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# Determinants of consumer acceptance toward mobile marketing: A comparison between Vietnam and Poland

**Determinanty akceptacji marketingu mobilnego przez konsumentów.  
Analiza porównawcza rynku wietnamskiego i polskiego**

## Abstract

Mobile communication technology has penetrated consumer markets around the world. Mobile marketing has the ability to have a certain influence on business activities, consumer behavior, as well as national and global markets. Therefore, it is of considerable value to identify the factors that influence the acceptance of mobile marketing. Based on a literature review and theoretical basis of the TAM model, this paper proposes an extended theoretical model to conduct the analysis. The study was conducted with 784 students in Vietnam and Poland. Structural equation modeling was conducted to determine that factors affecting mobile marketing adoption in Vietnam and Poland. In addition, a comparative test was performed to determine the impact of cultural differences. perceived of usefulness, information value, brand trust were key factors predicting positive attitude and purchase intention among both Vietnamese and Polish. Moreover, the results also found multiple cross-cultural differences — particularly in perceived of usefulness, information value, brand trust and privacy. The study provided some practical and informative insights from user perspectives for enterprises looking to enter the Vietnamese and Polish markets.

## Keywords

consumer acceptance, mobile marketing, cross-cultural approach, Vietnam and Poland

## Streszczenie

Technologia komunikacji mobilnej przeniknęła rynki konsumenckie na całym świecie. Marketing mobilny ma możliwość wywierania określonego wpływu na działalność biznesową, zachowania konsumentów, a także na rynki krajowe i światowe. Dlatego za ważną należy uznać identyfikację czynników, które wpływają na poziom akceptacji marketingu mobilnego. Na podstawie przeglądu literatury i podstaw teoretycznych modelu TAM w niniejszym artykule zaproponowano rozszerzony model teoretyczny w celu jego empirycznej weryfikacji. Badanie przeprowadzono wśród 784 studentów z Wietnamu i Polski. Przeprowadzono modelowanie równań strukturalnych w celu określenia czynników wpływających na akceptację marketingu mobilnego w Wietnamie i Polsce. Ponadto przeprowadzono test porównawczy w celu określenia wpływu różnic kulturowych. Postrzegana użyteczność, wartość informacyjna, zaufanie do marki były kluczowymi czynnikami predykcyjnymi pozytywnego nastawienia i intencji zakupowych zarówno wśród Wietnamczyków, jak i Polaków. Co więcej, wyniki wykazały również wiele różnic międzykulturowych — zwłaszcza w obszarze postrzeganej użyteczności, wartości informacyjnej, zaufania do marki i prywatności. Badanie dostarczyło kilka praktycznych konkluzji z perspektywy użytkownika dla przedsiębiorstw chcących stosować komunikację mobilną na rynku wietnamskim i polskim.

## Słowa kluczowe

akceptacja konsumentów, marketing mobilny, podejście międzykulturowe, Wietnam i Polska

JEL: M31

## Introduction

Technology creates many valuable tools for everyone's life, including mobile devices. Mobile devices include cell phones (e.g. smartphones), tablets (e.g. Ipad) or wearable devices (e.g. Smartwatch, Google glass). Among that, the smartphone is considered the most popular device in the world (Mullan & Wajcman, 2017). Mobile devices bring many benefits to businesses, especially in the field of marketing. There are marketing communications changes due to the widespread penetration of smartphones or other mobile devices (Soukup, 2015). Thanks to real-time connectivity enabled by smartphones, brands have been able to undertake promotional offers, communicate marketing experiences, submit relevant advertisements and seek consumer loyalty (Shan et al., 2016). Mobile marketing has made potential consumers more accessible to brands. Customers receive messages not only through regular SMS, but they can also use many of the capabilities provided by a smartphone, which can be named mobile applications (Qin et al., 2018). As of the first quarter of 2021, Google Play is the app store with the most apps available, Android users can choose between 3.48 million apps. Meanwhile, the Apple App Store is the second largest app store with about 2.22 million apps available for iOS (Statista, 2022). Mobile marketing is an appropriate and effective form of marketing compared to traditional marketing (Robayo et al., 2017).

The success of mobile marketing greatly depends on customers, more specifically their acceptance of this form (Huang, 2012). In addition, a better understanding of cultural differences is needed not only to improve understanding of the impact of culture on technology adoption, specifically mobile marketing on a global scale (Qin et al., 2019). Muk and Chung (2015) also suggested that to better understand the effectiveness of mobile marketing, cross-cultural approaches can help identify important factors influencing consumer perception of mobile advertising. A cross-cultural perspective can provide more insight for managers or marketers to design or build effective global or local mobile marketing campaigns. This study selected Polish and Vietnamese consumers to compare mobile marketing acceptance trends because of the distinctive cultural differences of the two countries.

According to datareportal statistics, there are 52.76 million mobile connections in Poland in January 2021. Poland's number of mobile connections

has increased by 728 thousand (+1.4%) from January 2020 to January 2021. The number of mobile connections in Poland in January 2021 is equivalent to 139.5% of the total population. In addition, there are 31.97 million Internet users in Poland as of January 2021. Meanwhile, there were 154.5 million mobile connections in Vietnam in January 2021. The number of mobile connections in Vietnam in January 2021 is equivalent to 157.9% of the total population. Thus, this number in Vietnam increased by 1.3 million (+0.9%) from January 2020 to January 2021. In addition, the percentage of mobile device users accessing the Internet is 65.08 million people, accounting for 94.7% of all Internet users. In which up to 94.3% of people use smartphones to access the Internet. Both Poland and Vietnam have the potential to develop this market. However, the two countries have distinct characteristics. So, capturing this trend, marketers can adjust their marketing strategies accordingly and achieve the desired effect in each country. Businesses must establish communication with potential customers to convey information regarding new brands, enhanced product ranges, new goods and services. Such communication is to reach the right target audience effectively and contribute to more effective preparation of marketing campaigns, in a structured way with direct and higher profit (Pelet & Papadopoulou, 2014).

The study provides insight into the drivers behind user adoption of mobile marketing, comparing differences between the two countries to gauge cultural influences. The sections of the article are organized as follows: The first part presents the theoretical bases from which the research model and related hypotheses are developed. The next section focuses on describing the research methodology used to empirically test the hypotheses, followed by analysis and discussion of the results including implications for research and practice. The article ends with a discussion of limitations and suggestions for future research.

## Cultural differences between Vietnam and Poland

Many previous studies have shown factors affecting consumer behaviour, in which cultural elements are believed to play an important role (Sriwindono & Yahya, 2012). Culture is the factor that influences many aspects of consumers (Muk & Chung, 2015). Therefore, many scientists are

interested in cultural issues in marketing research in general and in mobile marketing. Hofstede (1994, p. 3) interpreted: *"Culture is the collective programming of the mind which distinguishes the members of one group or category of people from another."* In this definition, Hofstede focused on the role of culture in society. Hofstede's theoretical model consisted of four primary dimensions: power distance, individualism versus collectivism, uncertainty avoidance, femininity versus masculinity (Hofstede, 1980, p. 14). These aspects remain the basis for a substantial proportion of cross-cultural consumer research (De Mooij & Hofstede, 2000). Cultural dimension theory, developed by Hofstede, is a framework used to understand cultural differences between countries and how these values relate to human behaviour. Therefore, Hofstede's theory is most widely used in the national cultural framework for psychology, sociology, marketing or management research (Soares et al., 2007).

Cultural differences between Poland and Vietnam are analyzed based on the dimensions of the Hofstede model, including: (1) power distance, (2) individualism, (3) masculinity, (4) uncertainty avoidance, (5) long-term orientation and (6) indulgence. Based on aspects of Hofstede's model, the conclusion can be drawn that: Poland is a country with characteristics such as average individualism, considerable power distance, highly masculine society and high uncertainty avoidance and short-term orientation. Meanwhile, Vietnam is a country with characteristics such as high collectivism, considerable power distance, moderately masculine society, and moderate uncertainty avoidance and long-term orientation. It can be seen that Poland and Vietnam both have similarities and differences in cultural aspects. It is these characteristics that will affect the acceptance of the technology in Poland and Vietnam. Table 1 shows the extent of cultural dimensions in Hofstede's model between Poland and Vietnam.

**Table 1. Comparison cultural dimensions between Poland and Vietnam**

Cultural dimensions	Poland	Vietnam
Individualism	Average	Low
Power distance	Moderate	Moderate
Masculine society	High	Moderate
Uncertainty avoidance	High	Moderate
Orientation	Short-term	Long-term

Source: own study.

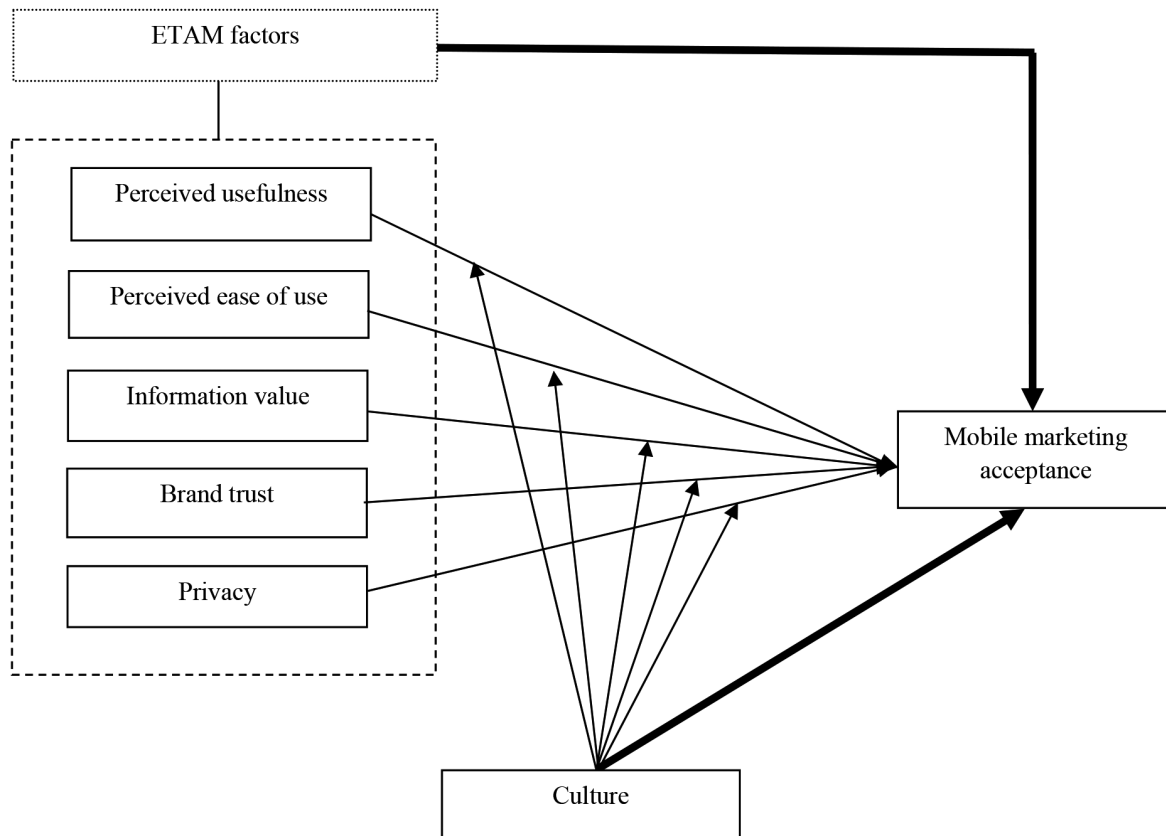
## Theoretical background and hypotheses development

The TAM model is widely accepted and is applicable in determining consumer readiness to apply information and communication technology (ICT) (Marangunić & Granić, 2013). The theory proposes that PEOU and PU are determinants of an individual's attitude, while attitude is a determinant of Behavioral Intent (BI). Many frameworks and models have been designed and created to describe user acceptance of modern innovations. It is essential to understand how the TAM model was used and its modifications because user acceptance is critical to the pre-improvement and successful implementation of any new technology. These extended TAM models introduced contributing factors towards user adoption in different contexts and new technologies. In it, the modification of the model is mainly the addition or removal of variables and, in some cases, the addition of moderators. In the future, TAM will continue to be accepted and modified depending on the successful adoption of any new technology. With TAM as the basis, this study introduces new variables to explore the level of consumer acceptance in Poland and Vietnam with mobile marketing. Figure 1 shows the research model.

### Perceived of usefulness (PU)

Perceived usefulness is one of the independent constructs in the Technology Acceptance Model (TAM). Within the framework of TAM, PU is hypothesized to be a direct predictor of technology's intention-to-use (BI) behaviour (Park et al., 2014). PU has a significant impact on user attitudes, having a relative effect on user acceptance and satisfaction (Morosan, 2012; Detlor et al., 2013). In mobile marketing, PU refers to how consumers perceive the use of mobile marketing services as beneficial to them in their daily lives (Saeed & Bekhet, 2018). Specifically, consumers can receive discounts, and special offers, which enables them to save money or mobile marketing messages may also provide helpful information regarding products and services, which might increase consumers' shopping efficiency. As a result, consumers perceive that they obtain value from mobile ads, making them more inclined to accept the ads (Billore & Sath, 2015). Persaud and Azha (2012) highlighted the significant impact of PU on mobile marketing adoption. Agreeing with the above point of view, Saeed and Bekhet (2018) pointed out PU significantly influences young customers' attitudes towards mobile marketing services, leading to increased usage intention towards this form.

Figure 1. The theoretical model



Source: own study.

Culture is a standard value system in which individuals interact differently, leading to significant interpersonal differences between countries (Schwartz, 2014). In individualist cultures, social relationships tend to be formed around tasks, activities, and work (Phan, 2004, p. 291). It is, therefore, possible that individualist cultures may be motivated by beliefs about how mobile marketing can help improve job performance, which is central to PU. Li et al. (2010) also found that usefulness was an essential predictor of technology use for individualist countries but not for collectivist countries. Poland is an individualist country while Vietnam is a collectivist country. Basing on the above mentioned the following hypotheses are proposed:

H1a. PU has a positive and significant impact on customer acceptance (AC) of mobile marketing.

H1b. The impact of PU on Poland is higher than on Vietnam.

### Perceived ease of use (PEOU)

Drawing from the information technology (IT) literature, PEOU has been identified as a critical

structure for testing and assessing user acceptance of a particular technology (Amin et al., 2014). Revels et al. (2010) highlighted PEOU as an essential driver of consumer intention to use technology. PEOU generally refers to the user's perception of whether performing a particular technical task requires mental effort on their part (Rouibah et al., 2011). Many previous studies have believed that PEOU has an important impact on IT customer perception and usage behaviour (Lanlan et al., 2019). In the context of mobile services (e.g., mobile shopping, mobile learning, mobile text messaging, mobile payments, mobile games and mobile entertainment), consumers found mobile services more beneficial when these services provide them with a friendly environment (Sang Ryu & Murdork, 2013).

Studies have found inconsistent findings when contextualizing technology acceptance theories and models in different cultures and contexts (Huang et al., 2019). Tarhini et al. (2015) studied technology acceptance among Lebanese and British university students. They found that PEOU is only important for students in the UK. Srite (2006) argues that PEOU is less critical in a collectivist culture. In the context of mobile marketing, studies have also

identified differences in the impact of PEOU on users across different cultures, most notably between the West and the East (Qin et al. 2018; Muk & Chung, 2015). Therefore, the hypotheses proposed are as follows:

H2a. PEOU has a positive and significant on AC of mobile marketing.

H2b. The impact of the PEOU on Poland is higher than on Vietnam.

### Information value (IV)

In mobile marketing, providing timely and relevant product information influences consumers' attitudes towards mobile advertising. Kim et al. (2016) emphasized that information in mobile marketing offers users the ability to make informed judgments about future purchases. At the same time, the user's perception of this favourable aspect leads to the formation of a positive attitude towards this form. The authors also suggest marketers need to focus on marketing information and credibility. Aydin and Karamehmet (2017) concluded that informativeness is the second most crucial criterion in attitude-forming advertising and the third most important for advertising value for SMS. This factor has been ranked as the third most important factor in shaping ad value and attitude for mobile apps. Young consumers' attitudes towards mobile advertising are significantly influenced by the perceived informativeness of mobile advertising (Sharif, 2017). Advertisers provide valuable and timely information that can capture the interest of young consumers. It is not surprising that consumers are not upset if marketers present advertisements with relevant details (Chowdhury et al., 2010).

Haghirian et al. (2008) discovered that Austrians seem to appreciate and value informative advertising messages to a greater extent than Japanese. The authors argued that this difference stems from cultural differences between mainly individualist Austrians and mainly collectivist Japanese. Koo et al. (2012) also found that American consumers value information in mobile advertising more than Korean consumers. They explained that US consumers live in a culture of individualism that prefers messages that convey information clearly and concisely. Muralidharan et al. (2015) also suggested that entertainment influences Indians' attitudes towards smartphone advertising while informativeness is vital for the American sample. Thus, the hypotheses were proposed:

H3a. IV has a positive and significant impact on AC of mobile marketing.

H3b. The impact of IV on Poland is higher than on Vietnam.

### Brand trust (BT)

Trust as a widely accepted primary component of human social relationships has been studied in many different scientific disciplines, such as psychology, sociology, economic science, or IS research (Janson et al., 2013). Dix et al. (2016) identified trust issues as a significant obstacle to mobile marketing adoption and loyalty development. Jung et al. (2020) also highlighted how trust plays a vital role in mobile marketing adoption. Gana and Koce (2016) stated that user imagination and privacy risks would reduce the intention to use mobile tool marketing. Huang (2012) explored that brand trust is an essential factor in the success of mobile marketing. Menon (2019) found a solid and positive relationship between banking trust and the intention to buy and use mobile services of banking institutions.

Wang et al. (2019) found that trust effects attitudes towards mobile marketing in China more strongly than in the United States. This result seems surprising given previous studies that the United States is a society based more on trust between the two. De Cremer (2015) stated that trust becomes a norm and default in individualist cultures like the United States. In contrast, in Chinese society, distrust is a default. Following this reasoning, it can be argued that since trust is not guaranteed in China, it has more of an impact on China's attitude towards mobile advertising. Vietnam has a culture of collectivism and Confucianism like China. Thus, the following hypotheses are proposed:

H4a. BT has a positive and significant impact on AC of mobile marketing.

H4b. The impact of BT on Poland is lower than on Vietnam.

### Privacy (P)

Privacy is the degree to which personal information is not known to others. In the online environment, privacy relates to individuals' awareness and control over collecting and using personal data (Zhu et al., 2017). It can be considered that privacy is a boundary-control process by which individuals can determine who they communicate with and what type of communication they do (Basak et al., 2018). In addition, the notion that privacy can be conceptualized as a commodity that can be traded has become widespread (Zhu et al., 2017). It must be remembered that an individual's decision to be willing to disclose personal information is made by balancing the risks of revealing information with the benefits that sharing this information can bring to them (Keith et al., 2013). The sharing of personal

data is increasing in contemporary life, leading to a change in consumer behaviour.

Culturally, many studies have identified it can influence the relationship between mobile marketing acceptance and privacy. Ozdemir et al. (2016) reported that cultural values have a clear impact on users' views on privacy in three countries Singapore, Sweden and the United States. Merhi et al. (2016) discovered that privacy impacts Lebanese and British consumers intentions, with the main effect being observed in the British sample. In a study by Chopdar et al. (2018), Indian consumers were wary of privacy threats related to them-shopping environment. Meanwhile, privacy did not have a significant impact on US consumers' acceptance of mobile shopping apps. Bellman et al. (2004) stated that countries with a high index of individualism are less likely to have privacy concerns. Poland have higher index of individualism than Vietnam. Thus, based on existing research, consumers from Polish and Vietnamese cultures may approach privacy and acceptance differently with mobile marketing. The hypotheses were proposed:

H5a. P has a positive and significant impact on AC of mobile marketing.

H5b. The impact of P on Poland is lower than on Vietnam.

Metholody

This study follows a quantitative approach by using questionnaires as the primary tool for data collection. Questionnaires allow access to a broader base of the study population and provide a cross-

-sectional status of the population at a given time (Armour & Macdonald, 2012). The survey tool for this study was adapted from previous studies and the entries were modified to address the constructs — ease of use, perceived usefulness, informational value, brand trust and privacy. Items were rated on a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). This study carried out a cross-country survey to measure the acceptability of young consumers for mobile marketing. The questionnaire was originally written in Polish and Vietnamese. Data were collected from university students in Poland and Vietnam using convenience sampling technique. The paradigms are appropriate because the target audience of the study is Generation Z. Generation Z are all proficient users of mobile phone technology. The survey was conducted in both online and classroom formats. All data collected was usable and no answers were missing. The sample includes 369 Polish university students and 415 Vietnamese university students for a total of 784 respondents. Most of the respondents were between 18 and 22 years old.

Data analysis and results

Demographic profiles of respondents

Descriptive analysis was used to describe data about respondents. Descriptive analysis of data is important to understand the sample of participants and how this relates to the population. Table 2 showed that the characteristics of the respondents are expressed through demographic parameters related to age, sex, education level.

Table 2. Demographics of repondents

	Frequency		Percentage	
	Vietnam	Poland	Vietnam	Poland
<i>Gender</i>				
Male	52	151	11.7	41.00
Female	362	217	88.3	59.00
<i>Age</i>				
18–22	400	287	96.85	78.00
23–26	13	81	3.15	22.00
<i>Education</i>				
Student	400	212	96.62	57.45
Bachelor	8	136	1.93	36.86
Postgraduate	6	21	1.45	5.69

Source: Data analysis, 2021.

For the gender question, from the frequency distribution of the respondents, it can be seen that a total of 414 Vietnamese and 368 Polish respondents. Specifically, the majority of respondents in the Vietnamese sample are female, accounting for 88.3%. Meanwhile, the Polish sample showed no gender disparity in the respondents, 41% were male, and 59% were female.

Because the study focused on the audience of Generation Z, the selected age range was from 18–26 years old. In Table 2 the age group analysis showed that most respondents in both samples were aged 18–22 years. Specifically, 96.85% were aged 18–22, and 3.15% were 23–26 years old for the Vietnamese sample. The rates are 78% and 22% for the Polish sample, respectively. Regarding education, 96.62% of Vietnamese respondents are currently students, and thus, only 3.38% have graduated and been post-graduated. Meanwhile, 57.45% of Poles are students, 36.86% have graduated, and 5.69% have been post-graduated.

### Assessment of the measurement model

Based on the viability and statistical significance of the significant parameter estimates — the model's considerable fit (NC, CFI, GFI, TLI, RMSEA and AGFI), it is possible to conclude that the hypothetical model in the Vietnamese and Polish samples met the requirements. The results are shown in Table 3. For the Vietnamese sample, the normed chi-square was 2.151, which was less than 3, the GFI was 0.899, which was greater than 0.8, CFI was 0.948, which was more significant than 0.90, TLI was 0.940, which was greater than 0.90, RMSEA was 0.053 which was below 0.08 and AGFI was 0.873 which was more important than 0.8. For the Polish sample, the normed chi-square was 2.183, which was less than 3, the GFI was 0.897, which was greater than 0.8, CFI was 0.946, which was more significant than 0.90, TLI was 0.936, which was greater than 0.90, RMSEA was 0.057 which was below 0.08 and AGFI was 0.867

**Table 3. The research model fit summary**

Fit measures	Theoretical model	
	Vietnam	Poland
Chisquare/df	2.151	2.183
GFI	0.899	0.897
CFI	0.948	0.946
TLI	0.940	0.936
RMSEA	0.053	0.057
AGFI	0.873	0.867

Source: Data analysis, 2022.

which was more significant than 0.8. All these goodness-of-fit measures indicated that the model of both samples has a good fit with the data.

Constructs Validity is the degree to which a measure of performance correlates with the theoretical concept being studied. The validity of the developed model structure will be evaluated by the following two components: convergent and discriminant validity. Convergent validity refers to the extent to which a measure is related to other standards designed to assess the same construct. It can be evaluated using Composite Reliability (CR) and Average Variance Extracted (AVE). According to Hair et al. (2010), CR must be greater than 0.7; AVE must be above 0.5 to ensure convergent validity. In the Vietnamese sample, all indicators are up to the standard. In the Polish sample, the two variables, AC and PEOU, do not meet the requirements for CR and AVE. To improve the results, the author considers removing two measuring variables, AC3 and PEOU2, with unsatisfactory factor loading coefficients. After removing the measurement variable and conducting the second analysis, the obtained results show that the AC meets the requirements; the AVE value of PEOU (0.470) is still lower than 0.5. However, if we continue to remove the measurement variable of PEOU, the CR of PEOU will drop below 0.7. In this case, according to Ping (2019, p. 43), PEOU has an AVE value of approximately 0.5 can be temporarily accepted.

### Hypothesis test

To test the hypothesis of the proposed model, this study conducted Structural Equations Modelling (SEM). Structural equation modeling was performed using IBM's Analysis of Momental Structure (AMOS), allowing to test the developed model fit, variance explanation, and research hypotheses. Table 4 presented the analysis results of the model developed in IBM AMOS of the Vietnamese and Polish samples.

The path from PU to AC (H1a) is significantly supported in both groups (P-value of two samples  $\leq 0.05$ ). The hypothesized relationship between PEOU and AC (H2a) is found to be not significant in Vietnam and Poland. The paths from IV to AC (H3a) are statistically significant for both samples (P-value of two samples  $\leq 0.05$ ). The support for H4a in both samples confirmed that the brand trust enhances consumers' acceptance toward mobile marketing. However, the hypothesized relationship between P and AC (H5a) is found to be positive and significant (P-value  $\leq 0.05$ ) in Vietnam but not significant in Poland (P-value = 0.941  $> 0.05$ ). As is shown in Table 3, H1a, H3a and H4a are fully

**Table 4. Hypotheses testing results**

Hypothesis	Paths	Standardised coefficient ( $\beta$ )		Probability value (P-value)		Hypothesis result based on the probability value	
		Vietnam	Poland	Vietnam	Poland	Vietnam	Poland
H1a	PU → AC	0.218	0.523	**	***	Accepted	Accepted
H2a	PEOU → AC	-0.125	-0.227	0.058	0.055	Rejected	Rejected
H3a	IV → AC	0.233	0.255	**	**	Accepted	Accepted
H4a	BT → AC	0.270	0.601	**	***	Accepted	Accepted
H5a	P → AC	0.293	-0.004	**	0.941	Accepted	Rejected

\*\*\* = P-value  $\leq 0.01$ , \*\* = P-value  $\leq 0.05$ .

Source: Data analysis, 2022.

supported in both groups, while H2a is rejected in both sample. Moreover, H5a is supported only in Vietnam.

### Multigroup analysis

In the next phase of the analysis, the two-group comparison of structural equation modeling was applied to test the moderating effects. First, we estimated the two-group model, with all three equality constraints between the groups for the moderators specified. Then, we estimated additional models with one of the equality constraints released in each, to calculate the chi-square differences. The results show that the difference in chi-squared  $\Delta\chi^2$  is significant (p-value  $< 0.05$ ), then there is a difference between the two countries. The analytical results obtained for the Vietnamese and Polish samples are shown in Table 5.

In Table 6, multigroup trials (H1b-H5b, excluding H2b) reported significant differences between the four path coefficients and between the two countries. PU had a larger impact on advertising value in Poland than in Vietnam ( $\beta = 0.523 > \beta =$

**Table 5. The chi-square  $\Delta\chi^2$  for the measurement model of Vietnamese — Polish sample**

Measurement Model	$\chi^2$	df (degree of freedom)
Unconstrained Model	1478.8	568
Constrained Model	1503.8	573
The difference in chi-square	25	5
P-value	0.000139334 $< 0.05$	

Source: Data analysis, 2022.

$= 0.218$ ). Therefore, H1b is supported. Regarding the effect of IV on AC, the results showed that IV has a larger effect in Poland than in Vietnam ( $\beta = 0.255 > \beta = 0.233$ ), supporting H3b. The results also showed that P has a larger impact in Vietnam than in Poland, H5b is supported. However, BT had larger impact in Poland ( $\beta = 0.601$ ) than in Vietnam ( $\beta = 0.270$ ) than expected by the study. Therefore, H4b is not supported.

**Table 6. Results of the multigroup comparison**

Hypothesis	Paths	Hypothesis moderating effect	Standardised coefficient ( $\beta$ )		Hypothesis result based on the probability value	
			Vietnam	Poland	Vietnam	Poland
H1b	PU → AC	Vietnam $<$ Poland	0.218	0.523	Accepted	
H3b	IV → AC	Vietnam $<$ Poland	0.233	0.255	Accepted	
H4b	BT v AC	Vietnam $>$ Poland	0.270	0.601	Rejected	
H5b	P → AC	Vietnam $>$ Poland	0.293	-0.004	Accepted	

Source: Data analysis, 2022.



## Discussions and conclusions

### Relationship between PU, PEOU, IV, BT and P on mobile marketing acceptance

The developed model includes six variables classified into two groups. The first group is the TAM model constructs: perceived usefulness (PU), perceived ease of use (PEOU), and acceptance of use (AC). The second group focuses on extrinsic motivational aspects: information quality (IV), trust (BT) and privacy (P). The identified variables showed their influence on the acceptance of Generation Z in Vietnam and Poland. Specifically, in the Vietnamese sample, the factors affecting the acceptance of mobile marketing included PU, IV, BT and P. Meanwhile, in the Polish sample, PU, BT and IV had a significant effect on their acceptance. P and BT were the most influential factors for Vietnamese and Polish generation Z, respectively.

First, PU positively affected AC in both the Vietnamese and Polish samples. This result is similar to previous studies (Billore & Sath, 2015; Saeed & Bekhet, 2018; Murillo-Zegarra et al., 2020). In this case, respondents in Vietnam and Poland are very interested in their benefits when participating in mobile marketing. These benefits can be discounts and special offers, cost-effectiveness or useful information about products and services, shopping efficiency of consumers. As a result, as they get more benefits from mobile marketing, they tend to accept this form more (Billore & Sath, 2015).

Second, PEOU had no significant impact on the acceptance of respondents in the two samples. The results of the analysis confirmed the claims of several studies showing that PEOU has no impact on consumer acceptance (Hanh et al., 2020; Murillo-Zegarra et al., 2020). The results in this study are consistent with the second statement. Murillo-Zegarra et al. (2020) explained that many consumers have become familiar with technologies and use them, especially young people. Therefore, performing in mobile marketing is a simple process, which reduces the importance of the ease-of-use variable in the perceived value of the service, resulting in this factor having little effect on customers' acceptance of mobile marketing.

Third, IV is the next factor that positively influences the adoption of mobile marketing by respondents in both study samples. Providing information is one of the most important functions of advertising. In a competitive market, information needs to be relevant and up-to-date to capture the audience's attention. Information establishes a link with customers and brand messages, and is therefore a key element in effective mobile marketing (Kim et al, 2016). It is this function that positively influences their attitude towards marketing campaigns.

Fourth, BT has shown critical towards the Vietnamese and Polish participants' acceptance. Mobile devices are highly personal, which leads to consumers feeling unsafe when making transactions via mobile devices. Respondents in Vietnam and Poland emphasized trust in the brands they interact with. This finding is consistent with many previous studies (Persaud & Azhar, 2012; Amoroso, 2013; Menon, 2019). These authors also highlighted the role of organizational/brand trust in mobile marketing adoption. They claimed that a higher level of brand trust leads to higher satisfaction when shopping online using a mobile device. This impact has stimulated interactive acceptance of mobile marketing.

Fifth, P only affects respondents in the Vietnamese sample but does not affect respondents in the Polish sample. Vietnamese respondents are said to be wary of privacy threats, interested in protecting this right. In the context of mobile marketing, privacy includes users' concerns about losing control of the personal information provided when they use this form (Featherman & Pavlou, 2003). Therefore, Vietnamese respondent can concern about collecting, using, storing, and disclosing personal information, location tracking, and unsolicited advertising. From the consumer's perspective, the invasion of privacy and general security concerns associated with mobile marketing media have been recognized as some of the significant barriers affecting consumer acceptance of mobile marketing (Donga et al., 2018).

### The implication of cross-country differences

One major objective of this paper was to understand the cross-national differences in consumers' acceptance towards mobile marketing. The findings demonstrate some significant differences between the Vietnamese and Polish samples.

The level of interest in PU in each sample is not the same, or it can be said that the impact of PU on AC in each sample is different. Specifically, PU is the fourth determinant of acceptance in the Vietnamese sample, while it is the second in the Polish sample. Researching on this issue, Li et al. (2010) found that usefulness was an essential predictor of technology use for individualist countries but not for collectivist countries. In addition, Muk (2007) has observed that consumers in an individualist culture are based entirely on individual considerations. Meanwhile, usage intentions in collectivist cultures are influenced by social norms and underlying social groups. They often ask for opinions from others before making

a decision. As Vietnam is a collectivist country, the acceptance of mobile marketing may be influenced by factors related to groups (e.g. relatives, friends, colleagues). Poland is an individualist country; they will care about efficiency, tasks and work. So when they get into mobile marketing, they will evaluate how mobile marketing can help improve their performance, which is the purchasing and decision-making process. Therefore, Polish Generation Z respondents appreciated the role of PU in mobile marketing adoption more than Vietnamese ones.

Regarding H3b, the analysis results indicate that the adoption of mobile marketing by Generation Z participants in Poland is influenced by information value more than participants in Vietnam. This finding is consistent with the findings of previous studies (Koo et al., 2012; Muralidharan et al., 2015). They claimed that individuals care more about the value of information than collectivist societies. People in individualist cultures, specifically Poland, prefer clear and concise messages. In addition, the purpose of using mobile devices is also a reason. Muralidharan et al. (2015) emphasized that consumers in individualistic societies use mobile devices for personal shopping and information search, while consumers in collectivist cultures have other purposes, such as making friends, meeting new people and participating in newsgroups. Therefore, when interacting with mobile marketing, Poles tend to look for information to help with the purchase process. Meanwhile, Vietnamese people can focus on other factors, besides information factors.

Moreover, the analysis results showed that respondents in Poland highly valued BT compared with Generation Z respondents in Vietnam. Poland has a high uncertainty avoidance index (93) (Hofstede, 2010). According to Hofstede (2010), societies with high uncertainty avoidance like Poland often worry about the future and actively avoid risks to create a feeling of control. So they are very concerned with trust. Trust is often assessed based on two main dimensions: cognitive and affective dimensions (Batra et al., 1996). The first category includes assessments of power, prestige, and competence (expertise), while the second involves assessments of trustworthiness and attractiveness (Okazaki, 2005). Thus, in this case, the Polish respondents could assume that the best marketing activities are represented by the business or brand they have had previous purchasing experience with. With limited space on mobile screens, a business' good reputation could affect the perceived value of mobile marketing. Trust contributes to reducing risk when consumers have to make decisions about unknown wireless Internet communication (Goldsmith et al., 2000). Whereas Vietnam has a low uncertainty avoidance index (30), these countries maintain a more relaxed

attitude, do not have many binding rules and do not view innovation as a threat. Perhaps because of this, Vietnamese respondents are very open to exposure to mobile marketing innovations.

Compared privacy between two samples, study results from the Polish sample showed the absence of a significant privacy influence on mobile marketing adoption and usage, which confirms that people in Poland are less concerned with privacy than their Vietnamese counterparts. The contrasting perceptions of privacy may be due to cultural differences between the two countries. Many studies have reported that countries with a high individualism index are less likely to have privacy concerns (Bellman et al., 2004; Lowry et al., 2011; Thomson et al., 2015). Individualist societies tend to accept mobile marketing more due to their inherent advantages. In addition, Fleming et al. (2021) asserted that people from a collectivist culture might be more sensitive to their data value. They are more likely to be interested in privacy behaviour that is more consistent with their personal data than those from individualism.

Our empirical results have clear implications for global marketing managers. Consumers in these two different cultures reported different perceptions of m-Advertising. With such stark differences, international marketers need to be cautious when they use a focused m-marketing approach for the global market (Liu et al., 2012). They can apply preliminary insights from this research to tailor their marketing to different cultures. Marketers can get the most out of mobile marketing if they incorporate more specific considerations of cultural differences. Marketers need to work to appeal to a more specific consumer target, by tailoring their marketing strategies to the real needs and wants of their customers. Ineffective strategies for mobile marketing can lead to significant waste of valuable resources.

**Limitations.** Research has produced exciting findings to explain Generation Z's acceptance of mobile marketing; however, this study had certain limitations. The first is the limitation of the survey subjects, focusing only on students aged 18–26, which has not yet reflected the opinions of other issues and ages. In addition, the target audience was mainly students, and other professions have not been exploited. Second, some forms of mobile marketing have yet to be studied, such as m-coupons, augmented reality or iBeacon. Finally, the cultural dimensions in the Hofstede model were included to test their impact on acceptance across countries.

**Future research suggestions.** Research can expand the research object, focusing on the 18–26 age group and students, but can be extended to the subjects at the high school level. Research can conduct research comparing the differences

between different ages of Generation Z to provide a comprehensive view of this generation with mobile marketing. In addition to the TAM model, the study can extend to many other models such as UTAUT1& 2, TRA or TPB, etc. Or the study can conduct a comparison of the results between the models to assess the explainability of each model in the field of mobile marketing. This study is based on an empirical quantitative method. Future studies may apply other techniques (e.g. qualitative interpretive approaches, etc.) to enhance

understanding of relevant factors influencing mobile marketing acceptance. Qualitative research can further identify other existing factors and relationships. The dimensions of the Hofstede model can be included in the model to an in-depth assessment of the impact of cultural factors on mobile marketing acceptance. These dimensions can be power distance; individualism vs collectivism; uncertainty avoidance; masculinity versus femininity; long-term orientation versus short-term orientation and indulgence vs restraint.

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