



universität
wien

MASTERARBEIT / MASTER'S THESIS

Titel der Masterarbeit / Title of the master's Thesis

"A Bicultural Study on the Intention to Use Unmanned Stores"

verfasst von / submitted by

Seyed Shahabodin Mousavi Nejad

angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Science (MSc)

Wien, 2023 / Vienna, 2023

Studienkennzahl lt. Studienblatt /
degree programme code as it appears on
the student record sheet:

UA 066915

Studienrichtung lt. Studienblatt /
degree programme as it appears on
the student record sheet:

Masterstudium Betriebswirtschaftslehre (BWL)
Master's Degree in Business Administration

Betreut von / Supervisor:

Univ.-Prof. Dipl.-Math. Karl Schlag, PhD

Abstract

Integrating AI technology in retail, like Amazon Go, has increased investments in unmanned stores. This study explored the intention to use Amazon Go in South Korea and Austria, considering perceived ease of use and five national cultural dimensions. The study found significant differences between Austrian and Korean groups' intention to use Amazon Go, perceived ease of use, and five national cultural dimensions. The intention to use unmanned stores was negatively affected by uncertainty avoidance and long- and short-term orientation and positively affected by time orientation and disconnected communication within Austrian and Korean groups. Moreover, the impact of disconnected communication on the intention to use significantly differed between the two groups.

Abstrakt

Die Integration von KI-Technologie im Einzelhandel, wie bei Amazon Go, hat zu erhöhten Investitionen in Geschäfte ohne Personal (Unmanned Stores) geführt. Diese wissenschaftliche Arbeit untersuchte die Nutzungsabsicht von Amazon-Go in Südkorea und Österreich unter Berücksichtigung von wahrgenommenen Benutzerfreundlichkeit und fünf nationalen kulturellen Dimensionen. Diese Arbeit ergab signifikante Unterschiede in der Nutzungsabsicht von Amazon-Go, der wahrgenommenen Benutzerfreundlichkeit und fünf nationalen kulturellen Dimensionen zwischen österreichischen und koreanischen Gruppen. Die Nutzungsabsicht von Amazon-Go wurde sowohl in österreichischen als auch in koreanischen Gruppen durch Unsicherheitsvermeidung und Lang- und Kurzfristorientierung negativ und durch Zeitorientierung und entfernte Kommunikation positiv beeinflusst. Darüber hinaus war der Einfluss von der entfernten Kommunikation auf die Nutzungsabsicht zwischen den beiden Gruppen deutlich unterschiedlich.

1. Introduction

The growth of unmanned stores (US) is increasing worldwide as artificial intelligence (AI) knowledge and its application in retail businesses develop. AI transforms services by performing tasks and driving innovation (Belk et al., 2020). Amazon opened its first unmanned convenience store to the public in the USA on January 22, 2018, called Amazon Go, by applying "Just Walk Out" technology. Just Walk Out is an AI technology that allows customers to walk into a store, pick what they want, and get going without stopping to check out. Amazon Go is an entirely self-serve and self-checkout store. Shopping at Amazon Go requires an Amazon account, a free Amazon Shopping app, and a smartphone. When one shops at Amazon Go, the experience unfolds as follows: one enters the Amazon Go store, selects her desired products, and then leaves the store without any direct contact with staff. As one picks up each selected item, it is seamlessly added to her virtual shopping cart, conveniently accessible on the smartphone. Moreover, the process is equally effortless if one decides to return an item. Just one places the item back on the shelf, and it will be automatically removed from her virtual shopping cart. What sets Amazon Go apart is that there is no need for the conventional checkout process. Gone are the days of scanning products at a machine or completing payments at a point-of-sale (POS) terminal. Instead, as one exits the store, her Amazon account is automatically charged, and the person receives a virtual bill directly on her smartphone. This streamlined approach to shopping offers both convenience and efficiency, making her Amazon shopping experience remarkable. The global market for unmanned stores has been steadily rising since 2019 and is poised to reach a substantial valuation of US\$1,640.32 million by 2027. In this dynamic landscape, the unmanned convenience store market is characterized by a rich tapestry of regional and local players, each offering many solutions for enterprises seeking to venture into the realm of unmanned convenience stores (The Insight Partners, 2020). In this context, Amazon has emerged as a pioneering force by extending its cutting-edge AI technology, "Just Walk Out," to retailers worldwide. This visionary approach opens up a world of possibilities, allowing a diverse array of stores to adopt the unmanned store concept seamlessly. The transformative potential of "Just Walk Out" technology is indeed a game-changer, propelling the evolution of unmanned stores into an exciting and promising future. South Korea, as a prominent Asian

nation, stands as a formidable contender in the global AI technology landscape. In 2020, the Korean government unveiled its ambitious National Strategy for Artificial Intelligence, aimed at harnessing AI's potential to generate a staggering economic surplus of 327 billion dollars. However, the proliferation of unmanned stores in South Korea has been limited due to existing legislation that places strict controls on personal data collection. In response to this challenge, the Korean government is actively contemplating legal reforms designed to ease restrictions and facilitate the integration of innovative solutions like "Just Walk Out" technology into retail establishments. By anticipating these forthcoming legal reforms, it is clear that Amazon Go is poised to disrupt the market dynamics in South Korea significantly. This transformative development is expected to reshape the retail landscape in South Korea, ushering in a new era of convenience and efficiency for both consumers and businesses alike (Kwak & Cho, 2019). Certain stores have successfully transitioned to unmanned operations utilizing various forms of technology, aligning seamlessly with prevailing legislation. As depicted in the table below, South Korea already boasts a variety of unmanned convenience stores.

Table 1. Type of Unmanned Stores

No	Nation	Name	Type	Remarks
1	USA	Amazon AmazonGo	OQ code second dimension barcode Just Walk Out	Facial recognition, autonomous driving and artificial intelligence base
			autonomous car of computer vision, sensor fusion and deep learning algorism were adopted	
2	China	Jingdong e-commerce firm in China	X unmanned super	RFID base
3	China	Alibaba the biggest e-commerce firm in China	unmanned conveniences store taocafe	RFID, internet of things base
4	South Korea	Koreaseven(seven eleven) affiliated company of Lotte	unmanned conveniences store seven eleven signature	bigdata and internet of things base
5	South Korea	conveniences store Emart24 affiliated company of shinsegae	unmanned conveniences 4 store being operated	bigdata and internet of things base
6	South Korea	Lotte Department	chatbot Rosa using artificial intelligence	chatbot base
7	South Korea	Korea Post (Office of postal service) in November 2017	parcel service by drone on November 2017	drone base
8	South Korea	delivering people (woowayoungmens)	delivery robot 'dilly'	robot base

Note. Source: Young-Arm and Cho 2019, p.50

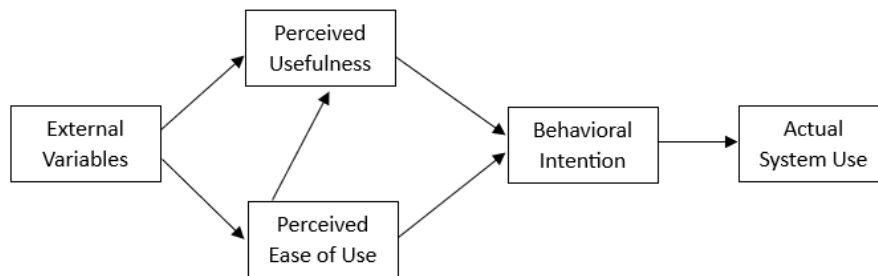
In contrast to South Korea, the domestic corporate landscape in AI is dominated by companies in the information and communication sector and only 1% in business and stores in Austria (government ministry of Austria 2019). As a result, customers' inclination to use unmanned stores is likely different between Asian consumers and Western. Furthermore, East Asians feel more connected to AI than Westerners (Belk et al., 2020). The current study will delve deeper into the factors impacting the intention to utilize Amazon Go

within two distinct societies, namely Austria and South Korea. This research aims to explore if the intention to use Amazon Go differs between Austrians and Koreans and to identify which national cultural dimensions statistically differ between the two groups. In addition, this study explores which national cultural dimensions affect the behavioral intention to use Amazon Go within Austrian and Korean groups and identifies any significant different effect between the two groups.

2. Conceptual background and hypothesis development

Davis (1986) developed an outstanding theoretical model for testing user acceptance technology called the technology acceptance model (TAM). He presented the following model, which this study applies as a basic model to examine the different behavioral intentions to use Amazon Go between Koreans and Austrians regarding national cultural dimensions.

Figure 1 Technology Acceptance Model (TAM)



Note. Source: Venkatesh and Davis 1996, p. 453

Davis's initial model has evolved and undergone various modifications over time. In alignment with the specific focus and core inquiry of this research, we will exclusively scrutinize the direct effect of "perceived ease of use" (PEU) variable, along with all other external variables, on the intention to use Amazon Go. Furthermore, it is important to note that this study will not incorporate the "perceived usefulness" (PU) variable into the Technology Acceptance Model. This decision is based on the results of the measurement model and factorial invariance analysis, which indicated that omitting the perceived usefulness variable is necessary to maintain the model's reliability (section Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups).

2.1.Intention to Use (IU) Unmanned Stores

As mentioned in the introduction, South Korea holds a significant position in the global AI technology landscape, with ambitious plans to drive economic growth through AI. However, stringent regulations on personal data collection have hindered the expansion of unmanned stores in the country. To address this challenge, the Korean government is actively contemplating legal reforms to facilitate innovative retail solutions like "Just Walk Out" technology. With these future reforms, Amazon Go is poised to transform the South Korean retail market, revolutionizing consumers and businesses. It is worth noting that South Korea already has various unmanned stores, indicating a high demand for such establishments (Table 1. Type of Unmanned Store). In contrast, Austria's AI landscape is heavily concentrated in the information and communication sector, with only a 1% presence in the business and stores sector. The number of unmanned stores in Austria is limited, reflecting a lower supply of such stores and, consequently, a lower demand. Given these disparities, it is reasonable to anticipate a higher intention to use unmanned stores such as Amazon Go among Koreans compared to the Austrian group. Therefore, this research explores this unique aspect of cross-cultural studies: the intention to use unmanned stores, specifically Amazon Go, among Koreans as a collective entity compared to Austrians. As a result, the initial hypothesis emerges for testing:

H1a: Koreans are more likely to intend to use Amazon Go than Austrians.

The questions (items) designed in the survey of this study to measure the concept of "intention to use Amazon Go" were adapted from studies conducted by Ghazwani et al. (2022), Seo (2019), and Ponte et al. (2021). Items were also refined to align with the specific context of this research, Amazon Go. Confirmatory factor analysis (CFA) was employed to ensure the unique measurement of the latent variable "intention to use Amazon Go" within and between Austrian and Korean groups. The section Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups elaborates on this analytical approach.

2.2.Perceived Ease of Use (PEU)

Companies increasingly introduced computers and various applications into office environments during the last decades, coupled with the gradual displacement of handwritten messages by computer-based

communication. As a result, individuals were forced to adapt to new technologies and adopt new digital communication styles. It has slowly become important for researchers to measure the degree of ease of use of new technologies. Davis (1986) was the first researcher to define the concept of "perceived ease of use" in his study to measure its effect on adopting new technology such as E-mail. He defined perceived ease of use as follows: "Perceived ease of use is the degree to which an individual believes that using a particular system would be free of physical and mental effort." As the integration of new technologies into daily life increases, this has led to examining individuals' perceptions of the complexity and cognitive demands of using new and modern technologies in various contexts. Different studies showed that the degree of ease of using new technologies varies between cultures. For instance, Straub (1994) found that the perceived ease of using technologies such as Fax and E-mail differs across cultures. Leidner and Timothy (2006) emphasized that differences in cultural values lead to different perceptions and approaches. This finding refers to the different degrees of ease of using new technologies between cultures. These results are consistent with numerous psychological studies highlighting cognitive differences among various cultures. For instance, Varnum et al. (2010) pointed out cognitive distinctions between Westerners and East Asians that other researchers also documented. We use this fact to explore the different degrees of ease of using new technologies across different national cultures, Austrian and Korean cultures. Schubert's study (2016) is one of the few cross-cultural research focusing on examining the disparities between Austrian and Korean cultures in the context of using new technologies. He found that the effort expectancy of mobile banking applications is, on average, statistically different between Austrians and Koreans. He mentioned that the Austrian group finds the new technology easier to use than the Korean group. Since people need to use smartphones and Amazon applications to enter Amazon Go shops, the result of Schubert's study is very useful for the current study. As a result, in this study, the perceived ease of using new technologies is extended to a new context, Amazon Go. Therefore, this study aims to investigate whether the perceived ease of using technologies related to Amazon Go (Just Walk Out Technology) differs between two distinct national cultures, namely Austrian and Korean cultures. Therefore, we formulate the following hypothesis

to investigate whether the perceived ease of use of new technologies associated with Amazon Go is more pronounced among Austrian participants as a collective entity than Korean participants.

H2a: Austrians perceive new technology relating to Amazon Go more easily than Koreans.

As said before, many studies showed cognitive distinctions between Westerners and East Asians. Therefore, it is important to explore the impact of perceived ease of use on the intention to use Amazon Go in order to understand if this effect varies between two Austrian and Korean cultures. Sung (2023) explored the direct effect of perceived ease of use on the intention to use in South Korea. In addition, Straub et al. in 1997 discovered that the impact of perceived ease of use on the acceptance of technology was more pronounced in the United States, as a Western cultural country, compared to Japan, as an East Asian cultural country. Furthermore, Schubert (2016) showed that the favorable effect of perceived ease of use on the intention to use was more pronounced among Austrians than Koreans. Drawing upon the literature above and hypothesis H2a, which posits that Austrian participants find the new technology associated with Amazon Go more easily than Korean participants, it becomes imperative to explore whether Austrian participants are more inclined to express an intention to use Amazon Go than Korean participants regarding the perceptions of the ease of using new technologies related to Amazon Go. It is crucial to emphasize that when examining the differences between Austrian participants and Korean participants, we consider Korean participants as a collective entity, recognizing that, on average, their cognition differs from that of Austrian participants, who constitute another distinct group (see previous literature review). Consequently, we propose:

H2b: The impact of the perceived ease of new technology related to Amazon Go on the intention to use Amazon Go is stronger among Austrians than Koreans.

The questions for the latent variable "perceived ease of use" in this study's survey, aiming to measure the concept of perceived ease of use, were chosen from studies conducted by Seo (2019), Davis (1986), and Ponte et al. (2021). Respondents were asked to score complications and the level of effort needed to interact with Amazon Go's shopping model, providing essential information for the author to measure perceived ease of use. Moreover, confirmatory factor analysis was utilized to ascertain whether the unobserved variable of perceived ease of use is uniquely measured within and between Austrian and Korean groups, as

depicted in the section of Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups.

2.3.Cultural Dimensions

Five important national cultural dimensions are included in the technology acceptance model as additional variables to examine the impact of cultural dimensions on the behavioral intention to use Amazon Go. Five national cultural dimensions, "high- and low-context culture" (HLC), "long- and short-term orientation" (LST), "uncertainty avoidance" (UA), "time orientation" (TOR), and "disconnected communication" (DC) towards people are selected as the most important national cultural factors affecting technology acceptance. As numerous researchers have extensively documented cognitive differences between Westerners and East Asians, we consider Korean participants a collective entity, acknowledging that individuals within this group have a different culture and cognitive patterns than Austrian participants, who represent another distinct collective entity.

2.3.1. High- and Low-Context (HLC)

Edward T. Hall (1976) introduced high- and low-context culture as a new cultural dimension to understand the differences between various cultures. This concept addresses the diverse communication styles across different cultures. It highlights how people's understanding of communication varies significantly from one national culture to another. Certain cultural groups heavily rely on the context of communication, including the emotions conveyed through the speaker's voice, the relationship between the speaker and the listener, and the facial and physical cues of both parties, to facilitate understanding in communication. Conversely, other groups prioritize solely the literal meaning of the words used in conversation, overlooking contextual clues. In anthropology, groups that prioritize solely the literal meaning of the words used in conversation are referred to as low-context cultures, where communications are explicit. In contrast, groups that rely on the context of communication are known as high-context cultures, where communications are implicit. Therefore, the terms "low" and "high" in the context of high- and low-context culture refer to the extent to which people rely on contextual factors to understand each other. However, reviewing existing literature gives us a better understanding of this concept. In low-context cultures, messages are explicit and clear.

Actual words are used to convey information in communication (Onkvisit & Shaw, 2004, p. 158). Low-context messages tend to be more context-free, and deals are made with much less information about the participants' character, background, and values, and much more reliance upon explicit communications (Keegan, 1989, p. 115). Zakour (2004) and Lin (2014) mentioned that explicit messages contain fewer codes and require less recoding. Additionally, in low-context cultures, nonverbal cues such as tone of voice, facial expression, and eye contact hold less significance to individuals. In their 2009 study, Rao and colleagues highlighted the cultural disparities in communication styles between China, an East Asian representative, and Germany, a Western nation. They emphasized the prevalence of a high-context culture in China and a low-context culture in Germany. Onkvisit and Shaw (2004) explored Germany and Switzerland as examples of low-context cultures, while China, Japan, and Korea are high-context cultures. According to Kim, Pan, and Park (1998), Koreans are consistent with a high-context culture, confirming Onkvisit and Shaw's observation (2004). Based on the literature, there are differences in contextual communication between Austrians, representing Western culture, and Koreans, representing East Asian culture. In other words, Austrians, as a collective entity, tend to have, on average, a lower context of communication than Koreans. Therefore, it is imperative to hypothesize and subsequently investigate whether Austrians, as a collective entity, exhibit, on average, a stronger preference for explicit communication when shopping compared to Korean participants in this study. Thus, it is hypothesized:

H3a: The preference for explicit communication is higher among Austrians than Koreans when shopping.

Furthermore, Everdingen et al. (2003) and Lin (2014) discovered that individuals in low-context cultures have a greater propensity to adopt new technologies than individuals in high-context cultures. Therefore, given that Austrian participants have, on average, a higher preference for explicit communication than Korean participants, it is essential to investigate whether this different preference for explicit communication between Austrian and Korean groups leads to Austrian participants, as a collective entity, exhibiting, on average, a higher intention to use Amazon Go than Korean participants, as another collective entity.

H3b: The impact of preference for explicit communication on the intention to use Amazon Go is more substantial among Austrians than Koreans.

Kim, Pank, & Park (1998), Richardson and Smith (2007), and Ponte et al. (2021) formulated questions (items) associated with the low and high context culture variable (latent variable) in their studies. Two questions were adapted from these previous studies, with several modifications made to ensure alignment with the specific objectives of this research in order to evaluate the communication style of the respondents in this study. Considering that explicit messages in communication are known for their clarity and precision, indicating the provision of detailed information, respondents were asked whether they require explicit and clear information about various shopping processes. Furthermore, they were queried about their need for detailed explanations concerning different aspects of shopping, including services, products, and payment methods during the shopping process. Moreover, confirmatory factor analysis (CFA) was utilized to ascertain whether the unobserved variable of low and high context culture is uniquely measured within and between Austrian and Korean groups, as depicted in the section of Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups.

2.3.2. Long- and Short-Term Orientation (LST)

Long-term and short-term orientation is another national cultural dimension to understanding the differences between various cultures. This concept pertains to the degree of respect for tradition and highlights the significance of past activities for present and future endeavors in a culture. Individuals who are inclined to follow traditions and norms orient themselves in the short term, which signifies their difficulty in separating from the past and tradition. In other words, these individuals are less inclined to expect, imagine, and perceive the long-term future with all potential changes in each aspect, which often contradicts the traditional manner. Hofstede (2010) identifies these individuals with the term "short-term orientation." In contrast to short-term orientation, long-term orientation signifies reduced regard for tradition in current and future activities, prioritizing investment in the future with less consideration of traditional values. In other words, long-term orientation indicates a weak commitment to preserving traditions (Watanabe et al., 2017). Hofstede and Minkov (2010) explained that "short-term orientation fosters virtues related to the past,

particularly emphasizing respect for tradition." In this study, we focus on respect for tradition as the most important dimension of long- and short-term orientation culture. Hofstede et al. (2010) showed that East Asian countries such as South Korea and Japan have less respect for tradition than Western countries. This difference between Austrian and Korean culture might come from the cognitive patterns that we mentioned earlier. Therefore, we consider Korean participants as a collective entity, assuming that individuals within this group have less respect on average for tradition than Austrian participants as another collective entity. So, it is hypothesized:

H4a: Austrians exhibit more respect for tradition than Koreans when shopping.

The supplementary discussion aims to explore whether the diverse impacts of tradition-respecting behaviors on the intention to use Amazon Go differ between Austrian and Korean entities. Naor et al. (2010) and Tverskoi et al. (2022) noted in their studies that cultures with a long-term orientation tend to encourage individuals to embrace new technologies more than those with a short-term orientation. Venkatesh (2000) and Metallo et al. (2022) also found similar results, indicating that individuals with a long-term orientation are more likely to adopt new technologies than those with a short-term orientation. Therefore, considering that, on average, Austrians exhibit greater respect for tradition than Koreans, we anticipate that Austrians, as a collective entity with a short-term orientation, would be less inclined, on average, to adopt Amazon Go compared to Koreans. Thus, it is hypothesized:

H4b: The negative impact of respect for tradition on the intention to use Amazon Go is more substantial among Austrians than Koreans.

Bearden (2006) developed reliable items to assess low- and short-term orientation. In this study, the items constructed variable "long- and short-term orientation" were adapted from Bearden's research. Understanding respondents' adherence to the traditional shopping model in stores with staff was crucial information gathered in the survey to enable the author to measure the concept of long- and short-term orientation. Therefore, scoring on the following statements designed in the survey, "shops with staff show more respect for tradition" and "the shopping experience in stores with staff is important to me for traditional reasons," let the author measure the unobserved variable low- and short-term orientation. Confirmatory

factor analysis was applied to ensure the measurement of the latent variable "long- and short-term orientation" within and between Austrian and Korean groups. Further details on this analytical approach can be found in the section Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups.

2.3.3. Uncertainty Avoidance (UA)

Uncertainty avoidance is another national cultural dimension to understanding the economic behaviors of individuals in different cultures. Uncertainty avoidance can be defined as the extent to which "members of a culture feel threatened by ambiguous or unknown situations" (Hofstede et al., 2010, p.191). Confronting unfamiliar situations, such as implementing Just Walk Out technology in Amazon Go, often triggers discomfort, nervousness, and stress in individuals. Typically, people tend to avoid such circumstances. Therefore, uncertainty avoidance refers to feeling threatened and uncertain in a situation, leading individuals to prefer avoiding such situations. On average, individuals within a culture demonstrate, on average, a certain level of stress and risk preference when confronted with ambiguous and unknown situations. Hence, uncertainty avoidance allows anthropologists to measure the average levels of discomfort, nervousness, and stress among people in a culture when confronted with a new situation. Anthropologists documented two distinct cultures related to uncertainty avoidance: high uncertainty avoidance culture and low uncertainty culture. Individuals within a high uncertainty avoidance culture tend to actively avoid ambiguous and uncertain situations and seek a structured approach to predict and interpret such circumstances. In the uncertainty avoidance index (UAI), South Korea and Japan have a high ranking, and the German-speaking countries have a low value (Hofstede et al., 2010). As mentioned earlier in the introduction, the increase of artificial intelligence (AI) knowledge and its application in retail businesses create new and unfamiliar situations for customers, and statistics also showed that the application of such new technology in retail businesses is significantly different between the two Austrian and Korean cultures. Therefore, it is essential in this study to explore to what extent individuals within a culture feel threatened compared to other cultures when confronting new technologies such as Just Walk Out technology. Considering the relatively unfamiliar terrain of Amazon Go, characterized by cutting-edge technology and minimal direct interaction, and

Koreans as a collective entity with a high uncertainty avoidance and Austrians as another collective entity with a low uncertainty avoidance, it is posited:

H5a: Koreans are more likely to avoid Just Walk Out technology uncertainties in Amazon Go than Austrians.

Furthermore, this study aims to explore the effect of uncertainty avoidance on the intention to use Amazon Go between Austrian and Korean cultures. Bagchi et al. (2004) showed that, on average, individuals within a low uncertainty avoidance culture are more inclined to adopt new technologies, particularly those technologies related to information and communication (Bagchi et al., 2004). Therefore, assuming Austrian participants are less inclined to avoid uncertainties related to Just Walk Out technology than Korean participants, it is crucial to investigate whether this different inclination of uncertainty avoidance leads to Austrian participants as a collective entity exhibiting a higher intention to use Amazon Go than Korean participants as another collective entity. Thus, it is hypothesized:

H5b: The negative impact of inclination to uncertainty avoidance related to Just Walk Out technology on the intention to use Amazon Go is more substantial among Koreans than Austrians.

Jengchung et al. (2013), Jung and Kellaris (2004), Ghazwani et al. (2022), Lin (2022), and Ponte et al. (2021) have developed reliable items for assessing uncertainty avoidance. In this study, the items used to construct the variable "uncertainty avoidance" were adapted from these studies. Gathering crucial information on respondents' inclination to avoid uncertainties related to Just Walk Out technology in Amazon was essential. Asking respondents about their feelings, such as discomfort, nervousness, and risk preference, while imagining shopping at Amazon Go enabled the author to measure the unobserved variable of uncertainty avoidance. Confirmatory factor analysis was applied to ensure the measurement of the latent variable "uncertainty avoidance" within and between Austrian and Korean groups. Further details on this analytical approach can be found in the section Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups.

2.3.4. Time Orientation (TOR)

Modern technologies have significantly increased the efficiency of daily tasks, allowing people to complete them more quickly. This transformation is evident in various aspects of our routine, including the utilization of self-checkouts (SCOs) in supermarkets, the shift from traditional paper maps to online navigation, and the preference for sending messages via email and other online platforms compared to older methods before the advent of the Internet. The association of these technological advances to manage time is beyond question. Nevertheless, the integration and impact of such technologies on daily activities vary across different cultures (Everdingen et al., 2003). Hall and Hall (1987) identified two types of cultures: monochronic and polychronic. These classifications serve as a valuable framework for understanding the diverse levels of integration of new technologies and their impact on daily activities, particularly in the context of time management, across different cultures. The terms monochronic and polychronic refer to the different perception of time and scheduling across different cultures. Individuals in a monochronic culture consider the importance of time in their daily activities, which is why they are more likely to plan their time in detail than those with a polychronic culture. In other words, individuals in a monochronic culture are obsessed with clocks and punctuality. In contrast, people in polychronic cultures do not plan properly and are more likely to lose their schedule and do many activities at once. Everdingen et al. (2003) mentioned that monochronic cultures are more likely to accept new technological advances than cultures with lower monochronic traits. As a result, individuals in a monochronic culture are more inclined to use new technology to schedule their daily activities precisely and avoid wasting time. According to Gesteland (2012), Europeans are monochronic, and Koreans are less monochronic. Robert Levine (1997) studied the pace of life in 31 countries regarding working speed, walking speed, and the accuracy of public clocks. Based on this study, the pace of life differs significantly from Austria to South Korea. The rank of the Austrian pace of life is 8, and the rank of the Korean pace of life is 18 among 31 countries. Therefore, the current study explores whether Austrian participants as a collective entity are, on average, more monochronic than Korean participants as another collective entity in the context of shopping at Amazon Go. Hence, it is proposed:

H6a: Austrians are more monochronic than Koreans when shopping.

Unmanned stores like Amazon Go offer the advantage of saving time, which is a key reason customers might prefer them (Polacco & Backes, 2018). Everdingen et al. (2003) mentioned that monochronic cultures are more likely to accept new technological advances than cultures with lower monochronic traits. Therefore, individuals with a higher degree of monochronic culture are, on average, more inclined to use Amazon Go than those with a lower degree of monochronic culture. Given that Austrians are, on average, more monochronic than Koreans when shopping, this study investigates whether this different time perception and planning leads to Austrian participants, as a collective entity, exhibiting a higher intention to use Amazon Go than Korean participants, as another collective entity. Thus, it is proposed:

H6b: The positive impact of monochronic culture on the intention to use Amazon Go is more substantial among Austrians than Koreans.

Rizkalla (1989), Bluedorn et al. (1992), Kaufman et al. (1991), and Ponte et al. (2021) contributed to the exploration of time orientation concepts in different contexts. Survey questions from their studies were adopted and subsequently modified to align with the focus of this study on unmanned stores. In the analysis of the section Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups, two out of three questions designed in this study were reliable for equally measuring the variable of time orientation within and between the Austrian and Korean groups. Participants were asked if shopping at Amazon Go is less time-consuming and would allow them to shop more quickly, saving time for other daily activities.

2.3.5. Dis-connected Communication (DC)

Disconnected communication is the last cultural dimension explored in this study to understand the diverse behaviors of individuals within one culture compared to individuals within another culture, particularly concerning the acceptance of new technology. Technology's rapid, daily, and even hourly growth, specifically in the communication sector, has given rise to a new cultural dimension. This dimension refers to the preference for indirect (non-face-to-face) communication between individuals. The word "untact service" refers to the business and services in which customers and sellers prefer non-face-to-face communication over face-to-face communication. The term "untact" was coined by Korean anthropologists

by adding the prefix "un" meaning "no" to the word "contact" in order to describe this form of communication (Lee et al., 2019; Kim & Sung, 2020). Untact Service features 100% contactless communication, eliminating the need for face-to-face interaction (An et al., 2020). Adopting untact services is increasing significantly in various business sectors (Sang Lee & Donhee Lee, 2020). An et al. (2020) noted a significant increase in the adoption of untact services among the Korean population. This surge is attributed to the widespread prevalence of disconnected communication within Korean culture, particularly in the digital age. Kang and Namkung (2018) and Kwak et al. (2019) also discovered that Koreans prefer non-face-to-face communication in daily activities. Contrary to the situation in Korea, there has been no explicit mention of any significant trend towards non-face-to-face communication and untact service in Austria. Therefore, this study explores whether Koreans as a collective entity are more inclined to have less face-to-face communication than Austrians as another collective entity. Thus, it is proposed:

H7a: Koreans are more inclined to have less face-to-face communication than Austrians when shopping.

Given the higher prevalence of unmanned stores in Korea compared to Austria, as highlighted in the introduction, one might assume that individuals in a culture disfavoring face-to-face communication, such as Koreans, would be more inclined to utilize Amazon Go than those in a culture favoring face-to-face communication, such as Austrians. Given that Korean participants are inclined to have less face-to-face communication than Austrians in this study, eliminating face-to-face communication in Amazon Go would lead to Korean participants, as a collective entity, exhibiting, on average, a higher intention to use Amazon Go than Austrian participants, as another collective entity. Therefore, this study aims to investigate whether Korean participants, as a collective entity, have a higher intention to use Amazon Go than Austrians regarding tendency towards less face-to-face communication. Thus, it is proposed:

H7b: The impact of the tendency towards less face-to-face communication on the Intention to use Amazon Go is more substantial among Koreans than Austrians.

Since no quantitative research has yet been conducted to measure the latent variable of disconnected communication, the author of this study considered the most important aspects of untact service to design

survey questions aimed at measuring this concept. Therefore, participants in this research were asked about their feelings and preferences regarding shopping at stores with untact services. Confirmatory factor analysis was applied to ensure the measurement of the latent variable disconnected communication within and between Austrian and Korean groups. Further details on this analytical approach can be found in the section Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups.

3. Data Collection and Sampling

This study aims to conduct a cross-cultural comparative analysis between Austrians and Koreans, investigating the influence of national cultural factors on the intention to use Amazon Go, an advanced and contemporary unmanned store. The data for this research were collected through an online survey conducted over one month from August 1 to August 31, 2023. While designing and developing the survey instrument for this study, efforts were made to identify suitable items from established papers that accurately measure the latent variables. Numerous papers were reviewed to identify the most relevant and precise items for each latent variable based on existing research that emphasizes the intention to use unmanned stores and the application of the technology acceptance model. The items are depicted in Table 3. A 7-point Likert scale [strongly disagree, ..., strongly agree] was used in the questionnaire to record the participants' responses and preferences. The questionnaire was initially developed in English and later translated into German and Korean by native speakers proficient in each language. The translated questionnaire underwent thorough screening and review by a bilingual individual to minimize potential translation biases and ensure consistency between the Korean and German translations. As neither the Korean nor Austrian groups had prior experience with Amazon Go in their respective countries, a visual aid was employed to elucidate the concept of Amazon Go and its innovative "Just Walk Out" technology. Specifically, an advertising video clip sourced directly from Amazon Go was presented to participants at the beginning of the questionnaire. The author of this study added subtitles in Korean and German to the video to ensure accurate comprehension and eliminate any potential misinterpretations or translation biases resulting from language differences. These subtitles were provided by native speakers, allowing participants from diverse cultural backgrounds to understand the subtitled content better and promoting a shared understanding of the concept.

After preparing the questionnaire, the survey was administered to participants from Austria and Korea through various online platforms, including Survey Cycle, Studo, Kakao Talk, WhatsApp, Facebook, and Teams. At the beginning of the survey, the respondents were presented with a one-minute and forty-nine-second promotional video clip of Amazon Go before answering any questions. Following this, a control question about the video was asked to ensure the respondents' attention. 32 observations were excluded from the dataset due to incorrect answers to the control question. Additionally, 25 observations were removed from the dataset as they were neither Korean nor Austrian. Finally, 16 observations were excluded from the dataset due to a lack of socio-demographic information. To compensate respondents for their time and ensure higher data quality, 30 different coupons, each worth 5 Euros, were randomly distributed among participants. Table 2 illustrates the respondents' profiles.

Table 2. Respondents' Demographics

	Austria		Korea	
	Frequency	Percentage	Frequency	Percentage
Country of Origin	160		157	
Gender				
Male	50	31.3%	75	47.8%
Female	110	68.8%	82	52.2%
Age				
Under 29	111	69.4%	47	29.9%
30-42	24	15%	36	22.9%
43-55	11	6.9%	19	12.1%
56 and Older	14	8.8%	55	35%
Experience with Unmanned Stores				
Yes	31	19.4%	140	89.2%
No	129	80.6%	17	10.8%
Familiarity with Amazon Go				
Yes	86	53.8%	64	40.8%
No	74	46.3%	93	59.2%
Education				
Compulsory School	4	2.5%	1	0.6%
High School Certificate	76	47.5%	8	5.1%
University	72	45%	131	83.4%
Other	8	5%	17	10.8%

4. Testing Measurement of Latent Variables Within and Between Austrian and Korean Groups

In this study, confirmatory factor analysis (CFA) was used to determine the extent to which specific items (indicators) measure the latent variables (unobserved constructs) uniquely across both Austrian and Korean groups. CFA involves regressing each item on its corresponding latent variable to identify highly associated

accurate items across each Austrian and Korean group. In other words, since the survey was conducted in two languages and distributed among two distinct groups, it was crucial to establish consistent and reliable items for the latent variables across both groups. CFA revealed some discrepancies between the two groups. As a result of this analysis, certain items and variables were excluded from the dataset to ensure a uniform measurement approach across both groups. Since multivariate normality is assumed for CFA estimation methods and maximum likelihood (Hausman, 2008, p. 41), the normality of both samples was tested separately. The results indicated that neither the Austrian nor the Korean sample exhibit normality. The Austrian sample displayed a multivariate kurtosis of 43.893 with a critical ratio of 10.922, while the Korean sample showed a multivariate kurtosis of 60.934 with a critical ratio of 15.020. Since having non-normal data leads to inflated chi-square values (Collier, 2020, p. 287), a bootstrap via maximum likelihood with 5000 samples and 95% bias corrected confidence interval was run in the analysis to overcome the data's non-normality. Having a sample of 5.000 is sufficiently large to achieve stability in the results (Collier, 2020, p. 287). After conducting separate analyses of items and latent variables for each country using bootstrap via maximum likelihood in AMOS and systematically removing items that did not align with the model, the optimal model was identified (Figure 2 and Figure 3). Consequently, all three items related to perceived usefulness and two items associated with attitude toward AI technology (AT) were excluded due to their significant loadings on the latent variable of intention to use. Additionally, items pertaining to high- and low-context dealing with a new situation (HLCDNS), and one item concerning perceived ease of use were removed. Therefore, the CFA procedure removed three variables: PU, AT, and HLCDNS. As a consequence of employing confirmatory factor analysis (CFA), the model demonstrated a commendable level of compatibility across two diverse sets of data, one from Austria and the other from Korea, as shown in Table 3.

Table 3. Confirmatory Factor and Reliability

Constructs/Items	Austria			Korea		
	Standardized Coefficients (SE)	AVE	CR	Standardized Coefficients (SE)	AVE	CR
Disconnected Communication (DC)		0.685	0.867		0.815	0.929
I feel comfortable with no direct interaction with staffs while shopping.	0.822*** (0.054)			0.935*** (0.019)		
I would prefer not to have direct interaction with staffs while shopping.	0.872*** (0.056)			0.965*** (0.021)		
I would prefer shopping at Amazon Go over stores with staffs because of no direct interaction with staffs.	0.788*** (0.056)			0.799*** (0.039)		
High- and Low-Context (HLC)		0.720	0.836		0.761	0.864
I would like to receive detailed explanations about service, products, and payment from staffs when shopping.	0.764*** (0.077)			0.850*** (0.050)		
I need explicit and clear information from staffs when shopping.	0.926*** (0.055)			0.894*** (0.056)		
Intention to Use (IU)		0.920	0.958		0.793	0.884
I would like to shop at Amazon Go in the future.	0.965*** (0.016)			0.871*** (0.069)		
If I had access to the Amazon Go, I would definitely use it.	0.954*** (0.017)			0.910*** (0.077)		
Long- and Short-Term Orientation (LST)		0.838	0.912		0.886	0.940
Shops with staff show more respect for tradition.	0.947*** (0.030)			0.961** (0.032)		
The shopping experience in stores with staffs is important to me for traditional reasons.	0.883*** (0.037)			0.922*** (0.030)		
Perceived Ease of Use (PEU)		0.623	0.768		0.555	0.713
I find the shopping model applied by Amazon Go to be too complicated to use.	0.827*** (0.139)			0.799*** (0.100)		
It seems that a lot of effort is required to be able to interact with the technology and devices used in Amazon-Go.	0.750*** (0.123)			0.687*** (0.096)		
Time Orientation (TOR)		0.843	0.915		0.775	0.873
Shopping at Amazon Go is less time-consuming.	0.908*** (0.034)			0.902*** (0.087)		
Shopping at Amazon Go would allow me to shop more quickly and save time for other daily activities.	0.928*** (0.031)			0.858*** (0.074)		
Uncertainty Avoidance (UA)		0.572	0.838		0.582	0.845
I would feel uncomfortable while shopping at Amazon Go, because of Just Walk Out technology.	0.910*** (0.034)			0.884*** (0.040)		
Just Walk Out technology used by Amazon Go, would make me feel nervous when it comes to making payments.	0.840*** (0.043)			0.863*** (0.039)		
I am concerned that shopping at Amazon Go has a higher risk of data leakage.	0.643*** (0.057)			0.591*** (0.068)		
I believe the technology used by Amazon Go may make mistakes in registering products and accounting for purchased goods.	0.582*** (0.076)			0.673*** (0.062)		
Model Fit Statistics:						
Austria: $\chi^2 = 148.037$, df = 98, CFI = 0.972, TLI = 0.961, RMSEA = 0.057						

Constructs/Items	Austria			Korea		
	Standardized Coefficients (SE)	AVE	CR	Standardized Coefficients (SE)	AVE	CR

Korea: $\chi^2 = 148.134$, $df = 98$, $CFI = 0.970$, $TLI = 0.959$, $RMSEA = 0.057$

Note. 1. Standardized coefficient (factor loading) estimates the direct effect of unobservable construct on its indicators and allows for comparison of the weights of indicators (between 0.50 and 1 acceptable). 2. Standard errors (SE) are bootstrap standard errors 3. CFI = Comparative Fit Index (above 0.90 is acceptable, and closer to 1 is best). 4. TLI = Tucker-Lewis Index (above 0.90 is acceptable, and closer to 1 is best). 5. RMSEA = Root Mean Square Error of Approximation (below 0.06 implies a good fit). 6. AVE = Average Variance Extracted (above 0.5 indicates convergent validity). 7. CR = Composite Reliability (above 0.70 is acceptable). 8. Bootstrap results are based on 5000 bootstrap samples.

** $p < .100$, ** $p < .050$, *** $p < .010$.*

Table 3 displays 7 retained latent variables alongside their corresponding items, as identified through the confirmatory factor analysis. The items for each latent variable exhibited statistical significance at either a 5% or 1% level. All standardized coefficients (factor loadings) exceeded the threshold of 0.5, aligning with the recommendation proposed by Hair et al. (2009), which suggests a minimum requirement of 0.5 for standardized coefficients. Notably, the individual reliability of each latent variable was deemed excellent based on the results of the convergent validity test, as indicated by average variance extracted (AVE) values ranging from 0.572 to 0.920 for the Austrian sample and from 0.555 to 0.886 for the Korean Sample. This finding aligns with the recommendation proposed by Fornell and Larcker (1981). Given that all AVEs for each construct were larger than 0.5, there is clear evidence supporting the existence of convergent validity for the indicators of each unobservable variable (Collier, 2020, p. 83). Furthermore, composite reliability (CR) values ranged from 0.768 to 0.958 for the Austrian sample and from 0.713 to 0.940 for the Korean sample, aligning with the argument presented by Hair et al. (2009). The discriminant validity test revealed that the shared variance between latent variables (indicated by the off-diagonal numbers in parentheses in Table 4 and Table 5) was significantly less than the AVE of each latent variable (listed in Table 3). Alternatively, the square root of AVE (values along the diagonal in Table 4 and Table 5) for each latent variable was higher than the correlation (off-diagonal numbers in Table 4 and Table 5) between it and all other latent variables. Thus, this provides substantiating proof that latent variables discriminate from one another. In addition, the overall model fit output for both samples showed that the comparative fit index (CFI) and Tucker-Lewis index (TLI) were above 0.90, supporting the model's fit to the data based on various references. Lastly, the root mean square error of approximation (RMSEA) value was less than 0.06,

supporting the fact that the model fits the data. From this CFA, there is evidence that the indicators are measuring their intended concept. Consequently, the measurement model analysis yields compelling statistical evidence that the factor structure is consistent between the Korean and Austrian groups.

Table 4. Validity Analysis Austria

	Intention to Use (IU)	Perceived Ease of Use (PEU)	High- and Low-Context (HLC)	Long- and Short-Term Orientation (LST)	Disconnected Communication (DC)	Time Orientation (TOR)	Uncertainty Avoidance (UA)
Intention to Use (IU)	0.959						
Perceived Ease of Use (PEU)	-0.195** (0.038)	0.790					
High- and Low-Context (HLC)	-0.521*** (0.271)	0.287*** (0.082)	0.849				
Long- and Short-Term Orientation LST (LST)	-0.517*** (0.267)	0.174* (0.030)	0.618*** (0.381)	0.915			
Disconnected Communication (DC)	0.638*** (0.407)	-0.121 (0.014)	- 0.715*** (0.511)	-0.637*** (0.405)	0.828		
Time Orientation (TOR)	0.560*** (0.316)	-0.485*** (0.235)	- 0.507*** (0.257)	-0.461*** (0.212)	0.536*** (0.287)	0.918	
Uncertainty Avoidance (UA)	-0.552*** (0.304)	0.416*** (0.173)	0.288*** (0.082)	0.349*** (0.121)	-0.280*** (0.078)	-0.550*** (0.302)	0.756

Note. 1. Numbers along the diagonal represent the square root of Average Variance Extracted = AVE (above 0.5 indicates convergent validity). 2. Correlations (r) between latent variables are denoted by off-diagonal numbers (should be lower than AVE). 3. Shared Variances (r^2) between latent variables are indicated by the off-diagonal numbers in parentheses.

* $p < .100$, ** $p < .050$, *** $p < .010$.

Table 5. Validity Analysis Korea

	Intention to Use (IU)	Perceived Ease of Use (PEU)	High- and Low-Context (HLC)	Long- and Short-Term Orientation (LST)	Disconnected Communication (DC)	Time Orientation (TOR)	Uncertainty Avoidance (UA)
Intention to Use (IU)	0.890						
Perceived Ease of Use (PEU)	-0.261** (0.068)	0.745					
High- and Low-Context (HLC)	-0.256*** (0.065)	0.414*** (0.171)	0.872				

	Intention to Use (IU)	Perceived Ease of Use (PEU)	High- and Low- Context (HLC)	Long- and Short-Term Orientation (LST)	Disconnected Communication (DC)	Time Orientation (TOR)	Uncertainty Avoidance (UA)
Long- and Short- Term Orientation (LST)	-0.266*** (0.070)	0.593*** (0.351)	0.530*** (0.280)	0.941			
Disconnected Communication (DC)	0.452*** (0.204)	-0.314*** (0.098)	-0.528*** (0.278)	-0.436*** (0.190)	0.903		
Time Orientation (TOR)	0.513*** (0.263)	-0.309*** (0.095)	-0.221** (0.048)	-0.240*** (0.057)	0.445*** (0.198)	0.880	
Uncertainty Avoidance (UA)	-0.483*** (0.233)	0.503*** (0.253)	0.327*** (0.106)	0.366*** (0.133)	-0.420*** (0.176)	-0.300*** (0.090)	0.763

Note. 1. Numbers along the diagonal represent the square root of Average Variance Extracted AVE (above 0.5 indicates convergent validity). 2. Correlations (r) between latent variables are denoted by off-diagonal numbers (should be lower than AVE). 3. Shared Variances (r²) between latent variables are indicated by the off-diagonal numbers in parentheses.

** p < .100, ** p < .050, *** p < .010.*

5. Model Specification and Hypotheses Testing

In this study, the critical statistical model used to test the hypotheses was regression analysis. Initially, the aim has been to assess whether there are differences between Austrians and Koreans regarding perceived ease of use and the cultural dimensions introduced in the earlier sections. Hence, the following regression models were formulated, and their statistical results were summarized in Table 6, Table 7, Table 8, Table 9, Table 10, and Table 11.

$$\widehat{\text{Perceived Ease of Use}}_i = \beta_0 + \beta_1 \text{Country of Nationality}_i + \varepsilon_i \quad (5.1)$$

$$\widehat{\text{High and Low Context}}_i = \beta_0 + \beta_1 \text{Country of Nationality}_i + \varepsilon_i \quad (5.2)$$

$$\widehat{\text{Long and Short Term Orientation}}_i = \beta_0 + \beta_1 \text{Country of Nationality}_i + \varepsilon_i \quad (5.3)$$

$$\widehat{\text{Uncertainty Avoidance}}_i = \beta_0 + \beta_1 \text{Country of Nationality}_i + \varepsilon_i \quad (5.4)$$

$$\widehat{\text{Time Orientation}}_i = \beta_0 + \beta_1 \text{Country of Nationality}_i + \varepsilon_i \quad (5.5)$$

$$\widehat{\text{Disconnected Communication}}_i = \beta_0 + \beta_1 \text{Country of Nationality}_i + \varepsilon_i \quad (5.6)$$

Next, to examine the impact of each cultural dimension, perceived ease of use, and country nationality on the intention to use unmanned stores, a multiple regression, designed as Model 1 in this study, was formulated as follows, and its statistical outcomes were summarized in Table 12.

$$\begin{aligned}
\widehat{Intention\ to\ Use}_i &= \beta_0 + \beta_1 Country\ of\ Nationality_i + \beta_2 Perceived\ Ease\ of\ Use_i \\
&+ \beta_3 High\ and\ Low\ Context_i + \beta_4 Long\ and\ Short\ Term\ Orientation_i \\
&+ \beta_5 Uncertainty\ Avoidance_i + \beta_6 Time\ Orientation_i \\
&+ \beta_7 Disconnected\ Communication_i + \varepsilon_i
\end{aligned}
\tag{5.7, Model 1}$$

Lastly, to determine whether the effects of perceived ease of use and each cultural dimension on the intention to use unmanned stores differ between Austrians and Koreans, interaction terms between each cultural dimension and the country of nationality, as well as between perceived ease of use and country of nationality, were incorporated into Model 1, designed as Model 2 in this study. The model is illustrated below, and its statistical results are summarized in Table 12.

$$\begin{aligned}
\widehat{Intention\ to\ Use}_i &= \beta_0 + \beta_1 Country\ of\ Nationality_i + \beta_2 Perceived\ Ease\ of\ Use_i \\
&+ \beta_3 High\ and\ Low\ Context_i + \beta_4 Long\ and\ Short\ Term\ Orientation_i \\
&+ \beta_5 Uncertainty\ Avoidance_i + \beta_6 Time\ Orientation_i \\
&+ \beta_7 Disconnected\ Caommunication_i \\
&+ \beta_8 Perceived\ Ease\ of\ Use_i \times Country\ of\ Nationality_i \\
&+ \beta_9 High\ and\ Low\ Context_i \times Country\ of\ Nationality_i \\
&+ \beta_{10} Long\ and\ Short\ Term\ Orientation_i \times Country\ of\ Nationality_i \\
&+ \beta_{11} Uncertainty\ Avoidance_i \times Country\ of\ Nationality_i \\
&+ \beta_{12} Time\ Orientation_i \times Country\ of\ Nationality_i \\
&+ \beta_{13} Disconnected\ Communication_i \times Country\ of\ Nationality_i + \varepsilon_i
\end{aligned}
\tag{5.8, Model 2}$$

In the above regressions, the country of nationality was represented as a dummy variable, wherein Austrian nationality was assigned the code 0, and Korean nationality was assigned the code 1. To mitigate the risk of potential assumption violations, such as the observed heteroscedasticity in this study, a bootstrapping technique utilizing 5000 samples was employed.

Table 6. Regression of Associations Between Perceived Ease of Use and Country of Nationality

Variables	Coefficients (SE)	95% CI
Constant	2.506*** (0.104)	[2.301, 2.711]
Country of Nationality ^a	0.267* (0.157)	[-0.040, 0.575]
Number of Observations	317	
Wald χ^2 (1)	2.90*	
R ²	0.0093	

Note. 1. Regressions are based on 5000 bootstrap samples. 2. Standard errors (SE) are bootstrap standard errors. 3. ^a Austrian group = 0, Korean Group = 1. 4. The impact of country of nationality on Perceived Ease of Use was examined to determine whether Perceived Ease of Use differs between Austrians and Koreans.

* $p < .100$, ** $p < .050$, *** $p < .010$.

Table 7. Regression of Associations Between High- and Low-Context and Country of Nationality

Variables	Coefficients (SE)	95% CI
Constant	3.493*** (0.124)	[3.249, 3.737]
Country of Nationality ^a	0.655*** (0.177)	[0.308, 1.003]
Number of Observations	317	
Wald χ^2 (1)	13.66***	
R ²	0.0417	

Note. 1. Regressions are based on 5000 bootstrap samples. 2. Standard errors (SE) are bootstrap standard errors. 3. ^a Austrian group = 0, Korean Group = 1. 4. The impact of country of nationality on High- and Low-Context was examined to determine whether High- and Low-Context differs between Austrians and Koreans.

* $p < .100$, ** $p < .050$, *** $p < .010$.

Table 8. Regression of Associations Between Long- and Short-Term Orientation and Country of Nationality

Variables	Coefficients (SE)	95% CI
Constant	3.531*** (0.142)	[3.251, 3.810]
Country of Nationality ^a	-0.486** (0.191)	[-0.861, -0.111]
Number of Observations	317	
Wald χ^2 (1)	6.48**	
R ²	0.0200	

Note. 1. Regressions are based on 5000 bootstrap samples. 2. Standard errors (SE) are bootstrap standard errors. 3. ^a Austrian group = 0, Korean Group = 1. 4. The impact of country of nationality on Long- and Short-Term Orientation was examined to determine whether Long- and Short-Term Orientation differs between Austrians and Koreans.

* $p < .100$, ** $p < .050$, *** $p < .010$.

Table 9. Regression of Associations Between Uncertainty Avoidance and Country of Nationality

Variables	Coefficients (SE)	95% CI
Constant	4.723*** (0.114)	[4.499, 4.947]
Country of Nationality ^a	-0.487*** (0.165)	[-0.813, -0.162]
Number of Observations	317	
Wald χ^2 (1)	8.64***	
R ²	0.0272	

Note. 1. Regressions are based on 5000 bootstrap samples. 2. Standard errors (SE) are bootstrap standard errors. 3. ^a Austrian group = 0, Korean Group = 1. 4. The impact of country of nationality on Uncertainty Avoidance was examined to determine whether Uncertainty Avoidance differs between Austrians and Koreans.

* $p < .100$, ** $p < .050$, *** $p < .010$.

Table 10. Regression of Associations Between Time Orientation and Country of Nationality

Variables	Coefficients (SE)	95% CI
Constant	4.984*** (0.120)	[4.747, 5.221]
Country of Nationality ^a	0.770*** (0.159)	[0.458, 1.082]
Number of Observations	317	

Variables	Coefficients (SE)	95% CI
Wald χ^2 (1)	23.46***	
R^2	0.0695	

Note. 1. Regressions are based on 5000 bootstrap samples. 2. Standard errors (SE) are bootstrap standard errors. 3. ^a Austrian group = 0, Korean Group = 1. 4. The impact of country of nationality on Time Orientation was examined to determine whether Time Orientation differs between Austrians and Koreans.

* $p < .100$, ** $p < .050$, *** $p < .010$.

Table 11. Regression of Associations Between Dis-connected Communication and Country of Nationality

Variables	Coefficients (SE)	95% CI
Constant	3.758*** (0.135)	[3.492, 4.024]
Country of Nationality ^a	1.101*** (0.183)	[0.741, 1.461]
Number of Observations	317	
Wald χ^2 (1)	35.97***	
R^2	0.1023	

Note. 1. Regressions are based on 5000 bootstrap samples. 2. Standard errors (SE) are bootstrap standard errors. 3. ^a Austrian group = 0, Korean Group = 1. 4. The impact of country of nationality on Dis-connected Communication was examined to determine whether Dis-connected Communication differs between Austrians and Koreans.

* $p < .100$, ** $p < .050$, *** $p < .010$.

Table 12. Regression of Intention to Use Unmanned Stores on Cultural Dimensions, Perceived Ease of Use and Country of Nationality

Variables	Model 1	Model 2
	Coefficients (SE)	Coefficients (SE)
Constant	2.856*** (0.634)	3.389*** (1.142)
Country of Nationality ^a	0.862*** (0.165)	0.607 (1.369)
Perceived Ease of Use	0.098 (0.065)	0.110 (0.091)
High- and Low-Context	-0.005 (0.055)	-0.026 (0.100)
Long- and Short-Term Orientation	-0.100* (0.056)	-0.115 (0.091)
Time Orientation	0.297*** (0.074)	0.235** (0.110)
Uncertainty Avoidance	-0.285*** (0.068)	-0.411*** (0.107)
Dis-connected Communication	0.325*** (0.061)	0.448*** (0.091)
Perceived Ease of Use $\times$ Country of Nationality		-0.106 (0.124)
High- and Low-Context $\times$ Country of Nationality		0.043 (0.116)
Long- and Short-Term Orientation $\times$ Country of Nationality		0.102 (0.109)
Uncertainty Avoidance $\times$ Country of Nationality		0.202 (0.133)

Variables	Model 1	Model 2
	Coefficients (SE)	Coefficients (SE)
Time Orientation × Country of Nationality		0.041 (0.154)
Dis-connected Communication × Country of Nationality		-0.243** (0.120)
Number of Observations	317	317
Wald χ^2	441.22***	501.00***
R^2	0.5384	0.5657

Note. 1. Regressions are based on 5000 bootstrap samples. 2. Standard errors (SE) are bootstrap standard errors. 3. ^a Austrian group = 0, Korean Group = 1. 4. × is the sign of multiplication. 5. The impact of country of nationality and five national cultural dimensions on the intention to use unmanned stores was examined in Model 1. 6. In Model 2, the interaction between country of nationality and the five cultural dimensions was introduced to determine whether the impact of cultural dimensions on the intention to use unmanned stores differs between Austrians and Koreans.

** $p < .100$, ** $p < .050$, *** $p < .010$.*

6. Results

In this section, the initial focus is on establishing any differences between Austrians and Koreans concerning perceived ease of use and national cultural dimensions. Subsequently, in this section, the study presents the findings regarding the effect of country of nationality, perceived ease of use, and each cultural dimension on the intention to use. The regression analysis examining the association between perceived ease of use and country of nationality demonstrated a significant impact of country of nationality ($\beta = 0.267$, $p < 0.1$) on perceived ease of use, as depicted in Table 6. It suggests that Koreans as an entity anticipate encountering more difficulties when shopping at Amazon Go, as evidenced by their responses to items in the perceived ease of use (PEU) construct, such as "it seems that a lot of effort is required to be able to interact with the technology and devices used in Amazon-Go." This finding supports hypothesis H2a, indicating that Austrians as an entity perceive, on average, new technology relating to Amazon Go more easily than Koreans. Moreover, the analysis revealed a significant effect of country of nationality ($\beta = 0.655$, $p < 0.01$) on high- and low-context culture, as indicated in Table 7. Considering the type of items for the high- and low-context variable, which refers to the requirement for explicit information when shopping, a larger score signifies low-context culture (preference for explicit communication). Therefore, the outcome of this study demonstrated that Koreans, as a collective entity, assign, on average, a higher rating to the high- and low-context variable compared to Austrians, which contradicts hypothesis H3a that the preference for explicit

communication is, on average, higher among Austrians, as a collective entity, than Koreans when shopping. The analysis also indicated that the country of nationality has a significant negative impact ($\beta = -0.486$, $p < 0.05$) on long- and short-term orientation, as shown in Table 8. Based on the items within the long- and short-term orientation (LST) construct, such as "the shopping experience in stores with staffs is important to me for traditional reasons," a lower score on the LST variable for Koreans implies a culture more aligned with a long-term orientation (disfavoring traditions). Hence, this discovery supports hypothesis H4a, indicating that Austrians, as a collective entity, exhibit more respect for tradition than Koreans when shopping. Additionally, the analysis demonstrated that the country of nationality exerts a significant negative impact ($\beta = -0.487$, $p < 0.01$) on uncertainty avoidance, as depicted in Table 9. It suggests that, on average, Austrians exhibit higher levels of uncertainty avoidance than Koreans. This statistical outcome contradicts hypothesis H5a that Koreans, as a collective entity, are, on average, likelier to avoid Just Walk Out technology uncertainties in Amazon Go than Austrians. Further analysis illustrated that the country of nationality impacts time orientation significantly ($\beta = 0.770$, $p < 0.01$), as shown in Table 10. This finding does not support hypothesis H6a that Austrians, as a collective entity, are more monochronic than Koreans when shopping. Furthermore, the research showed that the country of nationality significantly impacts disconnected communication ($\beta = 1.101$, $p < 0.01$), as illustrated in Table 11. This result provides statistical support for hypothesis H7a, suggesting that Koreans as a collective entity, are inclined to have, on average, less face-to-face communication than Austrians when shopping. In Table 12, Model 1 demonstrated that the impact of country of nationality on the intention to use is statistically significant ($\beta = 0.862$, $p < 0.01$). It suggests that Koreans as a collective entity are, on average, more likely to intend to use Amazon Go than Austrians. This finding supports the hypothesis H1a. Additionally, Model 1 and Model 2 showed the non-statistically significant effect of perceived ease of use ($\beta = 0.098$, $p > 0.1$) on the intention to use Amazon Go and its interaction with country of nationality ($\beta = -0.106$, $p > 0.1$), which do not support the hypothesis H2b that the impact of the perceived ease of new technology related to Amazon Go on the intention to use Amazon Go is, on average, stronger among Austrians, as a collective entity, than Koreans. Model 1 and Model 2 also illustrated that the impact of high- and low-context ($\beta = -0.005$, $p > 0.1$) and its interaction

with country of nationality ($\beta = 0.043$, $p > 0.1$) are not statistically significant, which do not support the hypothesis H3b that the impact of preference for explicit communication on the intention to use Amazon Go is, on average, more substantial among Austrians, as a collective entity, than Koreans. Although model 1 showed that the effect of long- and short-term orientation ($\beta = -0.100$, $p < 0.1$) on the intention to use Amazon Go is statistically significant, its interaction with country of nationality ($\beta = 0.102$, $p > 0.1$) is not statistically significant in model 2. Therefore, it does not provide statistical evidence to support hypothesis H4b that the negative impact of respect for tradition on the intention to use Amazon Go is, on average, more substantial among Austrians, as a collective entity, than Koreans. Model 1 also showed that the effect of uncertainty avoidance ($\beta = -0.285$, $p < 0.01$) on the intention to use Amazon Go is statistically significant but its interaction with country of nationality ($\beta = 0.202$, $p > 0.1$) is not statistically significant in model 2 which does not support the hypothesis H5b that the negative impact of inclination to uncertainty avoidance related to Just Walk Out technology on the intention to use Amazon Go is, on average, more substantial among Koreans, as a collective entity, than Austrians. Model 1 also depicted the statistically significant effect of time orientation ($\beta = 0.297$, $p < 0.01$) on the intention to use Amazon Go, but model 2 showed an insignificant interaction term with the country of nationality ($\beta = 0.041$, $p > 0.01$), which does not support the hypothesis H6b that the positive impact of monochronic culture on the intention to use Amazon Go is, on average, more substantial among Austrians, as a collective entity, than Koreans. Finally, model 1 showed the statistically significant impact of disconnected communication ($\beta = 0.325$, $p < 0.01$) on the intention to use Amazon Go, and model 2 illustrated its statistically significant interaction with country of nationality ($\beta = -0.243$, $p < 0.01$). According to the negative interaction coefficient, this result contradicts hypothesis H7b that the impact of the tendency towards less face-to-face communication on the intention to use Amazon Go is, on average, more substantial among Koreans, as a collective entity, than Austrians.

7. Discussion

As mentioned earlier, this research initially aimed to investigate whether perceived ease of use and cultural dimensions related to Amazon Go significantly differ between Austrians and Koreans, as two different collective entities, and to pinpoint whether Koreans are more likely to intend to use Amazon Go.

Furthermore, this research aimed to explore the significant associations of intention to use Amazon Go with perceived ease of use and national cultural dimensions, and to determine whether these associations vary between Austrians and Koreans. The research findings lent robust support to a critical hypothesis put forth by the author, affirming the presence of a significantly lower intention to use Amazon Go on average for Austrians, a collective entity, compared to Koreans, as another collective entity. This observation harmonized with the evident cultural distinctions between these two nations. Furthermore, exploring variations in cultural dimensions between the two groups yielded intriguing results, highlighting significant distinctions across all dimensions between the two groups. The intricacy of shopping at Amazon Go, or in other words, perceived ease of use, exhibited a notable discrepancy between the two groups. As expected, it was found that, on average, Koreans found Amazon Go's shopping model more challenging than Austrians. However, the perceived ease of use did not significantly impact the intention to use Amazon Go within either of the two groups. This study could not present statistical evidence to support the association between the intention to use Amazon Go and the perceived ease of use. Concerning high- and low-context culture, which pertains to the preference for explicit communication and clear information, the results did not yield sufficient statistical evidence to support the effect of it on the intention to use Amazon Go. Furthermore, this study could not provide sufficient statistical evidence in favor of the proposed hypothesis that the preference for explicit communication related to Amazon Go is higher among Austrians, as a collective entity, than Koreans. In contrary, the findings of this study indicated that, within the context of Amazon Go, Austrians align more with high-context culture, while Koreans appear to lean toward low-context culture. Regarding long- and short-term orientation, this study showed different levels of respect for the traditional shopping model between Austrians and Koreans. This outcome supported the hypothesis that Austrians respect the traditional shopping model more than Koreans when shopping. Furthermore, concerning the primary objective of this research, which was to investigate the impact of cultural dimensions on the intention to use Amazon Go, the results indicated a negative statistically significant effect of term orientation on the intention to use within either of the two groups. It means that if individuals in both groups respect tradition more, they are less inclined to use Amazon Go. However, no significant differences were

observed between the two groups regarding the association between respecting the traditional shopping model and the intention to use Amazon Go. Based on the statistical data analysis of the uncertainty avoidance variable and the content of its questions (items), it was evident that Just Walk Out Technology would induce discomfort and anxiety among individuals regarding product registration and payment processes within either of the two cultures, which inclines individuals more to avoid uncertainty situation such as shopping at Amazon Go. Additionally, customers expressed concerns regarding the increased risk of data breaches when they put themselves in the situation to shop at Amazon Go. Notably, individuals in the Austrian sample rated, on average, uncertainty avoidance significantly higher than Koreans, which is inconsistent with the proposed hypothesis based on the literature. Furthermore, uncertainty avoidance had a negative impact on the intention to use Amazon Go in both Korean and Austrian groups. It implies that individuals in both groups are less inclined to use Amazon Go when faced with increased uncertainties. In other words, individuals are more likely to avoid situations of uncertainty, resulting in a decrease in the inclination to use Amazon Go. This negative effect did not differ between Austrians and Koreans. Further results revealed that Austrians did not view Amazon Go as a time-saving shopping model to the same extent as Koreans. This outcome was not consistent with the proposed hypothesis based on the literature. Since Austrians rated the shopping model of Amazon Go significantly lower than the Korean group in terms of its time-saving benefits, this research highlighted the monochronic nature of Koreans and the variably monochronic tendencies among Austrians within unmanned stores. Koreans perceive Amazon Go as a time-saving solution, and they can use the saved time for other daily activities more than Austrians. Time orientation positively affected the intention to use Amazon Go within both groups. However, the positive effect of time orientation on the intention to use Amazon Go did not differ between Austrian and Korean groups. Another noteworthy finding from this research, which has not received extensive attention in literature, is the concept of disconnected communication. In this context, disconnected communication refers to the preference for indirect (non-face-to-face) communication with staff while shopping. On average, Koreans were more likely to inclined to communicate non-face-to-face with staff and fellow shoppers than Austrians. It indicates that Koreans are more inclined towards a disconnected communication

culture. In addition, the positive impact of disconnected communication on the intention to use Amazon Go was statistically significant within either group. It means that by increasing individuals' preference for non-face-to-face communication, individuals are more inclined to intend to use Amazon Go. This effect was surprisingly more pronounced among Austrians than Koreans. Therefore, this result does not support the proposed hypothesis that Koreans with less preference for face-to-face communication are more likely to intend to use Amazon Go than Austrians with more preference for face-to-face communication.

8. Research Contribution

This research has opened up a new study area within the Technology Acceptance Model. To date, there has been limited exploration into understanding customer behavior within unmanned stores, focusing on Amazon Go, which represents a cutting-edge example of unmanned stores powered by artificial intelligence technology. While Hatulla et al. (2020) applied TAM to examine how cultural dimensions influenced the intention to use technology in Germany, they encountered a significant limitation in their study. Specifically, the items related to their latent variables did not pass the reliability test, which was a notable drawback. In contrast to the research of Hatulla et al., this study has addressed this issue by providing reliable items and constructing a model supported by the analysis of the measurement model and factorial invariance. Moreover, this research delved into the study of two countries characterized by starkly different cultural backgrounds, as substantiated by conducting various regressions in the preceding sections. By introducing the novel variable of disconnected communication into the model, this study sought to probe its effect on the intention to use unmanned stores and the broader intention to opt for technology and AI over human involvement. This approach allowed us to explore how cultural distinctions shape user behavior and preferences.

9. Implications

One of the central inquiries posed by the author of this research was the intriguing contrast in the proliferation of unmanned stores between South Korea and Austria. Notably, there are many highly successful unmanned stores in South Korea, while less successful ventures in this innovative retail model

have been seen in Austria. Even more significant is why Amazon Go, a pioneering force in the retail industry, has not yet taken substantial steps to penetrate the Austrian market with its groundbreaking unmanned store model. This cross-cultural research has provided valuable insights into these pressing questions. As an implication, businesses aiming to invest in unmanned stores, such as Amazon Go, must prioritize understanding and accommodating different cultural factors within their strategic development. Retail companies should recognize that Koreans exhibit a significantly higher intention to use unmanned stores than Austrians. Moreover, it is essential to note that in the case of both Austrian and Korean groups, the intention to use unmanned stores is negatively influenced by uncertainty avoidance and respect for tradition (long- and short-term orientation) and positively affected by being monochronic (time orientation) and preferring less face-to-face communication (disconnected communication). However, it is worth mentioning that this research does not advocate for companies to prioritize two specific factors, perceived ease of use and high- and low-context, when developing unmanned stores in these two countries. This is because the study did not uncover any significant effects of these elements on the intention to use Amazon Go among Austrians and Koreans. The research unveiled a distinct revelation by introducing a novel variable, Disconnected Communication. Interestingly, while Koreans generally favor disconnected communication more than Austrians, the positive effect of this particular factor on the intention to use Amazon Go is higher among Austrians than among Koreans. It means a unit increase in disconnected communication relating to Amazon Go increases the intention to use Amazon Go more among Austrians than Koreans. Finally, this study provides crucial insights for researchers and retailers dedicated to understanding differences in the relationships between intention to use and cultural dimensions within Austrian and Korean groups. It emphasizes that the association between intention to use and disconnected communication is the only association that differs significantly between Austrian and Korean groups.

10. Limitations and future research

A noteworthy limitation arises from the respondents' limited exposure to Amazon Go, as this innovative shopping concept has not yet been operational in the two countries, Austria and Korea. Despite the author's efforts to mitigate this limitation by providing respondents with an advertisement video clip showcasing the

Amazon Go shopping model before they completed the survey questions, it is essential to acknowledge that respondents' ratings across various dimensions may evolve if they have the opportunity to experience the Amazon Go shopping model in the future. It is essential to bear this in mind when interpreting the results since future exposure to Amazon Go could impact the findings in unforeseen ways.

References

- Amazon. "Introducing Amazon Go and the world's most advanced shopping technology." December 12, 2016. 1:49. <https://youtu.be/NrmMk1Myrxc>.
- An, Jaeyoung, Daeun Bae, Coong C. Lee , and So-Hyun Lee. "A study on the use of untact services: Focusing on the kiosk case." *Internet Electronic Commerce Research* 20, no. 4 (2020): 49–73.
- Bagchi, Kallol, Paul Hart, and Mark F. Peterson. "National Culture and Information Technology Product Adoption." *Journal of Global Information Technology Management : JGITM* 7, no. 4 (2004): 29–46. <https://doi.org/10.1080/1097198X.2004.10856383>.
- Bearden, W. O. "A Measure of Long-Term Orientation: Development and Validation." *Journal of the Academy of Marketing Science* 34, no. 3 (2006): 456–67. <https://doi.org/10.1177/0092070306286706>.
- Belk, R., Humayun, M., & Gopaladas, A. (2020). Artificial Life. *Journal of Macromarketing*, 40(2), 221–236. <https://doi.org/10.1177/0276146719897361>.
- Bluedorn, Allen C., Carol Felker Kaufman, and Paul M. Lane. "How Many Things Do You Like to Do at Once? An Introduction to Monochronic and Polychronic Time." *Academy of Management Perspectives* 6, no. 4 (1992): 17–26. <https://doi.org/10.5465/ame.1992.4274453>.
- Brown, Timothy. *Confirmatory Factor Analysis for Applied Research*. Second edition. New York London: The Guilford Press, 2015.
- Byrne, Barbara M. *Structural Equation Modeling with Amos : Basic Concepts, Applications, and Programming /*. Third edition. New York, N.Y.: Routledge, 2016.
- Chang, Yu-Wei, and Jiahe Chen. "What Motivates Customers to Shop in Smart Shops? The Impacts of Smart Technology and Technology Readiness." *Journal of Retailing and Consumer Services* 58 (2021): 102325. <https://doi.org/10.1016/j.jretconser.2020.102325>.
- Chen, Jengchung V., Duangjai Rungruengsamrit, T.M. Rajkumar, and David C. Yen. "Success of Electronic Commerce Web Sites: A Comparative Study in Two Countries." *Information & Management* 50, no. 6 (2013): 344–55. <https://doi.org/10.1016/j.im.2013.02.007>.
- Cheung, Gordon W., Helena D. Cooper-Thomas, Rebecca S. Lau, and Linda C. Wang. "Reporting Reliability, Convergent and Discriminant Validity with Structural Equation Modeling: A Review and Best-Practice Recommendations." *Asia Pacific Journal of Management*, 2023. <https://doi.org/10.1007/s10490-023-09871-y>.
- Cheung, Gordon W., and Rebecca S. Lau. "Testing Mediation and Suppression Effects of Latent Variables." *Organizational Research Methods* 11, no. 2 (2008): 296–325. <https://doi.org/10.1177/1094428107300343>.
- Collier, Joel E. *Applied Structural Equation Modeling Using AMOS: Basic to Advanced Techniques /*. New York: Routledge, 2020.
- Davis, Fred D. "A technology acceptance model for empirically testing new end-user information systems: theory and results." PhD diss., Massachusetts Institute of Technology, Sloan School of Management, 1986. <http://hdl.handle.net/1721.1/15192>.

Everdingen, Yvonne M. van, and Eric Waarts. "The Effect of National Culture on the Adoption of Innovations." *Marketing Letters* 14, no. 3 (2003): 217–32. <https://doi.org/10.1023/A:1027452919403>.

Falk, R. F., & Miller, N. B. *A primer for soft modeling*. University of Akron Press, 1992.

Field, Andy, and Sage Publications. *Discovering Statistics Using IBM SPSS Statistics*. 5th edition. Los Angeles London New Delhi Singapore Washington DC Melbourne: SAGE, 2018.

Fornell, Claes, and David F. Larcker. "Evaluating Structural Equation Models with Unobservable Variables and Measurement Error." *Journal of Marketing Research* 18, no. 1 (1981): 39–50. <https://doi.org/10.1177/002224378101800104>.

Ghazwani, Salman, Patrick van Esch, Yuanyuan Cui, and Prachi Gala. "Artificial Intelligence, Financial Anxiety and Cashier-Less Checkouts: a Saudi Arabian Perspective." *International Journal of Bank Marketing* 40, no. 6 (2022): 1200–1216. <https://doi.org/10.1108/IJBM-09-2021-0444>.

Gesteland, Richard R. *Cross-Cultural Business Behavior*. Frederiksberg: Samfundslitteratur, 2012.

Hair, Joseph F. *Multivariate Data Analysis*. 7. ed., new internat. ed. Harlow: Pearson, 2014.

Hall, Edward Twitchell. *Beyond Culture*. New York, NY [u.a.]: Doubleday, 1989.

Hall, E.T., R.M Hall. *Hidden Differences. Doing Business with the Japanese*. New York: Anchor Press Doubleday, 1987.

Hattula, Cansu, Melanie Buchmann, and Francisco Tigre Moura. "The Acceptance of Amazon Go: An Analysis based on the Technology Acceptance Model and Cultural Dimensions." *Proceedings of the European Marketing Academy*, 49th, (62915), 2020.

Hausman, Daniel M. *The Philosophy of Economics*. Cambridge: Cambridge University Press, 2007. <https://doi.org/10.1017/CBO9780511819025>.

Hofstede, Geert, Gert Jan Minkov, and Minkov, Michael. *Cultures and Organizations : Software of the Mind ; Intercultural Cooperation and Its Importance for Survival*. Revised and expanded 3. ed. New York, NY [u.a.]: McGraw-Hill, 2010.

Holmbeck, Grayson N. "Toward Terminological, Conceptual, and Statistical Clarity in the Study of Mediators and Moderators." *Journal of Consulting and Clinical Psychology* 65, no. 4 (1997): 599–610. <https://doi.org/10.1037/0022-006X.65.4.599>.

Hu, Li-tze, and Peter M. Bentler. "Cutoff Criteria for Fit Indexes in Covariance Structure Analysis: Conventional Criteria Versus New Alternatives." *Structural Equation Modeling* 6, no. 1 (1999): 1–55. <https://doi.org/10.1080/10705519909540118>.

Im, Il, Seongtae Hong, and Myung Soo Kang. "An International Comparison of Technology Adoption: Testing the UTAUT Model." *Information & Management* 48, no. 1 (2011): 1–8. <https://doi.org/10.1016/j.im.2010.09.001>.

Jung, Jae Min, and James J. Kellaris. "Cross-National Differences in Proneness to Scarcity Effects: The Moderating Roles of Familiarity, Uncertainty Avoidance, and Need for Cognitive Closure." *Psychology & Marketing* 21, no. 9 (2004): 739–53. <https://doi.org/10.1002/mar.20027>.

Jung SI, Park JY. The Technology Acceptance Model on Vein Recognition Payment and Unmanned Store. *J. Channel Retail*. 2019;24(1):73-96.
<https://doi.org/10.17657/jcr.2019.01.31.4>

Kang, J. W., & Namkung, Y. (2018). Classifying quality attributes of self-service kiosk in the restaurant industry using Kano model. *Korean Journal of Hospitality & Tourism*, 27(8), 263-279.

Kaufman, Carol Felker, Paul M. Lane, and Jay D. Lindquist. "Exploring More Than 24 Hours a Day: A Preliminary Investigation of Polychronic Time Use." *The Journal of Consumer Research* 18, no. 3 (1991): 392–401. <https://doi.org/10.1086/209268>.

Keegan, Warren J. *Global Marketing Management*. 4. ed., 3. [print.]. Englewood Cliffs, NJ: Prentice-Hall, 1989.

Kim, Donghoon, Yigang Pan, and Heung Soo Park. "High-Versus Low-Context Culture: A Comparison of Chinese, Korean, and American Cultures." *Psychology & Marketing* 15, no. 6 (1998): 507–21.
[https://doi.org/10.1002/\(SICI\)1520-6793\(199809\)15:63.0.CO;2-A](https://doi.org/10.1002/(SICI)1520-6793(199809)15:63.0.CO;2-A).

Kline, Rex B. *Principles and Practice of Structural Equation Modeling*. Fourth edition. New York: The Guilford Press, 2016.

KWAK, Young-Arm, and Young-Sang CHO. "Unmanned Store, Retailtech and Digital Divide in South Korea." *Journal of distribution science* 17, no. 9 (2019): 47–56.

Lee, Sang M., and DonHee Lee. "'Untact': a New Customer Service Strategy in the Digital Age." *Service Business* 14, no. 1 (2020): 1–22. <https://doi.org/10.1007/s11628-019-00408-2>.

Lee, Sang M, Donhee Lee, and Youn Sung Kim. "The Quality Management Ecosystem for Predictive Maintenance in the Industry 4.0 Era." *International Journal of Quality Innovation* 5, no. 1 (2019): 1–11.
<https://doi.org/10.1186/s40887-019-0029-5>.

Leidner, Dorothy E., and Timothy Kayworth. "Review: A Review of Culture in Information Systems Research: Toward a Theory of Information Technology Culture Conflict." *MIS Quarterly* 30, no. 2 (2006): 357–99. <https://doi.org/10.2307/25148735>.

Levine, Robert. "The Pace of Life in 31 Countries." *American Demographics* 19, no. 11 (1997): 20.

Lin, Chen-Yu. "Understanding Consumer Perceptions and Attitudes Toward Smart Retail Services." *The Journal of Services Marketing* 36, no. 8 (2022): 1015–30. <https://doi.org/10.1108/JSM-09-2020-0407>.
Market Research. "Convenience Stores in Austria ." February, 2022.
<https://www.marketresearch.com/Euromonitor-International-v746/Convenience-Stores-Austria-30897680/>.

Lin, Hsien-Cheng. "An Investigation of the Effects of Cultural Differences on Physicians' Perceptions of Information Technology Acceptance as They Relate to Knowledge Management Systems." *Computers in Human Behavior* 38 (2014): 368–80. <https://doi.org/10.1016/j.chb.2014.05.001>.

Lo, and Wang. "Constructing an Evaluation Model for User Experience in an Unmanned Store." *Sustainability (Basel, Switzerland)* 11, no. 18 (2019): 4965. <https://doi.org/10.3390/su11184965>.

Metallo, C, R Agrifoglio, L Lepore, and L Landriani. "Explaining Users' Technology Acceptance through National Cultural Values in the Hospital Context." *BMC Health Services Research* 22, no. 1 (2022): 84–84. <https://doi.org/10.1186/s12913-022-07488-3>.

Naor, Michael, Kevin Linderman, and Roger Schroeder. "The Globalization of Operations in Eastern and Western Countries: Unpacking the Relationship Between National and Organizational Culture and Its Impact on Manufacturing Performance." *Journal of Operations Management* 28, no. 3 (2010): 194–205. <https://doi.org/10.1016/j.jom.2009.11.001>.

Nevins, Jennifer L., William O. Bearden, and Bruce Money. "Ethical Values and Long-Term Orientation." *Journal of Business Ethics* 71, no. 3 (2007): 261–74. <https://doi.org/10.1007/s10551-006-9138-x>.

Onkvisit, Sak, and John J. Shaw. *International Marketing : Analysis and Strategy*. 4. ed.. New York, NY [u.a.]: Routledge, 2004.

Polacco, Alex, and Kayla Backes. "The Amazon Go Concept: Implications, Applications, and Sustainability." *Journal of Business and Management* 24, no. 1 (2018): 79–92. [https://doi.org/10.6347/JBM.201803_24\(1\).0004](https://doi.org/10.6347/JBM.201803_24(1).0004).

Ponte, Diego, and Stefania Bonazzi. "Physical Supermarkets and Digital Integration: Acceptance of the Cashierless Concept." *Technology Analysis & Strategic Management* ahead-of-print, no. ahead-of-print (2021): 1–13. <https://doi.org/10.1080/09537325.2021.1994942>.

Rau, P.L. Patrick, Ye Li, and Dingjun Li. "Effects of Communication Style and Culture on Ability to Accept Recommendations from Robots." *Computers in Human Behavior* 25, no. 2 (2009): 587–95. <https://doi.org/10.1016/j.chb.2008.12.025>.

Richardson, Rieko Maruta, and Sandi W Smith. "The Influence of High/low-Context Culture and Power Distance on Choice of Communication Media: Students' Media Choice to Communicate with Professors in Japan and America." *International Journal of Intercultural Relations* 31, no. 4 (2007): 479–501. <https://doi.org/10.1016/j.ijintrel.2007.01.002>.

Rizkalla, Aida N. "Sense of Time Urgency and Consumer Well-Being: Testing Alternative Causal Models." *Advances in Consumer Research* 16 (1989): 180.

Schubert, Robert. "Adoption and Use of Mobile Banking Applications. A Comparison Between Austria and South Korea." Master Thesis, University of Graz, 2016.

Seo, Sangwoo. "The effects of shopping value on the usage intention of unmanned fashion stores-application of technology acceptance model." *Journal of Fashion Business* 23, no. 2 (2019): 140-155.

Shuper, Paul A., Richard M. Sorrentino, Yasunao Otsubo, Gordon Hodson, and A. Marie Walker. "A Theory of Uncertainty Orientation." *Journal of Cross-Cultural Psychology* 35, no. 4 (2004): 460–80. <https://doi.org/10.1177/0022022104266109>.

Straub, Detmar W. "The Effect of Culture on IT Diffusion: E-Mail and FAX in Japan and the U.S." *Information Systems Research* 5, no. 1 (1994): 23–47. <https://doi.org/10.1287/isre.5.1.23>.

Straub, Detmar, Mark Keil, and Walter Brenner. "Testing the Technology Acceptance Model Across Cultures: A Three Country Study." *Information & Management* 33, no. 1 (1997): 1–11. [https://doi.org/10.1016/S0378-7206\(97\)00026-8](https://doi.org/10.1016/S0378-7206(97)00026-8).

Sung, Heewon. "Study on the Determinants of Intention to Use Unmanned Fashion Retailers -Based on Technology Acceptance Model 3-." *JOURNAL OF THE KOREAN SOCIETY DESIGN CULTURE* 29, no. 1 (2023): 101-115, 10.18208/ksdc.2023.29.1.101

The Insight Partners. "Unmanned Convenience Store Market Forecast to 2027 - COVID-19 Impact and Global Analysis by Offering ; Type." April 2020. Unmanned Convenience Store Market Forecast to 2027 - COVID-19 Impact and Global Analysis by Offering ; Type (reportlinker.com).

The Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology is the government ministry of Austria. "Artificial intelligence potential. Austria: figures, data, facts 2019." May, 2019. <https://www.bmk.gv.at/themen/innovation/publikationen/ikt/ai/zahlen.html>.

Tverskoi, Denis, Sudarsanam Babu, and Sergey Gavrillets. "The Spread of Technological Innovations: Effects of Psychology, Culture and Policy Interventions." *Royal Society Open Science* 9, no. 6 (2022): 211833–211833. <https://doi.org/10.1098/rsos.211833>.

Varnum, Michael E W, Igor Grossmann, Shinobu Kitayama, and Richard E Nisbett. "The Origin of Cultural Differences in Cognition: Evidence for the Social Orientation Hypothesis." *Current Directions in Psychological Science : a Journal of the American Psychological Society* 19, no. 1 (2010): 9–13. <https://doi.org/10.1177/0963721409359301>.

Venkatesh, Viswanath, and Fred D. Davis. "A Model of the Antecedents of Perceived Ease of Use: Development and Test." *Decision Sciences* 27, no. 3 (1996): 451–81. <https://doi.org/10.1111/j.1540-5915.1996.tb00860.x>.

Venkatesh, Viswanath, and Fred D Davis. "A Theoretical Extension of the Technology Acceptance Model: Four Longitudinal Field Studies." *Management Science* 46, no. 2 (2000): 186–204. <https://doi.org/10.1287/mnsc.46.2.186.11926>.

Vijver, van de, Kwok Leung, Velichko H Fetvadjeiev, Jia He, and Johnny R. J Fontaine. *Methods and Data Analysis for Cross-Cultural Research*. Vol. 116. Cambridge: Cambridge University Press, 2021.

Watanabe, Chihiro, Kashif Naveed, and Pekka Neittaanmäki. "ICT-Driven Disruptive Innovation Nurtures Un-Captured GDP – Harnessing Women's Potential as Untapped Resources." *Technology in Society* 51 (2017): 81–101. <https://doi.org/10.1016/j.techsoc.2017.07.007>.

Young-Arm Kwak, and Young-Sang Cho. "Unmanned Store, Retailtech and Digital Divide in South Korea." *Journal of Distribution Science* 17, no. 9 (September 2019).

Zhao, Shunying, Baojuan Ye, Weisha Wang, and Yadi Zeng. "The Intolerance of Uncertainty and "Untact" Buying Behavior: The Mediating Role of the Perceived Risk of COVID-19 Variants and Protection Motivation." *Frontiers in Psychology* 13 (2022): 807331–807331. <https://doi.org/10.3389/fpsyg.2022.807331>.

Zin, Khin Shoon Lei Thant, Seieun Kim, Hak-Seon Kim, and Israel Fisseha Feyissa. "A Study on Technology Acceptance of Digital Healthcare Among Older Korean Adults Using Extended TAM (extended Technology Acceptance Model)." *Administrative Sciences* 13, no. 2 (2023): 1–18. <https://doi.org/10.3390/admsci13020042>.

List of Abbreviations

Abbreviation	Definition
AI.....	Artificial Intelligence
AT.....	Attitude Toward AI Technology
AVE.....	Average Variance Extracted
CFA.....	Confirmatory Factor Analysis
CFI.....	Comparative Fit Index
CR.....	Composite Reliability
DC.....	Disconnected Communication
HLC.....	High- and Low-Context
HLCDNS.....	High- and Low-Context Dealing with a New Situation
IFI.....	Incremental Fit Index
IU.....	Intention to Use
LST.....	Long- and Short-Term Orientation
PEU.....	Perceived Ease of Use
PU.....	Perceived Usefulness
POS	Point of Sale
R2.....	Explained Variance
RMSEA.....	Root Mean Square Error of Approximation
SEM.....	Structural Equation Model
TAM.....	Technology Acceptance Model
TLI.....	Tucker-Lewis Index
TOR.....	Time Orientation
UA.....	Uncertainty Avoidance
UAI.....	Uncertainty Avoidance Index
US.....	Unmanned Store

List of Tables

Table 1. Type of Unmanned Stores.....	2
Table 2. Respondents' Demographics.....	17
Table 3. Confirmatory Factor and Reliability	19
Table 4. Validity Analysis Austria	21
Table 5. Validity Analysis Korea	21
Table 6. Regression of Associations Between Perceived Ease of Use and Country of Nationality	23
Table 7. Regression of Associations Between High- and Low-Context and Country of Nationality	24
Table 8. Regression of Associations Between Long- and Short-Term Orientation and Country of Nationality	24
Table 9. Regression of Associations Between Uncertainty Avoidance and Country of Nationality	24
Table 10. Regression of Associations Between Time Orientation and Country of Nationality	24
Table 11. Regression of Associations Between Dis-connected Communication and Country of Nationality	25
Table 12. Regression of Intention to Use Unmanned Stores on Cultural Dimensions, Perceived Ease of Use and Country of Nationality.....	25

List of Figures

Figure 1 Technology Acceptance Model (TAM)	3
Figure 2 Measurement Model Analysis and Factorial Invariance for Austrian Sample	47
Figure 3 Measurement Model Analysis and Factorial Invariance for Korean Sample	48

Acknowledgements

I want to express my sincere gratitude to Professor Karl Schlag for his valuable supervision and guidance, which played a pivotal role in shaping the framework of my research and enabled me to complete my master's thesis. I also extend my heartfelt appreciation to Dr. Seyed Abbas Mousavi Nejad, who is my father and an exceptional mathematics teacher for me. He significantly influenced my academic journey. I would also like to express my profound gratitude to my family, especially my mother, Seyed Naimodin, and Seyed Jamalodin Mousavi Nejad, for their unwavering support and care throughout my academic journey. Their constant encouragement has been a great source of motivation for me. Additionally, I am indebted to my partner, Ms. Seungeun Song, for her unwavering assistance at every stage of crafting this master's thesis. Her presence during the challenging period of living abroad has been a source of strength and inspiration. I would also like to sincerely thank Mrs. Hye-nang Ryoo, Ms. Waltraud Käberich, and Mr. Bernhard Mayer for their fantastic support throughout my academic journey. Finally, I express my profound appreciation for the remarkable and equitable Austrian education system, particularly the Study Grant Authority of Austria. Without their assistance, completing my master's studies would have been an incredibly challenging task.

Appendix

Questionary and its Questions with translations in two German and Korean languages:

<i>Variable</i>	<i>Items in English</i>	<i>Items in German</i>	<i>Items in Korean</i>
Intention to Use Unmanned Store *Items are adopted from Ghazwani et al. (2022) and Seo (2019) and Ponte et al. (2021).	1- I would like to shop at Amazon Go in the future.	Ich möchte gerne in Zukunft bei Amazon Go einkaufen.	나는 훗날 아마존 고에서 장을 보고 싶은 마음이 든다.
	2- If I had access to the Amazon Go, I would definitely use it.	Wenn ich Zugang hätte, würde ich Amazon Go auf jeden Fall nutzen.	나는 아마존 고 매장이 이용이 가능해진다면, 무조건 해당 매장을 이용할 것이다.
Perceived Usefulness *The following items are adopted from Seo (2019) and Davis (1986).	1- I think Amazon Go will meet my needs.	Ich denke, dass Amazon Go meinen Bedürfnissen entsprechen wird.	아마존 고는 나의 필요를 충족시켜줄 것 같다.
	2- I think Amazon Go offers an efficient shopping system for buying products.	Ich denke, dass Amazon Go ein effizientes Einkaufssystem zum Kauf von Produkten bietet.	제품 구매 시 아마존 고는 효율적인 시스템을 제공할 것 같다.
	3- I think Amazon Go supports important aspects of shopping.	Ich denke, dass Amazon Go wichtige Aspekte des Einkaufens unterstützt.	나는 아마존 고가 물건을 구매할 때의 중요한 측면들을 지원해준다고 생각한다.
Perceived Ease of Use *The following items are adopted from Seo (2019) and Davis (1986), Ponte et al. (2021).	1- I find the shopping model applied by Amazon Go to be too complicated to use.	Ich finde das Einkaufsmodell, welches bei Amazon Go verwendet wird, zu kompliziert anzuwenden.	아마존 고의 구매 방식은 사용하기 너무 복잡한 것 같다.
	2- Given my current skills and abilities, it would be difficult for me to gain the skills (handling the app, necessary processes, the necessary technical requirements, etc.) necessary to shop at Amazon Go.	Angesichts meiner derzeitigen Fähigkeiten und Fertigkeiten wäre es schwierig für mich, die Fähigkeiten (Umgang mit der App, notwendige Abläufe, die technisch notwendigen Voraussetzungen etc.) zu erlangen, die zum Einkaufen bei Amazon Go notwendig sind.	나의 현재 기술과 능력을 감안할 때, 아마존 고 매장을 이용하는 데 필요한 기술(앱 사용 능력, 관련 기본 지식 등)을 배우는 것은 어려울 것 같다.

<i>Variable</i>	<i>Items in English</i>	<i>Items in German</i>	<i>Items in Korean</i>
	3- It seems that a lot of effort is required to be able to interact with the technology and devices used in Amazon-Go.	Es scheint, dass ein hoher Aufwand erforderlich ist, um mit der bei Amazon-Go verwendeten Technologie und den Geräten interagieren zu können.	아마존 고에서 사용하는 기술 및 장치를 다룰 수 있으려면 많은 노력이 필요할 것 같다.
High- and Low-Context Communication *The following items are adopted from Kim, Pank and Park (1998) and Richardson and Smith(2007), Ponte et al. (2021).	1- I would like to receive detailed explanations about service, products and payment from staffs when shopping.	Ich möchte von MitarbeiterInnen detaillierte Erklärungen beim Einkauf, zu den Themen Service sowie Produkte und Zahlung, erhalten.	나는 물건을 구매할 때 직원들에게 서비스 · 상품, 결제 정보에 관해 자세한 설명을 듣고 싶다.
	2- I need explicit and clear information from staffs when shopping.	Ich benötige beim Einkaufen explizite und klare Informationen von MitarbeiterInnen benötige.	나는 물건 구매 시 직원들에게서 명확하고 확실한 정보가 필요하다.
High- and Low-Context Dealing With a New Situation *The following items are adopted from Kim, Pank and Park (1998) and Richardson and Smith(2007), Ponte et al. (2021).	1- I don't want to deal with the new technology used by Amazon Go.	Ich möchte mich nicht mit der neuen von Amazon Go verwendeten Technologie auseinandersetzen.	나는 아마존 고에서 사용하는 새로운 기술과 씨름하고 싶지 않다.
	2- I find it difficult to imagine myself dealing with new technology like that used by Amazon Go.	Ich kann es mir schwer vorstellen, mit neuer Technologie wie derjenigen, die bei Amazon Go verwendet wird, umzugehen.	아마존 고에서 사용한 것과 같은 새로운 기술을 이용하는 일은 나에게 상상하기 어려운 일이다.
	3- I will try to avoid new shopping situations like Amazon Go as I don't want to deal with this new shopping model.	Ich werde versuchen, neue Einkaufssituationen wie Amazon Go zu vermeiden, da ich mich nicht mit diesem neuen Einkaufsmodell befassen will.	나는 아마존 고와 같은 새로운 구매 환경을 피할 것이다. 그 이유는 이런 새로운 구매 방식을 배워가며 이용하고 싶지 않기 때문이다.
Long and Short-Term Orientation	1- Shops with staff show more respect for tradition.	Geschäfte mit Personal zeigen mehr Respekt vor der Tradition.	직원이 상주하는 매장에서는 전통이 더 중시된다.

<i>Variable</i>	<i>Items in English</i>	<i>Items in German</i>	<i>Items in Korean</i>
*The following items are adopted from Bearden (2006).	2- The shopping experience in stores with staffs is important to me for traditional reasons.	Das Einkaufserlebnis in herkömmlichen Geschäften (mit Personal) ist für mich aus traditionellen Gründen wichtig.	직원이 상주하는 매장에서 물건을 사는 경험은 전통이라는 측면에서 나에게 중요하다.
Uncertainty Avoidance *The following items are adopted from Jengchung et al. (2013), Jung and Kellaris, (2004), Ghazwani et al. (2022) and Lin (2022), Ponte et al. (2021).	1- I would feel uncomfortable while shopping at Amazon Go, because of Just Walk Out technology.	Aufgrund der Just Walk Out-Technologie würde ich mich beim Einkaufen bei Amazon Go unwohl fühlen.	아마존 고에서 장을 보면, 그냥 걸어나가는(Just Walk Out) 기술 때문에 찝찝한 기분이 들 것 같다.
	2- Just Walk Out technology used by Amazon Go, would make me feel nervous when it comes to making payments.	Die Just Walk Out-Technologie bei Amazon Go könnte mich beim Bezahlen nervös machen.	아마존 고에서 사용하는 그냥 걸어나가는(Just Walk Out) 기술때문에 결제할 때 불안한 느낌이 들 것 같다.
	3- I am concerned that shopping at Amazon Go has a higher risk of data leakage.	Ich mache mir Sorgen, dass das Einkaufen bei Amazon Go ein höheres Risiko für Datenlecks birgt.	아마존 고에서 장을 보면 데이터 유출 위험이 클 것 같아서 우려된다.
	4- I believe the technology used by Amazon Go may make mistakes in registering products and accounting for purchased goods.	Ich glaube, dass die Technologie, die bei Amazon Go verwendet wird, bei der Registrierung von Produkten und der Abrechnung von gekauften Waren Fehler machen könnte.	아마존 고에서 사용하는 기술은 짐은 물건을 인식하고, 구매한 물품을 계산하여 처리하는 과정에서 오류를 유발할 것 같다.
Time Orientation *The following items are adopted from Rizkalla (1989) Bluedorn, Kaufman, Lane (1992) and	1- Shopping at Amazon Go will save my time.	Der Einkauf bei Amazon Go wird mir Zeit sparen.	아마존 고에서 장을 보면 시간이 절약될 것이다.
	2- Shopping at Amazon Go is less time-consuming.	Das Einkaufen bei Amazon Go ist weniger zeitaufwändig.	아마존 고에서는 장보는 시간이 적게 소요될 것이다.

<i>Variable</i>	<i>Items in English</i>	<i>Items in German</i>	<i>Items in Korean</i>
Kaufman et al. (1991), Ponte et al. (2021).	3- Shopping at Amazon Go would allow me to shop more quickly and save time for other daily activities.	Das Einkaufen bei Amazon Go würde es mir ermöglichen, schneller einzukaufen und mehr Zeit für andere tägliche Aktivitäten zu haben.	아마존 고에서는 장을 더 빨리 볼 수 있어서, 다른 일상 활동에 시간을 그만큼 더 할애할 수 있을 것이다.
Dis-connected Communication	1- I feel comfortable with no direct interaction with staffs while shopping.	Ich fühle mich beim Einkaufen wohl, wenn ich keine direkte Interaktion mit MitarbeiterInnen habe.	나는 물건 구입 시 매장 직원과의 직접적인 교류가 일어나지 않을 때 편안하게 느낀다.
	2- I would prefer not to have direct interaction with staffs while shopping.	Es wäre mir lieber, beim Einkaufen keine direkte Interaktion mit MitarbeiterInnen zu haben.	나는 물건을 살 때 매장 직원과 직접적인 상호 교류가 없는 편이 더 좋다.
	3- I would prefer shopping at Amazon Go over stores with staffs because of no direct interaction with staffs.	Ich würde das Einkaufen bei Amazon Go den Läden mit Personal vorziehen, weil es dort keine direkte Interaktion mit MitarbeiterInnen gibt.	나는 직원이 상주하는 매장보다 아마존 고를 선호하는데, 그 이유는 매장 직원과 직접적으로 접촉하지 않아도 되기 때문이다.
Attitude Towards AI Technology	1- I'm positive about Just Walk Out technology.	Ich bin positiv eingestellt bezüglich der Just Walk Out-Technologie.	나는 그냥 걸어나가는(Just Walk Out) 기술에 대해 긍정적으로 생각한다.
	2- I'm positive about stores without staffs like Amazon Go.	Ich bin positiv eingestellt bezüglich Geschäfte ohne MitarbeiterInnen wie beispielsweise "Amazon Go".	나는 아마존 고와 같이 직원이 상주하지 않는 매장(무인 매장)에 대해 긍정적으로 생각한다.
Experience with AI technology	1- Have you ever shopped at a store without staffs?	Haben Sie schon einmal in einem Geschäft ohne Personal eingekauft?	직원이 상주하지 않는 매장(무인 매장)에서 물건을 구매해본 적이 있습니까?
Familiarity with AI technology	1- Have you heard of "Amazon Go" before?	Haben Sie schon vorher einmal von "Amazon Go" gehört?	'아마존 고(Amazon Go)'에 대해 영상 시청 이전에도 들어본 적이 있습니까?
sociodemographic	1- How old are you?	Wie alt sind Sie?	나이가 어떻게 됩니까?

<i>Variable</i>	<i>Items in English</i>	<i>Items in German</i>	<i>Items in Korean</i>
	2- What gender do you identify as?	Mit welchem Geschlecht identifizieren Sie sich?	성별이 무엇입니까?
	3- What is your highest educational degree?	Was ist Ihr höchster Bildungsabschluss?	최종 학력이 어떻게 됩니까?
	4- What country do you currently reside in?	In welchem Land leben Sie derzeit?	현재 거주하는 나라가 어디입니까?
	5- Where are you from?	Woher kommen Sie?	출신 국가가 어디입니까?

Figure 2 Measurement Model Analysis and Factorial Invariance for Austrian Sample

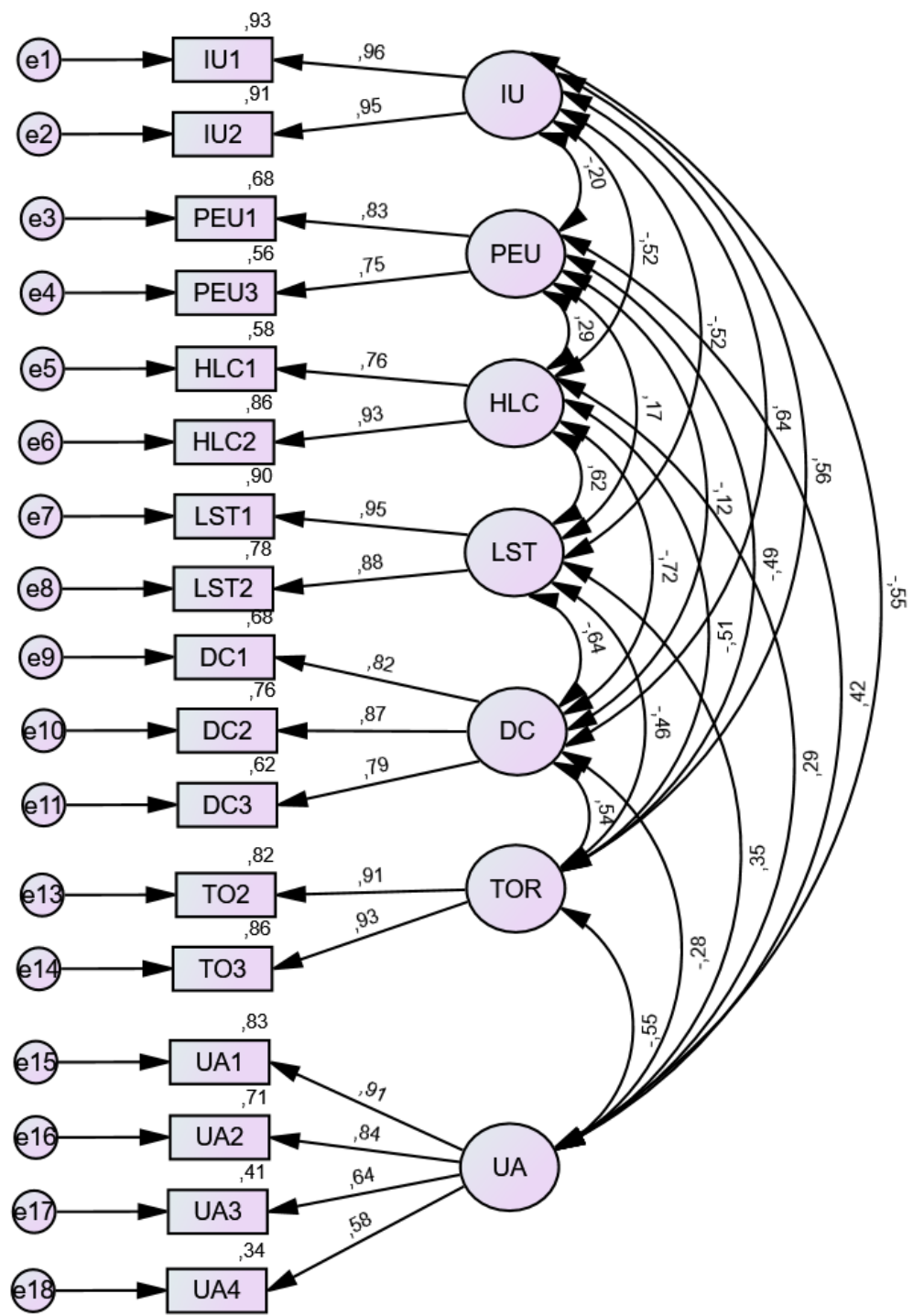
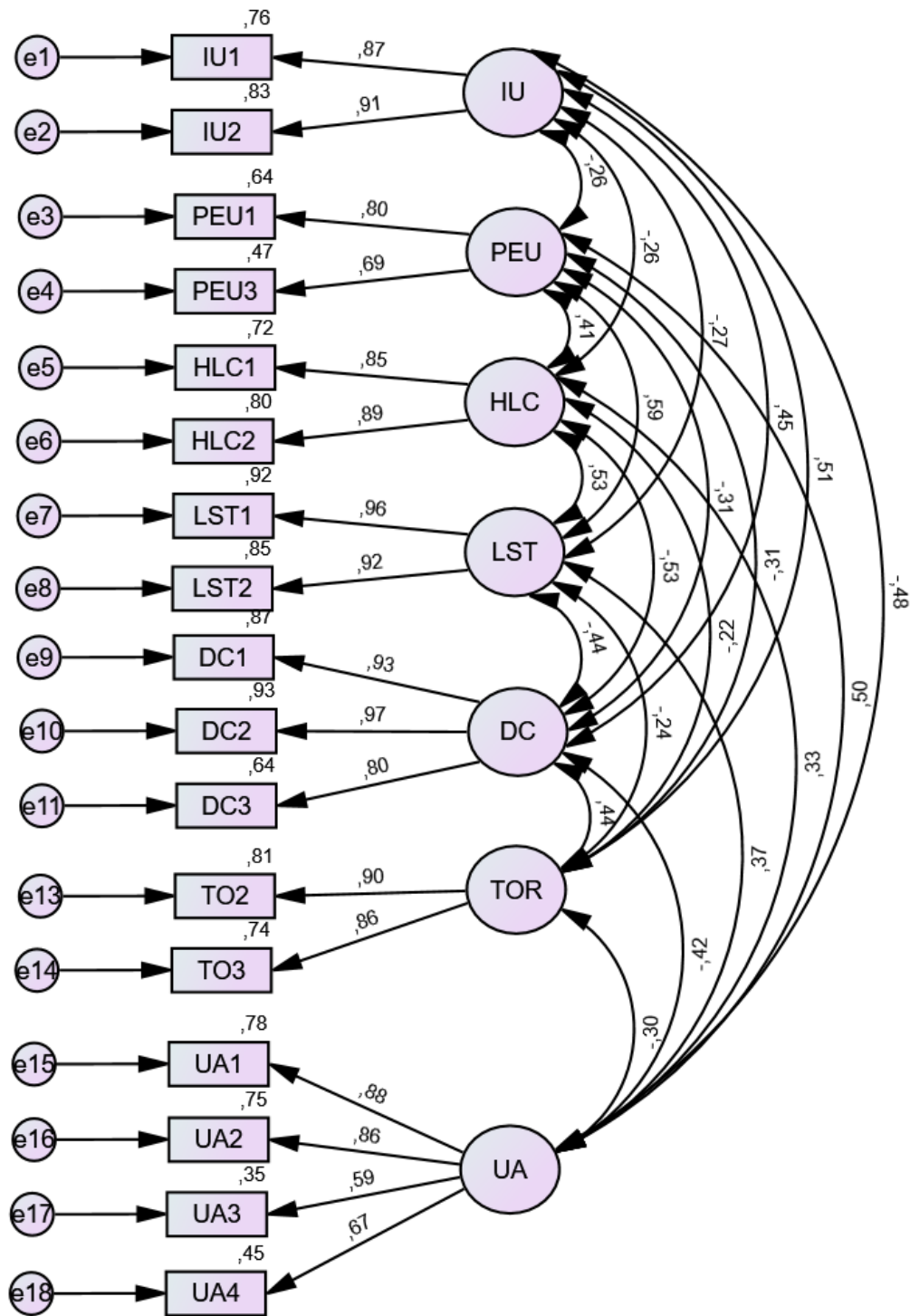


Figure 3 Measurement Model Analysis and Factorial Invariance for Korean Sample



Assessment of normality (Austria):

Variable	min	max	skew	c.r.	kurtosis	c.r.
UA1	1.000	7.000	-.004	-.020	-1.113	-2.875
UA2	1.000	7.000	-.189	-.974	-1.124	-2.902
UA3	1.000	7.000	-.867	-4.479	-.119	-.307
UA4	1.000	7.000	-.815	-4.209	.317	.819
TO2	1.000	7.000	-.836	-4.317	.336	.867
TO3	1.000	7.000	-.525	-2.714	-.408	-1.052
DC1	1.000	7.000	-.066	-.341	-1.170	-3.021
DC2	1.000	7.000	.152	.783	-1.062	-2.743
DC3	1.000	7.000	.388	2.003	-1.053	-2.719
LST1	1.000	7.000	.244	1.258	-.956	-2.469
LST2	1.000	7.000	.203	1.051	-1.147	-2.963
HLC1	1.000	7.000	.386	1.993	-.704	-1.819
HLC2	1.000	7.000	.170	.880	-.998	-2.577
PEU1	1.000	7.000	1.019	5.261	.522	1.347
PEU3	1.000	7.000	1.062	5.482	.505	1.303
IU1	1.000	7.000	-.095	-.492	-1.288	-3.326
IU2	1.000	7.000	-.237	-1.226	-1.266	-3.268
Multivariate					43.893	10.922

Model Fit Measures Austria:

Measure	Estimate	Threshold	Interpretation
CMIN	148.037	--	--
DF	98.000	--	--
CMIN/DF	1.511	Between 1 and 3	Excellent
CFI	0.972	>0.95	Excellent
SRMR	0.048	<0.08	Excellent
RMSEA	0.057	<0.06	Excellent
PClose	0.268	>0.05	Excellent

Cutoff Criteria:

Measure	Terrible	Acceptable	Excellent
CMIN/DF	> 5	> 3	> 1
CFI	<0.90	<0.95	>0.95
SRMR	>0.10	>0.08	<0.08
RMSEA	>0.08	>0.06	<0.06
PClose	<0.01	<0.05	>0.05

Source: I Gaskin, J. & Lim, J. (2016), "Model Fit Measures", AMOS Plugin. [Gaskination's StatWiki](#).

**Standardized Regression Weights: (Austria - Unconstrained):
(Bootstrap)**

Parameter	Estimate	Lower	Upper	P
IU2 <--- IU	.954	.916	.982	.001
IU1 <--- IU	.965	.928	.993	.001
PEU3 <--- PEU	.750	.455	.943	.001
PEU1 <--- PEU	.827	.621	1.172	.000
HLC2 <--- HLC	.926	.824	1.021	.001
HLC1 <--- HLC	.764	.579	.881	.001
LST2 <--- LST	.883	.801	.949	.000
LST1 <--- LST	.947	.886	1.007	.001
DC3 <--- DC	.788	.664	.885	.001
DC2 <--- DC	.872	.735	.957	.001
DC1 <--- DC	.822	.692	.906	.001
TO3 <--- TOR	.928	.854	.977	.001
TO2 <--- TOR	.908	.826	.965	.001
UA4 <--- UA	.582	.422	.720	.000
UA3 <--- UA	.643	.522	.742	.000
UA2 <--- UA	.840	.747	.912	.000
UA1 <--- UA	.910	.833	.970	.001

Assessment of normality (Korea):

Variable	min	max	skew	c.r.	kurtosis	c.r.
UA1	1.000	7.000	.003	.016	-1.401	-3.582
UA2	1.000	7.000	-.183	-.938	-1.345	-3.440
UA3	1.000	7.000	-.757	-3.871	-.480	-1.227
UA4	1.000	7.000	-.878	-4.493	.114	.292
TO2	1.000	7.000	-1.513	-7.738	2.041	5.221
TO3	1.000	7.000	-1.081	-5.530	.534	1.366
DC1	1.000	7.000	-.591	-3.023	-.467	-1.194
DC2	1.000	7.000	-.629	-3.220	-.318	-.813
DC3	1.000	7.000	-.328	-1.676	-.977	-2.498
LST1	1.000	7.000	.287	1.468	-1.074	-2.747
LST2	1.000	7.000	.435	2.226	-1.091	-2.790
HLC1	1.000	7.000	-.345	-1.764	-1.099	-2.812
HLC2	1.000	7.000	-.429	-2.197	-.884	-2.260
PEU1	1.000	7.000	1.162	5.946	.485	1.242
PEU3	1.000	7.000	.509	2.604	-1.029	-2.633
IU1	1.000	7.000	-1.632	-8.348	3.333	8.524
IU2	1.000	7.000	-1.065	-5.448	.427	1.093
Multivariate					60.934	15.020

Model Fit Measures Korea:

Measure	Estimate	Threshold	Interpretation
CMIN	148.134	--	--
DF	98.000	--	--
CMIN/DF	1.512	Between 1 and 3	Excellent
CFI	0.970	>0.95	Excellent
SRMR	0.048	<0.08	Excellent
RMSEA	0.057	<0.06	Excellent
PClose	0.253	>0.05	Excellent

**Standardized Regression Weights: (Korea - Unconstrained):
(Bootstrap)**

Parameter			Estimate	Lower	Upper	P
IU2	<---	IU	.910	.766	1.054	.000
IU1	<---	IU	.871	.723	.985	.001
PEU3	<---	PEU	.687	.497	.841	.001
PEU1	<---	PEU	.799	.625	.995	.000
HLC2	<---	HLC	.894	.779	.998	.001
HLC1	<---	HLC	.850	.740	.936	.001
LST2	<---	LST	.922	.854	.974	.001
LST1	<---	LST	.961	.891	1.016	.001
DC3	<---	DC	.799	.714	.867	.000
DC2	<---	DC	.965	.919	1.000	.001
DC1	<---	DC	.935	.894	.967	.000
TO3	<---	TOR	.858	.711	.977	.001
TO2	<---	TOR	.902	.737	1.065	.001
UA4	<---	UA	.673	.532	.776	.001
UA3	<---	UA	.591	.442	.710	.000
UA2	<---	UA	.863	.771	.926	.001
UA1	<---	UA	.884	.780	.944	.001

Standardized Residual Covariances (Austria - Unconstrained):

	UA1	UA2	UA3	UA4	TO2	TO3	DC1	DC2	DC3	LST1	LST2	HLC 1	HLC 2	PEU 1	PEU 3	IU1	IU2
UA1	.00 0																
UA2	.08 1	.00 0															
UA3	.01 9	-.63 7	.00 0														
UA4	-.47 7	.49 7	1.6 70	.00 0													
TO2	.07 7	-.19 4	-.03 1	-.27 1	.00 0												
TO3	.04 7	-.11 9	.17 5	.25 4	.00 0	.00 0											
DC1	-.22 6	.87 3	-.02 8	-.26 4	.23 1	-.32 3	.00 0										
DC2	.00 7	1.4 03	.76 2	.39 1	.09 6	.48 0	.30 3	.0 00									
DC3	-.10 79	.11 1	1.6 50	.33 7	1.0 33	.36 4	.54 5	.0 01	.00 0								
LST 1	.11 1	-.29 1	.26 8	.63 3	.01 0	.15 9	.05 0	.0 49	-.29 2	.0 00							
LST 2	.17 0	.10 7	.38 2	.54 9	.40 6	.03 3	.17 3	.5 67	-.18 6	.0 00	.0 00						
HL C1	.26 2	.38 2	.89 5	.93 9	.11 4	.51 8	.11 2	.3 13	-.14 4	.6 46	.8 45	.0 00					
HL C2	.11 2	-.73 3	.77 8	.63 0	.27 4	.04 4	.01 4	.0 70	.00 9	.2 30	.1 06	.0 00	.0 00				
PEU 1	.27 6	.39 1	.05 2	1.2 68	.70 2	.02 2	1.4 23	.3 43	.56 3	.2 10	.3 87	.2 86	.1 22	.0 00			
PEU 3	-.63 1	.47 1	1.2 63	.40 1	.19 1	1.0 10	.60 7	.4 91	1.0 97	.4 04	.3 95	.1 38	.2 71	.0 00	.0 0		
IU1	-.44 6	.61 8	1.0 82	1.3 26	.10 2	.21 9	.16 5	.7 99	1.6 59	.2 25	.2 39	.5 60	.1 58	.2 27	.6 1	.0 0	
IU2	-.29 9	.99 6	1.0 93	.92 4	.27 9	.02 7	.32 0	.6 07	1.4 31	.3 80	.1 30	.6 37	.1 70	.2 77	.0 6	.0 0	.0 0

Standardized Residual Covariances (Korea - Unconstrained):

	UA1	UA2	UA3	UA4	TO2	TO3	DC1	DC2	DC3	LST1	LST2	HLC 1	HLC 2	PEU 1	PEU 3	IU1	IU2
UA1	.000																
UA2	.053	.000															
UA3	.060	-.432	.000														
UA4	-.627	.498	1.307	.000													
TO2	.297	.618	-.031	.321	.000												
TO3	-.460	.475	1.196	.761	.000	.000											
DC1	-.650	.098	.150	.063	.237	.018	.000										
DC2	-.114	.582	.439	.696	.165	.088	.022	.000									
DC3	-.753	-.575	.922	1.330	.520	1.543	-.101	-.027	.000								
LST1	.555	-.748	.414	.061	.250	.377	.006	.048	.125	.000							
LST2	.705	1.028	.853	.146	.278	.411	.094	.005	.154	.000	.000						
HL C1	-.463	.522	.077	.470	.067	.607	.135	.118	.349	.023	.181	.000					
HL C2	.105	.152	.808	1.106	.032	.436	.582	.122	.751	.134	.186	.000	.000				
PEU1	.285	1.080	1.078	1.262	.499	.543	.029	.059	.469	.490	.575	.050	-.063	.000			
PEU3	1.321	.719	-.091	.656	1.225	.363	.420	.006	.230	1.070	.532	.289	.149	.000	.000		
IU1	.059	.789	.487	.077	.018	.193	1.002	.390	1.454	1.163	.701	.564	.677	.135	.607	.000	
IU2	-.385	.048	.279	.192	.028	.108	.138	.888	1.230	.671	.727	.359	.478	.727	.665	.000	.000

Regression of Associations Between Dis-connected Communication and Country of Nationality (Bootstrap)

Linear regression

Number of obs = 317
Replications = 5,000
Wald chi2(1) = 35.97
Prob > chi2 = 0.0000
R-squared = 0.1023
Adj R-squared = 0.0995
Root MSE = 1.6362

	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
dc						
co						
Austria	0 (base)					
Korea	1.101539	.1836563	6.00	0.000	.7415795	1.461499
_cons	3.758333	.1358328	27.67	0.000	3.492106	4.024561

Regression of Associations Between High- and Low-Context and Country of Nationality (Bootstrap)

Linear regression

Number of obs = 317
Replications = 5,000
Wald chi2(1) = 13.66
Prob > chi2 = 0.0002
R-squared = 0.0417
Adj R-squared = 0.0387
Root MSE = 1.5768

hlc	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
co	0 (base)					
Austria	.6559315	.1774821	3.70	0.000	.308073	1.00379
Korea						
_cons	3.49375	.1243757	28.09	0.000	3.249978	3.737522

Regression of Associations Between Long- and Short-Term Orientation and Country of Nationality (Bootstrap)

Linear regression

Number of obs = 317
 Replications = 5,000
 Wald chi2(1) = 6.48
 Prob > chi2 = 0.0109
 R-squared = 0.0200
 Adj R-squared = 0.0169
 Root MSE = 1.7081

lst	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
co	0 (base)					
Austria						
Korea	-.486664	.1912233	-2.55	0.011	-.8614547	-.1118733
_cons	3.53125	.1425495	24.77	0.000	3.251858	3.810642

Regression of Associations Between Perceived Ease of Use and Country of Nationality (Bootstrap)

Linear regression

Number of obs = 317
 Replications = 5,000
 Wald chi2(1) = 2.90
 Prob > chi2 = 0.0885
 R-squared = 0.0093
 Adj R-squared = 0.0062
 Root MSE = 1.3850

peu	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
co	0 (base)					
Austria	.2676354	.1571392	1.70	0.089	-.0403518	.5756225
Korea						
_cons	2.50625	.1046896	23.94	0.000	2.301062	2.711438

Regression of Associations Between Time Orientation and Country of Nationality (Bootstrap)

Linear regression

Number of obs = 317
Replications = 5,000
Wald chi2(1) = 23.46
Prob > chi2 = 0.0000
R-squared = 0.0695
Adj R-squared = 0.0665
Root MSE = 1.4142

	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
co						
Austria	0 (base)					
Korea	.7704021	.1590519	4.84	0.000	.458666	1.082138
_cons	4.984375	.1208526	41.24	0.000	4.747508	5.221242

Regression of Associations Between Uncertainty Avoidance and Country of Nationality (Bootstrap)

Linear regression

Number of obs = 317
Replications = 5,000
Wald chi2(1) = 8.64
Prob > chi2 = 0.0033
R-squared = 0.0272
Adj R-squared = 0.0241
Root MSE = 1.4641

	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
ua						
co						
Austria	0 (base)					
Korea	-.4877687	.1659672	-2.94	0.003	-.8130585	-.1624789
_cons	4.723438	.1140649	41.41	0.000	4.499874	4.947001

Regressions of Intention to Use Unmanned Stores on Cultural Dimensions, Perceived Ease of Use and Country of Nationality (Bootstrap)

Linear regression

Number of obs = 317
 Replications = 5,000
 Wald chi2(7) = 441.22
 Prob > chi2 = 0.0000
 R-squared = 0.5384
 Adj R-squared = 0.5280
 Root MSE = 1.3020

	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
iu						
co	0 (base)					
Austria	.8628162	.1657361	5.21	0.000	.5379795	1.187653
Korea	.3250176	.0614523	5.29	0.000	.2045732	.4454619
dc	-.0054481	.0557635	-0.10	0.922	-.1147425	.1038463
hlc	-.1004808	.0568977	-1.77	0.077	-.2119983	.0110367
lst	.098014	.0652753	1.50	0.133	-.0299233	.2259514
peu	.2972628	.0740556	4.01	0.000	.1521165	.4424092
tor	-.2857537	.0683621	-4.18	0.000	-.4197408	-.1517665
ua	2.856005	.6349388	4.50	0.000	1.611548	4.100463
_cons						

Linear regression

Number of obs = 317
 Replications = 5,000
 Wald chi2(13) = 501.00
 Prob > chi2 = 0.0000
 R-squared = 0.5657
 Adj R-squared = 0.5471
 Root MSE = 1.2754

	Observed coefficient	Bootstrap std. err.	z	P> z	Normal-based [95% conf. interval]	
iu						
co						
Austria	0	(base)				
Korea	.6073625	1.369718	0.44	0.657	-2.077236	3.291961
dc	.4480614	.0914278	4.90	0.000	.2688663	.6272565
dc_co	-.2439501	.120481	-2.02	0.043	-.4800885	-.0078117
hlc	-.026057	.1005881	-0.26	0.796	-.223206	.171092
hlc_co	.0439832	.1168706	0.38	0.707	-.185079	.2730454
lst	-.1154788	.0910488	-1.27	0.205	-.2939312	.0629735
lst_co	.1020501	.1094597	0.93	0.351	-.112487	.3165872
peu	.1102106	.091322	1.21	0.227	-.0687772	.2891984
peu_co	-.1061085	.1247209	-0.85	0.395	-.350557	.13834
tor	.2352349	.1104623	2.13	0.033	.0187327	.451737
tor_co	.0417778	.1547305	0.27	0.787	-.2614884	.345044
ua	-.4110919	.1078003	-3.81	0.000	-.6223766	-.1998071
ua_co	.2020418	.1338764	1.51	0.131	-.0603512	.4644348
_cons	3.38916	1.142096	2.97	0.003	1.150693	5.627627

None Bootstrap Results

Regression Weights: (Austria - Unconstrained) (None Bootstrap)

			Estimate	S.E.	C.R.	P	Label
IU2	<---	IU	1.000				
IU1	<---	IU	.998	.045	22.160	***	a1_1
PEU3	<---	PEU	1.000				
PEU1	<---	PEU	.980	.158	6.194	***	a2_1
HLC2	<---	HLC	1.000				
HLC1	<---	HLC	.772	.078	9.956	***	a3_1
LST2	<---	LST	1.000				
LST1	<---	LST	1.035	.076	13.554	***	a4_1
DC3	<---	DC	1.000				
DC2	<---	DC	1.103	.094	11.697	***	a5_1
DC1	<---	DC	1.062	.097	11.000	***	a6_1
TO3	<---	TOR	1.000				
TO2	<---	TOR	.920	.062	14.824	***	a7_1
UA4	<---	UA	1.000				
UA3	<---	UA	1.281	.198	6.480	***	a9_1
UA2	<---	UA	1.877	.245	7.672	***	a10_1
UA1	<---	UA	1.953	.247	7.894	***	a11_1

Standardized Regression Weights: (Austria - Unconstrained) (None Bootstrap)

			Estimate
IU2	<---	IU	.954
IU1	<---	IU	.965
PEU3	<---	PEU	.750
PEU1	<---	PEU	.827
HLC2	<---	HLC	.926
HLC1	<---	HLC	.764
LST2	<---	LST	.883
LST1	<---	LST	.947
DC3	<---	DC	.788
DC2	<---	DC	.872
DC1	<---	DC	.822
TO3	<---	TOR	.928
TO2	<---	TOR	.908
UA4	<---	UA	.582
UA3	<---	UA	.643
UA2	<---	UA	.840
UA1	<---	UA	.910

**Regression Weights: (Korea - Unconstrained)
(None Bootstrap)**

			Estimate	S.E.	C.R.	P	Label
IU2	<---	IU	1.000				
IU1	<---	IU	.773	.073	10.570	***	a1_1
PEU3	<---	PEU	1.000				
PEU1	<---	PEU	.923	.144	6.429	***	a2_1
HLC2	<---	HLC	1.000				
HLC1	<---	HLC	.989	.102	9.734	***	a3_1
LST2	<---	LST	1.000				
LST1	<---	LST	.997	.064	15.643	***	a4_1
DC3	<---	DC	1.000				
DC2	<---	DC	1.127	.076	14.804	***	a5_1
DC1	<---	DC	1.083	.075	14.355	***	a6_1
TO3	<---	TOR	1.000				
TO2	<---	TOR	.935	.102	9.161	***	a7_1
UA4	<---	UA	1.000				
UA3	<---	UA	1.004	.150	6.675	***	a9_1
UA2	<---	UA	1.537	.167	9.184	***	a10_1
UA1	<---	UA	1.571	.169	9.293	***	a11_1

**Standardized Regression Weights: (Korea - Unconstrained)
(None Bootstrap)**

			Estimate
IU2	<---	IU	.910
IU1	<---	IU	.871
PEU3	<---	PEU	.687
PEU1	<---	PEU	.799
HLC2	<---	HLC	.894
HLC1	<---	HLC	.850
LST2	<---	LST	.922
LST1	<---	LST	.961
DC3	<---	DC	.799
DC2	<---	DC	.965
DC1	<---	DC	.935
TO3	<---	TOR	.858
TO2	<---	TOR	.902
UA4	<---	UA	.673
UA3	<---	UA	.591
UA2	<---	UA	.863
UA1	<---	UA	.884

Regression of Associations Between Dis-connected Communication and Country of Nationality (None Bootstrap)

Source	SS	df	MS	Number of obs	=	317
				F(1, 315)	=	35.91
Model	96.1524485	1	96.1524485	Prob > F	=	0.0000
Residual	843.350531	315	2.67730327	R-squared	=	0.1023
				Adj R-squared	=	0.0995
Total	939.502979	316	2.97311069	Root MSE	=	1.6362

dc	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co						
Austria	0 (base)					
Korea	1.101539	.1838098	5.99	0.000	.7398892	1.463189
_cons	3.758333	.1293567	29.05	0.000	3.503821	4.012846

Regression of Associations Between High- and Low-Context and Country of Nationality (None Bootstrap)

Source	SS	df	MS	Number of obs	=	317
				F(1, 315)	=	13.71
Model	34.0939552	1	34.0939552	Prob > F	=	0.0003
Residual	783.226234	315	2.48643249	R-squared	=	0.0417
				Adj R-squared	=	0.0387
Total	817.320189	316	2.5864563	Root MSE	=	1.5768

hlc	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co	0 (base)					
Austria	.6559315	.1771365	3.70	0.000	.3074112	1.004452
Korea						
_cons	3.49375	.1246604	28.03	0.000	3.248478	3.739022

Regression of Associations Between Long- and Short-Term Orientation and Country of Nationality (None Bootstrap)

Source	SS	df	MS	Number of obs	=	317
				F(1, 315)	=	6.43
Model	18.7680365	1	18.7680365	Prob > F	=	0.0117
Residual	919.031648	315	2.91756079	R-squared	=	0.0200
				Adj R-squared	=	0.0169
Total	937.799685	316	2.96772052	Root MSE	=	1.7081

1st	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co	0 (base)					
Austria						
Korea	-.486664	.19188	-2.54	0.012	-.8641925	-.1091355
_cons	3.53125	.1350361	26.15	0.000	3.265563	3.796937

Regression of Associations Between Perceived Ease of Use and Country of Nationality (None Bootstrap)

Source	SS	df	MS	Number of obs	=	317
				F(1, 315)	=	2.96
Model	5.67606454	1	5.67606454	Prob > F	=	0.0864
Residual	604.21668	315	1.91814819	R-squared	=	0.0093
				Adj R-squared	=	0.0062
Total	609.892744	316	1.93004033	Root MSE	=	1.385

peu	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co	0 (base)					
Austria						
Korea	.2676354	.1555826	1.72	0.086	-.038477	.5737477
_cons	2.50625	.1094917	22.89	0.000	2.290823	2.721677

Regression of Associations Between Time Orientation and Country of Nationality (None Bootstrap)

Source	SS	df	MS	Number of obs	=	317
Model	47.0321958	1	47.0321958	F(1, 315)	=	23.52
Residual	630.019855	315	2.00006303	Prob > F	=	0.0000
				R-squared	=	0.0695
				Adj R-squared	=	0.0665
Total	677.05205	316	2.14256978	Root MSE	=	1.4142

tor	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co						
Austria	0 (base)					
Korea	.7704021	.1588699	4.85	0.000	.4578218	1.082982
_cons	4.984375	.1118052	44.58	0.000	4.764396	5.204354

Regression of Associations Between Uncertainty Avoidance and Country of Nationality (None Bootstrap)

Source	SS	df	MS	Number of obs	=	317
Model	18.8533377	1	18.8533377	F(1, 315)	=	8.80
Residual	675.229864	315	2.14358687	Prob > F	=	0.0033
				R-squared	=	0.0272
				Adj R-squared	=	0.0241
Total	694.083202	316	2.19646583	Root MSE	=	1.4641

ua	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co						
Austria	0 (base)					
Korea	-.4877687	.1644714	-2.97	0.003	-.81137	-.1641674
_cons	4.723438	.1157472	40.81	0.000	4.495702	4.951173

Regressions of Intention to Use Unmanned Stores on Cultural Dimensions, Perceived Ease of Use and Country of Nationality (None Bootstrap)

Source	SS	df	MS	Number of obs	=	317
				F(7, 309)	=	51.49
Model	611.026957	7	87.2895653	Prob > F	=	0.0000
Residual	523.788501	309	1.69510842	R-squared	=	0.5384
				Adj R-squared	=	0.5280
Total	1134.81546	316	3.59118816	Root MSE	=	1.302

iu	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co						
Austria	0 (base)					
Korea	.8628162	.1737352	4.97	0.000	.5209625	1.20467
dc	.3250176	.0598752	5.43	0.000	.2072028	.4428323
hlc	-.0054481	.0599857	-0.09	0.928	-.1234802	.112584
lst	-.1004808	.0539895	-1.86	0.064	-.2067144	.0057528
peu	.098014	.0597567	1.64	0.102	-.0195674	.2155955
tor	.2972628	.0627156	4.74	0.000	.1738591	.4206665
ua	-.2857537	.0575472	-4.97	0.000	-.3989876	-.1725198
_cons	2.856005	.5830401	4.90	0.000	1.708774	4.003237

Source	SS	df	MS	Number of obs	=	317
				F(13, 303)	=	30.36
Model	641.956578	13	49.3812752	Prob > F	=	0.0000
Residual	492.85888	303	1.62659696	R-squared	=	0.5657
				Adj R-squared	=	0.5471
Total	1134.81546	316	3.59118816	Root MSE	=	1.2754

iu	Coefficient	Std. err.	t	P> t	[95% conf. interval]	
co						
Austria	0 (base)					
Korea	.6073625	1.215473	0.50	0.618	-1.784474	2.999199
dc	.4480614	.0822086	5.45	0.000	.2862892	.6098335
dc_co	-.2439501	.1189679	-2.05	0.041	-.478058	-.0098422
hlc	-.026057	.0873394	-0.30	0.766	-.1979256	.1458116
hlc_co	.0439832	.1183127	0.37	0.710	-.1888353	.2768017
lst	-.1154788	.0729074	-1.58	0.114	-.2589477	.0279901
lst_co	.1020501	.1087462	0.94	0.349	-.1119433	.3160434
peu	.1102106	.0864442	1.27	0.203	-.0598964	.2803176
peu_co	-.1061085	.120562	-0.88	0.379	-.3433534	.1311364
tor	.2352349	.0895267	2.63	0.009	.0590621	.4114076
tor_co	.0417778	.1268101	0.33	0.742	-.2077622	.2913178
ua	-.4110919	.0817531	-5.03	0.000	-.5719675	-.2502162
ua_co	.2020418	.1143241	1.77	0.078	-.0229278	.4270114
_cons	3.38916	.8798918	3.85	0.000	1.657688	5.120632