Integrated Cultural Theories on Mobile Marketing Acceptance: Literature Review

Ngoc Thi Hong Nguyen[1], Edyta Rudawska[2]

Abstract

Purpose: This article investigates trends in studies on the impact of cultural factors on mobile marketing acceptance. To that end, the article provides a literature review of technology acceptance models and cultural models used in research on mobile marketing.

Design/method/approach: This study used qualitative methods to assess the situation of studying cultural factors in the context of mobile marketing acceptance. Various bibliographic sources were consulted, mainly from publications specializing in mobile marketing and cultural theories. These queries were primarily performed through Scopus, one of the main databases of indexed publications related to this topic.

Findings: In the field of mobile marketing, interest in the impact of cultural factors on consumer behavior has steadily increased over the past decade. Furthermore, the research showed the role and impact of each cultural dimension on mobile marketing acceptance. Cultural differences lead to differences in consumer behavior toward mobile marketing.

Originality/Value: This overview provides a comprehensive discussion and appraisal of cultural theories, a review of technology acceptance theories, and an analysis of previous cross-cultural studies on technology adoption.

Keywords: mobile marketing, cultural theories, cross-cultural, technology acceptance.

JEL: CI, M31

[1]   Hue University, School of Tourism and Hospitality, Vietnam; e-mail: hongngocntdl@gmail.com; https://orcid.org/0000-0001-9194-6069.

[2]   Corresponding author, University of Szczecin, Poland; e-mail: edyta.rudawska@usz.edu.pl; https://orcid.org/0000-0003-4486-9456.

Introduction

Mobile channels have emerged as a new form of potential for marketing communications thanks to recent developments in mobile communications technology and mobile devices with distinct features (Varnali & Toker, 2010). In the past, consumers had to connect their mobile devices to wireless networks, but now mobile technologies keep mobile devices "on" (Laddad et al., 2015). In recent years, the growth rate of mobile technology has developed quickly. As a result, mobile devices can meet user needs even better than before (Huang, 2012). Storch and Juarez-Paz (2018) identified mobile devices as the most popular communication tools of the twenty-first century.

Mobile technology continued to develop and create new gadgets (Salih et al., 2020). Consumers increasingly use mobile devices for communication, entertainment, business, and information. Due to the advent of new technologies, mobile marketing has changed a lot from the past or even a few years ago (Fang, 2019). Existing technologies allow mobile marketers to engage with users easily, send personalized content, and create a higher, more effective interactive experience than unilateral (traditional) messages. Mobile technology is changing day by day to better respond to user requirements, contributing to improved mobile marketing (Rowles, 2017, p. 45). With the upgrade of mobile technology, mobile devices undermine existing marketing forms and support mobile marketing (Öztaş, 2015). Mobile marketing is an appropriate and effective form of marketing compared to traditional marketing (Robayo et al., 2017). However, businesses are forced to prepare for the future by adapting to technological changes and seeking opportunities to build relationships with customers. The success of mobile marketing largely depends on customers; more specifically, on their acceptance of this form of marketing (Huang, 2012). Because it cannot be guaranteed that customers will be willing to engage in marketing through their mobile devices (Persaud & Azhar, 2012), marketers must study the factors that influence customer acceptance of mobile marketing. In this way, marketers could develop their strategies based on how important those factors are to customers.

Many previous studies show the factors that affect consumer behavior in general, in which cultural elements are believed to play an important role (Sriwindono & Yahya, 2012). Culture is the factor that influences many aspects of consumer behavior (Soares et al., 2007). Many stress that cultural differences are the leading causes of consumer attitudes and behavior toward mobile commerce (Harris et al., 2005). Therefore, many scientists are interested in cultural issues in marketing research in general and mobile marketing in particular, which is shown by the dynamic increase in the number of research articles. Culture is mainly studied at the country or society levels to understand

various organizational behavior, such as cooperation (Suiyan, 2012), work-related attitudes (Walumbwa et al., 2006), and customer behavior (Muk & Chung, 2015). This literature review focused on investigating how the influence of factors on consumer acceptance of mobile marketing varies across cultures. The results may show the importance of cross-cultural surveys that help marketers to develop their strategies based on specified differences.

This study used qualitative methods based on the SCOPUS database to produce a literature review. In the first step, articles were aggregated based on peer-reviewed journals and with the use of related keywords: "customer acceptance;" "Short Message Service (SMS);" "mobile advertising;" "mobile shopping;" "conceptual;" "technologies;" "QR code." In the second step, the authors conducted a thorough review and analysis of the contents of selected articles and removed sections unrelated to consumer acceptance of mobile marketing. The removed reports focused on technical aspects of wireless network infrastructure or technical aspects of developing mobile applications. In the third step, after an accurate review, the relevant studies were identified. In this step, we conducted a classification of articles related to the impact of culture or using multi-cultural approaches.

The article will comprehensively discuss cultural theories and review technology acceptance theories. Then, the text will analyze previous cross-culture studies on technology adoption.

Technology Acceptance Theories

Technology Acceptance Models

Recognition of individual needs and acceptance are the initial stages of any business, and this understanding will help find the path to growth in the future (Taherdoost, 2018). Therefore, the factors that drive the adoption or rejection of technology by users are of great concern. Researchers developed several frameworks and models to explain user adoption of new technologies, and these introduce factors that can affect user adoption. The theory of reasoned action (TRA; Ajzen & Fishbein, 1980) is considered one of the earliest models developed to explain technology adoption. Ajzen and Fishbein (1980) assume that individuals are rational and act on available information to determine that their behavior is the primary determinant of their actions. The theory considers intention to be the primary predictor of individual behavior, and any external effects on the behavior were through their purpose. The theory of planned behavior

(TPB) is an extension of TRA derived from the limitations of behavior over which people have less control (Ajzen, 1991). The added cognitive-behavioral factor refers to the available resources, skills, opportunities, and one's perception of the importance of achieving results. The technology acceptance model (TAM) is a practical and straightforward theoretical model. It is an adaptation of TRA and psychology the most widely accepted of all information systems studies (Luarn & Lin, 2005). The TAM argues that the intention to use a particular technology is based on individual behavioral purpose, which is determined by the ease of use and perceived usefulness (Davis, 1989).

The unified theory of technology adoption and utilization (UTAUT) is a technology adoption model developed by Venkatesh et al. (2003). The UTAUT aims to explain user intent to use the information system and subsequent user behavior. The UTAUT stems from a review and reinforcement of the eight models that previous research used to explain information system behavior. Venkatesh et al. (2012) incorporate three other constructs into UTAUT – hedonic motivation, values, and habits – thus developing UTAUT to UTAUT2. Therefore, the UTAUT2 framework comprises four constructs from the UTAUT model and three new constructs as antecedents of behavioral intention and use behavior. Moreover, individual differences – name, age, gender, and experience – are hypothesized to moderate the effects of these constructs on behavioral intention and technology use. Furthermore, Venkatesh et al.'s data (2012) showed that the impact of hedonic motivation on behavioral intention is moderated by gender, age, and experience, while the effect of price value on behavioral intention is moderated by age and gender. Habit has both direct and mediated effects on technology use, while individual differences moderate these effects. Compared to UTAUT, the proposed extensions in UTAUT2 significantly improved the variance explained in behavioral intent and technology usage (Chang, 2012).

Comparison of Measurement Constructs

Comparing general technology acceptance theories/models is essential to locating a well-improved theoretical model. This work provides an overall picture of the underlying concepts of the theory/model used across the technology-acceptance environment. Table 1 below shows the measurement structures of each model.

The TRA, TPB, TAM, TAM2, and UTAUT are common technology acceptance theories/models used in differentiated settings, especially in the information systems (IS) literature (Al-Mamary et al., 2016). The TRA is employed in many areas of academia and business. The TRA model has proven valid in the IS literature (Lai, 2017). Meanwhile, the TPB attempted to address the existence of TRA (Samaradiwakara & Gunawardena,

2014). The TPB and TRA provided a clear theoretical basis for many studies in different contexts.

Table 1. Measurement structures of each model

Theory/ Model	Author	Constructs (Independent variables)	Dependent variables	Moderators
TRA	Ajzen, 1985	1. Attitude toward behavior 2. Subjective norm	1. Behavioral intention 2. Behavior	1. Experience 2. Voluntariness
TPB	Ajzen, 1991	1. Attitude toward behavior 2. Subjective norm 3. Perceived behavioral control	1. Intention 2. Behavior	1. Experience 2. Voluntariness 3. Gender 4. Age
TAM	Davis, 1985	1. Perceived usefulness 2. Perceived ease of use	1. Attitude toward using 2. Actual system use	No moderators
TAM2	Davis et al., 2000	Subjective norm, job relevance, output quality, result demonstrability	1. Intent to use 2. Use behavior	1. Voluntariness 2. Experience
TAM3	Venkatesh et al., 2008	More constructs added: computer self-efficacy, computer anxiety, perception of external control, computer playfulness, perceived enjoyment, objective usability	1. Behavioral intention 2. Use behavior	1. Voluntariness 2. Experience
UTAUT	Venkatesh et al., 2003	1. Performance expectancy 2. Effort expectancy 3. Social influence 4. Facilitating conditions	1. Behavioral intention 2. Use behavior	1. Gender 2. Age 3. Experience 4. Voluntarines
ÚTAUT2	Venkatesh et al., 2012	1. Performance expectancy 2. Effort expectancy 3. Social influence 4. Facilitating conditions 5. Hedonic motivation 6. Price value, 7. Habit	1. Behavioral intention 2. Use behavior	1. Gender 2. Age 3. Experience 4. Voluntarines

Source: Samaradiwakara & Gunawardena (2014); Gromadka (2020).

The TAM model identifies the general determinants of individual technology adoption. Therefore, it can be applied to explain or predict individual behavior across a wide range of computing technologies by end-users and user groups. At the same time, the TAM is compared favorably with the TRA and TPB in terms of parsing capabilities (Lai & Zainal, 2015). The TAM does not include social norms (SN) as a determinant

of behavioral intention (BI), a critical determinant theorized by two other models: the TRA and TPB. Moreover, the TAM is explicitly designed to address user acceptance factors of system technology (Chau & Hu, 2002). The comparisons confirm that the TAM is applicable in different research contexts through model expansion, although it may easily cause confusion and loss of information richness in studies (Samaradiwakara & Gunawardena, 2014).

The UTAUT is built around eight different models, which include both TAM2 and TAM3. Variables such as PEOU, social influence, favorable conditions, attitudes, self--efficacy, and anxiety can underlie new technology use (van Raaij and Schepers, 2008). Moreover, Venkatesh et al. (2003) added to that situational variables, gender, age, experience, and willingness so as to better use the UTAUT model's events to explain technology adoption and acceptance. Therefore, we may argue that the UTAUT has played an essential role in technology acceptance research by providing a solid basis to help explain why users accept or reject technology from a particular angle (Samaradiwakara & Gunawardena, 2014). However, the UTAUT model uses moderators, and studies that only focus on factors and consumer attention are not suitable for this model (Lai, 2017).

Review of Cultural Theory Models in Social Sciences

National cultural stereotypes help explain differences in consumer behavior across countries, and these differences in the adoption of an innovation are attributed to individual cultures (de Mooij, 2000). Therefore, customer acceptance of mobile marketing may depend on different national cultural characteristics. Understanding cultural differences is regarded as a prerequisite for successful international advertising (Muk, 2007). Currently, there are many frameworks for assessing the role of culture. The application and choice of models depend on the purpose of the studies. Each model can be helpful in understanding some aspects of culture and highlighting different aspects of social beliefs, norms, and values.

Hofstede's Model

Hofstede's theory of culture is still widely used in studies related to culture (Hossein & Hamed, 2019). The cultural dimension theory developed by Dutch researcher Geert Hofstede is a framework used to understand cultural differences between countries and how these values relate to human behavior. Therefore, Hofstede's theory is most widely used in the national cultural framework for psychology, sociology, marketing,

and management research (Soares et al., 2007). Initially, Hofstede's theoretical model consisted of four primary dimensions: power distance, individualism versus collectivism, uncertainty avoidance, and femininity versus masculinity (Hofstede, 1980). Later, in a follow-up study in Hong Kong, Hofstede implemented values absent from the original model by adding the fifth cultural dimension: long-term versus short-term orientation. This dimension refers to Confucianism. In 2010, Hofstede added another dimension: indulgence versus self-restraint. Thus, Hofstede's model consists of six basic dimensions:

- *Power distance* is an indicator that measures the distribution of power and wealth among individuals within a business, culture, or nation. In this respect, inequality and power are viewed from the perspective of followers. The fundamental problem is how society handles differences among people.
- *Individualism versus collectivism* considers the level a society is incorporated into groups, along with obligations and their perceived dependence on groups. On the individualist side, it is defined as the focus of attachment to an individual and their family. Meanwhile, collectivism is more closely related to uniting family members and others into a group based on mutual help and loyalty, which emphasizes the "we" versus the "I."
- *Uncertainty avoidance* refers to the degree of social ambiguity and uncertainty. Do people accept and are comfortable with unexpected, unspecified events that happen in life? Thus, this dimension relates to the level of accepting risk, especially the high level of uncertainty avoidance indicates low acceptance or tolerance for ambiguous events, rigidity, and distance to different behavior or ideas. In contrast, the low uncertainty index shows comfort, loose regulation, and easy acceptance of ambiguous events.
- *Masculinity versus femininity* focuses on considering the role of gender differences in hobbies related to achievement, attitudes toward sexual equality, or behavior. In this respect, masculinity is defined as a society's priority for achievement, heroism, assertiveness, and material rewards for success. On the opposite side, femininity prioritizes cooperation, humility, caring for the weak, and quality of life.
- *Long-term orientation versus short-term orientation* consider the level of society's interest in time. This dimension links the past with current and future actions/challenges. With short-term orientation, the focus is on traditional values, oriented toward the near future, with a relatively small trend to save for the future, which emphasizes short-term success or immediate satisfaction. Long-term orientation emphasizes perseverance and long-term growth by adapting to the situation and solving practical problems.

- *Indulgence versus restraint* refers to whether society controls the wishes of the people in a group. Indulgence is defined as a society that allows a relatively free satisfaction of basic and natural human desires related to enjoying life and playing. In contrast, restraint means a society that controls and suppresses people's aspirations through strict rules.

Schwartz's Model

Schwartz developed a model for cultural values in the 1990s. He emphasizes that this model is an extension of previous cultural theories. Schwartz's cultural value dimensions – including Hofstede's – offer another way of calculating cultural distances that may be more appropriate in some contexts. In his research, Schwartz emphasizes that collective individualism is widely used in cultural psychology. However, it also makes people forget critical differences, which means cultural dimensions require further analysis and clarification to better understand the values people apply to them.

Schwartz (1992; 1994) proposes seven cultural elements in his model, including conservation (social order, obedience, respect for tradition, family security, self-discipline); hierarchy (social power, authority, humility, wealth); intellectual autonomy (curious, open-minded, creative); affective autonomy (pleasure, exciting life, varied life); competency (ambition, success, risk); harmony (unity with nature, protection of the environment, world of beauty); egalitarian compromise (equality, social justice, responsible, help). The seven types of cultural values are structured in three dichotomous pairs:

- *Embeddedness versus autonomy.* In autonomous cultures, people are encouraged to pursue their interests. It consists of two types: intellectual autonomy (curiosity, creativity) and affective autonomy (joy, pleasure). In contrast, embedded cultures emphasize attachment to a group, living in a group, and pursuing a common purpose.
- *Hierarchy versus egalitarianism.* In a hierarchical society, the role and division of power are significant; it ensures responsible production behavior. Everyone obeys and respects their superiors. In an egalitarian society, all people have an equal position, voluntarily cooperate, and work and care for each other.
- *Mastery versus harmony.* The former element values ownership, so mastery societies emphasize the positive impact on the natural environment, advocating for the right to outperform others. In contrast, value harmony believes that people should live in harmony with nature and adapt to society without changing or exploiting them.

Trompenaars's Model

A cultural model developed by Trompenaars and Hampden-Turner (1998) was applied in the field of management and business. Trompenaars and Hampden-Turner (1998) emphasized that companies should consider national cultural differences and the role of harmonizing those differences in a competitive advantage for companies that wish to introduce their products on a global scale. The model consists of seven dimensions:

- *Universalism versus particularism*. Universalist cultures identify all ideas and practices that can be applied in all situations. Meanwhile, particularist cultures argue that the application of concepts depends on specific circumstances, emphasizing relationships instead.
- *ndividualism versus communitarianism*. This cultural dimension refers to the difference between those who value themselves and those who view themselves as part of a collective. This cultural dimension expresses how people interact with each other as a group and individually.
- *Neutral versus affective*. This cultural dimension can be summed up by asking: Should we express our emotions or not? In a neutral culture, emotions are controlled. People often refrain from sharing their feelings. In contrast, in a vibrant culture, people are relaxed and enthusiastic. They are willing to express their feelings, even in public.
- *Specific versus diffuse*. The two dimensions in this dimension illustrate the different levels of association between personal life and work. In specific cultures, people tend to keep their private lives separate from their work. Instead, diffused cultures have people who connect life and work. They believe that goals can be better achieved when the relationship is stable.
- *Achievement versus ascription*. In achievement cultures, people receive the status based on their abilities. In ascription cultures, people receive the status by themselves or differently, and people gain recognition based on a commitment to the organization, not their abilities. The more powerful person will make the decisions, so do people have to prove themselves to gain status or is it given to them?
- *Sequential time versus synchronous time*. Sequential time cultures emphasize the order of events, being on time, and having a clear, specific schedule. While synchronous time cultures perceive time in a more flexible manner.
- *Internal direction versus external direction*. This dimension is illustrated by the question: Do we control the environment or is it controlling us?

Hall's Inter-Cultural Communication Theory

Hall's theory distinguished cultures based on three main factors:

- *Context: high-context vs low-context communication.* Hall notes that context is a significant barrier to communication in different cultures, so he discerns two cultural groups: those that rely on either low-context communication or high-context communication. These types refer to how speakers rely on things other than words to convey meaning. In a high-context culture, "most of the information is either in the physical context or internalized in the person, while very little is in the coded, explicit, transmitted part of the message" (Hall, 1976, p. 111). In high-context cultures, people rely on the overall situation to interpret the message so that this information can be ambiguous. In contrast, in a low-context culture, "the mass of information is vested in the explicit code" (Hall, 1976, p. 111). Thus, people rely more on the straightforward verbal content of the message. Latin America, Asia, Africa, and the Mediterranean countries (Greece, Spain, and Italy) have high-context communication. The USA and most Northern European countries are countries with low-context communication.

- *Space.* Hall focuses on space and distance between people as they interact. This dimension relates to how close people are to each other to mark their territory or boundaries in the workplace and in different settings. How close is the distance depends on where you go. Be it in a conscious or unconscious way, everyone establishes a comfort zone when interacting with others.

- *Attitudes toward time: polychronic versus monochronic cultures.* In 1959, Hall developed the polychronic–monochronic concept in his anthropological studies of time in different cultures. In polychronic cultures, people tend to like doing many things simultaneously, so polychronic also means "many times." For example, people cook food while watching television, browse the Internet while driving, and talk on the phone while sitting in a meeting. In monochronic cultures or "one-time" cultures, people tend to do one task at a time.

There are many different theoretical frameworks of cultural values, all showing certain similarities to one another (Table 2). For example, individualism versus collectivism in Hofstede's model is individualism versus communitarianism and universalism versus particularism in Trompenaars's model and autonomy versus conservatism in Schwartz's model (Alkhaldi & Al-Sa'di, 2016). However, there are specific differences. Hofstede's strength index and Schwartz's hierarchy versus egalitarianism are related to status and power distance, absent in the model by Trompenaars and Hampden-Turner

(1998). Hofstede proposes a one-dimensional structure focused on individualism versus collectivism, while Schwartz dismisses this assignment to argue that some values could serve both. The subjects of the two models also differed. While Hofstede surveyed IBM managers and employees, Schwartz focused on teachers and students. The meager association with economic indicators created the conceptual divisions between Schwartz's with Hofstede's models.

Table 2. Cultural theory models

Cultural theories	Dimensions
Hofstede's cultural theory	Power distance Individualism versus collectivism Uncertainty avoidance Femininity versus masculinity Long versus short-term orientation
Schwartz model	Embeddedness versus autonomy Hierarchy versus egalitarianism Mastery versus harmony
Trompenaars Cultural Model	Universalism versus particularism Individualism versus communitarianism Neutral versus affective Specific versus diffuse Achievement versus ascription Sequential time versus synchronous time Internal direction versus external direction
Hall's Inter-Cultural Communication Theory	High-context and low-context communication High space versus low space Polychronic versus monochronic cultures

Source: own elaboration.

While Schwartz's theory is identified as one of the cross-cultural theories used in behavioral research (Giménez & Tamajón, 2019), all the above models have certain shortcomings: the information and data may be outdated because they were collected since the 1990s. Moreover, Hofstede considers time to be linear, so his theory does not capture cultural changes over time (Kirkman et al., 2006). Schwartz's theory only focuses on studying fundamental human values while ignoring complex personal actions, reactions, and contextual dependencies. This omission may cause conflicts. Therefore, in the future, with the development and change of social morphology, cultural values, new models' emergence, changes to cultural theories are inevitable (Gouveia & Ros, 2000).

In general, Hofstede's cultural theory is still widely used in studies related to culture (Hossein & Hamed, 2012). Hofstede's cultural aspects are used by management teams and in the academia of diverse cultures to understand different national cultures. Most studies in e.g. global brand strategy, ethical decision-making, and advertising also apply Hofstede's framework.

Hofstede's Cultural Dimensions in Mobile Marketing Research

We see that the role and impact of each cultural dimension on consumer behavior and attitudes toward mobile marketing are different. De Mooji (2000) identifies individualism/collectivism as the essential factors that influence consumer acceptance of technological change, even though the two dimensions have different effects on consumers. Some researchers say that marketers should be concerned about privacy when they engage in mobile marketing. Collectivist cultures should focus on the marketing strategies that communicate with the whole group (relatives, friends, colleagues; Muk, 2007). Muk (2007) studied consumer acceptance of SMS advertising via mobile phones to find that consumers in individualist cultures focus entirely on personal considerations. Meanwhile, collectivist consumers' intentions are influenced by social norms.

Baptista and Oliveira (2004) state that those who avoid uncertainty are less likely to use technology. In countries with low risk avoidance, people are comfortable taking risks. They are more likely to try something new or adopt an IT technology (Hofstede, 2014). Therefore, uncertainty avoidance is a factor that hinders the acceptance or intent of using mobile services. Alshare and Mousa (2014) suggest that consumers who value low uncertainty prefer to use mobile payments. Moreover, Bankole and Bankole (2017) emphasize the relationship between avoidance and trust uncertainty, privacy, utility expectancy, and effort expectancy in mobile marketing adoption. People from low uncertainty avoidance cultures are pretty relaxed, take risks, improvise, and accept new ideas, products, and services. Liu et al. (2012) state that people from countries with low levels of avoidance are easily approachable. For societies with a high degree of uncertainty avoidance (Japan, Eastern Europe, etc.), marketers must seek to influence and reduce the perceived uncertainty. This finding explains why it is possible to create a positive feeling for a trait that is often negative in other cultures. Instead, Mandler et al. (2018) insist that mobile commerce services are not associated with uncertainty avoidance. Meanwhile, Tam and Oliveria (2019) also agree that uncertainty avoidance has no significant impact on the acceptance of mobile marketing services, particularly mobile payment services. Moreover, Al-Okaily et al. (2020) found that

when comparing culture as a moderator with other independent variables, culture seems to lose importance.

Regarding masculinity/femininity, researchers asserted that in a highly masculine society, behavior intention (BI) and use behavior (UB) toward mobile marketing are higher than in a feminine culture. Hoehle et al. (2015) studied four different countries to find that the intention to use mobile applications in masculine societies is very high. Hung and Chou (2014), Lu et al. (2017) also showed that in countries with more masculinity, the intention to use mobile marketing is higher. Specifically, Lu et al. (2017) analyzed the USA and China regarding the choice to use mobile services and the impact of the masculine/feminine. The results showed that the masculine value was higher in the USA than in China, leading to a higher intention of using mobile services among American people compared to Chinese people. In turn, Hung and Chou (2014) recognized that the Taiwanese pursue masculine characteristics, and mobile operators should launch mobile campaigns to emphasize the benefits of career achievements and wealth. However, the persuasiveness of masculine features was not effective in increasing mobile commerce adoption in Malaysia. Chopdar and Sivakumar (2019) suggest that mobile shoppers who favor masculinity tend to focus on the practical value of shopping apps. Therefore, the impact of practical value on user intention to continue using mobile shopping applications will be more substantial for users with masculine cultural values. Baptista and Oliveira (2004) found that masculinity/femininity was found to have no significant implications for the intention to use mobile payment services in Mozambique. According to Hofstede's cultural classification index for Mozambique, Hofstede explains that the country is a feminine society. People with this cultural trait value equality, solidarity, quality of life, and concern for others. Perhaps Mozambicans think that mobile banking is not an essential service or a way to achieve this way of life.

The impact of power distance is both negative and positive on innovation. According to Harris et al. (2005) as well as Erumban and de Jong (2006) consumer attitudes toward technology – including mobile marketing – are related to power distance. They suggest that people are more laid-back and fun-loving than those living in low power distance cultures. Consequently, the former tend to show a more positive attitude toward innovation and technology. Agreeing with the above statement, Harris et al. (2005) confirms that customers in high-power cultures could easily change and adopt mobile commerce. Baptista and Oliveira (2004), Kamilah and Kusumawati (2019) both consider power distance to be a positive indicator of the influence of intention to use mobile marketing in Mozambique and Indonesia, with the power distance index of the two countries at 85 and 78, respectively. Kamilah and Kusumawati (2019) state that for

countries with high power distance, government support and intervention significantly impact behavioral intentions and new technology use, specifically mobile payments.

Long-term/short-term orientation factors are well suited for assessing consumer attitudes in the context of mobile marketing (Lu et al., 2017). Many researchers found that long-term orientation has a positive impact on customers' intention to use mobile services. Pierce and Jiang (2021) confirmed long-term exposure to be an essential prerequisite for mobile marketing adoption. Lu et al. (2017) found that the long-term orientation of individuals has a direct impact on intention toward mobile shopping in China. Moreover, the long-term/short-term exposure also affects the relationship between other factors and customers' choice to use technology. Specifically, Hung and Chou (2014) showed a significant favorable influence of long-term orientation between perceived usefulness and behavioral intention to use mobile commerce. Hoehle et al. (2015) emphasize that the adjustment of long-term orientation to the relationship between the usability of mobile social networking applications and users' intention to continue using them. Chopdar and Sivakumar (2017) found that long-term orientation positively affects the relationship between performance expectancy and continuance intention for mobile shopping applications. They explain that people with high long-term orientation are often seeking better performance, along with convenient and fast processes in mobile apps to get things done quickly.

Discussion and Implications

Cross-cultural models help to explain the differences in consumer behavior across countries and cultures as well as to apply innovation to individual countries (Muk, 2007). Currently, many articles use the cross-cultural approach as a primary analytical unit for understanding consumer behavior for marketing in general and mobile marketing in particular (see e.g. Harris et al., 2005; Muk, 2007; Zhang et al., 2012; Hernandez-Ortega et al., 2017; Akhtar et al., 2019). Timokhina et al. (2018) confirmed that consumer behavior is related to cultural tastes and preferences. In particular, ethics and ethnic culture are two of the main factors of cross-cultural elements that affect consumers. Some researchers advise that marketers consider a cross-cultural approach in developing strategies to reach target consumers more effectively. Zhang et al. (2012) argue that cross-cultural differences in accepting and adopting mobile commerce services are similar to the differences across cultures recorded in the context of traditional media and the Internet. Besides, cross-cultural research is one of the best ways to address the generality of findings and help advance theories. Moreover, Steenkamp (2001) notes we should compare differences between countries to

find the impact of cross-cultural factors. However, this does not imply that the government and culture are the same. National boundaries do not necessarily coincide with culturally homogeneous societies. Thus, a limited number of studies emphasizes the role of cross-culture studies in the mobile marketing context (Table 3).

Table 3. Cross-culture studies in the mobile marketing context

Area	Authors	Technology acceptance models/factors	Cultural theory	Nation
Mobile Augmented Reality	Jung et al., 2018	Extended TAM with perceived enjoyment	Hofstede	South Korea and Ireland
	Castillo and Bigne, 2021	Extended TAM with need for personal interaction, aesthetics, navigation, self-efficacy and technology readiness	Hofstede	Nicaragua and the USA
SMS advertising	Hernandez--Ortega et al., 2017	Perceived value, satisfaction, loyalty	Hofstede	Greece and Spain
	Kumar et al., 2016	Extended UTAUT2 with time-location, personalization, trust	Cross culture comparison	Canada and Bangladesh
	Muk and Chung, 2015	TAM	Hofstede	The USA and South Korea
Mobile Applications	Pentina et al., 2016	Perceived benefits, perceived privacy concern	Character individual	The USA and China
	Qin et al., 2018	TPB model	Hofstede	The USA and South Korea
Mobile banking	Merhi et al., 2019	Extending UTAUT2 with security, privacy and trust	Hofstede	Lebanon and England
	Mortimer et al., 2015	Extended TAM with perceived risk, social influence	Hofstede	Thailand and Australia
	Changchit et al., 2019	Extended TAM with perceived Privacy, security, normative beliefs, technology competency	Hofstede	Thailand and the USA
	Akhtar et al., 2019	Extended TAM with social influence	Hofstede	Pakistan and China
Mobile commerce	Hung and Chou, 2014	TAM	Hofstede	Taiwan and Malaysia
	Chen et al., 2021	Privacy concern	Users' demographics comparison	China and the USA

Mobile Advertising	Liu et al., 2012	Infotainment, credibility, irritation, advertising value	Hofstede, Hall	Japan and Austria
	Liu et al., 2019	Perceived functional value, Perceived emotional value, Perceived credibility value, Perceived interactivity value,	Hofstede	Australia and China
	Muralidharan et al., 2015	Entertainment value, informativeness, credibility, irritation	Hofstede	India and the USA
	Gao et al., 2013	Extended TAM with personal attachment, innovativeness, risk avoidance	Cross culture comparison	The USA, China, Western Europe

Source: own elaboration.

The articles categorized by the cross-culture category attempt to analyze the impact of cross-culture in behavior on mobile marketing. The above articles are mainly of experimental research nature. Topics of the article include the concept of mobile marketing, the combination of technology acceptance models and cultural theories, and the differences in consumer behavior across countries. From there, they suggested the unique value of cultural factors in the context of mobile marketing. The cross-cultural approach is used for research in many different fields of mobile marketing, e.g. SMS advertising (Muk & Chung, 2015; Kumar et al., 2016; Hernandez-Ortega et al., 2017), mobile applications (Pentina et al., 2016; Qin et al., 2018), mobile banking (Mortimer et al., 2015; Akhtar et al., 2019; Changchit et al., 2019; Merhi et al., 2019;), mobile commerce (Hung & Chou, 2014; Chen et al., 2021), mobile advertising (Liu et al., 2012; Gao et al., 2013; Muralidharan et al., 2015; Liu et al., 2019), augmented reality (Jung et al., 2018; Castillo & Bigne, 2021), and other systems.

Furthermore, the tested national areas span different continents. Some studies are done between countries in the same region like Asia, Europe, or America. For example, Hung and Chou (2014) compared the difference between the role of power distance in the culture of Malaysia and Taiwan in the context of consumer acceptance. Malaysian users emerged as those who showed more compliance with their bosses and accepted leadership. In turn, Akhtar et al. (2019) analyzed Pakistan and China. For Pakistani consumers, social influence had a substantial impact on their intention to use mobile banking applications. They often have a habit of consulting relatives and friends before deciding. Surprisingly, social influence did not have a significant impact on Chinese consumers in this study. Hernandez-Ortega et al. (2017) found a difference in the perceived value of mobile messaging services for Greeks and Spaniards: the influence of perceived value on satisfaction was greater in Greece than in Spain. The authors reported similar findings on the effect of satisfaction on loyalty, demonstrating the

relevant regulatory role of cultures with different degrees of collectivism, masculinity, and uncertainty avoidance. Thus, although countries are in the same geographical area, there are still differences in consumer attitudes and behavior toward mobile marketing, which may stem from differences in culture (Lee et al., 2002).

Differences were even more pronounced in studies between countries in different regions. Qin et al. (2018) and Muk and Chung (2015) compared the adoption of mobile marketing in the USA and South Korea. Qin et al. (2018) applied the TPB model to evaluate the factors influencing consumer intentions toward mobile social networking applications in the USA and South Korea. The results showed that the effect of concerns over privacy risks was more substantial for Korean users. Meanwhile, Muk and Chung (2015) used the TAM model. Both studies found that Korean consumers have more positive attitudes toward mobile marketing than Americans. Muralidharan et al. (2015) insist that Indian consumers had a better attitude toward smartphone advertising and their entertainment value, information, and reputation than US consumers. The study also showed that entertainment influenced Indians' attitudes toward smartphone advertising, while informativeness influenced Americans. Liu et al. (2019) found that in a collectivist culture (China), perceived engagement value will have a more significant impact on mobile advertisement acceptance than in an individualist culture (Australia).

Moreover, researchers also verified some conceptions about the characteristics of each culture. Liu et al. (2012) indicate that the impact of irritation on the Japanese sample was higher than that of the Austrian sample, which means Japanese consumers were more sensitive to mobile advertising than Austrian consumers. The authors argue that this contrasts with the expectations in the literature. They state that individualist countries are often unfriendly to advertising (Belch & Belch, 2007). Similarly, Liu et al. (2019) argue that perceived functional value would substantially impact the adoption of advertising in an individualistic culture, such as Australia, then in a collectivist culture, such as China. The results showed the opposite. Furthermore, mobile ad adoption's immediate interactive aspect may indicate that Chinese consumers were more likely to shop independently than Australians. This result disagrees with Kacen and Lee's (2002) findings that collectivist consumers are less likely to join in impulsive buying behavior. The above contradictions suggest that marketers should not look at an ethnic culture when studying advertising on mobile phones. A combination of other factors (i.e. personal values) can help explain and predict consumer behavior in a mobile environment.

In summary, the cross-cultural approach plays a vital role in assessing consumer behavior in the context of mobile marketing. Future studies in this area may expand

issues related to testing multilayer, meta-cultural, and micro-cultural models. Such models will lead to a better understanding of the role of culture in attitude and behavior.

Conclusions and Future Research Recommendations

In this article, we reviewed some approaches to conceptualizing and conducting the multi-dimensional structure analysis in research on mobile marketing. First, theories of culture are introduced. It cannot be confirmed that these theoretical frameworks provide a complete description of the differences between cultures. However, in these studies, Hofstede's framework is considered a basic practical model that is to be able to integrate culture into research (Hung & Chou, 2014; Lu et al., 2017; Hossein & Hamed, 2019). Although there are some objections to his concept it is undeniable that these studies capture differences between nations (Soares et al., 2007).

Second, the article provided theoretical models widely used by researchers to predict mobile marketing acceptance. The results showed that most of the studies use the model of TAM or extended TAM, UTAUT, UTAUT2, and TRA. The above models were described, analyzed, and compared with each other in more detail. Comparing general technology acceptance theories was essential to locate a well-improved theoretical model.

Third, research trends on the impact of multiculturalism on mobile marketing acceptance were also mentioned. Studies of consumer behavior and culture mainly focus on analyzing the effects of cultural dimensions or integrating cultural dimensions according to the high/low context through theories of technology acceptance, such as TAM, UTAUT, or TRA. Moreover, studies confirmed that users from other countries with different cultures will adapt and use mobile marketing differently. Researchers found that countries with such characteristics as low uncertainty avoidance, masculinity, high power distance, and long-term orientation tend to accept mobile marketing more readily. In addition, the studies importantly emphasize the adaptation of technology acceptance models to the influence of cultural factors. These findings could contribute to providing background information on future research directions in this field.

Finally, the conclusion is that culture has a significant impact on technology adoption models, and so, testing their adaptability is necessary. Alkhaldi and Alsadi (2016) provide evidence of the influence of different cultural dimensions on technology acceptance models. In the same vein, Mandler et al. (2018) argue that multicultural values still exhibit a statistically significant impact on mobile commerce usage and

application, even when controlling individual characteristics. In addition, Akhtar et al. (2019) emphasize that multicultural research is one of the best veins of study to address the generality of findings and help advance theories.

Several directions need to be further studied in this area. First, mindful of Leung et al.'s (2005) classification of cultures based on three geographic levels – global, national, and group – the studies presented in this article focus mainly on comparisons between different national cultures, because it is convenient and appropriate to use national cultures. However, Douglas and Craig (2006) argue that substantial differences in cultural characteristics inside countries could be even more significant than cultural characteristics between countries. Therefore, future research on mobile marketing in a cross-cultural context should consider national cultural heterogeneity. This would make sense in situations where some countries are culturally heterogeneous, such as Canada or Switzerland or some countries in South America. For these cases, survey data on the cultural aspects of subcultures inside each country are required. Second, some cultural theories have not been widely applied to the study of consumer behavior toward mobile marketing. In the future, studies may combine more technological acceptance models and cultural theories to generate further findings, such as Schwartz's model, Trompenaars's cultural model, or Hall's inter-cultural communication theory.

References

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T.

Ajzen, I., & Fishbein, M. (1980). Understanding attitudes and predicting social behavior. In I. Ajzen (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, *50*(2), 179–211. https://doi.org/10.1016/0749-5978(91)90020-T.

Akhtar, S., Irfan, M., Sarwar, A., & Rashid, Q.U.A. (2019). Factors influencing individuals' intention to adopt mobile banking in China and Pakistan: The moderating role of cultural values. *Journal of Public Affairs*, *19*(1), 1–15. https://doi.org/10.1002/pa.1884.

Alkhaldi, A.N., & Al-Sa'di, A. (2016). Guidelines integrating cultural theories with technology acceptance theories: A review. *New Zealand Journal of Computer-Human Interaction*, V1–I2.

Al-Mamary, Y.H.S., Al-Nashmi, M.M., Hassan, Y.A.G., & Shamsuddin, A. (2016). A critical review of models and theories in field of individual acceptance of technology. *International Journal of Hybrid Information Technology*, *9*(6), 143–153. https://doi.org/10.14257/ijhit.2016.9.6.13.

Al-Okaily, M., Lutfi, A., Alsaad, A., Taamneh, A., & Alsyouf, A. (2020). The determinants of digital payment systems' acceptance under cultural orientation differences: The case of uncertainty avoidance. *Technology in Society*, *63*, 101367. https://doi.org/10.1016/j.techsoc.2020.101367.

Alshare, K., & Mousa, A. (2014). The moderating effect of espoused cultural dimensions on consumer's intention to use mobile payment devices. *Proceedings of Thirty-Fifth International Conference on Information Systems*. Auckland, New Zealand.

Arnold, M. (1882). *Culture and anarchy: An essay in political and social criticism*. New York: Macmillan.

Bankole, F.O., & Bankole, O.O. (2017). The effects of cultural dimension on ICT innovation: empirical analysis of mobile phone services. *Telematics Infrastructure*, *34*(2), 490–505. https://doi.org/10.1016/j.tele.2016.08.004.

Baptista, G., & Oliveira, T. (2015). Understanding mobile banking: the unified theory of acceptance and use of technology combined with cultural moderators. *Computers in Human Behavior*, *50*, 418–430. https://doi.org/10.1016/j.chb.2015.04.024.

Belch, G.E., & Belch, M.A. (2007). *Advertising in America: The Consumer View*. Boston, MA.: Harvard University Press.

Boas, F. (1904). The history of anthropology. *Science*, *20*(512), 513–524. https://doi.org/10.1126/science.20.512.513.

Castillo, S.M.J., & Bigne, E. (2021). A model of adoption of AR-based self-service technologies: a two country comparison. *International Journal of Retail and Distribution Management*, 49(7), 875–898. https://doi.org/10.1108/IJRDM-09-2020-0380.

Chang, A. (2012). UTAUT and UTAUT 2: A review and agenda for future research. *Journal The Winners*, *13*(2), 106–114. https://doi.org/10.21512/tw.v13i2.656.

Changchit, C., Klaus, T., Lonkani, R., & Sampet, J. (2019). A cultural comparative study of mobile banking adoption Factors. *Journal of Computer Information Systems*, *60*(5), 1–11. https://doi.org/10.1080/08874417.2018.1541724.

Chau, N.T., & Deng, H. (2018). Critical determinants for mobile commerce adoption in Vietnamese SMEs: A conceptual framework. *Procedia Computer Science*, *138*, 433–440. https://doi.org/10.1016/j.procs.2018.10.061.

Chau, P.Y.K., & Hu, P.J-H. (2002). Examining a model of information technology acceptance by individual professionals: An exploratory study. *Journal of Management Information Systems*, *18*(4), 191–229. https://doi.org/10.1080/07421222.2002.11045699.

Chen, J.Q., Zhang, R., & Lee, J. (2021). A cross-culture empirical study of M-commerce privacy concerns. *Journal of Internet Commerce*, 12(4), 348–364. https://doi.org/10.1080/15332861.2013.865388.

Chopdar, P.K., & Sivakumar, V.J. (2019). Understanding continuance usage of mobile shopping applications in India: the role of espoused cultural values and perceived risk. *Behavior & Information Technology*, *38*(1), 42–64. https://doi.org/10.1080/0144929X.2018.1513563.

Davis, F.D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, *13*(3), 319–340. https://doi.org/10.2307/249008.

de Mooij, M. (2000). The future is predictable for international marketers. *International Marketing Review*, *17*(2/3), 103–114. https://doi.org/10.1108/02651330010322598.

de Mooij, M., & Hofstede, G. (2000). Convergence and divergence in consumer behavior: implications for international retailing. *Journal of Retailing*, 61–69. https://doi.org/10.1016/S0022-4359(01)00067-7.

de Mooij, M., & Hofstede, G. (2011). Cross-cultural consumer behavior: A review of research findings. *Journal of International Consumer Marketing*, *23*(3), 181–192.

Douglas, S., & Craig, C. (2006). On improving the conceptual foundations of international marketing research. *Journal of International Marketing*, *14*(1), 1–22. https://doi.org/10.1509/jimk.14.1.1.

Erumban, A.A., & de Jong, S.B. (2006). Cross-country differences in ICT adoption: A consequence of culture? *Journal of World Business*, *41*(4), 302–314. https://doi.org/10.1016/j.jwb.2006.08.005.

Fang, E. (2019). *The 5G revolution: why the next generation of mobile Internet will force advertisers and marketers to change the way they think*. Retrieved from https://digitalmarketingmagazine.

co.uk/articles/the-5g-revolution-why-the-next-generation-of-mobile-Internet-will-force-advertisers-and-marketers-to-change-the-way-they-think/5072.

Gao, T., Rohm. A.J., Sultan, F., & Pagani, M. (2013). Consumers un-tethered: A three-market empirical study of consumers' mobile marketing acceptance. *Journal of Business Research*, *66*(12), 2536–2544. https://doi.org/10.1016/j.jbusres.2013.05.046.

Giménez, A.G., & Tamajón, L.G. (2019). Analysis of the third-order structuring of Shalom Schwartz's theory of basic human values. *Heliyon*, 5(6), e01797. https://doi.org/10.1016/j.heliyon.2019.e01797.

Gouveia, V.V., & Ros, M. (2000). Hofstede and Schwartz's models for classifying individualism at the cultural level: Their relation to macro-social and macro-economic variables. *Psicothema*, 12(Suppl), 25–33.

Gracz, L. (2016). The meaning of smartphones for marketing communication. *Marketing i Zarządzanie*, *46*, 165–172. https://doi.org/10.18276/miz.2016.46-17.

Hall, E.T. (1959). *The silent language.* New York: Doubleday.

Hall, E.T. (1976). *Beyond Culture*. New York: Doubleday.

Harris, P., Rettie, R., & Cheung, C.K. (2005). Adoption and usage of m-commerce: A cross-cultural comparison of Hong Kong and the United Kingdom. *Journal of Electronic Commerce Research*, *6*(3), 210–224.

Hernandez-Ortega, B., Aldás-Manzano, J., Ruiz, C., & Blas, S.S. (2017). Perceived value of advanced mobile messaging services: A cross-cultural comparison of Greek and Spanish users. *Information Technology & People*, *30*(2), 324–355. https://doi.org/10.1108/ITP-01-2014-0017.

Hoehle, H., Zhang, X., & Venkatesh, V. (2015). An espoused cultural perspective to understand continued intention to use mobile applications: a four-country study of mobile social media application usability. *European Journal of Information* Systems, *24*, 337–359. https://doi.org/10.1057/ejis.2014.43.

Hofstde, G. (2014). *The Hofstede centre*. Retrieved from http://geert-hofstede.com/mozambique.html.

Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Sage.

Hofstede, G. (1991/1994). *Cultures and Organizations: Software of the Mind*. London: HarperCollins Business.

Hossein, R.D., & Hamed, D. (2019). Comparative study effect of culture from Hofstede perspective on purchasing mobile phone in Iran and Thailand Society. *International Journal of Business and Social Science*, *3*(6), 146–154.

Huang, R.Y. (2012). The identification, ranking and categorization of mobile marketing success factor. *International Journal of Mobile Marketing*, *7*(2), 86–97.

Hung, C-L., & Chou, J.C-L. (2014). Examining the cultural moderation on the acceptance of mobile commerce. *International Journal of Innovation and Technology Management*, *11*(2), 1450010–1450029. https://doi.org/10.1142/S0219877014500102.

Jung, T.H., Lee, H., Chung, N., & Tom Dieck, M.C. (2018). Cross-cultural differences in adopting mobile augmented reality at cultural heritage tourism sites. *International Journal of Contemporary Hospitality Management*, *30*(3), 1621–1645. https://doi.org/10.1108/IJCHM-02-2017-0084.

Kacen, J.J., & Lee, J.A. (2002). The influence of culture on consumer impulsive buying behavior. *Journal of Consumer Psychology*, *12*(2), 163–176. https://doi.org/10.1207/S15327663JCP1202_08.

Kamilah, R.H., & Kusumawati, N. (2019). Exploring the impact of national culture on mobile payment acceptance. *Proceeding Book of the 4th ICMEM 2019 and The 11th IICIES, Indonesia*, 824–828.

Kirkman, B., Lowe, K., & Gibson, C. (2006). A quarter century of Culture's Consequences: a review of empirical research incorporating Hofstede's cultural values framework. *Journal of International Business Studies*, *37*, 285–320. https://doi.org/10.1057/palgrave.jibs.8400202.

Kumar, V., Shareef, M.A., Kumar, U., & Persaud, A. (2016). Promotional marketing through mobile phone SMS: a cross–cultural examination of consumer acceptance. *Transnational Corporations Review*, *8*(1), 1–16. https://doi.org/10.1080/19186444.2016.1162473.

Laddad, A.S., Phade, G.M., Thombare, S.P., Nikumbh, M., & Zalte, S.A. (2015). Evolution of mobile technology. *International Journal of Advanced Research in Electronics and Communication Engineering (IJARECE)*, *4*(3), 642–648.

Lai, P. (2017). The literature review of technology adoption models and theories for the novelty technology. *Journal of Information Systems and Technology Management*, *14*(1), 21–38. https://doi.org/10.4301/S1807-17752017000100002.

Lai, P.C. & Zainal, A.A. (2015). Consumers' intention to use a single platform e-payment system: A study among Malaysian internet and mobile banking users. *Journal of Internet Banking and Commerce*, *20*(1), 1–13.

Lee, Y., Kim, J., Lee, I., & Kim, H. (2002). A cross-cultural study on the value structure of mobile Internet usage: Comparison Between Korea and Japan. *Journal of Electronic Commerce Research*, *3*, 227–238.

Leung, K., Bhagat, R.S., Buchan, N.R., Erez, M., & Gibson, C.B. (2005). Culture and international business: recent advances and their implications for future research. *Journal of International Business Studies*, *36*(4), 357–378. https://doi.org/10.1057/palgrave.jibs.8400150.

Liu, C-L.E., Sinkovics, R.R., Pezderka, N., & Haghirian, P. (2012). Determinants of consumer perceptions toward mobile advertising – A comparison between Japan and Austria. *Journal of Interactive Marketing*, *26*(1), 21–32. https://doi.org/10.1016/j.intmar.2011.07.002.

Liu, C-L.E., Sinkovics, R.R., Sinkovics, N., & Haghirian, P. (2012). Determinants of consumer perceptions toward mobile advertising – A comparison between Japan and Austria. *Journal of Interactive Marketing*, *26*(1), 21–32. https://doi.org/10.1016/j.intmar.2011.07.002.

Liu, F., Kanso, A., Zhang, Y., & Olaru, D. (2019). Culture, perceived value, and advertising acceptance: A cross-cultural study on mobile advertising. *Journal of Promotion Management*, *25*(7), 1028–1058. https://doi.org/10.1080/10496491.2019.1612495.

Lu, J., Yu, C-S., Liu, C., & Wei, J. (2017). Comparison of mobile shopping continuance intention between China and USA from an espoused cultural perspective. *Computers in Human Behavior*, *75*, 130–146. https://doi.org/10.1016/j.chb.2017.05.002.

Luarn, P., & Lin, H-H. (2005). Toward an understanding of the behavioral intention to use mobile banking. *Computers in Human Behavior*, *21*(6), 873–891. https://doi.org/10.1016/j.chb.2004.03.003.

Mandler, T., Seifert, R., Wellbrock, C-M., Knuth, I., & Kunz, R. (2018). The impact of national culture on mobile commerce adoption and usage intensity. *Proceedings of the 51st Hawaii International Conference on System Sciences*. https://doi.org/10.24251/HICSS.2018.459.

Merhi, M., Hone, K., & Tarhini, A. (2019). A cross-cultural study of the intention to use mobile banking between Lebanese and British consumers: Extending UTAUT2 with security, privacy and trust. *Technology in Society*, *59*. https://doi.org/10.1016/j.techsoc.2019.101151.

Mortimer, G., Neale, L., Hasan, S.F.E., & Dunphy, B. (2015). Investigating the factors influencing the adoption of m-banking: a cross cultural study. *International Journal of Bank Marketing*, *33*(4), 545–570. https://doi.org/10.1108/IJBM-07-2014-0100.

Muk, A. (2007). Cultural influences on adoption of SMS advertising: A study of American and Taiwanese consumers. *Journal of Targeting Measurement and Analysis for Marketing, 16*(1), 39–47. https://doi.org/10.1057/palgrave.jt.5750062.

Muk, A., & Chung, C. (2015). Applying the technology acceptance model in a two-country study of SMS advertising. *Journal of Business Research, 68*(1), 1–6. https://doi.org/10.1016/j.jbusres.2014.06.001.

Muralidharan, S., Ferle, C.L., & Sung, Y. (2015). How culture influences the "Social" in social media: Socializing and advertising on smartphones in India and the United States. *Cyberpsychology, Behavior, and Social Networking, 18*(6), 356–360. https://doi.org/10.1089/cyber.2015.0008.

Öztaş, Y.B.B. (2015). The increasing importance of mobile marketing in the light of the improvement of mobile phones, confronted problems encountered in practice, solution offers and expectations. *Social and Behavioral Sciences*, 195, 1066–1073. https://doi.org/10.1016/j.sbspro.2015.06.150.

Pentina, I., Zhang, L., Bata, H., & Chen, Y. (2016). Exploring privacy paradox in information-sensitive mobile app adoption: A cross-cultural comparison. *Computers in Human Behavior, 65*, 409–419. https://doi.org/10.1016/j.chb.2016.09.005**.**

Persaud, A., & Azha, I. (2012). Innovative mobile marketing via smartphones: Are consumers ready? *Marketing Intelligence & Planning, 30*(4), 418–443. https://doi.org/10.1108/02634501211231883.

Pierce, M., & Jiang, P. (2021). Exploring cultural influences on mobile marketing acceptance. *International Journal of Internet Marketing and Advertising, 15*(1), 1–28. https://doi.org/10.1504/IJIMA.2021.112787.

Qin, L., Kim, Y., & Tan, X. (2018). Understanding the intention of using mobile social networking apps across cultures. *International Journal of Human–Computer Interaction, 34*(12), 1183–1193. https://doi.org/10.1080/10447318.2018.1428262.

Robayo, O., Montoya, L.A., & Rojas-Berrio, S.P. (2017). Mobile marketing: Conceptualization and research review. *Espacios, 38*(61), 26–42.

Rowles, D. (2017). Mobile Marketing: How mobile technology is revolutionizing marketing, communications and advertising. *Paperback. 2nd Edition*.

Salih, A.A., Zeebaree, S.R.M., Abdulraheem, A.S., Zebari, R.R., Sadeeq, M.A.M., & Ahmed, O.M. (2020). Evolution of mobile wireless communication to 5G revolution. *Technology Reports of Kansai University, 62*(5), 2139–2151.

Samaradiwakara, G.D.M.N., & Gunawardena, C.G. (2014). Comparison of existing technology acceptance theories and models to suggest a well improved theory/model. *International Technical Sciences Journal (ITSJ), 1*(1), 21–36.

Schwartz, S.H. (1992). Universals in the content and structure of values: theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology, 25*, 1–65. https://doi.org/10.1016/S0065-2601(08)60281-6.

Sekaran U, (1983). Methodological and theoretical issues and advancements in crosscultural research. *Journal of International Business Studies, 14*, 61–73. https://doi.org/10.1057/palgrave.jibs.8490519.

Soares, A.M., Farhangmehr, M., & Shoham, A. (2007). Hofstede's dimensions of culture in international marketing studies. *Journal of Business Research, 60*, 277–284. https://doi.org/10.1016/j.jbusres.2006.10.018.

Sriwindonoa, H., & Yahyaa, S. (2012). Toward Modeling the Effects of Cultural Dimension on ICT Acceptance in Indonesia. *Social and Behavioral Sciences, 65*(3), 833–838. https://doi.org/10.1016/j.sbspro.2012.11.207.

Statista. (2021). *Global mobile commerce expenditure in 2016, 2017 and 20*21. Retrieved from https://www.statista.com/statistics/248777/worldwide-ios-and-android-app-revenue-by-source/.

Steenkamp, J.E.M. (2001). The role of national culture in international marketing research. *International Marketing Review*, 18(1), 30–44. https://doi.org/10.1108/02651330110381970.

Storch, S.L., & Juarez-Paz, A.V.O. (2018). The role of mobile devices in 21st-century family communication. *Mobile Media & Communication*, 7(4), 248–264. https://doi.org/10.1177/2050157918811369.

Suiyan, G. (2012). Cross cultural dimension of cooperation. *Policy Perspectives*, 9(1), 155–160.

Taherdoost, H. (2018). A review of technology acceptance and adoption models and theories. *Procedia Manufacturing*, 22, 960–967. https://doi.org/10.1016/j.promfg.2018.03.137.

Tam, C., & Oliveira, T. (2019). Does culture influence m-banking use and individual performance? *Information and Management*, 56(3), 356–363. https://doi.org/10.1016/j.im.2018.07.009.

Timokhina, G., Taylan Urkmez, T., & Wagner, R. (2018). Cross-cultural variations in consumer behavior: A literature review of international studies. *South East European Journal of Economics and Business*, 13(2), 49–71. https://doi.org/10.2478/jeb-2018-0012.

Trompenaars, F. & Hampden, T. (1998). Riding the Waves of Culture. New York: McGrawHill.

Tylor, E.B. (1871) *Primitive culture: Researches into the development of mythology, philosophy, religion, language, art and custom*. London, J. Murray.

Van Raaij, E.M. & Schepers, J.J.L. (2008). The acceptance and use of a virtual learning environment in China. *Computers & Education*, 50, 838–852. https://doi.org/10.1016/j.compedu.2006.09.001.

Varnali, K., & Toker, A. (2010). Mobile marketing research: The-state-of the-art. *International Journal of Information Management*, 30(2), 144–151. https://doi.org/10.1016/j.ijinfomgt.2009.08.009.

Venkatesh, V., Morris, M., Davis, G., & Davis, F. (2003). User acceptance of information technology: Toward a unified View. *MIS Quarterly*, 27(3), 425–478. https://doi.org/10.2307/30036540.

Venkatesh, V., Thong, J.Y.L., & Xu, X. (2012). Consumer acceptance and use of information technology: Extending the unified theory of acceptance and use of technology. *MIS Quarterly*, 36(1), 157–178. https://doi.org/10.2307/41410412.

Walumbwa, F.O., Lawler, J.J., & Avolio, B.J. (2006). University of Washington SeattleLeadership, individual differences, and work-related attitudes: A cross-culture investigation. *Applied Psychology*, 56(2), 212–230. https://doi.org/10.1111/j.1464-0597.2006.00241.x.

Zhang, L., Zhu, J., & Liu, Q. (2012). A Meta-analysis of mobile commerce adoption and the moderating effect of culture. *Computers in Human Behavior*, 28, 1902–1911. https://doi.org/10.1016/j.chb.2012.05.008.