delivery implies that consumers can check the product or at least the package before they make a decision on paying on delivery. This reduces the risk of losing money for non-functional or non-delivered products or even misuse of credit

card information compared to payment in advance (e.g., by credit card or bank transfer). In contrast, online marketplaces in Germany offer cash on delivery rarely, but the German online shopping market has strong regulations, laws, and control mechanisms that protect online consumers from fraud and misuse of personal data as well. Further, the most frequently used B2C online marketplace in Germany (i.e., amazon.de), is well-established in the German online market and offers consumer-friendly policies (e.g., relatively low minimum order value for free shipping, extended period for product return) that are adapted by several sellers in the marketplace as well. The average income of German consumers is higher than that of Thai consumers, thus the potential financial loss of making a purchase from a seller in the online marketplace might not be considered as high by German consumers as by Thai consumers. To summarize, the risk perceptions of online consumers might have a lower influence on their intention to use B2C online shopping in Germany than in Thailand.

Hypothesis 5a: The influence of perceived risk from the community of sellers on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.

2.6.6 Relationship between TCS and BI

Shopping online is a process of transaction and exchange between a consumer and a vendor online. This process is mostly anonymous, lacks control, might have potential opportunism, and an uncertain outcome (Grabner-Kräuter & Kaluscha, 2003). Because of these risks of online transactions, trust is an important element in online shopping context especially before the actual transaction (Gefen et al., 2003b; McKnight et al., 2002b). In previous studies, trust has proven to have a positive influence on the intention to shop online (Chang, 2014; Chen et al., 2015; Chong, Chan, & Ooi, 2012; Cyr, 2013; Dash & Saji, 2008; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Everard & Galletta, 2005; Gefen, 2002; Gefen et al., 2003b; Gefen & Heart, 2006; Gefen & Straub, 2004; Hao Suan Samuel et al., 2015; Hsiao, Chuan-Chuan Lin, Wang, Lu, & Yu, 2010; Hwang & Lee, 2012; Kim, Kim, & Park, 2010; Kim, H.-W. et al., 2012; Lu, Fan, & Zhou, 2016; Mahmood, Bagchi, & Ford, 2004; McKnight et al., 2002b; Oliveira, Alhinho, Rita, & Dhillon, 2017; Palvia, 2009; Pavlou, 2003; Sia et al.,

2009; van Slyke, Belanger, & Comunale, 2004; Xu-Priour, Cliquet, & Palmer, 2017; Yoon, 2009; Zhang, Cheung, & Lee, 2014)

In online marketplaces in particular, trust in the community of sellers has a positive influence on the purchase intention (Gefen & Pavlou, 2012; Hong & Cho, 2011; Lu et al., 2016; Pavlou & Gefen, 2004). Gefen et al. (2008) have stated that trust is important for new and experienced consumers as well when using a website. Similarly, trust is likely to be important for potential and repeat consumers in online shopping, too (Kim, H.-W. et al., 2012). Trust has also shown influencing the continued/repurchase intention to use online shopping (Gao, Waechter, & Bai, 2015; Homsud & Chaveesuk, 2014; Kim, H.-W. et al., 2012; Shin, Chung, Oh, & Lee, 2013). Gefen et al. (2003b) conclude that trust is as important to consumers as perceived usefulness and perceived ease of use. In studies in the context of other online environment, trust was also a significant predictor of behavioral intentions to use the technology (Choi & Ji, 2015; Lee & Song, 2013; Zhang et al., 2019), e.g., mobile banking (Oliveira et al., 2017), mobile commerce (Marriott & Williams, 2018; Zhang et al., 2012).

Hypothesis 6: Trust in the community of sellers has a positive influence on the behavioral intention to make purchases on the online marketplace.

Individualistic societies are more likely to trust others in online shopping context than are collectivistic cultures (Jarvenpaa, Tractinsky, & Vitale, 2000; Pavlou, 2003). Cultures with high collectivism scores have less trust in not in-groups. Hence, trust is expected to be more important in collectivist cultures than in individualistic cultures. In contrast, a study by Sia et al. (2009) showed that, the positive influence of trusting beliefs on intention to buy was significant for consumers of Australia (assumed to be an individualistic culture) but not for consumers of Hong Kong (assumed to be a collectivistic culture). In electronic banking adoption, the influence of trust on behavioral intention to use was found to be stronger for societies with high power distance or high uncertainty avoidance (Zhang et al., 2018). On the other hand, higher power distance cultures might accept a certain degree of information asymmetry that is when a vendor has more information and control over the online shopping process than the consumer. Yoon (2009) found that the influence of trust on intention to use online

shopping is higher for high uncertainty avoidance societies. In high context cultures, context information by facial expression is important in communication (Hall, 1989). In online shopping face to face communication is not present. Thus, it is difficult for consumers to perceive the sellers' actions and behaviors (Sabiote et al., 2012). In collectivistic cultures, personal relationships are important when conducting business (Hofstede Insights, 2020b). Building such relationship online takes time. Trust building is supposed to take more time in collectivistic cultures than in individualistic cultures. This relationship is alleged to be even stronger if collectivistic cultures have also a high level of uncertainty avoidance (Hofstede Insights, 2020b). Regarding consumers' experience, studies found that the importance of trust decreases with increasing consumers' experience (Gefen et al., 2008; Pappas, Pateli, Giannakos, & Chrissikopoulos, 2014).

In Thailand, the top reason not to use online shopping is the fear of being deceived (Electronic Transactions Development Agency Thailand, 2017). Hence, trust is very important in Thailand to overcome this fear. In Germany, trust in sellers might have a weaker influence on behavioral intention than in Thailand, because Germany has a well-established infrastructure and legal system for online shopping that protects consumers' rights which are often more in favor for consumers than for sellers. Thus, consumers in Germany might perceive trust in sellers as less important as sellers have less opportunities for worthwhile opportunistic behavior. In contrast to other ways of shopping (e.g., shopping malls, night markets, or social media), it is more difficult to communicate in online marketplaces and online shops. Thus it can be expected that more trust is necessary for consumers in Thailand where it is more common to use these alternative ways of shopping and to practice interpersonal communication when conducting business. In Southeast Asian countries, people avoid losing face in front of other. Online shopping exposes the consumer to potential vulnerability to online sellers. Hence, more trust might be necessary for these online consumers before conducting online shopping to avoid embarrassment because of making a bad decision.

Hypothesis 6a: The influence of trust in the community of sellers on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.

2.6.7 Relationship between TCS and RCS

Trust has proven to be one of the most important elements for reducing risks and uncertainty in online shopping (Pavlou, 2003). In other words, trust has a positive influence on taking a risk and willingness to accept vulnerability (Kim, Ferrin, & Rao, 2009). If consumers perceive sellers in online shopping as trustworthy, the perception of risk from the sellers should decrease (Kim et al., 2010). Previous studies on online shopping have shown that trust has a negative influence on perceived risk (Dash & Saji, 2008; Fortes & Rita, 2016; Kim, D. J., Ferrin, D. L., & Rao, H. R., 2008; Marriott & Williams, 2018; Pavlou, 2003; van der Heijden et al., 2003). Trust in the community of sellers has a negative influence on perceived risk from the community of sellers in online marketplaces (Gefen & Pavlou, 2012; Pavlou & Gefen, 2004).

Hypothesis 7: Trust in the community of sellers has a negative influence on the perceived risk from the community of sellers.

2.6.8 Relationship between TCS and PU

Online consumers can assess the perceived usefulness of a B2C online marketplace for making purchases not only based on the effectiveness of the technology but also by the actions and services of the sellers. While the anticipated benefits of making purchases on the B2C online marketplace are communicated through the technology, the fulfillment of the expected usefulness relies on the sellers. If sellers are considered as being honest, caring, and competent, this can influence the consumer's perception of using a reliable and beneficial way of shopping that will help to complete the consumer's tasks (i.e., making a purchase) (Gefen et al., 2003b). Previous research has shown that this relationship was significant in e-commerce (Gefen et al., 2003b; Pavlou, 2003; Yoon, 2009).

Hypothesis 8: Trust in the community of sellers has a positive influence on the perceived usefulness of making purchases on the online marketplace.

2.6.9 Relationship between PU and BI

According to Venkatesh et al. (2012), PU has the strongest influence on intention to use in the consumer context. Several studies have proven that PU (also referred to as performance expectancy) has a positive influence on behavioral intention

to use online shopping (Driediger & Bhatiasevi, 2019; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Lian & Yen, 2014; Palvia, 2009; Pavlou, 2003; San Martín & Herrero Crespo, 2012; Tong, 2010; Yoon, 2009). In mobile commerce, perceived usefulness has shown to have a positive influence on behavioral intention to shop online (Wu & Wang, 2005; Zhang et al., 2012). Regarding mobile shopping apps adoption, PU has a positive influence on behavioral intention to use mobile shopping apps (Chopdar et al., 2018; Natarajan et al., 2017). In internet banking and mobile banking context, PU has a positive influence on behavioral intention to use internet banking (Im et al., 2011; Martins et al., 2014) and mobile banking (Oliveira et al., 2014), respectively. Alshare and Mousa (2014) found that PU has a positive influence on the behavioral intention to use mobile payment devices. This relationship had shown to be strong in other technological environments as well, e.g., automated vehicles (Zhang et al., 2019).

Hypothesis 9: Perceived usefulness has a positive influence on the behavioral intention to make purchases on the online marketplace.

In general, online shopping is considered a highly efficient way of shopping compared to other ways of shopping because of the high transparency of product prices (convenient price comparison), large product variety, less time spending for searching for specific products than in brick and mortar stores, and no need to travel (also convenient payment when customers' payment information is already known by the online shopping platform) (Liu & Forsythe, 2011). If consumers have these high performance expectations of using online marketplaces, they are more likely to use this way of shopping. People in cultures with a high masculinity score tend to value performance highly (Hofstede Insights, 2018). In online shopping, the influence of perceived usefulness on the behavioral intention to use online shopping is stronger for high masculinity cultures (Alshare & Mousa, 2014; Yoon, 2009) or western cultures (Zhang et al., 2012). Online shopping is also considered a highly individualistic process compared to shopping in brick and mortar stores, because of the physical absence of other customers (reviews and ratings from other online consumers might be a partial substitute), absence of direct conversation with a cashier and/or salesperson, and absence of shopping with friends as in shopping malls. These characteristics of shopping online might also be preferred by people from individualistic cultures as they

are also considered more competitive and performance orientated than people from collectivistic cultures (Bhawuk & Brislin, 1992). According to Hall (1989), in monochromic and low context cultures people tend to favor efficient decision making, economic efficiency, and impersonal negotiations. Online shopping offers these consumers the relative advantage of saving time and easy access to extensive information. In collectivistic cultures, social relationships are considered of high importance. Because online shopping is an effective but impersonal way of shopping, collectivistic cultures might not perceive the performance of online shopping as a strong relative advantage with high influence on their behavioral intention. In electronic banking adoption, the influence of performance expectancy on behavioral intention had shown to be stronger for low power distance, high individualistic, low masculinity, or high uncertainty avoidance cultures (Zhang et al., 2018).

Thai consumers might tend to be more attracted to alternative ways of shopping besides shopping in B2C online marketplaces. In Thailand, shopping malls, social (C2C) shopping (via LINE or Facebook), and night markets are frequently used by consumers as these cover some disadvantages of online shopping in B2C online marketplaces such as bargaining, and enjoying social contact (Lu et al., 2016). Shopping via social networks might have a better fit to characteristics of Thai customers with regard to their style of communication. Social networks might satisfy the importance of personal relationships when conducting business (Hofstede Insights, 2018). Hence, the influence of the assumed relative advantage of online shopping in the behavioral intention might not be as strong as in Germany.

Hypothesis 9a: The influence of perceived usefulness on behavioral intention is stronger in Germany than in Thailand.

2.6.10 Relationship between PEOU and BI

Studies in online shopping showed that consumers' PEOU has a positive influence on their intention to use online shopping (Driediger & Bhatiasevi, 2019; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Pavlou, 2003; San Martín & Herrero Crespo, 2012; Yoon, 2009). This relationship was also confirmed for internet banking (Im et al., 2011; Martins et al., 2014). In mobile commerce, PEOU has shown to have a positive influence on behavioral intention to use mobile commerce (Zhang et al.,

2012). In relation to mobile shopping apps, PEOU has a positive influence on behavioral intention to use mobile shopping apps (Chopdar et al., 2018; Natarajan et al., 2017).

Hypothesis 10: Perceived ease of use has a positive influence on the behavioral intention to make purchases on the online marketplace.

People with high uncertainty avoidance may be more concerned about perceived ease of use of online marketplaces. While shopping in online marketplaces has several uncertainties because of the lack of direct transactions with people, the shopping process itself is structured clearly. This supports the view that consumers who prefer clear instructions and procedures rather than unknown situations (Beugelsdijk & Welzel, 2018) intend to use online shopping more frequently when they perceive that the online shopping platform is structured clearly and easy to use. In mobile commerce, studies showed that the relationship between perceived ease of use and online purchase intention was stronger in cultures with high uncertainty avoidance than those in low uncertainty avoidance cultures (Hung & Chou, 2014; Lu et al., 2017). Previous research showed that low context cultures, high individualism cultures and high masculinity cultures have a stronger preference on convenience when using a website (Ko, Roberts, & Cho, 2006). Websites which are easy to use will be appreciated more in countries with high mastery orientation (Smith et al., 2013). In online shopping, the influence of PEOU on behavioral intention to use online shopping is stronger for high masculinity cultures (Yoon, 2009). In matters of the adoption of electronic banking, the influence of effort expectancy on behavioral intention to use electronic banking is stronger for high individualism cultures (Zhang et al., 2018).

In general, Thai consumers have used online shopping, specifically B2C online marketplaces, not so long as German consumers (see chapters 2.1.1 - 2.1.3). Hence, Thai consumers might be less familiar with the interface and navigation process of B2C online marketplaces compared to German consumers. According to Davis (1989), the influence of PEOU on behavioral intention to use is significant in the early stages of adoption but non-significant in later phases of technology adoption. This is supported by several research in the online consumer technology context. Kim, Yoon, and Han (2016) found that PEOU is important in the early adoption phases of mobile payment

technologies and had a significant influence on the intention to use. Similar results were found by Baptista and Oliveira (2015) for mobile banking. In the shopping context, consumers who are shopping predominantly offline or use the online channel less have lower perceptions of the ease of use of online shopping than consumers who are shopping online frequently (Frasquet et al., 2015). Similar results were found by Chopdar et al. (2018) who showed that PEOU in mobile shopping was more important to Indian consumers than American consumers as these are more experienced with mobile shopping and more adept to use these systems.

Hypothesis 10a: The influence of perceived ease of use on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.

2.6.11 Relationship between PEOU and PU

The easier to use the B2C online marketplace, the more useful it will be perceived by online consumers to make a purchase on the online marketplace. This relationship between PEOU and PU in the TAM had been confirmed in several studies using the TAM in online shopping context, e.g., online shopping in general (Gefen et al., 2003b; Pavlou, 2003; Tong, 2010; van der Heijden et al., 2003), mobile commerce (Wu & Wang, 2005), and online grocery shopping (Driediger & Bhatiasevi, 2019).

Hypothesis 11: Perceived ease of use has a positive influence on the perceived usefulness of making purchases on the online marketplace.

2.6.12 Relationship between PEOU and TCS

If consumers perceive having a clear understanding of what steps are necessary to conduct online shopping and what consequence his or her interactions will have, it can increase the consumers' TCS. This relationship was confirmed in non-online settings (Kumar, 1996) as well as in online settings (Gefen et al., 2003b). Further, clear and understandable information on the B2C online marketplace can be perceived by online consumers as a sign that sellers are placing effort in the customer relationship and not hiding any information (Gefen et al., 2003b). Previous studies in online shopping confirmed that this relationship is significant (Vance et al., 2008; Yoon, 2009).

Hypothesis 12: Perceived ease of use has a positive influence on the trust in the community of sellers in the online marketplace.

2.6.13 Relationship between BI and USE

According to Ajzen (1991), behavioral intention is the fundamental predictor of actual use. The positive influence of behavioral intention on actual use was confirmed in several previous studies in technology context (Venkatesh et al., 2012). More precisely, this relationship has proven to be significant in online marketplaces (Pavlou & Gefen, 2004), online shopping (Driediger & Bhatiasevi, 2019; Pavlou, 2003; Suh & Han, 2003), and internet banking (Im et al., 2011) as well. Accordingly, behavioral intention to use mobile commerce also positively influences the actual usage of mobile commerce (Wu & Wang, 2005). Regarding mobile shopping apps adoption, behavioral intention has shown a positive influence on actual usage of mobile shopping apps as well (Chopdar et al., 2018).

Hypothesis 13: Behavioral intention to make a purchase on the online marketplace has a positive influence on the use behavior to make purchases on the online marketplace.

2.7 Conceptual Model of the Study

After the explanation of the variables and the hypotheses of this study, the hypotheses are summarized in Table 2.22 and the relationships are summarized in the conceptual framework presented in

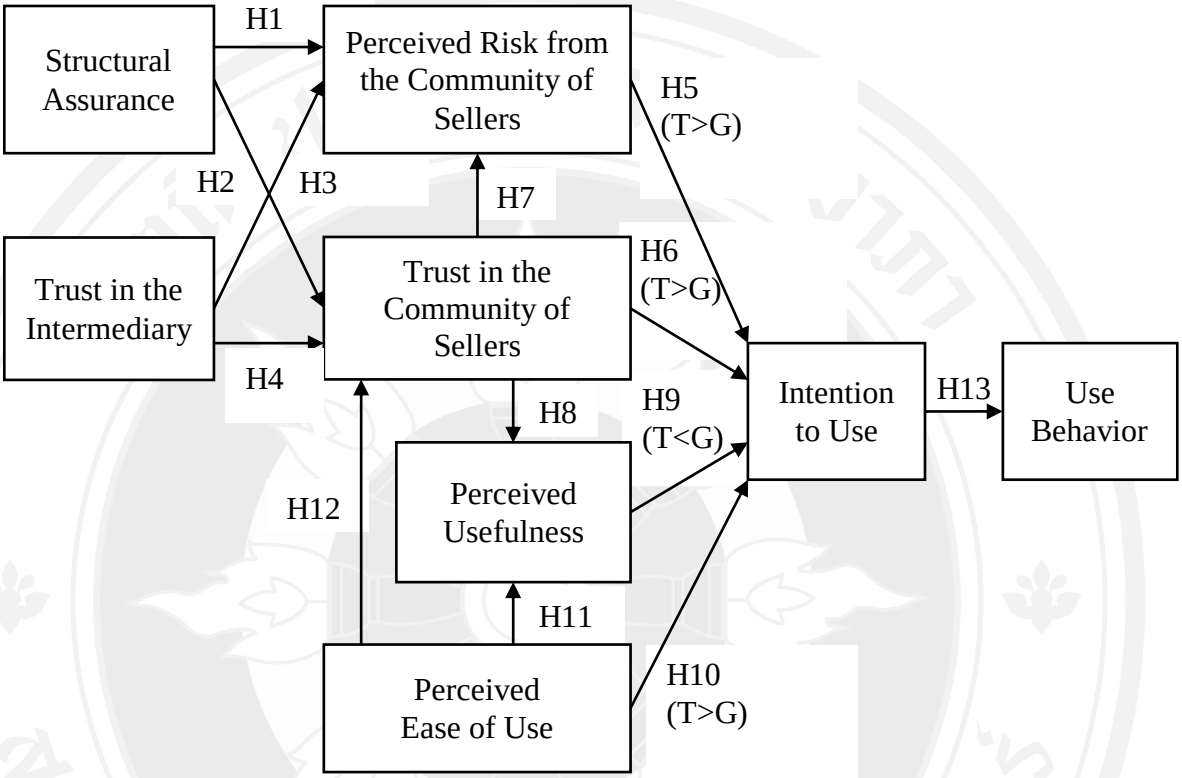
Figure 2.6. This framework helps to examine the relationship between the various independent and dependent variables that are tested in this research for online consumers in Thailand and online consumers in Germany.

Table 2.22 Summary of the Research Hypotheses

H1	Structural assurance has a negative influence on risk from the community of sellers in the online marketplace.
H2	Structural assurance has a positive influence on trust in the community of sellers in the online marketplace.

H3	Trust in the intermediary has a negative influence on the perceived risk from the community of the sellers in the online marketplace.
H4	Trust in the intermediary has a positive influence on the trust in the community of the sellers in the online marketplace.
H5	Perceived risk from the community of sellers has a negative influence on the behavioral intention to make purchases on the online marketplace.
H5a	The influence of perceived risk from the community of sellers on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.
H6	Trust in the community of sellers has a positive influence on the behavioral intention to make purchases on the online marketplace.
H6a	The influence of trust in the community of sellers on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.
H7	Trust in the community of sellers has a negative influence on the perceived risk from the community of sellers.
H8	Trust in the community of sellers has a positive influence on the perceived usefulness of making purchases on the online marketplace.
H9	Perceived usefulness has a positive influence on the behavioral intention to make purchases on the online marketplace.
H9a	The influence of perceived usefulness on behavioral intention is stronger in Germany than in Thailand.
H10	Perceived ease of use has a positive influence on the behavioral intention to make purchases on the online marketplace.
H10a	The influence of perceived ease of use on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.
H11	Perceived ease of use has a positive influence on the perceived usefulness of making purchases on the online marketplace.
H12	Perceived ease of use has a positive influence on the trust in the community of sellers in the online marketplace.

H13	Behavioral intention to make a purchase on the online marketplace has a positive influence on the use behavior to make purchases on the online marketplace.



Notes: Group comparison between Thailand (T) and Germany (G). Control variables as moderators on H5, H6, H9, and H10: Cultural dimensions (power distance, uncertainty avoidance, collectivism/individualism, masculinity/femininity), experience, income.

Figure 2.6 Conceptual Framework of this Study

The control variables of the conceptual model are tested in a complementary analysis. Since the unit of analysis is individual online consumers, the control variables that measured the cultural dimensions, online consumer's experience, and income are tested as moderators on the relationships that were hypothesized to be different between Thailand and Germany.

CHAPTER 3

RESEARCH METHODOLOGY

This chapter describes the research methodology approach that the researcher applied to analyze the objectives of the study. Research approach, sampling method, variables, and data collection method as well as data analysis are presented.

3.1 Research Approach and Design

This study used a quantitative research method to achieve the objectives of this research. Hence, data were collected and analyzed using mathematical methods to confirm or reject the proposed hypotheses of this study. Primary data were collected using a survey research design with a pre-determined, structured questionnaire. This method has proven adequate in several articles found in the literature review chapter of this study and is widespread in social research for analyzing perceptions, intentions and behaviors of consumers.

3.2 Sampling Method, Sample Size, and Unit of Analysis

A sample is a subset of a larger population. Because it is not feasible to collect data from an entire population, the sample size to collect data has to be minimized due to time and budget constraints. Further, it might not be possible for researchers to have access to a population. The samples can provide reasonably accurate and reliable information about a population because strong similarities in population elements can be expected. The sampling procedure, population and unit of analysis of this study are described in the following.

3.2.1 Sampling Method

One of the first steps before collecting data is to identify the appropriate sample of population for the study. The entire population relevant for this study would be all online consumers in Thailand and in Germany who used the leading B2C online marketplace in the respective country at least once. Only consumers who actually used the B2C online marketplace could respond to the questions about their actual perceptions and experience. The sampling frame will be all of these online consumers from Thailand and Germany with full contractual capability. This might be a required characteristic for making transactions in online marketplaces. Full contractual capability is at the age of 18 years in Germany and at the age of 20 years in Thailand. For equal preconditions for both countries, online consumers of the sampling frame had to be at least 20 years old. Further, German respondents had to have used the leading B2C online marketplace in Germany (i.e., amazon.de) and Thai respondents the leading B2C online marketplace in Thailand (i.e., lazada.co.th) at least once. Both online marketplaces are very similar to each other with regard to the website and app design and navigation as well as the process of online purchasing (including payment, delivery, and after sales services (product returns, warranty)). A difference in the website/app design is that lazada.co.th promotes special offers (e.g., reduced prices, flash sales) more prominently than amazon.de. Another difference is the timespan when online consumers can return the product bought online. While sellers on lazada.co.th offer a time span of at least 7 days after delivery to return the product, sellers on amazon are obliged to offer at least 14 days after delivery to return the product (for products sold by amazon.de up to 30 days). In contrast, most sellers on lazada.co.th offer the option of paying cash on delivery that gives the buyers the chance to check at least the packaging of the product on delivery before paying or refusing to pay and returning the product at time of delivery (Australian Government Austrade, 2018). These differences in the B2C online marketplaces' design and technology might have hidden effects on the results of this study. For example, differences in the design might specifically influence the variable perceived ease of use and differences in the process of online purchasing the variable perceived usefulness. In addition, difference between these two B2C online marketplaces with respect to policies for product returns or services of third parties, e.g., parcel services, might have hidden effects on the online consumers'

perceptions of risks and usefulness as well. Thus, this study design might limit the generalizability of the results of the comparison between Thai and German respondents. This limitation is difficult to prevent in this survey because of the countries that are under investigation in this study. To the best of the author's knowledge, there is no B2C online marketplace available and sufficiently well-known by online consumers in both countries. The two B2C online marketplaces in this study were chosen because these two are most similar to each other compared to other B2C online marketplaces in these countries. Moreover, these two online B2C online marketplaces are sufficiently well-known in their country. Hence, it can be expected that enough respondents are available to answer the questionnaire based on their actual perceptions and experience with the respective B2C online marketplace. Nevertheless, the limitations might also exist if this study would have analyzed the same B2C online marketplace in both countries because respondents might have made their actual perceptions and experience with the B2C online marketplace at different time. Thus, the B2C online marketplace's design and process steps might have been different in previous versions of the B2C online marketplace technology compared to new versions. This limitation might have been minimized if the respondents had to make a purchase on the very same B2C online marketplace right before answering the questionnaire. On the other hand, the analysis of consumers from two marketplaces that are not the same but very similar was also conducted successfully in other studies, e.g., by Gefen and Pavlou (2012), Hong and Pavlou (2014).

This study uses non-probability sampling for selecting respondents, because of budget and time constraints as well as limited access to the total population in both countries. The questionnaire was distributed using a professional panel provider service. On the one hand, this might lead to some degree of self-selection bias, because those who were invited to the online survey might have decided for themselves whether to participate in the survey or not. On the other hand, this might have helped to get respondents that were engaged and attentive because they decided to participate in this survey by themselves.

3.2.2 Sample Size

According to Yamane's formula (Israel, 1992) a sample size of 400 is required to achieve the 95 percent significance level. Thus, this study targeted a sample size of 400 in each country to collect for statistically suitable data. According to Hair Jr, Hult, Ringle, and Sarstedt (2017), the sample size in partial least square structural modeling (PLS-SEM), which was the method to analyze the data in this study, should be at least 10 times the largest number of the formative indicators or 10 times the largest number of paths pointing at one construct. In this study, the largest number of paths pointing at one construct is four (i.e., BI) meaning sample size should be at least 40 samples. The sample size in this study fulfilled all of the requirements as the targeted sample size was at least 400 in Thailand and at least 400 in Germany.

3.2.3 Unit of Analysis

The unit of analysis describes what is being examined in a study. The unit of analysis in this study consists of online consumers from Thailand and Germany who are at least 20 years old. Thai online consumers had to have purchased a product or a service on lazada.co.th and German online consumers on amazon.de at least once. This requirement was necessary in order to receive valid answers in the questionnaire by the online consumers, because the questions are focused on perceptions of using this specific type of B2C online shopping platforms for making purchases.

3.3 Data Collection Method

Data were collected by the instrument of a structured online questionnaire. In general, it can be expected that a structured questionnaire leads to more respondents in a short amount of time compared to other data collection methods, e.g., interviews, observation. Online questionnaires have the advantage over paper-based questionnaires that online questionnaires can lower costs, can be sent back to the researcher in a short amount of time, and can be distributed to a geographically unrestricted sample (Tan & Teo, 2000). The link to the questionnaire of this study was distributed online by a professional panel provider service. The questionnaire consisted of measurement scales that have been used in previous studies and had been proven to be robust.

3.4 Measurement

The researcher had to translate the concepts of this study into variables to be able to measure these concepts and make them quantifiable. The approach to conceptualize a measurement model can be a reflective measurement or a formative measurement. Decision rules by Jarvis, MacKenzie, and Podsakoff (2003) help to decide whether a measurement model should be reflective or formative.

From the theoretical perspective, the measurement model in this study should be a reflective one, because of the nature of the constructs, the direction of causality between the indicators and the latent constructs, and the characteristics of the indicators used to measure the constructs (Coltman, Devinney, Midgley, & Venaik, 2008). First, the latent constructs structural assurances, trust in the intermediary, risk from the community of sellers, trust in the community of sellers, perceived usefulness, perceived ease of use, behavioral intention to use, and the cultural dimensions exist independent of the measures. This is typical for personality and attitude measurement (Coltman et al., 2008). Second, the causality of the constructs flows from the constructs to the indicators. The latent variables are reflected in the correlated measures and the measures are representative of the latent variable. Therefore, a change in the constructs causes a change in their indicators (Hair Jr, Hult et al., 2017). Third, the items share a common domain and are interchangeable of the measure. Thus, the constructs can be measured by a sample of few relevant indicators from a common theme. The validity of the construct will not be different if one or more indicators will be included or excluded (Jarvis et al., 2003). The objective of the reflective measurement model is to maximize the overlap between interchangeable indicators. A number of empirical tests can confirm the suitability of using a reflective measurement model in this study.

From the empirical perspective, the reflective measurement model can be justified by the indicator intercorrelation, indicator relationship with construct antecedents and consequences, and measurement error and collinearity. The results of these empirical tests are shown in chapter 4.4 for the variables structural assurances, trust in the intermediary, risk from the community of sellers, trust in the community of

sellers, perceived usefulness, perceived ease of use, and behavioral intention, and in chapter 4.6.2 for the variables of the cultural dimensions.

The variables and their scales used in previous studies will be described in the following related to the reflective measurement model in this study.

3.4.1 Structural Assurance

SA was measured as the subjective perceived, rather than the real objective, effectiveness of the institutional environment. This is a subjective perception of an online consumer that can differ from each online consumer even if the actual characteristics of the environment are the same (Pavlou & Gefen, 2004). The variable was measured by the scale from McKnight et al. (2002b) with 4 items using a five-point Likert-Scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The reliability and validity of the scale were tested and confirmed in studies by McKnight et al. (2002a) and Vance et al. (2008).

3.4.2 Trust in Intermediary

TIM covered the consumer's perception of the intermediary's trustworthiness, benevolence, and integrity. The variable was measured by the scale from Pavlou and Gefen (2004) with 3 items using a five-point Likert-Scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The reliability and validity of the scale were tested and confirmed in Gefen and Pavlou (2012) as well.

3.4.3 Risk from the Community of Sellers

Risk from the community of sellers was measured using the scale from Pavlou and Gefen (2004). This scale consists of three items: the perception of (1) risk involved in making a purchase, (2) potential for loss, and (3) a risky decision. The variable was measured using a five-point Likert-Scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The reliability and validity of the scale were tested and confirmed in Gefen and Pavlou (2012) as well.

3.4.4 Trust in the Community of Sellers

Trust in the community of sellers was measured by adapting the scale from Pavlou and Gefen (2004). This scale consists of three items: the perceived (1) reliability, (2) honesty, and (3) trustworthiness of the community of sellers. The variable was measured using a five-point Likert-Scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The reliability and validity of the scale were tested and confirmed in Pavlou and Gefen (2005) and Gefen and Pavlou (2012) as well.

3.4.5 Technology Acceptance

The independent variables and dependent variable of technology acceptance were measured by using the scales from Gefen et al. (2003b) and Venkatesh et al. (2012) who adapted the scales from previous technology acceptance research, e.g., by Davis (1989), to online shopping and consumer context. Altogether, the scales for PU, PEOU, BI, and USE were 11 items. PU was measured by 3 items, PEOU by 4 items, BI by 3 items, and use behavior by 1 item. The variables PU, PEOU, and BI were measured using a five-point Likert-Scale that ranged from 1 (strongly disagree) to 5 (strongly agree). The dependent variable USE was measured by usage frequency in months (1 = never; 2 = less than once a year; 3 = once a year; 4 = once every 6 months; 5 = once every 3-5 months; 6 = once every 2 months; 7 = once every month; 8 = 2-3 times a month; 9 = once a week or more;).

3.4.6 Overview of the Scales for the Main Variables

The items that were used in the questionnaire to measure the variables of the main variables in the conceptual model of the study are listed in Table 3.1 and Table 3.2. For each item, the sources are listed from which the item was taken from and has proven to be eligible.

Table 3.1 Overview of the Items for Structural Assurance, Trust in the Intermediary, Trust in the Community of Sellers, and Perceived Risk from the Community of Sellers

Structural Assurance	*(McKnight et al., 2002a)*

STA1	The Internet has enough safeguards to make me feel comfortable using it to transact personal business.
STA2	I feel assured that legal and technological structures adequately protect me from problems on the Internet.
STA3	I feel confident that encryption and other technological advances on the Internet make it safe for me to do business there.
STA4	In general, the Internet is now a robust and safe environment in which to transact business.
Trust in the Intermediary	*(Pavlou & Gefen, 2004)*
TIM1	As an auction host/intermediary, amazon.de/lazada.co.th can be trusted at all times.
TIM2	As an auction host/intermediary, amazon.de/lazada.co.th can be counted on to do what is right.
TIM3	As an auction host/intermediary, amazon.de/lazada.co.th has high integrity.
Trust in the Community of Sellers	*(Pavlou & Gefen, 2004)*
TCS1	Sellers on amazon.de/lazada.co.th are in general reliable.
TCS2	Sellers on amazon.de/lazada.co.th are in general honest.
TCS3	Sellers on amazon.de/lazada.co.th are in general trustworthy.
Perceived Risk from the Community of Sellers	*(Pavlou & Gefen, 2004)*
RCS1	There is a considerable risk involved in making a purchase on amazon.de/lazada.co.th
RCS2	There is a high potential for loss involved in making a purchase on amazon.de/lazada.co.th
RCS3	My decision to make a purchase on amazon.de/lazada.co.th is risky.

Table 3.2 Overview of the Items for the Variables of Technology Acceptance

Perceived Usefulness	*(Gefen et al., 2003b)*
PU1	I find making purchases on amazon.de/lazada.co.th useful.
PU2	Making purchases on amazon.de/lazada.co.th helps me accomplish things more quickly.

PU3	Making purchases on amazon.de/lazada.co.th increases my productivity.
Perceived Ease of Use	*(Gefen et al., 2003b)*
PEOU1	Learning how to make purchases on amazon.de/lazada.co.th is easy for me
PEOU2	My interaction with amazon.de/lazada.co.th is clear and understandable
PEOU3	I find making purchases on amazon.de/lazada.co.th is easy to use
PEOU4	It is easy for me to become skillful at making purchases on amazon.de/lazada.co.th
Behavioral Intention	*(Pavlou & Gefen, 2004; Venkatesh et al., 2012)*
BI1	I intend to continue making purchases on amazon.de/lazada.co.th in the future.
BI2	I will always try to make purchases on amazon.de/lazada.co.th in my daily life.
BI3	I plan to continue to make purchases on amazon.de/lazada.co.th frequently.
Use Behavior	*(Pavlou & Gefen, 2004)*
USE	How often do you make a purchase on amazon.de/lazada.co.th?

3.5 Control Variables

Control variables are the variables that are not part of the hypotheses in the research model of the study. The control variables are not influenced by other variables but might have effects on the main variables of the study. For this study, the factors that are controlled are power distance, uncertainty avoidance, collectivism/individualism, masculinity/femininity, experience, and income. These control variables will serve to identify complementary support for differences between countries.

3.5.1 Cultural Dimensions and the Level of Analysis

Generally speaking, cultural values are useful to explain differences in consumers' usage that are not covered by demographic characteristics (Mooij, 2015). For this purpose, researchers can collect primary data about cultural values through surveys or experiments or use secondary data, e.g., cultural dimension scores by Hofstede Insights (2018). Primary data can be helpful when the target sample might be different to the countries' population and their national culture.

According to the cultural theories mentioned in Chapter 2.2.7, national culture is a macro level phenomenon. Nevertheless, culture is not necessarily the same at the individual level in a country and between countries. Not every individual of one country represents the same cultural values and behaviors (Srite & Karahanna, 2006) and members of a society can be heterogeneous in terms of cultural values (Hoehle, Zhang, & Venkatesh, 2015). Thus, these variations can moderate relationships in the technology acceptance context particularly (McCoy et al., 2005). Moreover, culture is not limited to the boundaries of a country (Ng, Lee, & Soutar, 2007). It can be misleading if country level findings are treated as if they were they were applied to individuals (Yoo, Donthu, & Lenartowicz, 2011). Thus, it is important to assess cultural values at the individual level of analysis (Taras, Kirkman, & Steel, 2010; Taras, Rowney, & Steel, 2013; Yoon, 2009). In contrast to countries, individuals are influenced by lower level groups they belong to, e.g., organizations, ethnic, religious, and other social groups. A generalization of cultural values for all people of one country is an ecological fallacy (Robinson, 2009). Hence, it is necessary to measure culture at the individual level and not make inferences based on individuals' nationality only. Several academics have discussed measuring national culture at the individual level in the international management context, e.g., Mooij (2015), Taras et al. (2010), and Yoo et al. (2011). Mooij (2015) criticized that the dimension of national culture had been used inappropriately at the individual level in several studies in international marketing research. First, the definitions of the dimension were inconsistent in these studies, but the same labels (of Hofstede' cultural dimensions) were used (Leidner & Kayworth, 2006). Thus, the constructs are not equivalent. Second, the items were adapted and the rephrased wordings can have different meanings in different countries. One consequence of these issues is that the results of these studies are not comparable with each other. Furthermore, the results are not comparable with Hofstede's values specifically because other researchers' constructs often measured the desirable and Hofstede the desired. Hwang and Lee (2012) described the different positions of researchers towards measuring cultural values at the individual level as follows: "One can argue that culture is a collective phenomenon and irreducible to the individual level of analysis. Nonetheless, culture can only manifest itself through the individual and

then be aggregated to the collective" (Hwang & Lee, 2012, p. 172). They conclude that both perspectives can contribute to explain the influence of culture on behavior.

In the hypotheses of this study, cultural dimensions were mentioned to support differences between countries, rather than assume the same cultural values for all individuals in a country. In order to control the effects of national culture on the relationships between the variables of the research model, the cultural dimensions by Hofstede were measured at the individual level of analysis in this study. While Hofstede analyzed difference in work motivations caused by employees' nationality, this study analyses the differences in online consumers' purchase intention on B2C online marketplaces. Thus, cultural values should be measured for individual consumers. In addition, the calculation of Hofstede's scale uses varying item weighting and complex equations, and was not reliable at the individual level (Spector, Cooper, & Sparks, 2001). Furthermore, the measures for the individual level should be different from the national level because both culture and personal characteristics can influence the individual values (Taras et al., 2010). Several studies assessed individual's espoused cultural values (Kirkman, Lowe, & Gibson, 2006) and found that it is meaningful for analyzing individual's attitudes and behaviors (Rai, Maruping, & Venkatesh, 2009; Srite & Karahanna, 2006). Espoused cultural values are the degree to which an individual embraces his or her cultural values (Hoehle et al., 2015; Srite & Karahanna, 2006). Hoehle et al. (2015) adopted Hofstede's taxonomy and found that espoused cultural values had a moderating effect of mobile social media application usability on continued intention to use and the model, but not the national culture (country-level).

Hofstede' warned that his Values Survey Module (VSM) was intended to find results at the national level and not at the individual level. Therefore, Yoo et al. (2011) developed the Individual Cultural Values Scale (CVSCALE) to assess cultural orientations of individuals based on Hofstede's dimensions and to use primary data rather than cultural stereotypes. The scale should help to collect data from the same primary source instead of using Hofstede's value as a secondary source that did not measure the same sample. Yoo et al. (2011) chose and modified items from previous questions from Hofstede's work (HERMES and VSM) and other researchers who applied constructs that were conform with the definitions of Hofstede's cultural dimensions. The items of the constructs were adopted from the work context. Overall,

230 items were collected and 125 of them were chosen. After a pretest, the items were rephrased and redundant items were removed. After another item selection process, the scale consists of 26 items. The scale of Yoo et al. (2011) is compact (parsimony measurement) and covers the richness of Hofstede's cultural dimensions at the individual level at the same time. In addition, the scale is not limited to the workplace environment. The overview in Yoo et al. (2011) demonstrates that the CVSCALE had shown a satisfactory reliability and validity in 13 studies and can be used across countries. These studies include different samples (e.g., students and non-students) and were conducted in different countries, including Thailand and Germany. Several further studies used this scale to analyze the effects of individual's cultural values, e.g., Gunkel, Schlägel, and Engle (2014), Gunkel, Schlägel, and Taras (2016), Mazanec, Crotts, Gursoy, and Lu (2015), Winterich and Zhang (2014).

To control for effects of online consumers' cultural values in both countries, the scale by Yoo et al. (2011) was applied in this study to measure the cultural dimensions at the individual level of analysis. Therefore, the cultural values were measured on the same individual level of analysis as for the other constructs in this study. The scale of Yoo et al. (2011) is very similar to the scale from Srite and Karahanna (2006) which is cited frequently in information system research and had also been used in the online shopping context by Hallikainen and Laukkanen (2018). Srite and Karahanna (2006) measured the espoused national cultural values on the individual level in the technology acceptance context. This approach was used in other studies in online shopping (Yoon, 2009) and mobile payment (Alshare & Mousa, 2014) as well. The scales for measuring the masculinity/femininity dimension are often related to gender roles and confused with the concept of gender equality, e.g., in (Dorfman & Howell, 1988; Srite & Karahanna, 2006; Yoo et al., 2011). Instead of gender equality, the items of the scale should focus on the values of assertiveness and achievement versus caring and quality of life (Hofstede Insights, 2020a) as in studies by Rai et al. (2009), Vitell, Paolillo, and Thomas (2003), and Franken and Brown (1995).

Hofstede's additional cultural dimensions long-term/short-term orientation and indulgence/restraint were not included in this study. This decision was made because Chen and Zahedi (2016) have stated that the long-term orientation dimension has been subject to criticism, e.g., by Fang (2003). In addition, Srite and Karahanna (2006)

mentioned that they did not examine long-term orientation, because it focuses on the Asian value systems. This might lead to misleading interpretations when compared with non-Asian countries. Studies that focused on analyzing cultural dimensions in only one country (in this case China) have used the cultural dimension long-term orientation to control for mediating effects (Yoon, 2009). The cultural dimension indulgence was not included as there was no theory that could explain interaction effects of indulgence on the relationships in the research model. This cultural dimension might be more relevant when constructs such as perceived enjoyment are part of the research model (Lu et al., 2017).

Altogether, the scale for measuring the cultural dimensions were 21 items in this study. Power distance was measured with 5 items, uncertainty avoidance with 5 items, collectivism/individualism with 6 items, and masculinity/femininity with 5 items (Table 3.3). The variables were measured using a five-point Likert-Scale that ranged from 1 (strongly disagree) to 5 (strongly agree).

3.5.2 Online Consumer's Level of Experience with the B2C Online Marketplace

According to Venkatesh et al. (2012), experience "reflects an opportunity to use a target technology and is typically operationalized as the passage of time from the initial use of a technology by an individual" (Venkatesh et al., 2012, p. 161). In this study, online consumer experience is the time from when the online consumer started using the B2C online marketplace in the past. Research has shown that online experience in general has a positive influence on behavioral intention (Ling, Chai, & Piew, 2010) and trust (Hao Suan Samuel et al., 2015). In online shopping, previous online shopping experience has an influence on online shopping intention, PU, and PEOU (Mortimer, Fazal e Hasan, Andrews, & Martin, 2016; Tong, 2010). Experience moderates between PU and satisfaction such as the influence of PU being greater for high experienced consumers, but not between PEOU on satisfaction and trust on satisfaction (Pappas et al., 2014). A positive past experience has a negative influence on the RCS and a positive influence on the transaction intentions (Pavlou & Gefen, 2004). Pavlou (2003) has stated that satisfaction with a past transaction has a significant influence on trust. Jin and Park (2006) analyzed the moderating effect of online

purchase experience on the evaluation of online shop attributes and the subsequent influence on market response outcomes. They found that consumers' trust increases as consumers' purchase experience increases. Overall, a high level of previous experience with an online shopping platform can lead a consumer to make more purchases from the same platform (Chiu, Hsu, Lai, & Chang, 2012). In this study, the variable was measured by the online consumer's level of experience in months/years since the online consumer started using the B2C online marketplace initially (1 = since less than 2 months; 2 = since 2-6 months; 3 = since 7-23 months; 4 = since 2-5 years; 5 = since more than 5 years;).

3.5.3 Income

In online shopping, income has shown to have a positive influence on the intention to shop online and a negative influence on trust (Xu-Priour et al., 2017). While people with high income tend to use online shopping, people with low income might be deterred by extra fees for shipping costs or costs for online transactions (Chintagunta, Chu, & Cebollada, 2012; Hernández, Jiménez, & Martín, 2011; Lee, Sener, & Handy, 2015; Sin & Tse, 2002). This variable was measured by the online consumer's average monthly net income. The scale for measuring income in this study was different between Thailand and Germany. First, the scale should be understood by the average layperson and it should be possible for all respondents to answer the questions (Hoffmeyer-Zlotnik & Wolf, 2003). Therefore, the income was indicated in the respective currency of the country, i.e. baht for Thai respondents and euro for Germany respondents. Second, the options for answering the question about income should be easy to read and not to detailed because income can be a sensitive item to respondents. Hence, income should be collected in categories rather than as an amount. Lastly, the scales should be comparable which is difficult because of different wealth, salaries, and income distributions in different countries. While it is likely that the scales will vary between the countries, the goal is functional equivalence (Lynn, Hader, Gabler, & Laaksonen, 2004). Therefore, the German author of this study discussed the comparability scales in detail with two Thai language teachers who are teaching in Germany and made adjustments to the scales. Nevertheless, surveys in cross-country

context have problems with comparability of income questions and limit the interpretability of the results (Donnelly & Pop-Eleches, 2018).

3.5.4 Overview of the Scales for the Control Variables

The scales for the control variables that were used in the questionnaire of this study are summarized in Table 3.3.

Table 3.3 Overview of the Scales for the Control Variables

Power Distance		*(Yoo et al., 2011)*
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.	
Collectivism/Individualism		*(Yoo et al., 2011)*
COL1	Individuals should sacrifice self-interest for the group.	
COL2	Individuals should stick with the group even through difficulties.	
COL3	Group welfare is more important than individual rewards	
COL4	Group success is more important than individual success.	
COL5	Individuals should only pursue their goals after considering the welfare of the group.	
COL6	Group loyalty should be encouraged even if individual goals suffer.	
Uncertainty Avoidance		*(Yoo et al., 2011)*
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	
Masculinity/Femininity		*(Franken & Brown, 1995; Rai et al., 2009; Vitell et al., 2003)*
MAS1	It is important to me to do better than others on a task	
MAS2	I judge my performance on whether I do better than others rather than on just getting good results	
MAS3	To be a real success I feel I must do better than everyone I come up against	
MAS4	It annoys me when other people perform better than I do	
MAS5	It is important for me to have a job that provides an opportunity for advancement	
Online Consumer's Level of Experience		*(Venkatesh et al., 2012)*
EXP	Since when have you made purchases on amazon.de/lazada.co.th?	
Income		
INC	Please select your net income	

3.6 Questionnaire Development and Distribution

3.6.1 Filter Questions

In the beginning of the questionnaire, filter questions were set up to identify respondents that are able to answer the questions based on their actual experience and perceptions because most of the items measure the perception of online consumers that are related to using an B2C online marketplace for making purchases. Thai consumers were asked if they used lazada.co.th at least once. German consumers were asked if they had used amazon.de at least once. Respondents who indicated that they haven't used the online marketplace at least once were excluded from the online survey (screen out). Further, respondents who stated that they were either younger than 20 years old or were neither of Thai or German nationality were excluded from the online survey.

3.6.2 Translation

The questionnaire was translated from English into German and the Thai language. The English version was translated into German by the author of this study who is German. The German version was translated into Thai by a professional Thai language teacher and translator who is also teaching at a German university. After the translation into the Thai language, the Thai version was translated into the German language again by another professional Thai translator to check the accordance with the original German version of the questionnaire and ensure translation equivalence (Brislin, 1970).

3.6.3 Pretest

The questionnaire was reviewed by a group of university staff and online consumer with different levels of experience with online marketplaces in order to examine the face validity and clarity of the items. The pilot testers were asked to read the items and scales and give direct feedback to the researcher on problematic items. Slight adjustments on some of the items of the questionnaire were made based on this feedback.

A pretest was conducted to obtain information about the reliability and validity of the questionnaire items in Thailand and Germany. The findings of the pretest helped to improve the understandability, consistency, and relevancy of the instruments of the main survey in this study.

3.6.4 Distribution

The author of this study used a professional panel provider service to invite online consumers in Thailand and in Germany to complete the questionnaires online. The online consumers were informed regarding the purpose of the study along with the assurance of confidentiality and anonymity (MacKenzie & Podsakoff, 2012). The questionnaire was handed over to the online consumers with their consent. The data were collected between February 28 and March 12, 2020.

3.7 Mechanism for Data Processing and Analysis

After collecting the data, the data was examined and reorganized to test the hypotheses of the study. In order to test the hypotheses for the Thailand sample and the Germany sample, two models were examined, one for the Thailand sample and one for the Germany sample.

First, reliability and validity tests were conducted with the measurement model for each country. Next, the structural model was used for the two groups (the Thailand sample and the Germany sample) to test the hypotheses by checking the significance of path coefficients (Anderson & Gerbing, 1988). The path coefficients were compared and tested for significance of differences between Thailand and Germany by using the partial least squares multi-group analysis (PLS MGA).

The control variables effects were tested for the pooled sample and the two groups as well. The online consumers' cultural values (i.e., power distance, uncertainty avoidance, collectivism, and masculinity), level of experience, and income were the control variables in this study. The effects of these control variables were analyzed in a moderation analysis. The moderation analysis tested the effect of the control variables on the influences of TCS, RCS, PU, and PEOU on BI.

3.7.1 Method

This study used the partial least squares structural equation modeling (PLS-SEM) approach to perform the data analysis (Chin, 1998). The objective of PLS-SEM is to minimize the amount of unexplained variance (maximize the R^2 values) in the research model. Partial least squares (PLS) is an extension to the multiple regression analysis. It is a structural equation modeling (SEM) method that is variance based and allows the evaluation of paths analyses simultaneous. Compared to covariance-based SEM (CB-SEM), results in CB and PLS are very similar with large datasets (when N = 250 and larger) and when an appropriate number of indicator variables exist. PLS is more flexible than other techniques as it places minimal restrictions on sample size and residual distributions (Hair Jr, Hult et al., 2017). The number of studies in top ranked journals of information systems (e.g., MIS Quarterly), and marketing and strategic management disciplines that are using PLS is increasing. PLS is useful when small

sample sizes, non-normally distributed data, or when complex models with many constructs and model relationships are estimated (Chin, Marcolin, & Newsted, 2003; Hair Jr, Risher, Sarstedt, & Ringle, 2019; Venkatesh et al., 2012). PLS-SEM is also useful when "…the goal is predicting key target constructs or identifying key "driver" constructs" (Hair Jr, Hult et al., 2017, p. 23). In addition, PLS helps conducting significance tests for structural multi-group (Hair Jr et al., 2019). PLS-SEM is appropriate for the analyses in this study because it is suitable to analyze a complex research model with many constructs and relationships between these constructs and multi-group comparison.

3.7.2 Software

This study used the software SmartPLS version 3.2.9 to analyze the collected data and conduct PLS analyses (Ringle, Wende, & Becker, 2015). With SmartPLS, structural equation modeling can be performed to identify associations among latent variables. It is also capable of conducting group comparison and moderation analysis. SmartPLS has been applied successfully in previous studies that analyzed similar models (e.g., by Venkatesh et al. (2012)) and group comparison (e.g., by Chopdar et al. (2018)).

CHAPTER 4

DATA ANALYSIS AND MODEL ESTIMATION RESULTS

4.1 Data Screening

1338 respondents started the online questionnaire. 201 of the respondents were screened out because they did not meet the requirements (age, nationality, purchased at least once on the online marketplace) that are necessary to give information about the items in the study. 48 of the respondents did not complete the questionnaire (missing data over 15 percent (Hair Jr, Hult et al., 2017)) and thus were removed. 280 cases were sorted out from the dataset due to being not engaged. Unengaged respondents answered with suspicious response patterns or the same score to every Likert scale item (straight lining) (Hair Jr, Hult et al., 2017) and/or they completed the questionnaire in considerably less time than the observed time when pilot-testing the questionnaire under observation. After screening the data, 404 samples of Thai online consumers and 405 samples of German online consumers were to obtained to test the research model in this study.

4.2 Data Distribution

Before the evaluation of the measurement model and the structural model was conducted, the distribution of the data was analyzed. Skewness and kurtosis of the data were checked to examine the data distribution. PLS-SEM does not require normally distributed data and can handle non-normal data (in contrast to CB-SEM), as it is a nonparametric method (Hair Jr, Hult et al., 2017). Nevertheless, it is helpful to check that the data is not extremely non-normal. Extremely non-normal data can implicate that some relationships between variables will not be identified as significant (Hair Jr, Hult et al., 2017). On the indicator level, only two of the indicators (BI1: kurtosis =

1.192; BI3: kurtosis = 1.007) showed absolute kurtosis slightly above 1 (i.e., distribution is too peaked) (Appendix 2). While this does violate strict rules of normality, it is within more relaxed rules by West, Finch, and Curran who suggested an upper threshold of 2 for skewness and by Sposito, Hand, and Skarpness (1983) who recommend a value of 2.2 or less for kurtosis.

4.3 Respondents' Demographics

Table 4.1, Table 4.2, and Table 4.3 summarize the demographic profile of the respondents from Thailand and from Germany. The percentages of female and male respondents in both samples were nearly equally distributed, with 54.7 percent females in the Thailand sample and 52.8 percent females in the Germany sample, respectively (Table 4.1). The total number of female respondents was slightly higher than male respondents. For both countries, the most frequent age groups were between 30-44 years old. The most frequent age group in the Thailand sample was 30-34 years old, the most frequent age group in the Germany sample was 40-44. Overall, the German respondents were somewhat older than the Thai respondents. While more than half of the Thai respondents stated that they have a Bachelor's degree (58.2 percent), most of the German respondents indicated that vocational training (40.5 percent) was their highest educational qualification. In the Germany sample, more than half of the respondents were employed workers (64.4 percent). In Thailand, most respondents were also employed workers (47.8 percent), but the number of respondents who are self-employed was more than one third of the total number of respondents (33.9 percent). The distribution of the respondents' size of residence was similar in the Thailand sample and Germany sample. In both countries, most respondents indicate a population of 100,000 to 999,000 people as the size of their city of residence, with percentages of 30.4 and 28.6, respectively.

Table 4.1 Participant Demographics for the Thailand Sample and the Germany Sample

	Thailand		Germany	
	Frequency	Percentage	Frequency	Percentage
Gender				

	Thailand		Germany	
	Frequency	Percentage	Frequency	Percentage
female	221	54.7	214	52.8
male	183	45.3	191	47.2
Age				
20-24	27	6.7	22	5.4
25-29	52	12.9	40	9.9
30-34	87	21.5	73	18.0
35-39	65	16.1	48	11.9
40-44	66	16.3	91	22.5
45-49	31	7.7	40	9.9
50-54	50	12.4	37	9.1
55-59	20	5.0	29	7.2
60-64	6	1.5	24	5.9
65 or older	0	0.0	1	0.2
Educational qualification				
no degree	0	0.0	1	0.2
secondary modern school qualification	8	2.0	12	3.0
high school diploma	24	5.9	53	13.1
university entrance qualification	44	10.9	52	12.8
completed vocational training	56	13.9	164	40.5
Bachelor’s degree	235	58.2	56	13.8
Master’s degree	32	7.9	65	16.0
PhD	5	1.2	2	0.5
Occupation				
self-employed	137	33.9	25	6.2
employed	193	47.8	261	64.4
civil servant	38	9.4	9	2.2
student	10	2.5	23	5.7

	Thailand		Germany	
	Frequency	Percentage	Frequency	Percentage
vocational training	7	1.7	27	6.7
retired	16	4.0	45	11.1
unemployed	3	0.7	11	2.7
not specified	0	0.0	4	1.0
Residence size				
less than 5,000	14	3.5	59	14.6
5,000 - 9,999	27	6.7	28	6.9
10,000 - 19,999	36	8.9	48	11.9
20,000 - 99,999	72	17.8	83	20.5
100,000 - 999,000	123	30.4	116	28.6
1,000,000 or more	99	24.5	64	15.8
not specified	33	8.2	7	1.7

More than 40 percent of the Thai and the German respondents reported that they shop online two to three times a month. 22 percent of the Thai respondents and 16 percent of the German respondents even stated purchasing once a week or more. Regarding the product categories, the percentage of respondents who bought books, music, movies, or video games online was higher in the Germany sample than in the Thailand sample. In contrast, the percentage of respondents who purchased health, cosmetics, housewares, or groceries was somewhat higher in the Thailand sample than in the Germany sample. Overall, Thai respondents specified that they started purchasing via the online marketplace later than the German respondents. While more than 40 percent of the Thai respondents have started purchasing through lazada.co.th in the last 2 years, more than 60 percent of the German respondents have started purchasing through amazon.de for more than 6 years ago.

Table 4.2 Online Consumers' Profile for the Thailand Sample and the Germany Sample

	Thailand		Germany	
	Frequency	Percentage	Frequency	Percentage
Frequency purchasing online				
less than once a year	3	0.7	0	0.0
once in a year	2	0.5	5	1.2
once every 6 months	21	5.2	12	3.0
once every 3 to 5 months	30	7.4	24	5.9
once every 2 months	24	5.9	38	9.4
once a month	49	12.1	87	21.5
two to three times a month	186	46.0	174	43.0
once a week or more	89	22.0	65	16.0
Product categories purchased online				
fashion, clothes, shoes	284	15.3	329	15.6
consumer electronics	221	11.9	276	13.1
books, music, movies, video games	105	5.7	263	12.4
health, cosmetics	226	12.2	183	8.7
sports, outdoor	107	5.8	149	7.0
housewares	252	13.6	190	9.0
furniture	89	4.8	126	6.0
home improvement	126	6.8	115	5.4
groceries	197	10.6	120	5.7
toys, baby products	106	5.7	159	7.5
travel, flights, accommodation	141	7.6	204	9.6
others	36	1.9	32	1.5
Experience with shopping in online marketplace (in years)				
less than 2 months	3	0.7	0	0.0
2 to 6 months	62	15.3	6	1.5
7 to 23 months	106	26.2	25	6.2
2 to 5 years	209	51.7	109	26.9

	Thailand		Germany	
	Frequency	Percentage	Frequency	Percentage
6 to 10 years	22	5.4	139	34.3
more than 10 years	2	0.5	126	31.1

More than 75 percent of the Thai respondents state having a monthly net income between 315-1,570 US dollar. In the Germany sample, about 42 percent of the respondents indicate having a monthly net income of 2,200 US dollar or less, about 50 percent more than 2,200 US dollar, and about 8 percent did not specify an answer to this question.

Table 4.3 Online Consumers' Economic Profile in the Thailand Sample and the Germany Sample

Thailand			Germany		
	Fre-quency	Per-centage		Fre-quency	Per-centage
Income (monthly)					
less than 5,000 baht	8	2.0	less than 500 euros	19	4.7
5,000 - 10,000 baht	35	8.7	500 - 1,000 euros	42	10.4
10,001 - 20,000 baht	107	26.5	1,001 - 1,500 euros	52	12.8
20,001 - 30,000 baht	102	25.2	1,501 - 2,000 euros	56	13.8
30,001 - 50,000 baht	100	24.8	2,001 - 2,500 euros	74	18.3
50,001 - 80,000 baht	28	6.9	2,501 - 3,000 euros	47	11.6
more than 80,000 baht	20	5.0	more than 3,000 euros	81	20.0
not specified	4	1.0	not specified	34	8.4
Money spend online (monthly)					
less than 50 baht	5	1.2	less than 5 euros	8	2.0
50 - 300 baht	16	4.0	5 - 30 euros	59	14.6
301 - 500 baht	50	12.4	31 - 50 euros	88	21.7
501 - 1,000 baht	79	19.6	51 - 100 euros	105	25.9

Thailand			Germany		
	Fre-quency	Per-centage		Fre-quency	Per-centage
1,001 - 2,000 baht	118	29.2	101 - 200 euros	101	24.9
2,001 - 5,000 baht	106	26.2	201 - 500 euros	38	9.4
more than 5,000 baht	30	7.4	more than 500 euros	6	1.5

4.4 Measurement Model

First, convergent validity (factor loadings, indicator reliability, average variance extracted), internal consistency reliability (composite reliability, Cronbach's alpha), and discriminant validity (cross-loadings, Fornell-Larcker criterion, heterotrait-monotrait ratio) were analyzed to evaluate the reflective measurement model. The PLS algorithm in SmartPLS with a maximum of 300 iterations was used to obtain these indicators' values for the collected dataset as recommended by (Hair Jr, Hult et al., 2017).

For both countries, the factor loadings of the indicators for the reflective variables were all loading above the threshold of 0.70 (strictly speaking 0.708) (Fornell & Larcker, 1981) on the supposed factors. The results of the factor loadings are presented in Table 4.4. The cross-loadings are presented in Appendix 3.1 and Appendix 3.2.

Table 4.4 Cross-country factor loadings for the Thailand and Germany sample

	Factor loading	
	Thailand	Germany
SA1	0.853	0.878
SA2	0.899	0.879
SA3	0.877	0.911
SA4	0.878	0.858
TIM1	0.915	0.893

	Factor loading	
	Thailand	Germany
TIM2	0.889	0.866
TIM3	0.888	0.911
RCS1	0.922	0.904
RCS2	0.926	0.930
RCS3	0.920	0.928
TCS1	0.915	0.923
TCS2	0.924	0.927
TCS3	0.921	0.941
PU1	0.866	0.853
PU2	0.872	0.881
PU3	0.854	0.837
PEOU1	0.842	0.865
PEOU2	0.847	0.897
PEOU3	0.815	0.903
PEOU4	0.860	0.881
BI1	0.897	0.857
BI2	0.876	0.855
BI3	0.924	0.893

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention.

The internal consistency reliability controls whether the measures produce consistent outcomes under consistent conditions. This was analyzed by examining the Cronbach's alpha values, the composite factor reliability, and the average variance extracted. The Cronbach's alpha values were all above the recommended threshold of 0.70 (Chin, 1998) (Table 4.5). The composite factor reliability is another indicator to ensure internal consistency reliability and is particularly recommended in PLS analyses (Hair Jr et al., 2019). The values of the composite factor reliability in this study are

greater than the desirable value of 0.70 in all the cases (Bagozzi & Yi, 1988). According to Diamantopoulos, Sarstedt, Fuchs, Wilczynski, and Kaiser (2012), values for Cronbach's alpha or composite reliability of 0.95 or above can be problematic. They can indicate that the items of a construct are redundant or filled in by the respondents with an undesirable response pattern (e.g., straight lining). In the Germany sample, the composite reliability of TCS (CR=0.951) was slightly above 0.95. While composite reliability is considered a too liberal indicator and the Cronbach's alpha is a more conservative indicator, the true reliability of the construct is supposed to be between the two values (Hair Jr et al., 2019). As the constructs' Cronbach's alpha is below 0.95 (CA = 0.922), it is assumed to be acceptable in this case that the value of composite reliability just above 0.95. The convergent validity tests the correlation of a measure with other measures of the same construct. Convergent validity was assessed by examining the values of the average variance extracted. The average variance extracted is the "grand mean value of the squared loadings of the indicators associated with the construct (i.e., the sum of the squared loadings divided by the number of indicators)" (Hair Jr, Hult et al., 2017, p. 114). In this study, these range from 0.708 to 0.851 for the Thailand sample and from 0.735 to 0.865 for the Germany sample which exceed the recommended level of equal or greater than 0.50 (Fornell & Larcker, 1981; Segars, 1997).

Altogether, the values of these indicators represent a good internal consistency and show that the reflective measurement model in this study is reliable (Table 4.5).

Table 4.5 Cross-Country Reliability and Validity Assessments for the Thailand and Germany Sample

	Thailand				Germany			
	CA	CFR	AVE	HTMT (Confidence interval does not include 1)	CA	CFR	AVE	HTMT (Confidence interval does not include 1)
SA	0.900	0.930	0.769	Yes	0.904	0.933	0.777	Yes

	Thailand				Germany			
	CA	CFR	AVE	HTMT (Confidence interval does not include 1)	CA	CFR	AVE	HTMT (Confidence interval does not include 1)
TIM	0.879	0.925	0.805	Yes	0.87	0.920	0.793	Yes
RCS	0.913	0.945	0.851	Yes	0.91	0.944	0.848	Yes
TCS	0.909	0.943	0.846	Yes	0.922	0.951	0.865	Yes
PU	0.831	0.898	0.747	Yes	0.82	0.893	0.735	Yes
PEOU	0.862	0.906	0.708	Yes	0.909	0.936	0.786	Yes
BI	0.881	0.927	0.808	Yes	0.838	0.902	0.754	Yes

Notes: CA: Cronbach's alpha; CFR: composite factor reliability; AVE: average variance extracted, HTMT: heterotrait-monotrait ratio. SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention.

Discriminant validity was examined to verify that the constructs were truly distinct from each other. First, the cross-loadings (Appendix 3.1 and Appendix 3.2) showed that each of the indicator loaded higher on its associated construct than on any other construct. Next, the Fornell-Larcker criterion was analyzed to control whether the constructs share more variance with their associated indicators than with any other of the constructs (Table 4.6). The Fornell Larcker Criterion (correlation matrix) showed that all the square roots of the AVEs were greater than any of the inter-factor correlations (convergent validity). Table 4.6 also shows the means and standard deviations of the constructs. All items were scored using a Likert-scale that ranged from 1 (strongly disagree) to 5 (strongly agree), except USE which was assessed on an ordinal scale (1=never; 2=less than once a year; 3=once in a year; 4=once every 6 months; 5=once every 3 to 5 months; 6=once every 2 months; 7=once a month; 8=two to three times a month; 9=once a week or more).

Table 4.6 Fornell-Larcker Criterion for the Thailand Sample and the Germany Sample

Constructs	Mean	SD	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
Thailand										
SA	3.657	0.728	0.877							
TIM	3.635	0.752	0.640	0.897						
RCS	2.445	0.827	-0.425	-0.599	0.923					
TCS	3.634	0.761	0.646	0.760	-0.600	0.920				
PU	3.903	0.66	0.513	0.670	-0.472	0.645	0.864			
PEOU	4.156	0.542	0.517	0.576	-0.456	0.529	0.640	0.841		
BI	3.841	0.757	0.443	0.624	-0.486	0.620	0.682	0.617	0.899	
USE	6.809	1.682	0.246	0.322	-0.136	0.281	0.291	0.206	0.394	1.000
Germany										
SA	3.630	0.730	0.882							
TIM	3.853	0.728	0.581	0.890						
RCS	1.739	0.779	-0.361	-0.507	0.921					
TCS	4.111	0.639	0.469	0.600	-0.478	0.930				
PU	4.237	0.661	0.405	0.549	-0.464	0.470	0.857			
PEOU	4.407	0.600	0.337	0.470	-0.486	0.466	0.643	0.887		

Constructs	Mean	SD	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
BI	4.128	0.754	0.363	0.513	-0.393	0.402	0.642	0.495	0.869	
USE	6.731	1.587	0.180	0.321	-0.286	0.180	0.385	0.238	0.453	1.000

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior. Diagonal elements (bold) are the square root of the AVE for each construct; off-diagonal factors correspond to construct inter-correlations.

According to Henseler, Ringle, and Sarstedt (2015), the heterotrait-monotrait ratio (HTMT) is an approach that is more reliable in detecting discriminant validity issues than cross-loadings and Fornell-Larcker criterion. The HTMT estimates the correlation between two constructs that would exist if these constructs were perfectly reliable (disattenuated correlation). If this correlation value is close to 1, it can indicate a lack of discriminant validity. In this study, all HTMT between the constructs were below the suggest threshold of 0.90 in the Thailand sample and in the Germany sample as well (Appendix 4.1 and Appendix 4.2). In addition, Hair Jr, Hult et al. (2017) recommend running the bootstrapping procedure to examine the bootstrap confidence interval of HTMT. If the confidence interval contains the value 1, it does indicate a lack of discriminant validity. The confidence intervals for the Thailand sample and for the Germany sample did not contain the value 1 (Table 4.5).

Altogether, the results of the cross-loadings, the Fornell-Larcker criterion, and the HTMT indicate discriminant validity of the constructs in the measurement model.

Moreover, the empirical results in this chapter showed that constructs' positive and high intercorrelations, and the reliability (factor loadings, Cronbach's alpha, average variance extracted, and internal consistency) and collinearity statistics (chapter 4.5.1) confirmed the suitability of choosing the reflective approach for the measurement model.

4.5 Structural Model

After the reliability and the validity of the constructs and the items to measure the constructs were examined and confirmed, this chapter describes the evaluation of the structural model.

The structural model was assessed by the coefficient of determination (R^2), the predictive relevance Q^2 value of the path model, the level of significance of the path coefficients, the f^2 effect sizes, and q^2 effect sizes (Hair Jr, Hult et al., 2017).

4.5.1 Collinearity

First, collinearity of the independent variables was examined. Collinearity can indicate common method bias (also known as specific bias or response bias) in a model.

The constructs' tolerance value (variance inflation factor (VIF)) should be equal or lower than 3.3 (Kock, 2015) or more liberal lower than 5 (Hair Jr, Hult et al., 2017). Based on the collected dataset, all constructs had a VIF value below 2.640 and 1.905 in the Thailand sample and the Germany sample, respectively (Appendix 5.1 and Appendix 5.2). Thus, the models can be considered free of common method bias according to the values of the VIF.

4.5.2 Path Coefficients

Next, the level of significance of the path coefficients was obtained by running the bootstrapping procedure in SmartPLS with the collected dataset. The settings of the bootstrapping procedure were 5000 subsamples, bias-corrected and accelerated-(BCa)-bootstrapping approach, two-tailed testing, and a significance level of 0.05. While the number of subsamples can be set relatively small for pre-analyses, the number of subsamples should be set relatively high for the final analysis to ensure robust results. On the other hand, a large number of bootstrap subsample can increase the computation time. Thus, a common recommendation for the final results preparation is 5000 subsamples (Hair Jr, Hult et al., 2017). The BCa-bootstrapping approach (Efron, 1987) was chosen because it adjusts for bias and skewness in the bootstrap distribution. Moreover, it has a reasonable computation time and is one of the most stable method in SmartPLS (Ringle & Wende, 2019). Two-tailed testing was selected as the bootstrapping procedure should test the hypothesized relationships between the variables in this study in both directions. The significance level of 0.05 was chosen because the 5 percent level of significance is the most common in practice (Ross, 2017).Table 4.7 presents the results of the hypothesis testing in the Thailand sample and Table 4.8 in the Germany sample.

The findings of the Thailand sample show that USE was influenced by BI (β = 0.394, $p < 0.001$) positively and significantly. BI to use B2C online marketplaces was significantly influenced by the independent variables TCS, PU, and PEOU. The influence of TCS (β = 0.221, $p < 0.001$), PU (β = 0.347, $p < 0.001$), and PEOU (β = 0.242, $p < 0.001$) on BI was positive and significant at the level of lower than 0.1 percent. RCS (β = -0.079, $p > 0.05$) showed a negative influence on BI, but the effect was not significant at the level of 5 percent. PU was influenced positively and

significant by PEOU (β = 0.415, p < 0.001) and TCS (β = 0.425, p < 0.001). TIM (β = 0.554, p < 0.001) and SA (β = 0.251, p < 0.001) positively and significantly influenced TCS, PEOU (β = 0.080, p > 0.05) did not at the significance level of 5 percent. RCS was influenced negatively and significantly by TCS (β = -0.351, p < 0.001) and TIM (β = -0.348, p < 0.001), but not significantly by SA (β = 0.024, p > 0.05).

Table 4.7 Structural Model Results of the Thailand Sample

Directional path	Path coefficient (β)	t-value
SA → RCS	0.024	0.471
SA → TCS	0.251	4.906***
TIM → RCS	-0.348	5.969***
TIM → TCS	0.554	9.498***
RCS → BI	-0.079	1.807
TCS → RCS	-0.351	5.568***
TCS → PU	0.425	8.615***
TCS → BI	0.221	4.498***
PU → BI	0.347	6.206***
PEOU → TCS	0.080	1.822
PEOU → PU	0.415	8.823***
PEOU → BI	0.242	4.121***
BI → USE	0.394	7.940***

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior. ***p < 0.001, ** p < 0.01; * p < 0.05

The results in the Germany sample suggest that USE was influenced by BI (β = 0.453, p < 0.001) positively and significantly. BI to use the B2C online marketplaces was significantly influenced by the independent variable PU. The influence of PU (β = 510, p < 0.001) on BI was positive and strongly significant at the level of lower than 0.1 percent. TCS (β = 0.086, p > 0.05) and PEOU (β = 0.093, p > 0.05) showed a

positive influence on BI and RCS (β = -0.070, p > 0.05) a negative influence on BI, but the effects were not significant at the level of 5 percent. PU was influenced positively and significant by PEOU (β = 0.541, p < 0.001) and TCS (β = 0.218, p < 0.001). PEOU (β = 0.223, p < 0.001), TIM (β = 0.403, p < 0.001), and SA (β = 0.160, p < 0.001) positively and significantly influenced TCS. RCS was influenced negatively and significantly by TCS (β = -0.261, p < 0.001) and TIM (β = -0.320, p < 0.001), but not significantly by SA (β = 0.053, p > 0.05).

Table 4.8 Structural Model Results of the Germany Sample

Directional path	Path coefficient (β)	t-value
SA → RCS	-0.053	0.982
SA → TCS	0.160	3.801***
TIM → RCS	-0.320	4.598***
TIM → TCS	0.403	8.195***
RCS → BI	-0.070	1.371
TCS → RCS	-0.261	3.919***
TCS → PU	0.218	3.992***
TCS → BI	0.086	1.893
PU → BI	0.510	8.495***
PEOU → TCS	0.223	4.503***
PEOU → PU	0.541	10.587***
PEOU → BI	0.093	1.384
BI → USE	0.453	9.480***

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior. ***p < 0.001, **p < 0.01; *p < 0.05

4.5.3 Coefficient of Determination

The coefficient of determination (R^2 value) represents the effect of all independent variables on the dependent variable. It indicates the amount of variance in

the dependent variable explained by the independent variables that are linked to it (Hair Jr, Hult et al., 2017). It is used to estimate the model's predictive power. Based on the classification (for marketing research) of Hair Jr, Ringle, and Sarstedt (2011) and Henseler, Ringle, and Sinkovics (2009), R^2 values of 0.75, 0.50, or 0.25 are described as substantial, moderate, or weak, respectively. In contrast, in other disciplines, e.g., consumer behavior studies, R^2 values of 0.20 can be considered as high (Hair Jr, Hult et al., 2017).

In the Thailand sample, 15.5 percent the variation in USE was explained by BI (Table 4.9). 56.2 percent of the variation in behavioral intention to use the B2C online marketplace was explained by the constructs RCS, TCS, PU, and PEOU. PEOU and TCS explained 54 percent of the variance in PU. 62.5 percent of the variation in TCS was explained by the constructs PEOU, TIM and SA. TCS, TIM, and SA explained 40.9 percent of the variance in RCS.

In the Germany sample, 20.5 percent of the variation in USE was explained by BI (Table 4.9). 43.6 percent of the variation in behavioral intention to use the B2C online marketplace was explained by the constructs RCS, TCS, PU, and PEOU. PEOU and TCS explained 45 percent of the variance in PU. 42 percent of the variation in TCS was explained by the constructs PEOU, TIM and SA. TCS, TIM, and SA explained 30.6 percent of the variance in RCS.

From the perspective of the very conservative classification for the interpretation of R^2 values, the results are as follows. The R^2 values show that the research weakly explained the variance in use behavior of the B2C online marketplace in the Thailand sample and in the Germany sample. In contrast, the model moderately explained the variance in BI in the Thailand sample and weakly in the Germany sample. TCS was explained moderately in the Thailand sample and weakly in the Germany sample. RCS was explained weakly by the research model in both samples. As mentioned above, the interpretation of the R^2 value can vary according to the context of the research and with respect to the research discipline. Since this study aimed to analyze online consumers, R^2 values of 0.20 can be interpreted as high according to other disciplines with consumer behavior studies (Hair Jr, Hult et al., 2017).

Hair Jr, Hult et al. (2017) point out that the R^2 should not be used to compare models as the value of R^2 increases with the number of variables, even if the influences

of these variables are non-significant. In most research, parsimonious models are preferred that have a high R^2 value but few exogenous constructs. The adjusted R^2 can help to compare models. It is a modified R^2 value that considers the number of exogenous constructs and the sample size. The R^2_{adj} values of the research models in this study are very similar (slightly lower) than the R^2 values.

Table 4.9 R^2 Results for Thailand and Germany

	Thailand	Germany
R^2 on RCS	0.409	0.306
R^2_{adj} on RCS	0.404	0.301
R^2 on TCS	0.625	0.420
R^2_{adj} on TCS	0.622	0.416
R^2 on PU	0.540	0.450
R^2_{adj} on PU	0.538	0.448
R^2 on BI	0.562	0.436
R^2_{adj} on BI	0.558	0.430
R^2 on USE	0.155	0.205
R^2_{adj} on USE	0.153	0.203

Notes: RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; BI: behavioral intention; USE: use behavior.

4.5.4 Effect Size f^2

The f^2 effect size can help to identify the impact of an independent variables on the R^2 value of the dependent variables it is linked to. This measure compares the R^2 value of the model including the independent variable with the model excluding the independent variable. According to Cohen , f^2 values of 0.02, 0.15, and 0.35 represent small, medium and large effects of the independent variable. Values below suggest that the independent variable has no impact on the R^2 value.

The results of the f^2 values in this study (Table 4.10) show that in the Thailand sample BI (f^2 = 0.184) had a medium effect on the R^2 value of USE. PU (f^2 = 0.126), PEOU (f^2 = 0.074), and TCS (f^2 = 0.052) had a small effect on the R^2 value of BI. The

f^2 value of RCS (f^2 = 0.009) indicates that the construct had no effect on the R^2 value of BI. TCS (f^2 = 0.283) and PEOU (f^2 = 0.270) had a medium effect on the R^2 value of PU. TIM (f^2 = 0.416) had a large effect on TCS, while SA (f^2 = 0.094) and PEOU (f^2 = 0.011) had a small effect on the R^2 value of TCS. TIM (f^2 = 0.079) and TCS (f^2 = 0.079) had a small effect on the R^2 value of RCS, while SA (f^2 = 0.001) had no effect.

In the Germany sample, BI (f^2=0.258) had a medium effect on the R^2 value of USE. PU (f^2 = 0.247) had a medium effect on the R^2 value of BI, while PEOU (f^2 = 0.008), TCS (f^2 = 0.009), and RCS (f^2 = 0.009) had no effect. TCS (f^2 = 0.068) had a small and PEOU (f^2 = 0.417) a large effect on the R^2 value of PU. TIM (f^2 = 0.162) had a medium effect on TCS, while SA (f^2 = 0.029) and PEOU (f^2 = 0.066) had a small effect on the R^2 value of TCS. TIM (f^2 = 0.077) and TCS (f^2 = 0.061) had a small effect on the R^2 value of RCS, while SA (f^2 = 0.003) had no effect.

Table 4.10 Effect Size f^2 of Variables in the Thailand Sample and the Germany Sample

	Thailand					Germany				
	RCS	TCS	PU	BI	USE	RCS	TCS	PU	BI	USE
SA	0.001	0.094				0.003	0.029			
TIM	0.079	0.416				0.077	0.162			
RCS				0.009					0.006	
TCS	0.079		0.283	0.052		0.061		0.068	0.009	
PU				0.126					0.247	
PEOU		0.011	0.270	0.074			0.066	0.417	0.008	
BI					0.184					0.258

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

The rank order of the constructs' f^2 effect size is the same as the rank order of the size in the path coefficients for all constructs in both samples, except for PEOU→BI and TCS→BI in the Germany sample. Differences in the rank order can be explained

by analyzing partial or full mediation (Nitzl, Roldan, & Cepeda, 2016). As the difference is very small in this case, it was not investigated in further detail in this study.

4.5.5 Blindfolding and Predictive Relevance Q^2

While the R^2 is considered as an indicator of the model's in-sample predictive power, the Q^2 value represents a measure of out-of-predictive power (predictive relevance) (Hair Jr, Hult et al., 2017). It is a measure to describe how well the path model can predict the originally observed values. The cross-validated redundancy measures if the Q^2 values were applied in order to assess the predictive power of the model in this study. Q^2 larger than 0 suggest that the model has predictive relevance for a certain endogenous construct. 0 and below indicate a lack of predictive relevance. Values higher than 0, 0.25 and 0.50 represent small, medium and large predictive accuracy of the model (Hair Jr et al., 2019). The blindfolding procedure was used to obtain the Q^2 values. The Q^2 values of all endogenous constructs (i.e., RCS, TCS, PU, BI, and USE) in the models of each country were greater than 0 (Table 4.11). The Q^2 values for RCS, TCS, PU, and BI are above 0.25 in both samples. This shows that the research model has a medium substantial predictive power in explaining these endogenous variables (Hair Jr, Hult et al., 2017). In the Thailand sample, the Q^2 value of TCS is above 0.50 and thus represent large predictive accuracy of the model.

Table 4.11 Q^2 Results for Thailand and Germany

	Thailand	Germany
RCS	0.341	0.252
TCS	0.523	0.356
PU	0.396	0.325
BI	0.446	0.318
USE	0.154	0.194

Notes: RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; BI: behavioral intention; USE: use behavior.

4.5.6 Effect Size q^2

The effect size q^2 is a measure that is similar to the effect size f^2. It is an indicator of the impact of an independent variable on the Q^2 of a dependent variable. Further, it is based on comparing the Q^2 value of the model including the independent variable with the Q^2 value of the model excluding the independent variable (Hair Jr, Hult et al., 2017).

Following the rule of thumb that is the same as for the f^2 effect size, the results suggest that in the Thailand sample TIM and TCS had a small predictive relevance for RCS and SA had no predictive relevance for RCS (Table 4.12). TIM had a medium and SA a small predictive relevance for TCS. TCS has a medium and PEOU a small (almost medium) predictive relevance for PU. According to the values of q^2, the exogenous constructs TCS, PU, and PEOU showed small predictive relevance for BI. RCS was the only construct that did not have predictive relevance for BI.

In the Germany sample, TIM and TCS had a small predictive relevance for RCS and SA had no predictive relevance for RCS. SA, TIM, and PEOU had a small predictive relevance for TCS. TCS has a small and PEOU a medium predictive relevance for PU. According to the values of q^2, PU was the only construct that showed medium predictive relevance for BI. RCS, TCS, and PEOU did not have predictive relevance for BI.

Table 4.12 Effect Size q^2 of Variables in the Thailand Sample and the Germany Sample

	Thailand				Germany			
	RCS	TCS	PU	BI	RCS	TCS	PU	BI
SA	-0.003	0.061			0.000	0.020		
TIM	0.061	0.275			0.059	0.123		
RCS				0.004				0.003
TCS	0.058		0.157	0.032	0.044		0.040	0.004
PU				0.076				0.150
PEOU		0.006	0.149	0.045		0.050	0.246	0.003

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from

community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention.

4.5.7 Importance-Performance Map Analysis

The importance-performance map analysis (IPMA) is a procedure to indicate the importance (total effects) of the predecessor constructs and their performance (average latent variable scores). Total effects are the combination of the direct and indirect effect of one construct on another. The total effects and their significance for each construct are presented in Appendix 6. The IPMA helps to identify constructs that have a relatively high importance (strong total effect) for the dependent variable, but a relatively low performance (low latent variable score) (Hair Jr, Sarstedt, Ringle, & Gudergan, 2017).

In the Thailand sample, BI had the greatest importance for USE compared to the other constructs that are not directly linked to USE (Table 4.13). PEOU had the second highest importance for USE. PU, TCS, and TIM had a high importance for USE, while RCS and SA had not. PEOU had the greatest importance on BI. While PU, TCS, and TIM had a high importance on BI, RCS and SA had not. PEOU also had the greatest importance for PU, followed by TCS and TIM. SA had low importance for PU. In contrast, PEOU had the lowest importance on TCS compared to SA and TIM. TIM had the greatest importance for TCS. TIM also had the greatest importance for RCS followed by TCS. SA and PEOU had low importance for RCS.

Table 4.13 Results of the Importance-Performance Map Analysis for the Thailand Sample

	Importance					Performance
	RCS	TCS	PU	BI	USE	
SA	-0.072	0.262	0.097	0.101	0.089	66.415
TIM	-0.596	0.560	0.207	0.248	0.218	65.883
RCS				-0.072	-0.063	36.125
TCS	-0.381		0.369	0.394	0.345	65.861
PU				0.398	0.349	72.587

	Importance					Performance
	RCS	TCS	PU	BI	USE	
PEOU	-0.043	0.112	0.547	0.584	0.512	78.904
BI					0.876	71.031
USE						68.706

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

In the Germany sample, BI had the greatest importance for USE compared to the other constructs that are not directly linked to USE (Table 4.14). PU had the second highest importance for USE closely followed by PEOU. TCS and TIM had a high importance for USE, while RCS and SA had not. PEOU had the greatest importance on BI. While PU, TCS, and TIM had a high importance on BI, RCS and had not. PEOU also had the greatest importance for PU, followed by TCS and TIM. SA had low importance for PU. TIM had the highest importance on TCS compared to SA and TIM. TIM also had the greatest importance for RCS followed by TCS. SA and PEOU had low importance for RCS.

Table 4.14 Results of the Importance-Performance Map Analysis for the Germany Sample

	Importance					Performance
	RCS	TCS	PU	BI	USE	
SA	-0.101	0.140	0.032	0.039	0.037	65.738
TIM	-0.455	0.354	0.080	0.113	0.108	71.336
RCS				-0.068	-0.065	18.465
TCS	-0.318		0.226	0.254	0.242	77.768
PU				0.581	0.554	80.923
PEOU	-0.076	0.237	0.650	0.524	0.500	85.177
BI					0.953	78.203

	Importance					Performance
	RCS	TCS	PU	BI	USE	
USE						67.584

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

4.6 Group Comparison

4.6.1 Country Comparison

Before conducting PLS-SEM multi-group analysis (MGA), measurement invariance has to be examined first. Henseler, Ringle, and Sarstedt (2016) offer a procedure to analyze measurement invariance of composite models (MICOM). First, configural invariance needs to be established. Next compositional invariance requires testing. Finally, the equality of composite mean values and variances also need to be analyzed. If configural invariance exists (step 1) and compositional invariance is ascertained (step 2), partial measurement invariance is confirmed and the path coefficients of the model can be compared between the groups. If this is not the case, group comparison can be misleading (Hair Jr, Hult et al., 2017). If equality of composite mean values and variances is established (step 3), full measurement invariance is found and strengthen the pooled data analysis.

Configural invariance was established as the model set-up (identical indicators per measurement model), identical data treatment (e.g., missing values), and the selected settings (identical algorithm settings or optimization criteria) is the same for both groups in this study (i.e., Thailand and Germany) (Hair Jr, Sarstedt et al., 2017).

Compositional invariance was analyzed by running the permutation procedure (5000 permutations, two-sided, level of significance of 5 percent) in SmartPLS. Then, the permutation-based confidence intervals were examined in order to identify if a composite has a correlation in the Thailand sample and in the Germany sample that is significantly lower than one. The results verify that this is the case for all multi-item constructs (Table 4.15). USE was not included because compositional invariance

cannot be tested for single-item constructs “since its single outer relationship is 1 by design” (Hair Jr, Sarstedt et al., 2017, p. 164). Since the results showed that configural invariance was existent and compositional invariance was identified, partial measurement invariance for the path model was supported. Therefore, the path coefficients could be compared in a multi-group analysis.

Table 4.15 MICOM Step 2: Compositional Invariance

Composite	Correlation c	5% quantile of the empirical distribution of c(u)	*p*-value	Compositional invariance established?
SA	1	0.999	0.413	Yes
TIM	1	1	0.178	Yes
RCS	1	1	0.124	Yes
TCS	1	1	0.965	Yes
PU	1	0.999	0.631	Yes
PEOU	1	0.999	0.608	Yes
BI	1	0.999	0.074	Yes

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention.

Composite mean values and variances were analyzed by examining the permutation-based confidence intervals to check for full measurement invariance. If the difference of the composite’s mean is in the confidence interval and the *p* value is not significant, the mean can be considered as equal. TIM, RCS, TCS, PU, PEOU, and BI were found to be significantly different in terms of mean. SA was not significantly different in terms of mean (Table 4.16). TIM, TCS, PU, PEOU, and BI were significantly higher in Germany than Thailand. RCS was significantly higher in Thailand than in Germany.

Table 4.16 MICOM Step 3: Composite Mean

Composite	Difference of the composite's mean value (Thailand-Germany)	95% confidence interval	*p*-value	Equal mean values?
SA	0.025	[-0.142; 0.135]	0.724	Yes
TIM	-0.285	[-0.139; 0.135]	0.000	No
RCS	0.798	[-0.137; 0.135]	0.000	No
TCS	-0.640	[-0.142; 0.137]	0.000	No
PU	-0.476	[-0.139; 0.141]	0.000	No
PEOU	-0.425	[-0.138; 0.139]	0.000	No
BI	-0.336	[-0.137; 0.140]	0.000	No

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention.

All constructs are significantly different in terms of variances except TCS (Table 4.17).

Table 4.17 MICOM Step 3: Composite Variance

Composite	Logarithm of the composite's variances ratio (Thailand-Germany)	95% confidence interval	*p*-value	Equal variances?
SA	-0.002	[-0.218; 0.217]	0.985	Yes
TIM	0.061	[-0.215; 0.213]	0.581	Yes
RCS	0.114	[-0.194; 0.189]	0.256	Yes
TCS	0.345	[-0.230; 0.223]	0.002	No
PU	-0.011	[-0.230; 0.231]	0.926	Yes
PEOU	-0.207	[-0.222; 0.219]	0.068	Yes
BI	-0.014	[-0.233; 0.227]	0.904	Yes

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention.

Overall, the results of the MICOM procedure supports partial measurement invariance for the path model. Hence, the path coefficients could be compared in a multi-group analysis. Since the findings did not show significant difference for all constructs in terms of composite mean and composite variance, full measurement invariance for the path model was not supported. Accordingly, the parametric approach is not suitable for testing the significance of the differences in path coefficients between the Thailand sample and the Germany sample. In this study, PLS-MGA was used which is a nonparametric approach and does not rely on distributional assumptions (Hair Jr, Sarstedt et al., 2017).

The results of the MGA indicate that several structural model relationships differed between the Thailand sample and the Germany sample (Table 4.18). The relationships that differ significantly on a 5 percent level were TIM and TCS, TCS and PU, TCS and BI, PU and BI, and PEOU and TCS. The relationships that differ significantly on a 10 percent level are PEOU and PU, as well as PEOU and BI.

The effect between TIM and TCS was significantly ($p < 0.05$) different between online consumers in Thailand ($\beta^{(1)} = 0.554$) and online consumers in Germany ($\beta^{(2)} = 0.403$). The relationship between TCS and PU was significantly ($p < 0.05$) different between online consumers in Thailand ($\beta^{(1)} = 0.425$) and online consumers in Germany ($\beta^{(2)} = 0.218$). The effect between TCS and BI was significantly ($p < 0.05$) different between online consumers in Thailand ($\beta^{(1)} = 0.221$) and online consumers in Germany ($\beta^{(2)} = 0.086$). The relationship between PU and BI was significantly ($p < 0.05$) different between online consumers in Thailand ($\beta^{(1)} = 0.347$) and online consumers in Germany ($\beta^{(2)} = 0.510$). The effect between PEOU and TCS was significantly ($p < 0.05$) different between online consumers in Thailand ($\beta^{(1)} = 0.080$) and online consumers in Germany ($\beta^{(2)} = 0.223$). The effect between PEOU and PU was significantly ($p < 0.10$) different between online consumers in Thailand ($\beta^{(1)} = 0.415$) and online consumers in Germany ($\beta^{(2)} = 0.541$). Finally, the relationship between PEOU and BI was significantly ($p <$

0.10) different between online consumers in Thailand ($\beta^{(1)}$ = 0.242) and online consumers in Germany ($\beta^{(2)}$ = 0.093).

Table 4.18 Results of PLS Multi-Group Analysis

	Path coefficient (β)		Path coefficient difference (Thailand-Germany)	PLS-MGA (p-values)
	Thailand	Germany		
SA → RCS	0.024	-0.053	0.077	0.298
SA → TCS	0.251	0.160	0.091	0.162
TIM → RCS	-0.348	-0.320	-0.029	0.746
TIM → TCS	0.554	0.403	0.151*	0.049
RCS → BI	-0.079	-0.070	-0.008	0.900
TCS → RCS	-0.351	-0.261	-0.090	0.324
TCS → PU	0.425	0.218	0.207*	0.004
TCS → BI	0.221	0.086	0.135*	0.044
PU → BI	0.347	0.510	-0.162*	0.045
PEOU → TCS	0.080	0.223	-0.143*	0.029
PEOU → PU	0.415	0.541	-0.126+	0.066
PEOU → BI	0.242	0.093	0.149+	0.099
BI → USE	0.394	0.453	-0.059	0.386

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior. ***p < 0.001, **p < 0.01; *p < 0.05, +p < 0.1

The analyses were conducted to test the hypotheses that were theorized in Chapter 2.6. The results of the analyses showed support for the hypotheses H2, H3, H4, H7, H8, H9 H11, and H13 in both countries, H10 in Thailand, and H12 in Germany. The hypotheses H6a and H9a that assumed differences between the countries were confirmed as well. The hypotheses H1, H5, H5a, and H10 could not be supported with

the data that were collected and analyzed in this study. The results of the of the hypotheses testing are summarized in Table 4.19.

Table 4.19 Hypotheses Testing Results

Hypothesis		Thailand	Germany
H1	Structural assurance has a negative influence on risk from the community of sellers in the online marketplace.	Non-supported	Non-supported
H2	Structural assurance has a positive influence on trust in the community of sellers in the online marketplace.	Supported	Supported
H3	Trust in the intermediary has a negative influence on the perceived risk from the community of the sellers in the online marketplace.	Supported	Supported
H4	Trust in the intermediary has a positive influence on the trust in the community of the sellers in the online marketplace.	Supported	Supported
H5	Perceived risk from the community of sellers has a negative influence on the behavioral intention to make purchases on the online marketplace.	Non-supported	Non-supported
H5a	The influence of perceived risk from the community of sellers on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.	Non-supported	
H6	Trust in the community of sellers has a positive influence on the behavioral intention to make purchases on the online marketplace.	Supported	Non-supported
H6a	The influence of trust in the community of sellers on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.	Supported	

Hypothesis		Thailand	Germany
H7	Trust in the community of sellers has a negative influence on the perceived risk from the community of sellers.	Supported	Supported
H8	Trust in the community of sellers has a positive influence on the perceived usefulness of making purchases on the online marketplace.	Supported	Supported
H9	Perceived usefulness has a positive influence on the behavioral intention to make purchases on the online marketplace.	Supported	Supported
H9a	The influence of perceived usefulness on behavioral intention is stronger in Germany than in Thailand.	Supported	
H10	Perceived ease of use has a positive influence on the behavioral intention to make purchases on the online marketplace.	Supported	Non-supported
H10a	The influence of perceived ease of use on behavioral intention to make purchases on the online marketplace is stronger in Thailand than in Germany.	Non-supported	
H11	Perceived ease of use has a positive influence on the perceived usefulness of making purchases on the online marketplace.	Supported	Supported
H12	Perceived ease of use has a positive influence on the trust in the community of sellers in the online marketplace.	Non-supported	Supported
H13	Behavioral intention to make a purchase on the online marketplace has a positive influence on the use behavior to make purchases on the online marketplace.	Supported	Supported

4.6.2 Control Variables' Moderation Effects

In the previous chapters, the interest was to test the significance of the main effects between the exogenous and the endogenous variables of the research model in the Thailand sample and in the Germany sample and compare the models' path coefficients between these countries. The PLS-SEM analysis was run without any moderators as recommended by Hair Jr, Hult et al. (2017) since the results of direct effects in a moderator model may comprise incorrect or misleading inferences (Henseler & Fassott, 2010). The current chapter describes the moderator analysis that was executed as a complementary analysis to test the influence of the control variables on the relationships between BI and its predictors. The moderator variables PD, UA, COL, MAS, EXP, and INC were analyzed to support parts of the argumentation in the hypotheses for the differences between the path coefficients in the Thailand sample and the Germany sample.

Hair Jr, Hult et al. (2017) recommend using the two-stage approach for modeling the interaction terms as it shows "a higher level of statistical power compared with the orthogonalzing approach" (p. 255) as found by Henseler and Chin (2010). Before conducting a moderator analysis, the moderator variables (not the interaction terms) have to be checked for internal consistency reliability, convergent validity, and discriminant validity as for the measurement model (Hair Jr, Hult et al., 2017) in Chapter 4.4.

The factor loadings showed that six of the indicator items for the cultural dimensions did not load on the supposed factors as expected (PD3, PD4, PD5, UA1, MAS4, MAS5). After reexamining the items and the internal consistent reliability values with and without these items, these items were dropped due to poor psychometric properties. This has shown to be the case in other studies that collected data for the cultural dimensions on the individual level as well (Hallikainen & Laukkanen, 2018; Lu et al., 2017; Srite & Karahanna, 2006; Yoon, 2009). After rerunning the PLS algorithm without the removed items, the model showed that the factors loadings of the indicators for reflective variables were all above the threshold of 0.70 on the supposed factors for the pooled sample, the Thailand sample, and the Germany sample (Table 4.20)

Table 4.20 Factor Loadings with Control Variables for the Pooled Sample, the Thailand Sample and the Germany Sample

	Factor loading		
	Pooled	Thailand	Germany
SA1	0.868	0.853	0.878
SA2	0.885	0.899	0.879
SA3	0.888	0.877	0.911
SA4	0.870	0.878	0.858
TIM1	0.903	0.915	0.893
TIM2	0.882	0.889	0.866
TIM3	0.901	0.888	0.911
RCS1	0.925	0.922	0.904
RCS2	0.939	0.926	0.930
RCS3	0.933	0.920	0.928
TCS1	0.926	0.915	0.923
TCS2	0.932	0.924	0.927
TCS3	0.935	0.921	0.941
PU1	0.867	0.866	0.853
PU2	0.883	0.872	0.881
PU3	0.845	0.854	0.837
PEOU1	0.861	0.842	0.865
PEOU2	0.880	0.847	0.897
PEOU3	0.866	0.815	0.903
PEOU4	0.871	0.860	0.881
BI1	0.876	0.897	0.854
BI2	0.871	0.877	0.857
BI3	0.908	0.923	0.894
PD1	0.965	0.934	0.975
PD2	0.749	0.737	0.790
UA2	0.805	0.844	0.800
UA3	0.824	0.826	0.846

	Factor loading		
	Pooled	Thailand	Germany
UA4	0.790	0.795	0.759
UA5	0.864	0.860	0.843
COL1	0.725	0.789	0.726
COL2	0.837	0.811	0.812
COL3	0.837	0.848	0.823
COL4	0.821	0.847	0.804
COL5	0.776	0.849	0.708
COL6	0.807	0.807	0.842
MAS1	0.896	0.860	0.888
MAS2	0.874	0.868	0.894
MAS3	0.852	0.885	0.848

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity.

The values of the Cronbachs' alpha, composite reliability, and AVE were all above the corresponding thresholds for all constructs in the pooled sample, the Thailand sample, and the Germany sample, except PD in the Thailand sample (Table 4.21). The Cronbach's alpha value of PD (CR = 0.618) in the Thailand sample was not above 0.70. The construct was not removed from the analysis as the composite reliability value (which is referred to as a more appropriate measure of internal consistency reliability in PLS-SEM (Hair Jr, Hult et al., 2017)) showed values above the recommended corresponding thresholds.

Table 4.21 Reliability and Validity Assessments of the Model with Control Variables for the Pooled Sample, the Thailand Sample and the Germany Sample

	Pooled				Thailand				Germany			
	CA	CFR	AVE	HTMT (Confidence interval does not include 1)	CA	CFR	AVE	HTMT (Confidence interval does not include 1)	CA	CFR	AVE	HTMT (Confidence interval does not include 1)
PD	0.707	0.852	0.745	Yes	0.618	0.827	0.708	Yes	0.776	0.880	0.787	Yes
UA	0.842	0.892	0.675	Yes	0.853	0.900	0.692	Yes	0.829	0.886	0.661	Yes
COL	0.903	0.915	0.642	Yes	0.907	0.928	0.681	Yes	0.888	0.907	0.620	Yes
MAS	0.851	0.907	0.764	Yes	0.841	0.904	0.758	Yes	0.851	0.909	0.769	Yes

Notes: CA: Cronbach's alpha; CFR: composite factor reliability; AVE: average variance extracted, HTMT: heterotrait-monotrait ratio. PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity.

The cross-loadings (Appendix 7.1, Appendix 7.2, and Appendix 7.3) and the Fornell-Larcker criterion showed that discriminant validity was established for all constructs including the control variables in the pooled sample (Table 4.22), the Thailand sample (Table 4.23), and the Germany sample (Table 4.24).

Table 4.22 Fornell-Larcker Criterion for the Pooled Sample with Control Variables

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE	PD	UA	COL	MAS	EXP	INC
SA	0.878													
TIM	0.602	0.896												
RCS	-0.354	-0.559	0.933											
TCS	0.529	0.689	-0.601	0.931										
PU	0.441	0.620	-0.511	0.593	0.865									
PEOU	0.409	0.532	-0.504	0.524	0.658	0.869								
BI	0.392	0.576	-0.460	0.537	0.672	0.564	0.885							
USE	0.213	0.314	-0.180	0.216	0.321	0.211	0.411	1.000						
PD	0.146	0.097	0.077	0.092	0.061	-0.054	0.080	0.063	0.863					
UA	0.276	0.186	-0.073	0.134	0.186	0.242	0.242	-0.005	-0.017	0.821				
COL	0.197	0.111	0.003	0.148	0.103	0.116	0.147	0.114	0.091	0.400	0.802			
MAS	0.160	0.142	0.052	0.070	0.151	0.088	0.199	0.170	0.191	0.181	0.256	0.874		
EXP	0.044	0.137	-0.303	0.205	0.260	0.266	0.216	0.100	0.009	-0.086	-0.177	-0.132	1.000	
INC	0.058	0.078	-0.158	0.123	0.142	0.108	0.138	0.207	0.079	-0.085	0.061	0.099	0.172	1.000

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Table 4.23 Fornell-Larcker Criterion for the Thailand Sample with Control Variables

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE	PD	UA	COL	MAS	EXP	INC
SA	0.877													
TIM	0.640	0.897												
RCS	-0.425	-0.599	0.923											
TCS	0.646	0.760	-0.600	0.920										
PU	0.513	0.670	-0.472	0.645	0.864									
PEOU	0.517	0.576	-0.456	0.529	0.640	0.841								
BI	0.444	0.624	-0.486	0.620	0.682	0.617	0.899							
USE	0.246	0.322	-0.136	0.281	0.291	0.206	0.395	1.000						
PD	0.130	0.108	0.028	0.075	0.168	0.067	0.143	0.075	0.841					
UA	0.318	0.239	-0.227	0.243	0.271	0.348	0.272	0.067	-0.091	0.832				
COL	0.312	0.293	-0.245	0.357	0.292	0.325	0.304	0.164	-0.033	0.389	0.825			
MAS	0.331	0.337	-0.192	0.332	0.371	0.330	0.397	0.205	0.193	0.249	0.254	0.871		
EXP	0.024	0.065	-0.030	0.053	0.143	0.163	0.121	0.086	0.100	0.003	-0.042	0.113	1.000	
INC	0.017	0.030	-0.085	0.040	0.146	0.094	0.118	0.157	0.067	0.021	0.055	0.164	0.056	1.000

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Table 4.24 Fornell-Larcker Criterion for the Germany Sample with Control Variables

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE	PD	UA	COL	MAS	EXP	INC
SA	0.882													
TIM	0.581	0.890												
RCS	-0.361	-0.507	0.921											
TCS	0.469	0.600	-0.478	0.930										
PU	0.405	0.549	-0.464	0.470	0.857									
PEOU	0.337	0.470	-0.486	0.466	0.643	0.887								
BI	0.362	0.513	-0.392	0.402	0.642	0.494	0.869							
USE	0.180	0.321	-0.286	0.180	0.385	0.238	0.453	1.000						
PD	0.153	0.093	0.104	0.147	-0.013	-0.135	0.034	0.043	0.887					
UA	0.247	0.199	-0.089	0.166	0.208	0.242	0.284	-0.094	0.031	0.813				
COL	0.105	0.032	-0.002	0.150	0.086	0.070	0.105	0.056	0.177	0.355	0.787			
MAS	0.013	0.039	0.089	-0.019	0.083	-0.007	0.114	0.136	0.175	0.062	0.174	0.877		
EXP	0.101	0.063	-0.137	-0.026	0.156	0.187	0.176	0.201	-0.002	0.040	-0.011	-0.052	1.000	
INC	0.091	0.077	-0.115	0.107	0.078	0.064	0.104	0.261	0.098	-0.120	0.151	0.127	0.116	1.000

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Testing the HTMT for the constructs with the control variables in the pooled sample (Appendix 8.1), the Thailand sample (Appendix 8.2), and the Germany sample (Appendix 8.3) showed that in all samples the confidence intervals of HTMT did not contain the value 1. Consequently, this indicated no lack of discriminant validity. In sum, the results of the factor loadings, Cronbach's alpha, composite reliability, AVE, cross-loadings, Fornell-Larcker criterion, and the HTMT indicate convergent validity, internal consistency reliability, and discriminant validity of the constructs in the measurement model of the pooled sample, the Thailand sample, and the Germany sample. However, the empirical results of the cultural dimensions showed that the factor loadings were not as expected until six of the indicator items were removed. In addition, the constructs' intercorrelations were low even after the six items were removed. Although the remaining reliability statistics (Cronbach's alpha, average variance extracted, and internal consistency) were acceptable, the empirical tests indicate that a consideration of a formative measurement model for the cultural dimension might have been more suitable than the reflective approach that was applied in this study and derived from the theoretical perspective in chapter 3.4.

The means and standard deviations for the control variables showed that PD, UA, COL, and MAS were higher in Thailand than in Germany, while EXP and INC were higher in the Germany sample than in the Thailand sample (Table 4.25). According to the results of the permutation test for the control variables (Appendix 9), the composite's mean was not significantly different for all control variables, except for PD.

Table 4.25 Means and Standard Deviations of the Control Variables in the Pooled Sample, the Thailand Sample, and the Germany Sample

	Pooled		Thailand		Germany	
	Mean	SD	Mean	SD	Mean	SD
PD	2.414	0.961	2.463	0.892	2.373	1.012
UA	3.974	0.613	4.085	0.590	3.857	0.618
COL	3.537	0.761	3.780	0.685	3.296	0.763
MAS	3.234	0.915	3.465	0.837	2.987	0.937

	Pooled		Thailand		Germany	
	Mean	SD	Mean	SD	Mean	SD
EXP	4.174	1.155	3.473	0.860	4.874	0.972
INC	4.302	1.581	4.037	1.326	4.588	1.760

Notes: PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

After the requirements for the measurement model with the control variables were met, the moderation effects were tested. The approach used in this study followed the procedure by Chin et al. (2003) that was also applied in e-commerce and cultural context already by Yoon (2009). For each relationship that was hypothesized to be different between the Thailand sample and Germany sample (i.e., RCS → BI, TCS → BI, PU → BI, and PEOU → BI), the interaction model was tested by each control variable (i.e., PD, UA, COL, MAS, EXP, and INC). Therefore, 24 interaction models were assessed that reported the path coefficient of the independent variable on the dependent variable, the path coefficient of the control variable on the dependent variable, and the influence of the interaction term on the relationship between the independent variable and the dependent variable. The results show that several of the control variables had a significant direct influence on BI, but only few indicate a significant moderating effects on the relationships between the independent variable and BI (Table 4.26).

In the findings of the interaction effects, PD significantly strengthened the negative effect of RCS on BI in the pooled sample (β = 0.070, p < 0.05). UA strengthened the positive relationship between TCS and BI. This interaction effect was significant at 10 percent level in the pooled sample (β = 0.052, p < 0.1), significant at the 5 percent level in the Thailand sample (β = 0.127, p < 0.05), and reversed but not significant in the Germany sample (β = -0.054, p > 0.1). In contrast, UA significantly weakens the negative relationship between RCS and BI in the Thailand sample (β = -0.128, p < 0.01). UA also had a significant positive influence on the positive relationship between PEOU and BI at the 10 percent significance level in the pooled

sample (β = 0.064, p < 0.1) and a significant influence at the 1 percent level in the Thailand sample (β = 0.115 p < 0.01). COL significantly strengthened the positive relationship between PEOU and BI but only in the Thailand sample (β = 0.070, p < 0.05). MAS showed to weaken the positive effect of TCS on BI at the significance level of 10 percent (β = -0.053, p < 0.1) in the pooled sample, but not significantly in the Thailand sample or the Germany sample. In contrast, MAS significantly strengthened the negative effect RCS on BI in the pooled sample (β = 0.111, p < 0.01) and the Germany sample (β = 0.115, p < 0.1), but not significantly in the Thailand sample (β = 0.049, p > 0.1). EXP significantly weakened the positive relationship between TCS and BI in the pooled sample (β = -0.086, p < 0.05) and even more in the Germany sample (β = -0.144, p < 0.01), but not significantly in the Thailand sample (β = -0.014, p > 0.1). While EXP weakened the positive influence of TCS on BI, it strengthened the negative influence of RCS on BI in the pooled sample at the significance level of 10 percent (β = 0.057, p < 0.1). The positive influence of PU on BI was weakened by EXP in the Germany sample (β = -0.090, p < 0.05). EXP weakened the positive relationship between PEOU and BI significantly at the level of 10 percent in the pooled sample (β = -0.057, p < 0.1), but not significantly in the Thailand sample (β = 0.039, p > 0.1) and in the Germany sample (β = -0.058, p > 0.1). INC strengthened the positive relationship between PU and BI significantly in the pooled sample (β = 0.080, p < 0.01), the Thailand sample (β = 0.072, p < 0.05), and in the Germany sample (β = 0.099, p < 0.05). The positive influence of PEOU on BI was significantly strengthened by INC at the 10 percent level in the pooled sample (β = 0.060, p < 0.1) and in the Thailand sample (β = 0.069, p < 0.1).

Table 4.26 Moderation Effects of Control Variables

Control variable	Independent variable	Relationship	Pooled Path coefficient	*t*-value	Thailand Path coefficient	*t*-value	Germany Path coefficient	*t*-value
PD	RCS	RCS → BI	-0.483	15.153***	-0.494	11.751***	-0.436	9.550***
		PD → BI	0.113	3.028**	0.153	3.606***	0.065	1.038
		RCS x PD → BI	0.070	2.100*	0.027	0.670	0.083	1.218
	TCS	TCS → BI	0.533	17.541***	0.613	17.156***	0.410	9.204***
		PD → BI	0.030	0.968	0.097	2.450*	-0.032	0.524
		TCS x PD → BI	0.011	0.317	0.001	0.035	0.065	0.988
	PU	PU → BI	0.674	30.112***	0.681	21.223***	0.645	21.08***
		PD → BI	0.033	1.192	0.024	0.653	0.038	0.826
		PU x PD → BI	0.022	0.669	0.046	1.160	0.002	0.047
	PEOU	PEOU → BI	0.575	21.317***	0.614	16.988***	0.511	12.122***
		PD → BI	0.106	3.230**	0.104	2.665**	0.087	1.462
		PEOU x PD → BI	-0.001	0.039	-0.035	0.924	0.058	0.998
UA	RCS	RCS → BI	-0.447	13.954***	-0.422	8.834***	-0.397	8.539***
		UA → BI	0.211	6.389***	0.190	3.694***	0.247	6.063***

Control variable	Independent variable	Relationship	Pooled Path coefficient	*t*-value	Thailand Path coefficient	*t*-value	Germany Path coefficient	*t*-value
		RCS x UA → BI	-0.038	1.020	-0.128	2.731**	0.071	1.357
	TCS	TCS → BI	0.508	16.136***	0.574	14.050***	0.372	7.364***
		UA → BI	0.175	5.651***	0.140	3.013**	0.219	5.007***
		TCS x UA → BI	0.052	1.717+	0.127	3.260**	-0.054	1.295
	PU	PU → BI	0.649	27.05***	0.641	16.852***	0.649	27.050***
		UA → BI	0.121	3.987***	0.100	2.224*	0.121	3.987***
		PU x UA → BI	0.027	0.882	0.050	1.362	0.027	0.882
	PEOU	PEOU → BI	0.544	17.407***	0.586	14.128***	0.462	9.552***
		UA → BI	0.107	3.059**	0.066	1.324	0.173	3.863***
		PEOU x UA → BI	0.064	1.920+	0.115	2.870**	-0.003	0.079
COL	RCS	RCS → BI	-0.468	15.252***	-0.439	9.339***	-0.419	10.128***
		COL → BI	0.158	4.356***	0.195	3.688***	0.126	1.791+
		RCS x COL → BI	0.048	1.107	-0.011	0.192	0.088	1.209
	TCS	TCS → BI	0.526	17.345***	0.581	13.346***	0.399	8.486***
		COL → BI	0.065	2.144*	0.098	2.094*	0.040	0.574
		TCS x COL → BI	0.035	0.791	0.031	0.689	0.036	0.482

Control variable	Independent variable	Relationship	Pooled Path coefficient	*t*-value	Thailand Path coefficient	*t*-value	Germany Path coefficient	*t*-value
	PU	PU → BI	0.667	30.121***	0.644	17.688***	0.647	20.267***
		COL → BI	0.073	2.676**	0.118	2.824**	0.040	0.755
		PU x COL → BI	0.037	1.265	0.038	0.964	0.066	1.243
	PEOU	PEOU → BI	0.567	19.846***	0.586	14.317***	0.502	11.780***
		COL → BI	0.070	2.433*	0.115	2.509*	0.062	1.158
		PEOU x COL → BI	0.047	1.359	0.070	2.037*	0.012	0.193
MAS	RCS	RCS → BI	-0.476	16.047***	-0.427	9.563***	-0.44	9.494***
		MAS → BI	0.246	7.344***	0.320	6.907***	0.163	3.044*
		RCS x MAS → BI	0.111	3.179**	0.049	1.205	0.115	1.694+
	TCS	TCS → BI	0.523	17.171***	0.552	13.127***	0.405	8.523***
		MAS → BI	0.179	5.432***	0.216	4.492***	0.147	2.907**
		TCS x MAS → BI	-0.053	1.834+	-0.030	0.757	-0.058	1.227
	PU	PU → BI	0.652	28.583***	0.620	16.238***	0.635	20.024***
		MAS → BI	0.109	3.656***	0.168	3.489***	0.069	1.588
		PU x MAS → BI	-0.045	1.594	-0.028	0.834	-0.040	0.771
	PEOU	PEOU → BI	0.556	20.109***	0.553	12.669***	0.504	11.937***

Control variable	Independent variable	Relationship	Pooled Path coefficient	*t*-value	Thailand Path coefficient	*t*-value	Germany Path coefficient	*t*-value
		MAS → BI	0.144	4.197***	0.203	3.808***	0.116	2.495*
		PEOU x MAS → BI	0.008	0.217	0.054	1.218	-0.017	0.326
EXP	RCS	RCS → BI	-0.440	13.492***	-0.485	11.653***	-0.393	9.403***
		EXP → BI	0.088	2.634**	0.098	2.315*	0.134	2.654**
		RCS x EXP → BI	0.057	1.673+	0.047	0.934	0.034	0.547
	TCS	TCS → BI	0.509	16.537***	0.616	17.678***	0.422	9.411***
		EXP → BI	0.107	3.458**	0.087	2.267*	0.173	3.497***
		TCS x EXP → BI	-0.086	2.447*	-0.014	0.332	-0.144	2.829**
	PU	PU → BI	0.663	28.928***	0.680	21.207***	0.633	20.428***
		EXP → BI	0.044	1.546	0.030	0.806	0.063	1.695+
		PU x EXP → BI	-0.038	1.368	0.029	0.812	-0.090	2.443*
	PEOU	PEOU → BI	0.556	18.385***	0.615	16.282***	0.490	11.211***
		EXP → BI	0.071	2.189*	0.026	0.591	0.089	1.777+
		PEOU x EXP → BI	-0.057	1.934+	0.039	1.027	-0.058	1.232
INC	RCS	RCS → BI	-0.457	14.107***	-0.481	10.843***	-0.405	9.565***
		INC → BI	0.063	1.861+	0.078	1.768+	0.051	1.041

Control variable	Independent variable	Relationship	Pooled Path coefficient	*t*-value	Thailand Path coefficient	*t*-value	Germany Path coefficient	*t*-value
		RCS x INC → BI	-0.002	0.066	-0.024	0.573	-0.007	0.149
	TCS	TCS → BI	0.527	16.793***	0.615	17.260***	0.396	7.802***
		INC → BI	0.073	2.318*	0.095	2.429*	0.065	1.342
		TCS x INC → BI	0.001	0.017	0.017	0.555	0.015	0.270
	PU	PU → BI	0.671	29.038***	0.680	20.751***	0.644	19.563***
		INC → BI	0.041	1.404	0.028	0.741	0.053	1.235
		PU x INC → BI	0.080	2.918**	0.072	2.249*	0.099	2.223*
	PEOU	PEOU → BI	0.569	20.449***	0.618	17.275***	0.516	11.619***
		INC → BI	0.071	2.264*	0.065	1.531	0.064	1.429
		PEOU x INC → BI	0.060	1.868+	0.069	1.677+	0.074	1.619

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income. ***$p < 0.001$, **$p < 0.01$; *$p < 0.05$, +$p < 0.1$

In the moderation analysis, the f^2 effect size should be examined to assess how much the moderation contributes to the R^2 of the dependent variable. As the effect sizes in moderation analysis in previous studies were only 0.009 on average (Aguinis, Beaty, Boik, & Pierce, 2005), Kenny (2016) suggested that realistic values for small, medium, and large effect sizes in moderation are 0.005, 0.01, and 0.025, respectively. According to this classification, large effects in the Thailand sample were observed for the moderation of UA on the relationship between RCS and BI (f^2 = 0.030), UA on the relationship between TCS and BI (f^2 = 0.038), and UA on the relationship between PEOU and BI (f^2 = 0.028) (Table 4.27). In the Germany sample, a large effect was found for the moderation of EXP on the relationship between TCS on BI (f^2 = 0.030). Medium effects were noted for the moderation of PD on the relationship between RCS and BI in the Germany sample (f^2 = 0.011), COL on the relationship between PEOU and BI in the Thailand sample (f^2 = 0.013), and MAS on the relationship between RSC and BI in the pooled sample (f^2 = 0.019) and in the Germany sample (f^2 = 0.016), EXP on the relationship between TCS on BI in the pooled sample (f^2 = 0.011), EXP on the relationship between PU on BI in the Germany sample (f^2 = 0.018), and INC on the relationship between PU and BI in the pooled sample (f^2 = 0.013), the Thailand sample (f^2 = 0.011), and the Germany sample (f^2 = 0.018).

Table 4.27 f^2 Effect Size of the Control Variables' Moderation Effects

Control variable	Relationship	Pooled	Thailand	Germany
PD	RCS x PD → BI	0.008	0.001	0.011
	TCS x PD → BI	0.000	0.000	0.005
	PU x PD → BI	0.001	0.005	0.000
	PEOU x PD → BI	0.000	0.002	0.004
UA	RCS x UA → BI	0.002	0.030	0.008
	TCS x UA → BI	0.005	0.038	0.005
	PU x UA → BI	0.002	0.006	0.000
	PEOU x UA → BI	0.008	0.028	0.000
COL	RCS x COL → BI	0.003	0.000	0.009
	TCS x COL → BI	0.002	0.002	0.002
	PU x COL → BI	0.003	0.004	0.009
	PEOU x COL → BI	0.004	0.013	0.000
MAS	RCS x MAS → BI	0.019	0.005	0.016
	TCS x MAS → BI	0.005	0.002	0.004
	PU x MAS → BI	0.004	0.002	0.002
	PEOU x MAS → BI	0.000	0.005	0.000
EXP	RCS x EXP → BI	0.004	0.004	0.002
	TCS x EXP → BI	0.011	0.000	0.030
	PU x EXP → BI	0.003	0.002	0.018
	PEOU x EXP → BI	0.005	0.006	0.003
INC	RCS x INC → BI	0.000	0.001	0.000
	TCS x INC → BI	0.000	0.001	0.000
	PU x INC → BI	0.013	0.011	0.018
	PEOU x INC → BI	0.006	0.009	0.008

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior; PD: power

distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

4.7 Summary of the Results

This study examined the influence of trust beliefs, perceived risk, perceived usefulness, and perceived ease of use on the intention to use and usage of B2C online marketplaces and compared these influences between online consumers from Thailand and online consumers from Germany.

Overall, the samples of online consumers from Thailand and from Germany who attended this study were relatively similar with regard to their gender distribution. The Thai online consumers were slightly younger than the German online consumers on average in the samples. In the Thailand sample, the group of respondents with a university degree was overrepresented. The respondents' income was similar distributed but measured by different scales for Thai and German participants. Regarding the usage of online shopping in general, similar distributions of online purchasing frequencies were found for Thai and German online consumers. Further, the product categories that were purchased online were similarly distributed with only few exceptions (more frequently books, music, movies, and video games in Germany than in Thailand; more frequently health, cosmetics, housewares, and groceries in Thailand than in Germany). The data showed that on average, Thai respondents had less experience in years with lazada.co.th than German respondents with amazon.de.

The results of the reliability and validity tests confirmed the reliability and validity of the measurement model that was applied in this study.

The structural model analysis' results showed that all path coefficients were significant as hypothesized, except SA on RCS, RCS on BI, and PEOU on TCS in the Thailand sample and SA on RCS, RCS on BI, TCS on BI, and PEOU on BI in the Germany sample (Figure 4.1). For the exceptions, the path coefficients were as assumed in the hypotheses but were too small to be significant at the level of 5 percent in the Thailand and in the Germany sample, respectively. Altogether, the variables influencing BI were able to explain 56.2 percent of the variance in BI in the Thailand sample and 43.6 percent of the variance in BI in Germany.

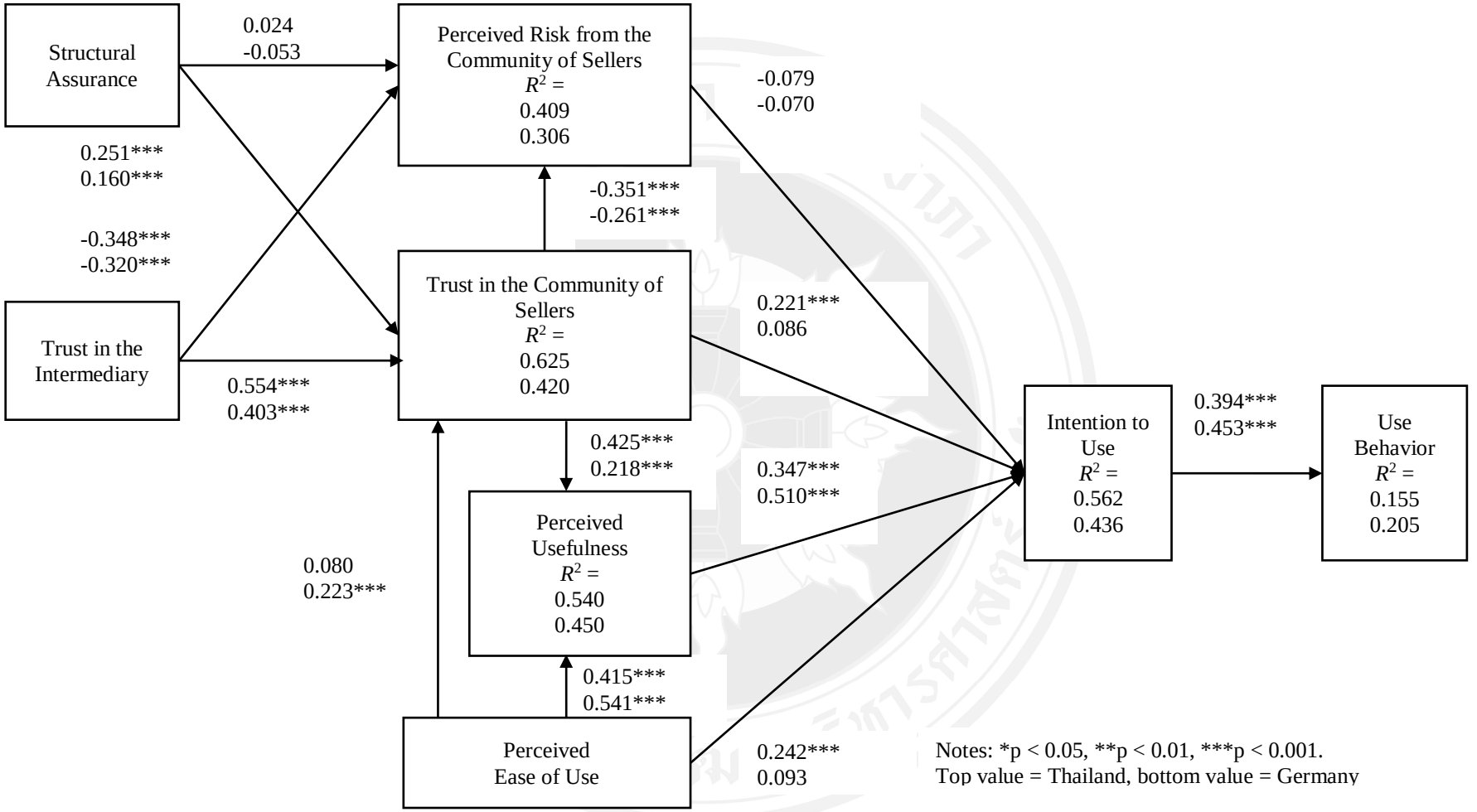


Figure 4.1 Summary of the Results for Path Coefficients and Coefficients of Determination in the Thailand Sample and in the Germany Sample

The effect sizes f^2 showed that in the Thailand sample RCS was similarly affected by TIM and TCS but not by SA. Of the 3 constructs that influenced TCS, TIM was considerably the construct with the most effect on TCS. PU was similarly affected by TCS and PEOU. BI was mostly affected by PU followed by PEOU and TCS. In the Germany sample, RCS was affected more by TIM than by TCS. Further, TIM had a higher effect on TCS than PEOU and SA. Overall, the values of the f^2 indicated that TIM was the variable with the highest effect on RCS and TCS in both countries. PU was the variable that had the highest effect on BI in both countries. While TCS and PEOU had a medium effect on BI in Thailand, they had no effect on BI in Germany.

The results of the Q^2 values indicated that the research model had a higher predictive power for all endogenous constructs, i.e., RCS, TCS, PU, and BI, except USE, in the Thailand sample than in the Germany sample. Especially the predictive power in TCS was much higher in Thailand ($Q^2 = 0.523$) than in Germany ($Q^2 = 0.356$).

The effects sizes q^2 showed that in the Thailand sample TIM and TCS had a similar impact on the predictive power of RCS. TIM had also the highest impact on the predictive power of TCS. The impact of TCS and PEOU on the predictive power of PU was similarly high. PU had the highest impact on the predictive power of BI, followed by PEOU and TCS. In the Germany sample, the impact of TIM and TCS was similarly on the predictive power of RCS. TIM had also the highest impact of the predictive power of TCS. PEOU had a considerably higher impact on the predictive power of PU than TCS. PU had the highest impact on the predictive power of BI. The other constructs RCS, TCS, and PEOU had no impact on the predictive power of BI. Similar to the results of the effect size f^2, the effect sizes q^2 indicate that TIM was the variable with the highest impact on the predictive power of RCS and TCS in both countries. While TCS and PEOU similarly impacted the predictive power of PU in the Thailand sample, PEOU had a considerably higher impact on PU than TCS in the Germany sample. Finally, PU had the highest impact on the predictive power of BI in both countries. While TCS and PEOU also had an impact on the predictive power of BI in the Thailand sample, these variables had no impact on the predictive power of BI in the Germany sample.

In the importance-performance analysis, TIM was identified as a construct that had high importance (total effects) with relatively low performance (compared to other

influencing constructs) particularly in the Thailand sample. In the Thailand sample, TCS was a construct with high importance and relatively low performance as well. Thus, it can be promising to improve TIM (and TCS in the Thailand sample) in order to enhance TCS, lower RCS, and increase BI in both countries and in Thailand, specifically.

The results of the country comparison showed that the means of the constructs TIM, RCS, TCS, PU, PEOU, PEOU, and BI were significantly different between Thailand and Germany. The means of TIM, TCS, PU, PEOU, and BI were higher in the Germany sample than in the Thailand sample. In contrast, the mean of RCS was higher in Thailand than in Germany. The variance in the composites was not significantly different between the Thailand sample and the Germany sample, except for TCS. TCS had a higher variance in Thailand than in Germany.

The comparison of the path coefficients differences confirmed that several path coefficients were significantly different between the Thailand sample and the Germany sample. While the influence of TCS on BI was significantly higher in the Thailand sample than in the Germany sample, the influence of PU on BI was significantly higher in the Germany sample than in the Thailand sample. The influence of RCS on BI was hypothesized to be stronger in Thailand than in Germany. The results showed that this influence is slightly stronger in Thailand, but was not found to be significant different between Thailand and Germany. The influence of PEOU on BI was stronger in Thailand than in Germany. This difference was significant at the level of 10 percent. More significant differences in the path coefficients between the countries were found. These differences were not hypothesized in the chapter about the hypotheses' development as the focus of the country comparison was on the constructs that have a direct influence on BI. Additional significant differences between Thailand and Germany were found for TIM on TCS, TCS on PU, PEOU on TCS, and PEOU on PU. While the influences of TIM on TCS and TCS on PU were significantly stronger in Thailand than in Germany, the influences of PEOU on TCS and PEOU on PU were significantly stronger in Germany than in Thailand. Overall, the comparison of the R^2 values showed that the model in this study could explain a significantly higher amount of variance in the endogenous latent variables TCS, PU, and BI in Thailand than in Germany (Appendix 10).

The results of the analysis of the control variables effects are as follows. The measurement model with the control variables showed that some items of the cultural dimensions had to be dropped due to low factor loadings and reliability values.

The means and standard deviations for the control variables showed that PD, UA, COL, and MAS were higher in Thailand than in Germany, while EXP and INC were higher in the Germany sample than in the Thailand sample. However, these difference were not found significant for all control variables, except for PD.

The analysis of the moderation effects of the control variables on the relationships that were supposed to be different between Thailand and Germany showed that several interaction effects were found to be significant at the level of 5 percent or 10 percent. These moderating effects and their effect sizes are summarized in Table 4.28. The relationships that were hypothesized and confirmed to be significantly different between Thailand and Germany were TCS on BI and PU on BI. The effects of control variables on the positive influence of TCS on BI was stronger for higher UA, lower MAS, and lower EXP in the pooled sample. The interaction effect of UA was only found significant in the Thailand sample, while EXP was only found significant in the Germany sample. The positive influence of PU on BI was stronger for higher INC in the pooled sample. This interaction effect was also found in the Thailand sample and in the Germany sample as well. In the German, sample, the influence of PU on BI was also found to be stronger for lower EXP.

Table 4.28 Summary of the Interaction Effects of the Control Variables

	Pooled	Thailand	Germany
RCS → BI	Stronger for higher PD (small effect), higher MAS (medium effect), higher EXP (small effect),	Stronger for lower UA (large effect)	Stronger for higher PD (medium effect), higher MAS (medium effect)
TCS → BI	Stronger for higher UA (small effect), lower MAS (small effect),	Stronger for higher UA (large effect)	Stronger for lower EXP (large effect)

	Pooled	Thailand	Germany
	lower EXP (medium effect)		
PU → BI	Stronger for higher INC (medium effect)	Stronger for higher INC (medium effect)	Stronger for lower EXP (medium effect), higher INC (medium effect)
PEOU → BI	Stronger for higher UA (small effect), lower EXP (small effect), higher INC (small effect)	Stronger for higher UA (large effect), higher COL (medium effect), higher INC (small effect)	

Notes: RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience.

Besides the moderation effects, the control variables showed several simple (directs) effects on BI (Table 4.26).

CHAPTER 5

DISCUSSION AND IMPLICATIONS

This study has theoretical implications from the perspective that it suggests that the extended model of (Pavlou & Gefen, 2004) can adequately explain the BI and USE of B2C online marketplaces in cross-country settings. While this model was developed and previously applied in the developed market of the USA, it shows that it is consistent in other developed western markets such as Germany and developing eastern markets such as Thailand as well.

This and the following implications are based on the results of the analyses of the survey data that were collected in this study. Therefore, it is important to consider that the demographics of the respondents had some bias. First, the group of respondents with a university degree was overrepresented in the Thailand sample. This might have been a consequence of this study's requirement that only allowed respondents who had used Lazada at least once to participate in the survey. In addition, the professional panel provider service might have had access to these experienced online consumers on a large scale via universities in Thailand. Second, the scales for income were different between Thai respondents and German respondents (see chapter 3.5.3). These bias can limit the ability to generalize the implications as the results might not be representative for the actual population (online consumers) in these countries. An overrepresentation of more educated respondents might effect this study as follows. Rogers (2010) has stated that early adopters of technology in general are more educated than consumers who adopt the technology later. In the online shopping context, this was supported by Lissitsa and Kol (2016) who found that more educated consumers have a higher internet use for purchasing than less educated consumers. Hence, the overrepresentation of online consumers with a university degree in the Thailand sample might influence the results as these respondents might be more tech savvy in general, might have a more positive attitude towards B2C online marketplaces, might have a higher tolerance of

mental efforts that are required to use B2C online marketplaces (perceived ease of use) and might have more experience with and higher intention to use the B2C online marketplace in general than other parts of the Thai population and the Germany sample. The different scales for income in the two countries can limit the ability to compare the results and limit the respective implications that are related to respondents' income. In addition, the results are based on data about two specific online marketplaces, i.e., Lazada and Amazon. Hence, differences between these two platforms might have affected the results of the country comparison as well.

Whilst taking these limitations into account, the predictive power of the research model is strong and holds for both the Thailand sample and the Germany sample providing that it is suitable for cross-country studies which can enhance the understanding of how online consumer from different background use B2C online marketplaces for making purchases.

Overall, the results for the relationships in the model are consistent with previous studies by the research of (Gefen & Pavlou, 2012; Yoon, 2009). The research model was able to explain more variance in BI for the Thailand sample than for the Germany sample. Hence, the findings indicate that for countries which are similar to the characteristics of the Germany sample (e.g. developed western country, or higher level of experience with B2C online marketplaces, see Chapter 2.1) the variance in BI may be improved by analyzing additional factors. For instance, perceived enjoyment and habit have been shown to be important constructs when analyzing experienced consumers in online shopping (Chopdar et al., 2018; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Gefen, 2003; Zhang et al., 2012) and intention to use and usage of online technology (Baptista & Oliveira, 2015) or technology in general (Venkatesh et al., 2012).

The results showed that PU had the highest influence on BI in both countries. This finding validates the results of previous research which consistently showed that PU is one of the most important predictor of intention to use online shopping (Chopdar et al., 2018; Driediger & Bhatiasevi, 2019; Lu et al., 2017; Smith et al., 2013) or other technologies in general (Baptista & Oliveira, 2015; Venkatesh et al., 2012). Hence, the relative advantage and perceived effectiveness of B2C online marketplaces compared to other ways of shopping can be considered most important to the online consumers in

this study regardless of their nationality. Since this study only analyzed online consumers who had already used the B2C online marketplace at least once, other factors might be similarly or even more important than PU when consumers without any previous experience with the B2C online marketplace are surveyed, e.g. facilitating conditions (Chopdar et al., 2018; Escobar-Rodríguez & Carvajal-Trujillo, 2014; Gong et al., 2012; Venkatesh et al., 2012; Wu & Wang, 2005) or social influence (Lian & Yen, 2014; Lu et al., 2017; Zhang et al., 2012).

The results also justified this study's assumption that PU has a significantly stronger positive influence on BI in Germany than in Thailand. The research of Lu et al. (2017) and Zhang et al. (2012) supports this finding as they found that perceived usefulness had been more important in western culture than in eastern culture in several previous studies. Furthermore, the results of the interaction effects of the control variables showed that the influence of PU on BI is stronger for the online consumers with higher INC than for the online consumers with lower INC in this study. Thus, PU might be especially important for richer online consumers than poorer online consumers when they intend to use the B2C online marketplace. In particularly, this should be considered when offering high-cost products on the B2C online marketplace.

This study found that the relationship of PEOU and BI was significantly stronger in the Thailand sample than in the Germany sample. Previous research by Zhang et al. (2012) supports these findings as they showed that the perceived ease of use greatly influences the behavioral intention to use mobile commerce in eastern culture. Laohapensang (2009) also found that PEOU on BI is strong for Thai consumers in an online shopping context meaning that the consumers' perceived difficulty of online shopping can influence their intention to use online shopping. The relationship between PEOU and BI was also stronger for online consumers in high UA cultures than online consumers in low UA cultures. This finding was consistent with the results found by the studies of Hung and Chou (2014) and Lu et al. (2017) in mobile commerce. This supports the view that consumers who prefer clear instructions and procedures rather than unknown situations intend to use B2C online marketplaces more frequently when they perceive that the online marketplace is structured clearly and easy to use. EXP was also found to moderate the relationship between PEOU and BI. The results of this study showed that for the online consumers with high EXP the influence of PEOU on BI was

weaker than for the online consumers with low EXP. In contrast, the results of the study by Pappas et al. (2014) did not find a significant difference in this interaction effect between high and low experience of consumers in online shopping. Nevertheless, the difference can be explained as follows. Consumers who have more experience are in general more familiar with the B2C online marketplace. Thus, they are used to the process and more skillful in the interaction with the platform than consumers with low experience. This can imply less importance of PEOU for the intention to use B2C online marketplaces for high experienced consumers than for low experienced consumers.

The findings in this study indicate that PEOU is more important for PU in the Germany sample than in the Thailand sample. This is contrary to the results of the previous study by Zhang et al. (2012) who have stated that the perceived ease of use highly influences the perceived usefulness of mobile commerce in eastern culture. These findings might be different because of the slightly different research focus (mobile commerce vs B2C online marketplaces). In this research the difference may be explained by the high value of German consumers place on efficiency in general. If too much effort is involved in using B2C online marketplaces, German consumers will not perceive purchasing in B2C online marketplaces as time saving.

RCS had only a small negative influence on BI and was not found significant in both samples. Other studies showed that risk and its sub-dimensions had a significant influence on BI in online shopping (e.g., by Chang et al. (2016) and Amaro and Duarte (2015)), and in B2C online marketplaces, specifically (Pavlou & Gefen, 2004). The results of the study by Hirst and Ashwin (2009) support the lower importance of risk compared to other constructs as they found that for online shoppers in London and in Bangkok perceived ease of use, perceived usefulness, and enjoyment are more important for the consumers' satisfaction than internet security, privacy, and post purchase fulfillment. The previous study by Zhang et al. (2012) found that the influence of perceived risk was stronger in eastern cultures than in western cultures. This study analyzed online consumers who had already purchased at least once on the online marketplace. In contrast, the influence of RCS on BI might be more significant for consumers with no previous experience with B2C online marketplaces or online shopping at all. Further, the low importance of SA and RCS on other factors in the model might be explained by more tech savvy consumers in general. Today, consumers

are accustomed to internet technologies and feel relatively safe in these environments. When looking at the factors that build RCS in this study, TIM had the highest effect. This finding can be supported by the study of Kim and Benbasat (2003). They found that the perceived risk in online shopping is lower when consumers sense that a website operator has made several efforts to improve security and privacy on their platform. In contrast to the relationship between RCS and BI, the mean value of RCS was found to be significantly higher in Thailand compared to Germany. Hence, it might be insightful to analyze RCS and sub-dimensions of risk in the context of this study in the future in order to identify national differences in risk perceptions in further detail.

Country comparison showed that TCS had a significantly higher influence on BI in the Thailand sample than in the Germany sample. One of the reasons explaining the interaction effect of EXP that showed that TCS has less impact on BI for online consumers with high EXP and by the fact that Thai consumers on average have less experience with Lazada than German consumers with Amazon. This finding is consistent with the study by Gefen, Karahanna, and Straub (2003a) who showed that for potential customers, trust has a high significant influence on purchase intentions and PU has no significant influence. In contrast, for repeated customers, trust and PU have a similarly significant influence on the purchase intentions. The difference in the influence of TCS on BI between the Thailand sample and the Germany sample might also be affected by the circumstance that the community of sellers is not the same on Lazada and Amazon. Anotherfinding in this study is that TCS is largely built by TIM in both sample. This is consistent with the results of the study by Pavlou and Gefen (2004) who also found that TIM was the strongest trust-building construct. Lu et al. (2016) also found that trust in the marketplace has shown to have a positive influence on the purchase intention. In both samples the influence of SA on TCS was relatively low. This finding was consistent with the results of McKnight et al. (2002b) and explained that TCS was more affected by constructs that are related to the intermediary rather than to the general internet environment. Compared to the Thailand sample, the small but higher effect of SA on TCS and the lower influence of TCS on BI in the Germany sample may show that for the German online consumers in this study TCS is less important as they feel more protected by the laws and regulations in the country

and feel more safe because of reliable internet technology and safeguards when shopping in the B2C online marketplace in Germany.

TCS was found to be an important predictor of PU in the Thailand sample. In the Germany sample, PEOU was considerably more important than TCS in explaining PU. Thus, the Thai consumers showed that their perceived potential for time saving and the effectiveness of purchasing in the B2C online marketplace is strongly influenced by the integrity and trustworthiness of the seller. In contrast, the German consumers believed that effectiveness and time saving are strongly related to the effort that they expect to make when purchasing in the B2C online marketplace.

The mean values of the cultural dimensions in this study showed that the cultural values of the online consumers' who were analyzed in this study were as different from each other as the categorizations for national stereotypes assume, e.g. country index scores by Hofstede Insights (2020a).Yet, this was not the objective of this study and thus confirms the warning that results based on cultural dimensions cannot be compared with results of other studies if the measurement items and level of analysis were not the very same (Mooij, 2015). The small amount of differences in the cultural dimensions between the two samples limit the implications that can be explained with cultural differences the Thai and German online consumers in this study. Nevertheless, previous studies had shown that this had been the case in other studies that compared online consumers from different countries based on their cultural values. The study of Lu et al. (2017) also found that the cultural dimension values of their US sample and their Chinese sample in mobile commerce were not as different as expected. This might indicate that in the context of B2C online marketplaces, online consumers are more similar with regard to cultural dimensions than people in other contexts, e.g., in the work environment. Zendehdel et al. (2016) have stated that in an online shopping context, individuals might show a different degree in these dimensions than the nation they belong to. Brashear et al. (2009) analyzed consumers from six countries and found that online shoppers share similar traits in general in these countries. Generally, values of the cultural dimensions may have changed with new generations of consumers. Younger consumers might have different characteristics and beliefs that cannot be measured by the traditional view of cultural dimensions (Lu et al., 2017). Younger generations have grown up in a relatively more prosperous economic environment and

are more tech savvy and familiar with online shopping technologies in general than older generations (Lissitsa & Kol, 2016). Hence, traditional dimensions that measure acceptance of power inequality and the like might not be suitable to support differences between countries for new generations of online consumers. For instance, MAS was found high for both samples in this study which was surprising with regard to the Thailand sample. According to Hofstede's country level scores, Thailand is considered a country with a high score on femininity. Contrary to Hofstede's country scores, MAS values might be different today since business in general is conducted more and more globally and in highly competitive markets. This can lead to people placing a higher value on material success and advancement in their job and private life (Lu et al., 2017). In addition, B2C online marketplaces started in the western cultures. Now that countries with eastern culture have adapted B2C online marketplaces as well, the characteristics of countries with eastern culture may also have changed over time. Globalization and advancements in information and communication technologies such as social media may also result in consumers and their cultural values becoming similar between countries (Ganesh, 1998; Shah, 2012). Furthermore, a high masculinity score in the Thailand sample might be explained by the overrepresentation of online consumers with a university degree because obtaining a university degree might require personally traits that are similar to characteristics of high masculinity scores, i.e., achievement, performance, and economic success.

Overall, the cultural dimensions that had been used in other studies as well to analyze countries might not be consistently reliable and valid across all countries (Steenkamp & Ter Hofstede, 2002). The review of other studies that applied these measures showed that these also had to drop some items in their assessment of the cultural dimension due to low factor loadings or low reliability values (Hallikainen & Laukkanen, 2018; Lu et al., 2017; Srite & Karahanna, 2006; Yoon, 2009). These studies showed that some of the cultural dimensions were not able to explain the expected impact of culture on technology acceptance in general or online shopping specifically as well.

In this study, PD was the only cultural dimension that was found to be significantly different between the online consumers in the Thailand sample and in the Germany sample. This cultural dimension was significantly higher in the Thailand

sample than in the Germany sample. This difference is consistent with the cultural index score by Hofstede Insights (2020a) but the comparability with Hofstede's scores is limited because the scales and level of analysis in this study are different from the ones in Hofstede's studies. Based on the significant higher mean of PD in the Thailand sample compared to the Germany sample, some of the significant differences between the groups in the relationships of the research model can be supported. The influence of TCS on BI was significantly higher in the Thailand sample than in the Germany sample. Thus, these Thai online consumers might have had a higher need to have trust in the community of sellers before they intent to make a purchase in the online marketplace because high PD cultures tend to have less norms for cooperation and interdependence than low PD cultures (Hofstede, Hofstede, & Minkov, 2010). The influence of PD on the relationship between trust and behavioral intention was also confirmed in Zhang et al. (2018) in the context of electronic banking. The influence of PU on BI was significantly higher in the Germany sample than in the Thailand sample. Hence, usefulness might play an important role for these German online consumers before they intent to make a purchase on the online marketplace because in cultures with low power distance, people tend to prefer to make decisions independently (Hofstede et al., 2010). This was also supported by findings from (Zhang et al., 2018).

The moderation analysis in this study showed that in the pooled sample PD strengthened the influence of RCS on BI. Although the influence of RCS was not found significant in the Thailand and Germany samples, the moderating effect was consistent with the findings in previous studies, e.g., by Lu et al. (2017). In cultures with high PD, people perceive greater risk because of unequal distribution of power in society than people in low PD cultures (Hofstede, 2001).

Further moderating effects of the cultural dimensions were found within each sample. First, the relationship between RCS and BI was moderated by UA in the Thailand sample (stronger for low UA) but it was moderated by PD and MAS in the Germany sample (stronger for higher PD and higher MAS). Thus, the influence of RCS on BI is stronger for Thai online consumers in the sample who have a low UA value than those who have a high UA value. This might be explained by the statement by Hofstede (2001) that UA is not the same as risk-avoidance and people with low UA often have weak faith in institutions and people, because human behavior is

unpredictable. In the Germany sample, the influence of RCS on BI is stronger for online consumers who have high PD and high MAS values. The explanation for the moderating effect of PD on this relationship in the Germany sample might be the same as for the pooled sample (higher risk because of unequal distribution of power). The effect of RCS on BI was stronger for online consumers with high MAS values in the Germany sample because these prefer competition and assertiveness, and do not avoid confrontation compared to people with low MAS values (Hofstede et al., 2010). Second, the relationship of TCS on BI was only moderated by a cultural value in the Thailand sample and not in the Germany sample. TCS had a stronger influence on BI for online consumers in the Thailand sample who had high UA values. This might be explained by the tendency of people with high UA values having the need to control their environments in general and put their faith in experts to avoid the uncomfortable feeling of unknown and surprising (Hofstede et al., 2010). This moderating effect of UA was also found by Yoon (2009) in online shopping. Third, the relationship between PEOU and BI was only moderated in the Thailand sample. This relationship was moderated by UA and COL. The stronger influence of PEOU on BI for online consumers with higher UA in the Thailand sample might be explained by the tendency of people with high UA to rely on clear guidance, instructions and processes and try to add structure to their environment to avoid novel and unstructured situations (Beugelsdijk & Welzel, 2018; Hofstede et al., 2010). This was supported in other studies as well (Hung & Chou, 2014; Lu et al., 2017; Tarhini, Hone, Liu, & Tarhini, 2017). The stronger influence of PEOU on BI for online consumers with higher COL in the Thailand sample might be explained by the tendency of people with collectivistic values to rely on implicit context for their communication. This moderating effect was in contrast to the findings in other studies (Hung & Chou, 2014; Yoon, 2009; Zhang et al., 2018).

This study identified additional, direct effects of TIM, cultural dimensions, and EXP that were not the focus of this study but should be examined in more detail in future research.

For example, UA and MAS frequently showed a positive simple effect (direct influence) on BI in the moderation analysis. UA was measured with items that primarily asked the respondents for their preference of structured processes when working on

tasks. While shopping in online marketplaces has several uncertainties because of the transactions with people, the process of shopping in online marketplaces itself is structured clearly. This process, that is based on prescribed automated workflows, is described in the online marketplace and is similar between different online shopping platforms. Thus, online consumers are informed about what is expected from them when shopping online. The positive direct influence of MAS on BI in this study is consistent with previous findings, e.g., by Yoon (2009). Online shopping is considered as a highly effective way of shopping because of the ease of comparing a variety of products and their prices. These advantages of online shopping compared to other ways of shopping correspond to high MAS since high MAS describes the individual's preference for competitiveness and assertiveness (Hofstede Insights, 2020a).

CHAPTER 6

CONCLUSIONS

The main objective in this study was to analyze the influences of trust, perceived risk, perceived usefulness, and ease of use on the online consumers' intention to make purchases and B2C online marketplaces in Thailand and in Germany and to compare these influences between Thailand and Germany.

The overview of the economical, infrastructural, and legal conditions in these countries and the internet usage and online market in the respective countries provided comprehensive information about the environment surrounding the online consumers that was analyzed in this study.

The current study has effectively utilized the extended research model for B2C online marketplaces by Pavlou and Gefen (2004) in order to examine the role of online consumers trust beliefs, perceived risk, perceived usefulness, and perceived ease of use on their intention to make purchases in the B2C online marketplaces of Lazada and Amazon. Examining the relative importance of the four factors (i.e., trust in the community of sellers, perceived risk from the community of sellers, perceived usefulness, and perceived ease of use) on the intention to make purchases in the B2C online marketplaces showed that differences exist between the samples of this countries. The results are based on the Thailand sample and the Germany sample in this study that had the limitation of an overrepresentation of consumers with a university degree in the Thailand sample and different scales for measure the consumers' income. Among others, the overall findings from the hypothesis testing showed that online consumers' perceived usefulness has the greatest influence on their intention to make purchases in the B2C online marketplaces in both samples. While trust in the community of sellers is more relevant for the online consumers in the Thailand sample than for online consumers in the Germany sample, perceived usefulness is more relevant for online consumers in the Germany sample than online consumers in the

Thailand sample regarding their intention to make purchases in the B2C online marketplace. Online consumers' level of experience with the B2C online marketplace, online consumer's income, and some of the cultural dimensions gave complementary support in explaining differences that were found in the constructs' relationships between the Thailand sample and the Germany sample.

This research has several important contributions to research and practice that will be described below. In addition, this study also has certain limitations which could be addressed in future research.

6.1 Research Contributions

This study contributes to existing e-commerce and cross-country research. Previous research studied the role of trust and risk in many areas of online shopping in general or specific online shops but the study in the area of B2C online marketplaces is still scarce. Trust in the community of sellers (one-to-many) and trust in the intermediary of an online marketplace has only been analyzed infrequently (Pavlou & Gefen, 2004). This study filled this research gap by examining the role of SA, TIM, TCS and RCS in a cross-country comparison which has never been conducted before.

Moreover, this study contributes to research about B2C online marketplaces by analyzing distinct sets of predictors of intention to use an B2C online marketplace. Trust and risk perceptions are social predictors and perceived usefulness and perceived ease of use technological predictors. This study has shown that both contribute to the intention to purchase in the selected B2C online marketplaces together. Researchers should pay attention to both aspects.

The results from this study provided additional evidence to previous research that showed that TCS, PU, PEOU are important factors in B2C online marketplaces as well. The findings in this study about the construct of TIM showed that the online consumers' beliefs about the intermediary are considerably important in the B2C online marketplaces. This result forms the basis of this construct in the research disciplines about online marketplaces.

This study extended prior research by applying the model in two distinct countries and comparing the differences in the relationships. This cross-country study

helps to extend the understanding about online consumers in different social, economic, and infrastructural environments and how their beliefs, characteristics, and perceptions can impact their intention to make purchases in the B2C online marketplaces of Lazada and Amazon. Moreover, this study provides insights and research about samples from two countries that relatively have been examined in e-commerce compared to other countries rarely. Thus, this study provided cross-country validation of concepts that have not been applied together to these countries before.

Furthermore, the results from this study contribute to the research about the role of culture in the context of B2C online marketplaces. The results indicated that some cultural dimensions were able to provide support for findings of previous studies, but also gave some insights into cultural dimensions in an online shopping context that should be considered for future research.

6.2 Managerial Contributions

This research has also brought implications for stakeholders of B2C online marketplaces from Lazada and Amazon. In particular, this study provides a valuable insight to providers, managers, and operators who develop strategies for cross-country localization and aims to promote online consumers' usage of similar B2C online marketplaces.

Reference to sample bias…

Managers of B2C online marketplaces should pay attention to social predictors and technological predictors as these contributed to the intention to make purchases in this study's B2C online marketplaces together. Thus, these B2C online marketplaces should not only be developed to be useful and easy to use but also to increase trust and decrease risk perceptions.

These factors can have different influences in different countries. Thus, managers of international companies may have to develop different strategies for different countries.

The findings on the influence of EXP suggest that trust and risk are especially important in the B2C online marketplaces when the online consumers have low experience. Perceived usefulness is more important to the online consumers with more

experience than those with less experience in this study. Hence, managers should know about the online consumers' experience with the B2C online marketplaces in the national or international market first. In markets with low experienced online consumers, managers may focus on establishing a safe and trustworthy environment first and improve the performance of the B2C online marketplace next.

In Thailand, Lazada's managers who want to attract customers with similar demographics as in this study should focus on sorting out sellers whose behavior might have a negative influence on the online consumers' TCS. This can be supported by increased legal actions by the government or similar authorities such as sanctions for sellers with opportunistic behavior (Gefen et al., 2003b). Further, online consumers' TCS may increase when managers can increase the online consumers' trust in the intermediary of the B2C online marketplace. Finally, this may also significantly increase the online consumers' PU of shopping in the B2C online marketplace and their intention to make purchases on the B2C online marketplace. PEOU had a significant influence on BI for Thai online consumers. Hence, developers of the B2C online marketplace should place their emphasis on designing clear and understandable interfaces. These should be simple and easy to navigate and fit the communication style of Thai consumers in order to use the platform with low physical or mental effort. As Thai consumers are heavy social media users, integrating social interaction into the B2C online marketplace may help to increase TCS and TIM and increase adoption and use.

In Germany, Amazon's managers should focus on providing an effective and motivating shopping experience to experienced and continuance online consumers. This suggestion holds as long as the structural assurances of the internet as a shopping channel and the trust in the intermediary makes the online consumers feel safe when intending to make purchases on the online marketplace.

Practitioners should be aware of factors that build consumers' trust in sellers in the online marketplaces. This study provides empirical evidence on how to build trust in the community of sellers in the B2C online marketplaces. TCS is the product of SA, TIM, and PEOU. Thus, managers should focus on safe and robust internet technologies which offer safe nets (e.g. by government or third parties such as credit card companies). Moreover, they should implement features on the online marketplace that

can increase consumers' trust in the intermediary such as seals of approval from professional associations. Furthermore, the design of the navigation, layout, and user-friendliness of the shopping process can increase the perceived ease of use of the online marketplace. Finally, features that can be implemented by the operator of the online marketplace can increase the online consumers' TCS, e.g. consumer ratings about sellers, contact information, or ratings about seller's response rate. Features such as social media implementation or chat communication may help to build TCS especially in Thailand because of the high usage of social media in this country.

RCS showed only a small and insignificant influence on BI for both online marketplaces in this study. According to these results, the intermediary may focus on other factors than RCS when planning their strategies for repeat customers.

The companies should pay attention to the income of the customers that they are targeting. This is particularly important for countries such as Thailand because consumers' income is increasing. This may affect consumers' preferences and behaviors as well (Bharadwaj et al., 2017).

6.3 Limitations

Despite the contribution this research provides, there are some research limitations that need to be considered.

The results of this research were obtained from the survey that was conducted in two countries. More countries need to be examined generalize the results. The data was only collected from consumers of two B2C online marketplaces. These have established a certain reputation in their country and are successful in their market already. The results may be different for unknown, less visible, less popular B2C online marketplaces since consumers might perceive these as less capable, credible, and trustworthy (Luo, Sulin, & Zhang, 2012).

The data were collected from online consumers with previous experience only. This can limit the ability to generalize the results. In particular, the results for trust and risk perceptions may be different for inexperienced consumers who have never purchased online or have never used the specific B2C online marketplace. Nevertheless,

the approach in this study was in accordance with other studies that have analyzed only current users of the technology as well (Pavlou & Gefen, 2004; Venkatesh et al., 2012).

The survey was distributed to panel respondents. This might lead to panel respondent bias because the participants receive incentives for participating in the survey. Gritz (2004) found that the quality of responses and the outcome of surveys were not affected in her studies by the fact that respondents received incentives for their participation.

The results of this study may be influenced by self-selection bias. Only respondents with previous experience were allowed to participate. Their decision about participating was self-selected. The results might be different when respondents are analyzed who were not interested in participating in the survey. In particular, their perceptions about usefulness and ease of use of B2C online marketplaces may have been different compared to respondents who participated in this survey. Thus, the generalization of the results is limited and should be analyzed in additional research.

Self-reported measures were used in the survey. This self-evaluation can create subjective bias and may lead to common method bias, but self-reported surveys are still considered the most appropriate approach to measure perceptions in social science as Lu et al. (2017) state. Other studies might use an experimental approach or observe the items that measure constructs such as actual online transaction behavior.

The data for the measures were collected at the same point in time (cross-sectional basis) and via the same method (potential for common method bias). This makes inference of the direction of causality difficult and can only be concluded through the theory. Longitudinal approaches in future research may help to get more insight on the direction of causality.

In this study, online consumers' use behavior was measured by their previous usage frequency. This was possible because only experienced online consumers were allowed to participate in the online survey. Other studies that analyzed acceptance of technology, measured use behavior later than the other constructs by the same respondents. This might lead to different results for the relationship between BI and USE. For instance, this influence might increase when online consumers gain more experience in the meantime.

Use behavior was measured as a single item construct. This did not cover the breadth of use (i.e., number of items per purchase, product price, product type), but was consistent with several previous studies, e.g., by Gefen and Pavlou (2012) and Pavlou and Gefen (2004).

In the survey, the respondents were not instructed to give their answers based on one specific product type, e.g. low or high touch product, low or high price product. The results may be different for different types of products, in particular with regard to trust and risk perception, e.g., low touch and low price products might imply lower importance of risk than more complex and more expensive products. The collected data about the product categories that online consumers have bought previously showed that on average online consumers in Thailand and online consumers in Germany had similar experience with regard to buying different product categories online.

TCS, RCS, PU, and PEOU are holistic constructs but make it difficult to draw inferences about detailed reasons, e.g., which characteristic of the sellers explain RCS the most or what are the concrete reasons for perceiving B2C online marketplaces as useful, time saving, and efficient or not. Future studies should explore these constructs and their sub-dimensions in more detail.

The scale for income was different between Thailand and Germany. The data for income was similarly distributed in Thailand and Germany (the distribution was slightly more diverse on the scale in Germany). Because of different levels of income and product prices in countries in general, pooling the data of income for both samples could influence the results depending on the differences between the two scales. This problem should be borne in mind when interpreting the results of this study that are linked to consumers' income.

The usage of cultural dimensions in this study had some weaknesses and limitations that were described in detail in Chapter CHAPTER 5. This study chose to apply these cultural dimensions based on the limited research in the context of the dynamic environment of online shopping. Future studies should make further investigation of the role of culture in online shopping and how to measure cultural values at the individual level in order to explain differences between countries.

6.4 Future Research

Future research can help to validate the findings of this study by conducting similar empirical analysis in this context.

If this study is repeated for other countries, it will enhance the generalization of the results. This can be countries that are similar to the countries in this study or are different with regard to the cultural dimensions' scores. For analyzing and comparing cultural dimensions, measures might be useful that are more robust in validity and reliability than the measures that are available and have been applied in some research in online shopping context. Other cultural dimensions (e.g., conservatism versus autonomy from Schwartz) exist but are considered complex and difficult to apply (Towers & Peppler, 2017). While this study analyzed the moderating effects of cultural dimension, future research might test the interaction of cultural dimensions with each other. Furthermore, the interaction of cultural dimensions should be tested in other online shopping research models that include constructs that may be more sensitive to interaction effects of cultural dimensions. Moreover, it might be helpful to reconsider the role of culture and the existing approaches that describe culture by dimensions in the context of international consumers and global online consumer behavior.

Other theories such as the social presence theory might be able to extend the research of this study (Weisberg, Te'eni, & Arman, 2011). The social presence theory might help to explain differences in the intention to use and use of B2C online marketplaces between collectivistic cultures and individualistic cultures, because online marketplaces with socially rich features can help enhance trust for online consumers in collectivistic cultures (Hassanein et al., 2009; Luo et al., 2012).

Other approaches for exploring different types of consumers in and across countries might give additional insights as well. For instance, analyzing consumer characteristics to develop profiles of shoppers and non-shoppers (Brashear et al., 2009; Hassanein et al., 2009), to conduct consumer segmentation (Hasslinger et al., 2017), or creating a typology of online shoppers based on their shopping motivations (Rohm & Swaminathan, 2004). Some reasons for not using B2C online marketplaces or online shopping in general can explain shopping behavior even for experienced consumers,

e.g., preferring brick and mortar stores over online shopping by customers for whom immediate possession/consumption is important (Frasquet et al., 2015).

While this analysis was quantitative, qualitative research might be helpful to explore certain constructs in more detail, e.g. the sub-dimensions of trust and risk and consumers' concrete reasons for perceiving B2C online marketplaces as useful or not.

This study should also be repeated by analyzing differences between these countries for consumers with no previous experience with B2C online marketplaces. This might lead to different results, e.g., greater importance of perceived risk. Moreover, additional factors might be able to explain more variance in the intention to use and usage of B2C online marketplace when analyzing and comparing countries with high experienced online consumers. Longitudinal studies can give additional insights when these analyze how the relationships between the constructs in this study develop from consumers who start purchasing in B2C online marketplaces for the first time, to collecting more experience and become regular customers. In particular, findings on initial trust might be different than for ongoing trust in the intermediary and in the community of sellers as well.

Trust in the intermediary has shown to be an important factor that should be examined in more detail. For instance, future research can analyze how trust in the intermediary is built and the way other factors influence consumers' trust in the intermediary, e.g. disposition to trust, reputation, familiarity. In addition, other sub-dimensions of trust, e.g., predictability (McKnight, Cummings, & Chervany, 1998) could be included to reveal more detail about consumers' trust beliefs.

The results of this research can also be extended by analyzing relationships between constructs that were not directly connected in this study, e.g., the direct influences of cultural dimensions on the independent variables of this research model or on USE. This can enhance research as Goodrich and Mooij (2011) have stated that economic wealth can explain online shopping usage in the beginning, but culture will be a relevant factor in every stage of adoption. SA and TIM have indicated to affect other constructs in the research model as well. Hence, their direct influence on BI and USE should be analyzed more in the future as these may help to increase the variance explained in the dependent variables.

For analyzing experienced online consumers, extending the research model by other factors that are not cognitive but affective can help to increase the variance explained (van der Heijden et al., 2003). While perceived usefulness focuses on the utilitarian motivation, hedonic motivation covers the consumer's enjoyment when using online marketplaces. In addition, perceived usefulness and perceived ease of use focus on consumers' perception of time and effort that are necessary when using the online marketplace, price value covers the (financial) cost that are linked to using the online marketplace (Venkatesh et al., 2012).

Testing other online marketplaces, e.g., smaller, unknown, or less successful online marketplaces, might also result in the greater importance of perceived risk and trust beliefs with regard to the intermediary and the sellers. Results for Lazada and Amazon might not be valid for other online marketplaces or other types of online shopping platforms. Most online marketplaces are similar to these two leading in its respective country and additional research on this is still needed. The popularity and/or reputation of these two online marketplaces might be different for other sites and thus lead to different results (although non-popular marketplaces with bad reputation might leave the market sooner or later) (Pavlou & Gefen, 2004).

In addition, other types of online marketplaces can be analyzed, e.g., C2C online marketplaces or social media platforms, where the operator of the C2C online marketplace or social media platform can also be considered as an intermediary who can be trusted or not. Future research can survey and compare consumers who use different online shopping platforms in order to find information about consumers' characteristics that can explain using different platforms.

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APPENDICES

Appendix 1: Literature Review of Online Shopping Journal Publications and Frameworks/Theories

Author (Year)	Journal	Context	Framework/theory
Hallikainen and Laukkanen (2018)	International Journal of Information Management	Online Shopping	Hofstede; Trust
Zhang et al. (2018)	International Journal of Information Management	Online Banking	Hofstede; UTAUT
Yongrok Choi and Do Quynh Mai (2018)	Sustainability	Online Shopping	Culture; Trust
Chen, Hsu, and Lu (2018)	Journal of Retailing and Consumer Services	Mobile Shopping	TAM
Kim and Peterson (2017)	Journal of Interactive Marketing	Online Shopping	Online Trust; (Culture)
Erdem and Erdem (2017)	European Journal of Business and Management	Online Shopping	Culture
Xu-Priour et al. (2017)	International Journal of Electronic Commerce	Online Shopping	TPB; Hall
Seitz, Pokrivcak, Toth, and Plevny (2017)	Journal of Business Economics and Management	Online Shopping	-

Author (Year)	Journal	Context	Framework/theory
Kuoppamäki, Taipale, and Wilska (2017)	Telematics and Informatics	Mobile Shopping	Age
Pappas, Kourouthanassis, Giannakos, and Lekakos (2017)	Telematics and Informatics	Online Shopping	Complexity Theory
Nisar and Prabhakar (2017)	Journal of Retailing and Consumer Services	Online Shopping	E-Satisfaction; Consumer Price Index
Kawaf and Tagg (2017)	Computers in Human Behavior	Online Shopping	Personal Construct Theory
Sohn (2017)	Journal of Retailing and Consumer Services	Mobile Shopping	TAM
Natarajan et al. (2017)	Journal of Retailing and Consumer Services	Mobile Shopping	TAM; DOI
Chauke and Dhurup (2017)	Journal of Social Sciences	Online Shopping	TRA
Lee et al. (2017)	Transportation Research Part A: Policy and Practice	Online Shopping	Travel to In-Store
Oliveira et al. (2017)	Computers in Human Behavior	Online Shopping	Trust
Khalilzadeh, Ozturk, and Bilgihan (2017)	Computers in Human Behavior	Mobile Payment	UTAUT; TAM
Hillman and Neustaedter (2017)	Computers in Human Behavior	Mobile Shopping; Mobile Payment	Trust

Author (Year)	Journal	Context	Framework/theory
Hasslinger et al. (2017)	Dissertation	Online Shopping	Consumer Behavior; Consumer Characteristics
Malaquias and Hwang (2016)	Computers in Human Behavior	Mobile Banking	Trust
Oliveira, Thomas, Baptista, and Campos (2016)	Computers in Human Behavior	Mobile Payment	UTAUT2; DOI
Zendehdel et al. (2016)	Cogent Business & Management	Online Shopping	Culture; TPB; Risk
Ghasemaghaei and Hassanein (2016)	Computers in Human Behavior	Online Information Quality	Online Information Quality, (Culture)
Pappas, Kourouthanassis, Giannakos, and Chrissikopoulos (2016)	Journal of Business Research	Online Shopping	Complexity Theory; Personalization
Khare, Khare, Mukherjee, and Goyal (2016)	Journal of International Consumer Marketing	Online Shopping	Consumer Shopping Inventory
Lissitsa and Kol (2016)	Journal of Retailing and Consumer Services	Online Shopping	General Cohort Theory; Age
Tontini (2016)	Journal of Retailing and Consumer Services	Online Shopping	Importance Performance Analysis; Improvement Gap Analysis

Author (Year)	Journal	Context	Framework/theory
King, Schilhavy, Chowa, and Chin (2016)	International Journal of Electronic Commerce	Online Shopping	Social Identity Theory
Lu et al. (2016)	Computers in Human Behavior	Social Commerce	Social Presence Theory
Law, Kwok, and Ng (2016)	Electronic Commerce Research and Applications	Online Shopping	TAM; Habit; Age
Ashraf et al. (2016)	Electronic Commerce Research and Applications	Online Shopping	TAM; Hedonic Motivation; Utilitarian Motivation
Aldousari et al. (2016)	Journal of Transnational Management	Online Shopping	TAM; TRA; TPB
Fortes and Rita (2016)	European Research on Management and Business Economics	Online Shopping	TPB; TAM; Trust; Risk; Privacy
Clemons et al. (2016)	Journal of Management Information Systems	Online Shopping	Trust; Risk; Reputation; Countries
Sharifi fard, Tamam, Hj Hassan, Waheed, and Zaremohzzabieh (2016)	Cogent Business & Management	Social Commerce	UTAUT2
Shaouf, Lü, and Li (2016)	Computers in Human Behavior	Online Shopping	Web Advertising; Gender Motivation
Chaparro-Peláez et al. (2016)	Journal of Business Research	Online Shopping	
Takieddine and Sun (2015)	Electronic Commerce Research and Applications	Online Banking	Internet Banking Diffusion, (Culture)

Author (Year)	Journal	Context	Framework/theory
Moon and Domina (2015)	Journal of Textile and Apparel, Technology and Management	Mobile Shopping	TAM; E-Commerce Adoption Model, (Culture)
Zendehdel et al. (2015)	Cogent Business & Management	Online Shopping	DOI; TRA; Risk; Subjective Norm
Schultz and Block (2015)	Journal of Retailing and Consumer Services	Online Shopping	Grounded Theory
Gao et al. (2015)	Computers in Human Behavior	Mobile Shopping	ISSM; Flow; Trust; Continuance Intention
Shaikh and Karjaluoto (2015)	Telematics and Informatics	Mobile Banking	Literature Review; TAM; DOI; UTAUT
Chen et al. (2015)	Computers in Human Behavior	Online Shopping	Repurchase; Satisfaction; Trust; Gender
Hao Suan Samuel et al. (2015)	Journal of Internet Commerce	Online Shopping	Stimulus-Organism-Response; Experience; Gender; Trust
Srinivasan (2015)	Journal of Internet Commerce	Online Shopping	Subjective Norm; Anxiety; TAM

Author (Year)	Journal	Context	Framework/theory
Frasquet et al. (2015)	Electronic Commerce Research and Applications	Multichannel Shopping	TAM; Motivational Model; Transaction Cost Economics
Gunawan and Huarng (2015)	Journal of Business Research	Social Commerce	TRA; Information Adaption Model, Risk
Amaro and Duarte (2015)	Tourism Management	Online Shopping	TRA; TPB; TAM; DOI;
Yoon and Occeña (2015)	International Journal of Information Management	Social Commerce	Trust; Age; Gender
Khare and Sadachar (2014)	Journal of International Consumer Marketing	Online Shopping	Collective Self-esteem; TAM; (Culture)
Lian and Yen (2014)	Computers in Human Behavior	Online Shopping	Age; UTAUT; Innovation Resitance Theory
Pappas et al. (2014)	International Journal of Retail & Distribution Management	Online Shopping	Experience
Mosteller, Donthu, and Eroglu (2014)	Journal of Business Research	Online Shopping	Fluency Theory; Verbal Product Information; Stimulus-Organism-Response

Author (Year)	Journal	Context	Framework/theory
Blázquez (2014)	International Journal of Electronic Commerce	Online Shopping	Hedonic Motivation; Utilitarian Motivation; Experience
Homsud and Chaveesuk (2014)	6th International Conference on Information Technology and Electrical Engineering (ICITEE), Yogyakarta, Indonesia	Online Shopping	ISSM; Repurchase Intention
Vos et al. (2014)	Procedia - Social and Behavioral Sciences	Online Shopping	Risk; Trust
Handa and Gupta (2014)	Journal of Internet Commerce	Online Shopping	Shopping Orientation
Zhang et al. (2014)	International Journal of Information Management	Online Shopping	TRA; Trust; Information Procesing;
Oliveira et al. (2014)	International Journal of Information Management	Mobile Banking	TTF; UTAUT; Initial Trust Model
Martins et al. (2014)	International Journal of Information Management	Online Banking	UTAUT; Risk
Escobar-Rodríguez and Carvajal-Trujillo (2014)	Tourism Management	Online Shopping	UTAUT; Trust
Chang (2014)	International Journal of Innovation, Management and Technology	Online Shopping	Website Quality; Brand; Trust; Value; Intention
Ahmed and Aguilar (2013)	Latin American Business Review	Online Shopping	Culture
Smith et al. (2013)	Journal of Business Research	Online Shopping	TAM; (Culture)

Author (Year)	Journal	Context	Framework/theory
Andrews and Bianchi (2013)	Journal of Business Research	Online Shopping	TRA; (Culture)
Kacen et al. (2013)	Global Economics and Management Review	Online Shopping	-
Shin et al. (2013)	International Journal of Information Management	Online Shopping	Site Quality; Repurchase
Floh and Madlberger (2013)	Electronic Commerce Research and Applications	Online Shopping	Stimulus-Organism-Response; Impulse Buying
Okazaki and Mendez (2013)	Computers in Human Behavior	Mobile Shopping	TAM
Ariff, Yan, Zakuan, Bahari, and Jusoh (2013)	IOP Conference Series: Materials Science and Engineering	Online Shopping	TAM?
Iglesias-Pradas et al. (2013)	Computers in Human Behavior	Online Shopping	Consumer Segmentation
Sabiote et al. (2012)	Online Information Review	Online Shopping	Culture
Gong et al. (2012)	International Journal of e-business development	Online Shopping	DOI; National Culture
John (2012)	AMCIS 2012 Proceedings	Online Shopping	ISSM; TAM; Trust, (Culture)
Zhang et al. (2012)	Computers in Human Behavior	Mobile Shopping	Meta Analysis; Culture
Hwang and Lee (2012)	Information & Management	Online Shopping	Online Trust; Culture
Kim, C., Galliers, R. D., Shin, N., Ryoo, J.-H., and Kim, J. (2012)	Electronic Commerce Research and Applications	Online Shopping	ISSM; Utilitarian Motivation; Hedonic Motivation; Income

Author (Year)	Journal	Context	Framework/theory
Kim, H.-W. et al. (2012)	Electronic Commerce Research and Applications	Online Shopping	Mental Account Theory; Price; Trust
Khare, Khare, and Singh (2012)	Journal of Internet Commerce	Online Shopping	TAM
Yang (2012)	Journal of Retailing and Consumer Services	Mobile Shopping	TPB
Luo et al. (2012)	MIS Quarterly	Online Shopping	Uncertainty; Retailer Visibility; Satisfaction
Yu (2012)	Journal of Electronic Commerce Research	Mobile Banking	UTAUT
Javadi et al. (2012)	International Journal of Marketing Studies	Online Shopping	Consumer Behavior; Consumer Characteristics; Risk
Goodrich and Mooij (2011)	Journal of International Consumer Marketing	Online Shopping	Culture
Liu and Forsythe (2011)	Journal of Retailing and Consumer Services	Online Shopping	ISSM; UTAUT
Keisidou, Sarigiannidis, and Maditinos (2011)	International Journal of Business Science & Applied Management	Online Shopping	Product Categories
Lee, Shi, Cheung, Lim, and Sia (2011)	Information & Management	Online Shopping	Social Influence Theory; TAM
Liu et al. (2011)	The International Review of Retail, Distribution and Consumer Research	Online Shopping	Theory of Adoption of Innovations; TAM; Risk;

Author (Year)	Journal	Context	Framework/theory
			Retail Patronage Perspective
Zhou (2011)	Information Development	Mobile Internet Usage	UTAUT; Flow Theory
Khare and Rakesh (2011)	Journal of Internet Commerce	Online Shopping	Utilitarian Motivation; Hedonic Motivation
Swinyard and Smith (2011)	International Business & Economics Research Journal	Online Shopping	Consumer Segmentation
Eisingerich and Rubera (2010)	Journal of International Marketing	Brand Commitment	Culture; Brand Commitment
Alsajjan and Dennis (2010)	Journal of Business Research	Online Banking	TAM; Culture
Hernández, Jiménez, and Martín (2010)	Journal of Business Research	Online Shopping	TAM; Experience; (Culture)
Tong (2010)	International Journal of Retail & Distribution Management	Online Shopping	Consumer Behavior; TAM; (Culture)
Ahmad et al. (2010)	Business Strategy Series	Online Shopping	Consumer Lifestyle
Khare, Singh, and Khare (2010)	Journal of Internet Commerce	Online Shopping	Innovativeness; Novelty-Seeking;

Author (Year)	Journal	Context	Framework/theory
Liu and Forsythe (2010)	Journal of Internet Commerce	Online Shopping	Prospect Theory; Motivational Approach-Avoidance Conflict
Ling et al. (2010)	International Business Research	Online Shopping	Shopping Orientation; Trust; Experience
Kim and Lennon (2010)	Journal of Fashion Marketing and Management: An International Journal	Online Shopping	Stimulus-Organism-response
Kim et al. (2010)	Computers in Human Behavior	Online Shopping	TRA; Elaboration Likelihood Model; Trust
McCole, Ramsey, and Williams (2010)	Journal of Business Research	Online Shopping	TRA; Privacy; Security; Trust
Hsiao et al. (2010)	Online Information Review	Product Recommendations	Trust; Social Shopping
Yang (2010)	Journal of Consumer Marketing	Mobile Shopping	UTAUT
Yoon (2010)	Computers in Human Behavior	Online Banking	Satisfaction
Laroche (2010)	Journal of Business Research	Online Shopping	Consumer Behavior; TAM; SOR;
Brashear et al. (2009)	Journal of Marketing Theory and Practice	Online Shopping	Consumer Characteristics; Nationality (Culture)

Author (Year)	Journal	Context	Framework/theory
Hirst and Ashwin (2009)	International Review of Business Research Papers	Online Shopping	Culture; Extended TAM
Gong (2009)	Cross Cultural Management: An International Journal	Online Shopping	Culture; DOI
Hassanein et al. (2009)	International Journal of Electronic Business	Social Presence	Social Presence; Culture; Website Design
Yoon (2009)	Information & Management	Online Shopping	TAM; National Culture; Trust
Sia et al. (2009)	MIS Quarterly	Online Shopping	Trust; Culture
Crespo et al. (2009)	Journal of Risk Research	Online Shopping	Risk; TAM
Ko, Kim, and Lee (2009)	Psychology and Marketing	Mobile Shopping	TAM
Ha and Stoel (2009)	Journal of Business Research	Online Shopping	TAM; E-Shopping Quality
Lee (2009)	Electronic Commerce Research and Applications	Online Banking	TAM; TPB; Risk; Benefit
Laohapensang (2009)	Journal of Fashion Marketing and Management: An International Journal	Online Shopping	TPB
Amoroso and Hunsinger (2009)	Journal of Information Systems Applied Research	Online Shopping	Trust; TAM; Risk
Lian and Lin (2008)	Computers in Human Behavior	Online Shopping	Product Types; Consumer Characteristics

Author (Year)	Journal	Context	Framework/theory
Dash and Saji (2008)	Journal of International Consumer Marketing	Online Shopping	Self-Efficacy; Social Presence
Seock and Bailey (2008)	International Journal of Consumer Studies	Online Shopping	Shopping Orientations; Apparel
Herrero Crespo and Rodríguez del Bosque (2008)	Computers in Human Behavior	Online Shopping	TPB; Innovativeness
Gupta, Handa, and Gupta (2008)	Journal of Internet Commerce	Online Shopping	Consumer Characteristics;
Kim, C., Zhao, W., and Yang, K. H. (2008)	Journal of Electronic Commerce in Organizations	Online Shopping	Trust
Kim and Lennon (2008)	Psychology and Marketing	Online Shopping	Visual Information; Verbal Information

Appendix 2: Skewness and Kurtosis of Indicator Items

	Kurtosis	Skewness
SA1	0.044	-0.459
SA2	0.002	-0.353
SA3	0.326	-0.517
SA4	0.500	-0.517
TIM1	0.083	-0.457
TIM2	-0.091	-0.313
TIM3	0.657	-0.580
RCS1	-0.071	0.613
RCS2	-0.217	0.579
RCS3	0.322	0.779
TCS1	0.685	-0.615
TCS2	0.352	-0.476
TCS3	0.502	-0.508
PU1	0.980	-0.803
PU2	0.873	-0.772
PU3	0.290	-0.542
PEOU1	0.372	-0.633
PEOU2	0.504	-0.631
PEOU3	0.625	-0.728
PEOU4	0.414	-0.623
BI1	1.192	-0.950
BI2	-0.121	-0.460
BI3	1.007	-0.829
USE	0.467	-0.946
PD1	-0.255	0.608
PD2	-0.610	0.351
PD3	0.204	0.980
PD4	-0.479	0.414

	Kurtosis	Skewness
PD5	-0.360	0.440
UA1	0.944	-0.777
UA2	0.148	-0.402
UA3	0.772	-0.609
UA4	0.537	-0.597
UA5	0.109	-0.348
COL1	-0.112	-0.460
COL2	0.297	-0.472
COL3	0.037	-0.434
COL4	-0.080	-0.331
COL5	-0.117	-0.350
COL6	-0.021	-0.356
MAS1	-0.095	-0.413
MAS2	-0.500	-0.333
MAS3	-0.670	-0.260
MAS4	-0.653	0.166
MAS5	0.138	-0.685
EXP	-0.512	-0.112
INC	-0.764	0.043

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Appendix 3: Cross Loadings

Appendix 3.1 Cross Loadings for the Thailand Sample

THA	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
SA1	**0.853**	0.537	-0.336	0.551	0.411	0.419	0.352	0.181
SA2	**0.899**	0.571	-0.372	0.548	0.417	0.467	0.382	0.234
SA3	**0.877**	0.541	-0.387	0.579	0.479	0.479	0.402	0.223
SA4	**0.878**	0.592	-0.393	0.587	0.487	0.448	0.416	0.223
TIM1	0.617	**0.915**	-0.561	0.722	0.609	0.529	0.565	0.313
TIM2	0.553	**0.889**	-0.474	0.642	0.570	0.454	0.521	0.289
TIM3	0.549	**0.888**	-0.572	0.678	0.622	0.563	0.589	0.263
RCS1	-0.402	-0.569	**0.922**	-0.572	-0.423	-0.443	-	-0.144
RCS2	-0.396	-0.538	**0.926**	-0.535	-0.442	-0.395	-	-0.107
RCS3	-0.378	-0.551	**0.920**	-0.552	-0.441	-0.421	-	-0.124
TCS1	0.608	0.739	-0.562	**0.915**	0.598	0.490	0.577	0.284
TCS2	0.597	0.661	-0.519	**0.924**	0.589	0.477	0.546	0.262
TCS3	0.579	0.695	-0.572	**0.921**	0.591	0.491	0.588	0.230
PU1	0.508	0.593	-0.429	0.621	**0.866**	0.587	0.625	0.252
PU2	0.385	0.566	-0.409	0.490	**0.872**	0.574	0.584	0.272
PU3	0.429	0.577	-0.382	0.554	**0.854**	0.492	0.556	0.229
PEOU1	0.414	0.436	-0.328	0.387	0.516	**0.842**	0.466	0.144
PEOU2	0.470	0.554	-0.421	0.516	0.578	**0.847**	0.556	0.210
PEOU3	0.414	0.463	-0.373	0.450	0.498	**0.815**	0.507	0.178
PEOU4	0.437	0.474	-0.402	0.415	0.554	**0.860**	0.540	0.154
BI1	0.363	0.538	-0.456	0.548	0.646	0.600	**0.897**	0.279
BI2	0.446	0.570	-0.385	0.553	0.605	0.506	**0.876**	0.415
BI3	0.386	0.574	-0.469	0.572	0.59	0.560	**0.924**	0.367
USE	0.246	0.322	-0.136	0.281	0.291	0.206	0.394	**1.000**

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness;

PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior; EXP: experience; INC: income.

Appendix 3.2 Cross Loadings for the Germany Sample

GER	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
SA1	**0.878**	0.505	-0.334	0.427	0.351	0.301	0.306	0.124
SA2	**0.879**	0.506	-0.317	0.399	0.371	0.273	0.295	0.151
SA3	**0.911**	0.545	-0.339	0.415	0.404	0.315	0.388	0.198
SA4	**0.858**	0.491	-0.279	0.412	0.300	0.300	0.287	0.161
TIM1	0.520	**0.893**	-0.460	0.536	0.499	0.423	0.463	0.261
TIM2	0.515	**0.866**	-0.365	0.496	0.425	0.362	0.416	0.272
TIM3	0.518	**0.911**	-0.515	0.566	0.533	0.460	0.487	0.322
RCS1	-0.300	-0.437	**0.904**	-0.443	-0.395	-0.416	-	-0.276
RCS2	-0.333	-0.459	**0.930**	-0.440	-0.433	-0.451	-	-0.261
RCS3	-0.360	-0.501	**0.928**	-0.438	-0.450	-0.471	-	-0.255
TCS1	0.408	0.557	-0.456	**0.923**	0.472	0.477	0.382	0.158
TCS2	0.450	0.537	-0.411	**0.927**	0.420	0.399	0.373	0.152
TCS3	0.452	0.580	-0.464	**0.941**	0.418	0.421	0.368	0.192
PU1	0.350	0.488	-0.425	0.387	**0.853**	0.587	0.575	0.337
PU2	0.305	0.473	-0.413	0.421	**0.881**	0.591	0.538	0.337
PU3	0.392	0.449	-0.351	0.402	**0.837**	0.468	0.539	0.316
PEOU1	0.281	0.369	-0.440	0.401	0.540	**0.865**	0.436	0.208
PEOU2	0.321	0.420	-0.397	0.413	0.593	**0.897**	0.438	0.229
PEOU3	0.273	0.441	-0.457	0.445	0.573	**0.903**	0.418	0.208
PEOU4	0.320	0.433	-0.429	0.392	0.574	**0.881**	0.464	0.199
BI1	0.321	0.487	-0.448	0.343	0.628	0.530	**0.857**	0.375
BI2	0.307	0.414	-0.244	0.350	0.506	0.337	**0.855**	0.387
BI3	0.315	0.430	-0.316	0.355	0.531	0.407	**0.893**	0.419
USE	0.180	0.321	-0.286	0.180	0.385	0.238	0.453	**1.000**

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from

community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

Appendix 4: Heterotrait-Monotrait Ratios

Appendix 4.1 Heterotrait-Monotrait Ratio of the Thailand Sample

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
SA								
TIM	0.717							
RCS	0.468	0.666						
TCS	0.714	0.847	0.657					
PU	0.588	0.782	0.541	0.739				
PEOU	0.585	0.655	0.510	0.593	0.751			
BI	0.497	0.707	0.541	0.692	0.795	0.706		
USE	0.259	0.343	0.142	0.295	0.319	0.219	0.419	

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

Appendix 4.2 Heterotrait-Monotrait Ratio of the Germany Sample

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
SA								
TIM	0.655							
RCS	0.395	0.562						
TCS	0.514	0.667	0.521					
PU	0.472	0.645	0.534	0.541				
PEOU	0.371	0.524	0.533	0.508	0.741			
BI	0.415	0.596	0.441	0.458	0.770	0.560		
USE	0.189	0.343	0.300	0.187	0.425	0.249	0.495	

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

Appendix 5: Variance Inflation Factors

Appendix 5.1 Variance Inflation Factor for the Thailand Sample

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
SA								
TIM								
RCS	1.886	2.601						
TCS	1.793	1.965	2.640					
PU				1.388				
PEOU				1.586	1.388			
BI			1.634	2.146	2.179	1.808		1.000
USE								

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

Appendix 5.2 Variance Inflation Factor for the Germany Sample

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE
SA								
TIM								
RCS	1.562	1.905						
TCS	1.521	1.729	1.618					
PU				1.277				
PEOU				1.293	1.277			
BI			1.501	1.483	1.866	1.897		1.000
USE								

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior.

Appendix 6: Total Effects in the Thailand Sample and Germany Sample

	Thailand		Germany	
	Path coefficient	*t*-value	Path coefficient	*t*-value
SA → RCS	-0.064	1.180	-0.094	1.669
SA → TCS	0.251	4.906***	0.160	3.801***
SA → PU	0.107	4.845***	0.035	2.502*
SA → BI	0.098	4.367***	0.038	2.504*
SA → USE	0.038	3.702***	0.017	2.351*
TIM → RCS	-0.542	9.697***	-0.425	7.308***
TIM → TCS	0.554	9.498***	0.403	8.195***
TIM → PU	0.236	5.385***	0.088	3.171**
TIM → BI	0.247	5.422***	0.109	3.337**
TIM → USE	0.097	4.443***	0.049	3.029**
RCS → BI	-0.079	1.807	-0.070	1.371
RCS → USE	-0.031	1.806	-0.032	1.331
TCS → RCS	-0.351	5.568***	-0.261	3.919***
TCS → PU	0.425	8.615***	0.218	3.992***
TCS → BI	0.396	7.980***	0.215	3.909***
TCS → USE	0.156	5.424***	0.097	3.509***
PU → BI	0.347	6.206***	0.510	8.495***
PU → USE	0.137	4.876***	0.231	5.618***
PEOU → RCS	-0.028	1.618	-0.058	2.504*
PEOU → TCS	0.080	1.822	0.223	4.503***
PEOU → PU	0.449	9.609***	0.590	13.453***
PEOU → BI	0.418	7.916***	0.417	8.119***
PEOU → USE	0.165	5.641***	0.189	6.320***
BI → USE	0.394	7.940***	0.453	9.480***

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from

community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; USE: use behavior. ***p < 0.001, ** p < 0.01; * p < 0.05

Appendix 7: Cross Loadings with Control Variables

Appendix 7.1 Cross Loadings with Control Variables in the Pooled Sample

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
SA1	**0.868**	0.522	-0.327	0.485	0.382	0.360	0.332	0.132	0.194	0.134	0.104
SA2	**0.885**	0.526	-0.295	0.437	0.370	0.346	0.323	0.153	0.246	0.162	0.163
SA3	**0.888**	0.525	-0.302	0.451	0.410	0.366	0.375	0.144	0.286	0.216	0.165
SA4	**0.870**	0.538	-0.316	0.482	0.384	0.364	0.347	0.087	0.245	0.182	0.135
TIM1	0.564	**0.903**	-0.507	0.630	0.558	0.480	0.519	0.072	0.179	0.113	0.172
TIM2	0.525	**0.882**	-0.442	0.586	0.514	0.423	0.480	0.157	0.150	0.097	0.106
TIM3	0.527	**0.901**	-0.547	0.631	0.588	0.520	0.546	0.040	0.171	0.089	0.104
RCS1	-0.324	-0.516	**0.925**	-0.566	-0.455	-0.466	-0.409	0.086	-0.053	-0.008	0.063
RCS2	-0.329	-0.510	**0.939**	-0.555	-0.484	-0.462	-0.424	0.069	-0.089	0.000	0.050
RCS3	-0.337	-0.536	**0.933**	-0.560	-0.489	-0.481	-0.453	0.060	-0.062	0.015	0.033
TCS1	0.485	0.661	-0.573	**0.926**	0.571	0.509	0.506	0.078	0.135	0.126	0.067
TCS2	0.501	0.612	-0.529	**0.932**	0.542	0.468	0.486	0.101	0.131	0.155	0.061
TCS3	0.493	0.649	-0.574	**0.935**	0.542	0.484	0.506	0.080	0.108	0.133	0.066
PU1	0.408	0.554	-0.485	0.555	**0.867**	0.609	0.611	0.029	0.159	0.052	0.099

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
PU2	0.333	0.534	-0.452	0.491	**0.883**	0.600	0.573	0.017	0.145	0.083	0.122
PU3	0.403	0.518	-0.382	0.488	**0.845**	0.491	0.556	0.120	0.180	0.138	0.177
PEOU1	0.337	0.419	-0.427	0.431	0.551	**0.861**	0.466	-0.029	0.183	0.098	0.053
PEOU2	0.379	0.500	-0.458	0.503	0.608	**0.880**	0.511	-0.041	0.174	0.081	0.043
PEOU3	0.335	0.463	-0.436	0.465	0.551	**0.866**	0.472	-0.080	0.249	0.112	0.087
PEOU4	0.370	0.463	-0.429	0.418	0.574	**0.871**	0.509	-0.040	0.239	0.115	0.126
BI1	0.332	0.525	-0.481	0.485	0.651	0.579	**0.876**	0.013	0.222	0.095	0.124
BI2	0.366	0.500	-0.342	0.472	0.567	0.431	**0.871**	0.143	0.203	0.146	0.201
BI3	0.344	0.505	-0.394	0.468	0.564	0.484	**0.908**	0.059	0.217	0.150	0.205
PD1	0.165	0.118	0.068	0.100	0.075	-0.040	0.087	**0.965**	-0.018	0.078	0.181
PD2	0.048	0.011	0.074	0.041	0.005	-0.071	0.035	**0.749**	-0.006	0.093	0.151
UA2	0.243	0.179	-0.011	0.109	0.117	0.138	0.167	0.005	**0.805**	0.370	0.183
UA3	0.216	0.113	0.003	0.057	0.113	0.191	0.156	-0.029	**0.824**	0.354	0.145
UA4	0.180	0.139	-0.118	0.112	0.149	0.190	0.197	-0.042	**0.790**	0.288	0.082
UA5	0.261	0.173	-0.087	0.144	0.205	0.253	0.250	0.006	**0.864**	0.320	0.182
COL1	0.148	0.022	0.118	0.012	0.017	-0.002	0.029	0.120	0.310	**0.725**	0.303
COL2	0.171	0.130	-0.102	0.201	0.149	0.190	0.198	0.029	0.330	**0.837**	0.157
COL3	0.166	0.100	0.023	0.111	0.064	0.056	0.080	0.079	0.333	**0.837**	0.199
COL4	0.183	0.076	0.034	0.095	0.059	0.042	0.067	0.090	0.347	**0.821**	0.226

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
COL5	0.141	0.057	0.077	0.046	0.027	0.034	0.080	0.127	0.316	**0.776**	0.268
COL6	0.139	0.060	0.086	0.072	0.048	0.043	0.089	0.097	0.311	**0.807**	0.233
MAS1	0.147	0.164	-0.027	0.111	0.186	0.143	0.215	0.160	0.135	0.203	**0.896**
MAS2	0.137	0.115	0.073	0.030	0.109	0.053	0.157	0.178	0.182	0.224	**0.874**
MAS3	0.135	0.070	0.137	0.015	0.070	-0.004	0.126	0.167	0.171	0.262	**0.852**

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity.

Appendix 7.2 Cross Loadings with Control Variables in the Thailand Sample

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
SA1	**0.853**	0.537	-0.336	0.551	0.411	0.419	0.352	0.145	0.199	0.210	0.292
SA2	**0.899**	0.571	-0.372	0.548	0.417	0.467	0.382	0.142	0.298	0.238	0.287
SA3	**0.877**	0.541	-0.387	0.579	0.479	0.479	0.402	0.105	0.296	0.312	0.272
SA4	**0.878**	0.592	-0.393	0.587	0.487	0.448	0.416	0.068	0.317	0.326	0.309
TIM1	0.617	**0.915**	-0.561	0.722	0.609	0.529	0.565	0.094	0.233	0.270	0.343
TIM2	0.553	**0.889**	-0.474	0.642	0.570	0.454	0.521	0.160	0.178	0.256	0.258

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
TIM3	0.549	**0.888**	-0.572	0.678	0.622	0.563	0.589	0.043	0.229	0.262	0.301
RCS1	-0.402	-0.569	**0.922**	-0.572	-0.423	-0.443	-0.458	0.050	-0.204	-0.235	-0.157
RCS2	-0.396	-0.538	**0.926**	-0.535	-0.442	-0.395	-0.421	0.014	-0.230	-0.247	-0.177
RCS3	-0.378	-0.551	**0.920**	-0.552	-0.441	-0.421	-0.463	0.012	-0.196	-0.197	-0.199
TCS1	0.608	0.739	-0.562	**0.915**	0.598	0.490	0.577	0.101	0.254	0.336	0.309
TCS2	0.597	0.661	-0.519	**0.924**	0.589	0.477	0.546	0.067	0.225	0.342	0.307
TCS3	0.579	0.695	-0.572	**0.921**	0.591	0.491	0.588	0.039	0.193	0.308	0.299
PU1	0.508	0.593	-0.429	0.621	**0.866**	0.587	0.624	0.120	0.244	0.277	0.356
PU2	0.385	0.566	-0.409	0.490	**0.872**	0.574	0.584	0.143	0.205	0.227	0.303
PU3	0.429	0.577	-0.382	0.554	**0.854**	0.492	0.556	0.175	0.254	0.251	0.298
PEOU1	0.414	0.436	-0.328	0.387	0.516	**0.842**	0.466	0.082	0.232	0.260	0.267
PEOU2	0.470	0.554	-0.421	0.516	0.578	**0.847**	0.556	0.097	0.255	0.267	0.260
PEOU3	0.414	0.463	-0.373	0.450	0.498	**0.815**	0.506	-0.021	0.360	0.292	0.280
PEOU4	0.437	0.474	-0.402	0.415	0.554	**0.860**	0.540	0.064	0.324	0.274	0.305
BI1	0.363	0.538	-0.456	0.548	0.646	0.600	**0.897**	0.095	0.268	0.249	0.344
BI2	0.446	0.570	-0.385	0.553	0.605	0.506	**0.877**	0.201	0.239	0.280	0.364
BI3	0.386	0.574	-0.469	0.572	0.590	0.560	**0.923**	0.090	0.227	0.290	0.361
PD1	0.167	0.144	0.022	0.095	0.166	0.057	0.148	**0.934**	-0.080	-0.040	0.204
PD2	0.010	-0.003	0.028	0.009	0.106	0.060	0.078	**0.737**	-0.077	-0.006	0.097

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
UA2	0.273	0.239	-0.221	0.233	0.210	0.270	0.211	-0.143	**0.844**	0.319	0.196
UA3	0.213	0.156	-0.179	0.154	0.184	0.291	0.181	-0.115	**0.826**	0.311	0.109
UA4	0.238	0.181	-0.217	0.194	0.241	0.273	0.219	-0.056	**0.795**	0.299	0.190
UA5	0.314	0.211	-0.149	0.218	0.254	0.318	0.275	-0.015	**0.860**	0.356	0.294
COL1	0.294	0.227	-0.227	0.279	0.235	0.301	0.239	-0.022	0.359	**0.789**	0.253
COL2	0.282	0.239	-0.179	0.283	0.203	0.223	0.286	0.037	0.336	**0.811**	0.221
COL3	0.250	0.268	-0.262	0.327	0.262	0.289	0.258	-0.067	0.291	**0.848**	0.170
COL4	0.249	0.232	-0.195	0.286	0.245	0.263	0.222	-0.052	0.326	**0.847**	0.179
COL5	0.241	0.267	-0.208	0.298	0.275	0.282	0.278	-0.028	0.303	**0.849**	0.234
COL6	0.220	0.207	-0.129	0.296	0.223	0.253	0.201	-0.043	0.312	**0.807**	0.197
MAS1	0.300	0.339	-0.222	0.332	0.357	0.325	0.375	0.192	0.170	0.203	**0.860**
MAS2	0.276	0.283	-0.147	0.265	0.321	0.278	0.332	0.185	0.226	0.218	**0.868**
MAS3	0.286	0.250	-0.125	0.264	0.285	0.254	0.324	0.122	0.260	0.247	**0.885**

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity.

Appendix 7.3 Cross Loadings with Control Variables in the Germany Sample

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
SA1	**0.878**	0.505	-0.334	0.427	0.351	0.301	0.306	0.117	0.215	0.092	-0.042
SA2	**0.879**	0.506	-0.317	0.399	0.371	0.273	0.295	0.153	0.188	0.080	0.036
SA3	**0.911**	0.545	-0.339	0.415	0.404	0.315	0.388	0.172	0.267	0.110	0.044
SA4	**0.858**	0.491	-0.279	0.412	0.300	0.300	0.287	0.098	0.199	0.087	0.010
TIM1	0.520	**0.893**	-0.460	0.536	0.499	0.423	0.462	0.052	0.174	0.035	0.074
TIM2	0.515	**0.866**	-0.365	0.496	0.425	0.362	0.416	0.162	0.188	0.037	0.048
TIM3	0.518	**0.911**	-0.515	0.566	0.533	0.460	0.486	0.047	0.172	0.015	-0.013
RCS1	-0.300	-0.437	**0.904**	-0.443	-0.395	-0.416	-0.309	0.099	-0.046	-0.005	0.097
RCS2	-0.333	-0.459	**0.930**	-0.440	-0.433	-0.451	-0.373	0.102	-0.121	-0.010	0.077
RCS3	-0.360	-0.501	**0.928**	-0.438	-0.450	-0.471	-0.395	0.087	-0.077	0.009	0.072
TCS1	0.408	0.557	-0.456	**0.923**	0.472	0.477	0.382	0.082	0.155	0.117	-0.006
TCS2	0.450	0.537	-0.411	**0.927**	0.420	0.399	0.373	0.173	0.166	0.165	-0.026
TCS3	0.452	0.580	-0.464	**0.941**	0.418	0.421	0.368	0.157	0.145	0.137	-0.021
PU1	0.350	0.488	-0.425	0.387	**0.853**	0.587	0.574	-0.030	0.190	0.002	0.013
PU2	0.305	0.473	-0.413	0.421	**0.881**	0.591	0.537	-0.081	0.174	0.087	0.064
PU3	0.392	0.449	-0.351	0.402	**0.837**	0.468	0.539	0.088	0.169	0.140	0.145
PEOU1	0.281	0.369	-0.440	0.401	0.540	**0.865**	0.434	-0.108	0.226	0.084	-0.040

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
PEOU2	0.321	0.420	-0.397	0.413	0.593	**0.897**	0.437	-0.141	0.196	0.055	-0.030
PEOU3	0.273	0.441	-0.457	0.445	0.573	**0.903**	0.417	-0.116	0.214	0.048	-0.001
PEOU4	0.320	0.433	-0.429	0.392	0.573	**0.881**	0.463	-0.115	0.223	0.064	0.043
BI1	0.321	0.487	-0.448	0.343	0.628	0.530	**0.854**	-0.046	0.256	0.059	0.017
BI2	0.307	0.414	-0.244	0.350	0.506	0.337	**0.857**	0.105	0.231	0.128	0.153
BI3	0.315	0.430	-0.316	0.355	0.531	0.407	**0.894**	0.040	0.251	0.089	0.137
PD1	0.163	0.102	0.106	0.136	0.003	-0.115	0.038	**0.975**	0.027	0.165	0.161
PD2	0.083	0.042	0.068	0.135	-0.054	-0.155	0.014	**0.790**	0.033	0.162	0.168
UA2	0.229	0.208	-0.028	0.174	0.164	0.146	0.222	0.102	**0.800**	0.335	0.089
UA3	0.231	0.153	-0.039	0.143	0.181	0.229	0.223	0.021	**0.846**	0.313	0.081
UA4	0.127	0.117	-0.089	0.074	0.099	0.150	0.201	-0.036	**0.759**	0.265	-0.025
UA5	0.210	0.166	-0.125	0.144	0.217	0.248	0.269	0.012	**0.843**	0.249	0.051
COL1	0.068	0.006	0.027	0.125	0.084	-0.015	0.033	0.206	0.198	**0.726**	0.201
COL2	0.066	0.022	-0.034	0.128	0.103	0.167	0.121	0.022	0.337	**0.812**	0.118
COL3	0.107	0.058	0.000	0.160	0.063	0.019	0.046	0.179	0.306	**0.823**	0.099
COL4	0.143	0.047	-0.042	0.168	0.070	0.016	0.055	0.183	0.302	**0.804**	0.138
COL5	0.069	-0.019	0.046	0.060	-0.009	-0.008	0.039	0.238	0.255	**0.708**	0.176
COL6	0.076	0.026	0.029	0.090	0.057	0.013	0.106	0.189	0.245	**0.842**	0.149
MAS1	0.008	0.036	0.065	-0.037	0.092	0.042	0.113	0.128	0.075	0.175	**0.888**

	SA	TIM	RCS	TCS	PU	PEOU	BI	PD	UA	COL	MAS
MAS2	0.017	0.047	0.059	-0.015	0.065	-0.012	0.104	0.157	0.072	0.130	**0.894**
MAS3	0.010	0.014	0.121	0.011	0.058	-0.069	0.078	0.189	0.002	0.152	**0.848**

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity.

Appendix 8: Heterotrait-Monotrait Ratios with Control Variables

Appendix 8.1 Heterotrait-Monotrait Ratio for the Pooled Sample with Control Variables

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE	PD	UA	COL	MAS	EXP	INC
SA														
TIM	0.676													
RCS	0.387	0.618												
TCS	0.579	0.764	0.649											
PU	0.509	0.723	0.579	0.674										
PEOU	0.455	0.598	0.554	0.575	0.759									
BI	0.445	0.661	0.513	0.601	0.791	0.640								
USE	0.225	0.335	0.187	0.224	0.352	0.222	0.444							
PD	0.153	0.104	0.100	0.100	0.087	0.080	0.094	0.060						
UA	0.315	0.213	0.078	0.145	0.213	0.271	0.274	0.047	0.038					
COL	0.214	0.101	0.097	0.121	0.104	0.089	0.129	0.115	0.148	0.462				
MAS	0.183	0.153	0.101	0.067	0.168	0.104	0.222	0.187	0.244	0.219	0.332			
EXP	0.046	0.146	0.315	0.214	0.281	0.282	0.232	0.100	0.051	0.109	0.248	0.162		

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE	PD	UA	COL	MAS	EXP	INC
INC	0.061	0.083	0.165	0.128	0.157	0.114	0.149	0.207	0.095	0.096	0.051	0.094	0.172	

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Appendix 8.2 Heterotrait-Monotrait Ratio for the Thailand Sample with Control Variables

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE	PD	UA	COL	MAS	EXP	INC
SA														
TIM	0.717													
RCS	0.468	0.666												
TCS	0.714	0.847	0.657											
PU	0.588	0.782	0.541	0.739										
PEOU	0.585	0.655	0.510	0.593	0.751									
BI	0.497	0.707	0.541	0.692	0.795	0.706								
USE	0.259	0.343	0.142	0.295	0.319	0.219	0.419							
PD	0.152	0.133	0.039	0.088	0.225	0.108	0.180	0.105						
UA	0.354	0.271	0.261	0.272	0.317	0.404	0.307	0.069	0.140					
COL	0.341	0.325	0.267	0.393	0.335	0.368	0.335	0.170	0.059	0.439				
MAS	0.379	0.386	0.216	0.376	0.439	0.385	0.458	0.223	0.242	0.283	0.291			
EXP	0.026	0.070	0.031	0.055	0.154	0.177	0.129	0.086	0.116	0.028	0.044	0.123		
INC	0.018	0.032	0.090	0.042	0.163	0.101	0.126	0.157	0.082	0.024	0.057	0.176	0.056	

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Appendix 8.3 Heterotrait-Monotrait Ratio for the Germany Sample with Control Variables

	SA	TIM	RCS	TCS	PU	PEOU	BI	USE	PD	UA	COL	MAS	EXP	INC
SA														
TIM	0.655													
RCS	0.395	0.562												
TCS	0.514	0.667	0.521											
PU	0.472	0.645	0.534	0.541										
PEOU	0.371	0.524	0.533	0.508	0.741									
BI	0.415	0.596	0.441	0.458	0.770	0.560								
USE	0.189	0.343	0.300	0.187	0.425	0.249	0.495							
PD	0.162	0.108	0.115	0.179	0.101	0.177	0.095	0.038						
UA	0.282	0.234	0.099	0.188	0.246	0.274	0.337	0.107	0.065					
COL	0.122	0.044	0.043	0.169	0.121	0.064	0.114	0.061	0.255	0.402				
MAS	0.045	0.061	0.106	0.029	0.105	0.063	0.151	0.155	0.229	0.086	0.212			
EXP	0.106	0.067	0.142	0.026	0.171	0.197	0.188	0.201	0.035	0.049	0.036	0.058		
INC	0.096	0.082	0.121	0.112	0.088	0.068	0.116	0.261	0.121	0.131	0.165	0.133	0.116	

Notes: SA: structural assurances; TIM: trust in the intermediary; RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; PEOU: perceived ease of use; BI: behavioral intention; PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Appendix 9: Coefficient of Determination Differences

	R^2 difference (|Thailand-Germany|)
RCS	0.103
TCS	0.205***
PU	0.089+
BI	0.126*
USE	-0.050

Notes: RCS: risk from community of sellers; TCS: trust in community of sellers; PU: perceived usefulness; BI: behavioral intention; USE: use behavior. + $p < 0.1$, *$p > 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix 10: Compositional Invariance and Composite Mean of the Control Variables

Appendix 10.1 MICOM Step 2: Compositional Invariance of the Control Variables

Composite	Correlation c	5% quantile of the empirical distribution of c(u)	*p*-value	Compositional invariance established?
PD	0.998	0.408	0.893	Yes
UA	0.999	0.989	0.855	Yes
COL	0.984	0.849	0.534	Yes
MAS	0.999	0.984	0.850	Yes
EXP	1	1	0.462	Yes
INC	1	1	0.448	Yes

Notes: PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Appendix 10.2 MICOM Step 3: Composite Mean of the Control Variables

Composite	Difference of the composite's mean value (Thailand-Germany)	95% confidence interval	*p*-value	Equal mean values?
PD	0.086	[-0.136; 0.14]	0.225	No
UA	0.354	[-0.137; 0.139]	0.000	Yes
COL	0.528	[-0.137; 0.141]	0.000	Yes
MAS	0.494	[-0.144; 0.135]	0.000	Yes
EXP	-1.214	[-0.135; 0.135]	0.000	Yes
INC	-0.348	[-0.137; 0.137]	0.000	Yes

Notes: PD: power distance; UA: uncertainty avoidance; COL:

collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

Appendix 10.3 MICOM Step 3: Composite Variance of the Control Variables

Composite	Logarithm of the composite's variances ratio (Thailand-Germany)	95% confidence interval	*p*-value	Equal variances?
PD	-0.206	[-0.186; 0.187]	0.030	No
UA	-0.083	[-0.201; 0.204]	0.419	Yes
COL	-0.135	[-0.229; 0.218]	0.241	Yes
MAS	-0.228	[-0.193; 0.192]	0.020	No
EXP	-0.245	[-0.166; 0.169]	0.004	No
INC	-0.566	[-0.158; 0.161]	0.000	No

Notes: PD: power distance; UA: uncertainty avoidance; COL: collectivism/individualism; MAS: masculinity/femininity; EXP: experience; INC: income.

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