

Factors Shapping the Adoption of Mobile Marketing in Rural Areas of Tanzania: The Case of South Region in Unguja

Nuru Haji
Nasra Kara
Salum Mohammed

Department of Marketing, Entrepreneurship and Management
The Open University of Tanzania

[Doi:10.19044/esj.2024.v20n1p178](https://doi.org/10.19044/esj.2024.v20n1p178)

Submitted: 28 November 2023

Accepted: 28 January 2024

Published: 31 January 2024

Copyright 2024 Author(s)

Under Creative Commons CC-BY 4.0

OPEN ACCESS

Cite As:

Haji N., Kara N. & Mohammed S. (2024). *Factors Shapping the Adoption of Mobile Marketing in Rural Areas of Tanzania: The Case of South Region in Unguja*. European Scientific Journal, ESJ, 20 (1), 178. <https://doi.org/10.19044/esj.2024.v20n1p178>

Abstract

The explosive use of mobile phones facilitates the introduction of different mobile app services which become an essential part of daily life. This forces the business vendors to place individually targeted marketing messages through mobile phones to ensure easy access to the service since the mobile phone is in the hands of owner all the day long. Most of the studies in mobile marketing adoption focused on urban and university consumers. This study aims to investigate the perception of consumers in rural areas on their intention to adopt mobile phone applications such as mobile marketing. The TAM model extended with the UTAUT2 model to achieve the study objective. a cross-sectional survey conducted to collect data through self-administered questionnaires to 500 villages owning mobile phones, through a stratified sampling design in the South district of Unguja. SEM technique was employed to analyze the collected data. The analysis was aided by SPSS version 25. The results showed that perceived usefulness, perceived ease of use, and facilitating conditions were the significant determinants of behavioral intention to adopt mobile marketing to consumers of rural areas. Furthermore, the attitude partially mediates the relationship between consumers' perception and behavioral intention. The finding of this study is vital to business entities in the extension of mobile marketing coverage together with rural consumers to improve the way of life in the current mobile phone era. The Implications

and limitations of the research were discussed.

Keywords: Mobile marketing, adoption, TAM, SEM, rural areas

Introduction

The Communication revolution from landline to mobile phone technology led to changes in lifestyle, which initially was not based on technology. Nearly everyone is aware of the mobile phone nowadays and is highly adopted for social and business use. From a business perspective, the use of mobile phones has increased its popularity owing to marketers' recognition of incremental value to the customers and shareholders. Globally, the number of mobile phone subscribers has continued to increase at an alarming rate as reported to reach 8.6 billion in 2022 (Statista, 2023). The situation has prompted the innovation of mobile marketing communication channels. Mobile marketing provides consumers with the ability to receive or search brands and product information from any place and at any time based on his/her convenience.

Unlike traditional marketing, the innovative mobile marketing strategy facilitates the interaction of consumers and sellers and also the personalization of advertising messages to the targeted consumers, the service contrary (Hall, 2018). The personalization of mobile marketing communication is based on customers' search history and buying nature hence vendors ensure the frequent pop-up of emails, SMS, and MMS. The Statista Research Group (2023) reported the growing trend of mobile marketing since its inception in 2022 accounting for 327 billion US \$ globally and expected to reach US \$ 400 billion by 2024. In some African countries such as Nigeria, South Africa, and Kenya (Nyarusanda and Mollé, 2020) consumers also realize the ubiquitous of purchasing products and services through mobile phones, as mobile marketing reached 5.7 billion US \$ in 2017 and was expected to increase as the number of internet users across Africa would continue to increase (Africa in Focus Report, 2019). However, in most East African countries such as Uganda, Tanzania, Burundi, and Rwanda the consumers' adoption of mobile marketing are still low (Engotoit et al., 2016; Chille et al., 2021; Nyatsambo, 2021; Uwamariya, 2021). Therefore, there is a need to understand mobile marketing consumer perceptions and intentions to adopt such technology. Mobile marketing is regarded to be more beneficial to its users for its convenience, competitive prices, wider selection, rich product information (Nabot, Omar, and Almousa, 2019), and also reach to consumers' places. Consequently, the continued advancement of mobile phone technology with Internet service facilitates mobile shopping, mobile money, and mobile banking which leads to changes in people's lifestyle through the use of mobile phones. In Tanzania, it is reported there is an increase in mobile money

adoption after cash (Kombe et al., 2020; Abdinoor and Ulingeta, 2017). A report by Finscope (July 2023) also showed that 72 percent of the population used mobile money in Tanzania. Studies in mobile marketing adoption in Tanzania focused on major cities in Tanzania, Dar es Salaam (Chille, et al., 2021; Abraham, 2018; Ndyali, 2014) Iringa (Sabokwigina, Mpogole and Malima, 2013) Morogogo (Msavange, 2012) Zanzibar (Maisara, 2022; Omar, Hamad and Yussuf, 2022). There is a gap of knowledge on the research question of which factors affect rural consumers' intention to adopt mobile marketing as this group has been poorly represented in the previous studies conducted in the region, as most of the studies were conducted in the main cities of Tanzania.

In studying consumer adoption of technology, many studies used the Technology Acceptance Theory (TAM) and Diffusion of Innovation theory (DOI). TAM is the most popular model used in addressing consumer adoption of different technologies (Choudrie, et al, 2018). However, the TAM model has been criticized for its weaknesses of inadequacy in explaining consumer behavior. This study opts to extend the TAM model with the UTAUT 2 theory, by adding a facilitating condition construct based on the fact that, in rural areas, most services are not adequately obtained compared to urban areas and major cities of the country. The study adds to the body of knowledge related to the information technology research field, with high adoption of mobile phone technology, by explaining factors affecting consumers' perception of adopting mobile marketing. This study aims to investigate motivation factors affecting the perceptions of rural consumers in adopting mobile marketing technology. The study will provide in-depth insight into identifying the factors affecting rural consumers' decision to adopt mobile marketing technology through their mobile phones by employing TAM and UTAUT 2 as basic models. The proposed model in this study will help to understand the factors affecting rural consumers' perception of mobile marketing and provide futuristic research ideas and expansions in this scope.

The study begins firstly by reviewing the available literature related to consumer intention toward adoption of mobile marketing and secondly will explain the TAM theory to see the influential factors enforced to extend the TAM model with new factors from UTAUT 2 theory. The remaining part is structured as follows: Begin with a review of the literature on investigating consumer perceptions together with an understanding of their attitude toward mobile marketing adoption, research hypothesis will be presented. The methodology used to achieve the study objective and finally, the results and discussion and conclusion of the study will be presented.

Review of literature

Theoretical review

Technology Acceptance Model (TAM)

The theory was developed by Davis (1989), and it examines how users come to accept and use a technology based on the perception or belief behind that particular technology. Consequently, if the system is recognized to make the task easier to perform, this increases the probability of the system being accepted as being useful (Ajibade, 2018). TAM is an extension of Ajzen and Fishbein's theory of reasoned action (TRA), which holds that social behavior is motivated by an individual attitude which then tends to predict technology use (Lin, Shih and Sheh, 2007). The notion holds for the technology of personal use, as one would be convinced by social peers like family and colleagues or experts' recommendations through advertisements to adopt the technology (Ajibade, 2018). However, Davis (1989) replaced many of TRA's attitude measures with the two technology acceptance measures; perceived ease of use (PEOU), and perceived usefulness (PU). External variables affect attitude toward (ATT) using the technology and behavior intention (BI) through PEOU and PU, which affect the actual use (AU) of the technology.

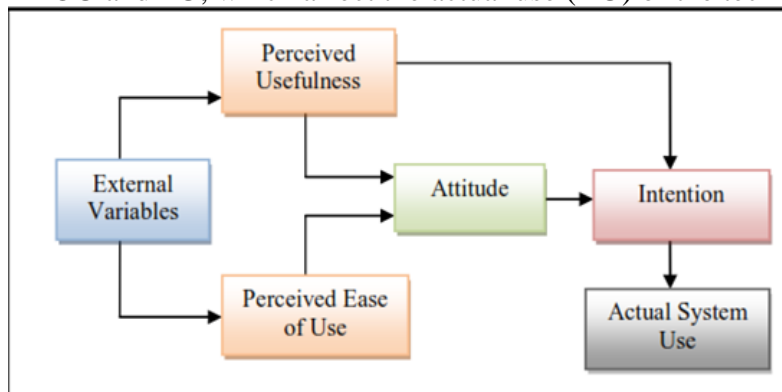


Figure 1. Technology Acceptance Model

Source: Adopted from Davis, Bagozi & Warsaw, (1989)

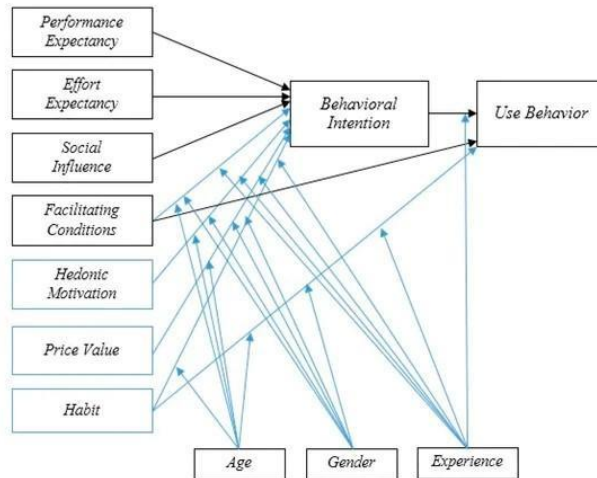
TAM assumed the success of new technology adoption based on positive attitudes towards two measures. These are PU which means whether or not someone perceives that technology to be useful for what they want to do, and PEOU means if the technology is easy to use, then the barriers are controlled. If it's not easy to use and the interface is complicated, no one has a positive attitude towards it. Thus, these two perceptions create a favorable Behavioral Intention (BI) toward using innovation that consequently affects its self-reported implementation (Davis et al., 1989).

Despite TAM being highly adapted to technology adoption, however, the theory does not reflect the variety of user task environments and constraints (Olushola and Abiola, 2017). Despite of TAM model being tested widely and proven to be valid and reliable with different samples and situations, TAM assesses the increase in demand for technology usability and

therefore lacks emphasis on the essential measures relating to users' perception of the usability of the technology and the system characteristics which might affect users' intention to adopt the IS (Holden and Rada, 2011). TAM model was designed for Western culture, where people use "a rational cause and effect paradigm to create perceptions" (Anandarajan et al, 2005, p51). Therefore, TAM constructs do not fully show the influence of technological adoption in countries such as Tanzania as Lwoga and Lwoga, (2017) find most of the people have less experience in technology use. From that point, the TAM hypothesis on understanding human behavior through empirical settings is not reliable. Therefore, the TAM model needs to be extended to include other psychological or physical constructs such as; hedonic motivation and facilitating conditions to effectively predict technology acceptance and use. This will raise the robustness of TAM since individuals might have been forced or tempted by other factors rather than their perception toward the technology on their intention to learn new technology.

Unified Theory of Adoption of Unified Technology (UTAUT 2)

The theory extended by Venatakesht et al (2012) from the original theory UTAUT (Ventakeshet al 2003) concerning the user intentions to adopt the technology innovation and their intention to continue usage behavior. Ventakesht et al (2003) mentioned four key attributes that affect the individual decision to adopt and use behavior; performance expectancy, effort expectancy, social influence, and facilitating conditions. UTAUT (Venkatesh et al., 2003) tested and found to have an R^2 of 70%, implying the model explains 70% of the variance in individual adoption intentions to use information technology. Thus, Venatakesht et al (2012) extended UTAUT2 has seven attributes that were measured together with demographics as a control variable; these attributes are performance expectancy, effort expectancy, social norms, facilitating condition, experience and habit, hedonic motivation and price value. the model empirically proved to explain 74% of the variance.



UTAUT2 Model (Ventakesh, Thong and Xu, 2012)

Although UTAUT2 holds that intention to use technology is influenced by hedonic motivation, price value, and habit however the theory ignores the attitudinal effect which is a cognitive process that depicts the positivity or negative thinking of the. Thus the UTUT2 was adapted as a supplementary theory extended on TAM theory to guide this study so that to increase the explaining power of the TAM theory.

Empirical Review

Mobile marketing is a marketing practice takes place via mobile phones and may include promotional messages sent through text messages, mobile telemarketing, viral marketing, geo-targeting and mobile broadcast advertising (Iqbal et al., 2019). Thus, is the marketing practices which involves the startup of relationships, acquire, generate activity and stimulate social interaction with organization and customers. Mobile marketing is a tool used for promotion strategy in many organizations. Since happened to be an interactive communication process that combines push, pull, and dialogue marketing form. According to prior researchers Huang., (2012); Riquelme et al., (2011) Tanakinjal., and Tanakinjal (2008) mobile marketing is the sole medium that achieves greater consumer responses than other media of promotion, while permission and acceptance play a vital role in obtaining the consumer responses and interaction for the efficiency of this channel in communication. Studies revealed the adoption of the mobile marketing is still at infancy stage at most of the countries (Oscar et al., 2017; Chille, et al.,2021). Few countries such as Ecuador, Turkey, Malaysia and China (Chimborazo et a, 2021; Chan et al., 2022; Zhang et al.,2023). Developing countries (Indonesia) and many African countries adoption of mobile marketing innovation is still low (Engotoit et al., 2016; Uwamaiya, 2021). Based on

Tanakinjal et al, (2011) the intention to adopt mobile marketing is the mental process through which a person passes from first learning about an innovation to final decision of mobile marketing adoption through consideration of factors such as; trust, risk, and permission. Thus, there is a need to investigate the factors affecting consumers' intention to adopt mobile marketing in most countries, while the adoption of mobile marketing channel declared by Duzgun and Yamamoto, (2017) to have a great value to the organization and consumers.

In assessing relevant predictors of technology adoption to consumers, scholars have applied various information technology theories such as the Technology Acceptance Model (TAM), Diffusion of Innovation Theory (DOI), and unified theory of acceptance theory (UTAUT). However, TAM is mostly used because of its simple nature (Ajibade, 2018), but the results have not been in consensus. Perceived usefulness (PU); is the individual perception of how technology will improve tasks or roles in terms of efficiency and effectiveness (Davis, 1989). Therefore, researchers argued that consumers will only use mobile marketing if they enjoy shopping through mobile phone devices. PU strongly influences the consumers' intention to participate in mobile marketing in the Netherlands and Portugal (Plasse,2017) Kenya (Bosire, 2021), and Dar es Salaam (Tanzania) (Chille et al., 2021). The main advantage of mobile marketing via mobile phone over e-marketing via PC is always powered on and on the hand of the owner, which enables ubiquitous reach, personalization, and instant interaction between the marketer and mobile phone owner. However, Chimbarazo et al., (2021) in Ecuador found the insignificant effect of PU on influencing the intention to adopt mobile marketing. Chimbarazo et al., (2021) argued that when consumers have high experience in smartphone use and usually interact through social media, the perception of usefulness has an insignificant effect to influence the intention to use mobile marketing. Therefore, the following hypothesis formulated

H1; *Perceived Usefulness has a significant influence on consumers' intention to adopt mobile marketing technology in rural areas.*

Perceived Ease of Use (PEOU) is concerned with the learning process involved in the system or application of the innovation to free from complications and trouble of the process involved. Studies showed PEOU is an essential construct affecting consumers' intention to adopt mobile marketing since they need to gain confidence in using the application (Chimborazo et al, 2021; Chivizhe, 2019). Therefore, if they face difficulties in using the application, eventually causes an obstacle to intention. Consumers' intention to adopt mobile marketing increased if they perceived it easiest the web search, collect information, and execute transactions via mobile phone. From this review, we postulate the following hypothesis;

H2; *Perceived Ease of Use has a significant influence on consumers' intention to adopt mobile marketing technology in rural areas*

The Mediating Role of Attitude on Intention to Adopt Mobile Marketing

Attitude has a great role in consumers' decision to adopt or not to adopt mobile marketing since it is the cognitive process that depicts the positivity or negative thinking of the innovation. Globally the role of attitude was found vague due to differences in culture and perception toward the technology innovated. Putra in Indonesia found PU and PEOU did not influence the adoption directly though affect indirectly through attitude., while, Haq and Ghouri (2018) found the PEOU has an insignificant indirect influence on attitude toward m-advertising in Pakistan. In Africa, the effect of PEOU on attitude toward intention to adopt mobile marketing is scarcely investigated. Maduku et al, (2016) found that PEOU does not affect SMEs' attitudes toward the adoption of mobile marketing in South Africa. From this review, we postulate the following hypotheses;

H3a; *Attitude has a significant influence on the consumers' intention to adopt mobile marketing technology in rural areas.*

H3b; *Attitude mediates the relationship of perceived usefulness and perceived ease of use with consumer intention to adopt mobile marketing technology in rural areas.*

Facilitating Condition (FC)

Venkatesh et al (2003) explained the facilitating condition as the degree to which an individual believes that an organizational and technical infrastructure exists to support the use of the system. It reveals the user's knowledge of the new technology, ability to perform the marketing communication as other means of promotion, and financial resources incurred on the execution. Literature adopting the UTAUT model shows that there is a significant effect of the facilitating condition on the behavioral intention to adopt the technology such as mobile marketing. The studies of Shareef et al (2017), Nysveen and Pedersen (2016), Wong et al (2015), and Oliveira et al (2014) support that when consumers have favorable technology infrastructure tend to be more willing to adopt mobile marketing than other medium. Therefore, we postulate the following hypothesis;

H4; *Facilitating conditions have a significant influence on consumers' intention to adopt mobile marketing technology in rural areas.*

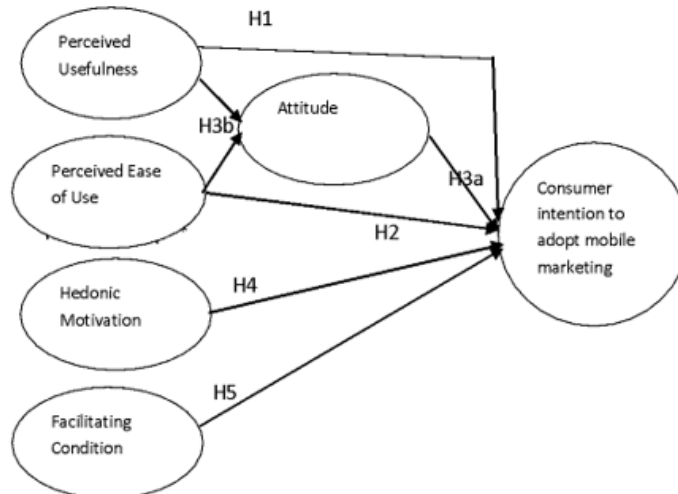
Hedonic motivation

It is the pleasure or enjoyment individuals derive from utilizing a particular technology (Tamilmani, Rana, and Dwivedi, 2019). Hedonic and utilitarian motivations are regarded as fundamental in investigating consumer

behavior as individual behavior differs from each other as either problem solvers or fun and enjoyment seekers (Zefreh, Edrie and Esztegar, 2023) According to UTAUT 2 consumer gratification of using technology is crucial as the individual intention to technology adoption is self-determination. According to Ventakesh et al., (2012), hedonic motivation has a strong correlation with behavioral intention toward technology adoption. In mobile marketing, the adoption is enforced by the intrinsic motivation to seek enjoyment, and pleasure (Eneizan, Mohammed, and Eneizan, 2019; Madav and Yadav, 2018) and recognition that one cope with fashion and style of the technology environment (Nyvseen et al 2005). Thus, hedonic motivation concluded that a consumer who perceives enjoyment while using a mobile phone for marketing purposes will be more engaged in the activity and, therefore, more likely to use their mobile phone for marketing.

H5; *Perceived consumers' hedonic motivation has a significant effect on consumers' intention to adopt mobile marketing technology in rural areas.*

From the review of the literature, the proposed research model and hypothesis development are presented in Figure 2. They suggest that the intention to adopt mobile marketing depends on perceived usefulness, perceived ease of use, facilitating conditions, and hedonic motivation.



Research Methodology

It is the explanatory research aim to find the causal link among the variables relating to the objective of the study as suggested by Bhattachere, (2012), The study opted for the positivist paradigm to study the reality that can be measured quantitatively through the set of hypothesis and statistically analyzed to be well understood. This study adopted a cross-sectional design to collect data from the villagers of South district of Unguja living in Paje and Kizimkazi from June to August 2023. The villagers aged from 18 years to 60

years owning a mobile phone during the study were the target population and selected through a stratified random sampling, so that to ensure there is representation of respondents from the selected villages. These two villages were selected because expected to have high economic conditions compared to neighboring villages such as Kitogani, Makunduchi, and Bwejuu due to a higher concentration of hotels and higher tourism-related businesses thus the selected villages expected to have a high number of mobile phone users which is the base for mobile marketing adoption.

The constructs under the study were adapted from the existing literature concerning mobile commerce and mobile marketing to guarantee content validity. All questionnaire items were measured using a 5-point Likert-type scale, where 1 = “strongly disagree” and 5 = “strongly agree”. The survey instrument was initially piloted by university students at the State University of Zanzibar. From the pilot study, minor modification was made to the pre-determined set of questions. This is performed to increase the response rate and accuracy of responses as recommended by Gyankovandar, (2022). The sample size was estimated based on the N; Q rule (Jackson 2003) where the Ideal sample size to parameter ratio, while the items measured was 25 hence the required sample for this study was a minimum of $10 \times 25 = 250$ while the maximum to be $20 \times 25 = 500$.

A total of 500 survey questionnaires were distributed to consumers accordingly. 425 valid responses from the survey instruments were obtained and 14 responses were incomplete, thus ignored from the analysis. 54.8% of respondents were males and 43.2% were females. The age of participants was from 18 years to 60, youth from 18-29 were 180 (43.8%), Adults 30-49 were 150 (36.5%), and seniors from the age of 50-60 were 81 (19.7%). Of which 138 (33.6%) were female and 273 (66.4) were male. Therefore, the sample size for the study was 411, this sample size was appropriate for the Structural Equation modeling which was opted for this study analysis as it was verified by (Hair et al., 2006).

Results

Measurement Model, the reliability of the model is measured through confirmatory factor analysis (CFA). Maximum Likelihood Estimator (MLE) algorithms were employed because it is accurate and efficient based on Baistaman et al., (2020). The construct validity was assessed through goodness of fit indices (GIF), thus, the results from the Second-order CFA model revealed that the data fits well in the model since GIF values were above the acceptable cut-off point based on Hu and Bentlers (1999). χ^2 / df of 2.5, RMSEA of 0.057, TLI of 0.932, GFI of 0.91, CFI of 0.944 and RMR of 0.03. Convergent validity and discriminant validity were assessed and revealed composite reliability (CR) values ranging between 0.87 to 0.95. the average

variance extracted (AVE) values of 0.63 to 0.78 as shown in Table 1 below, therefore the convergent validity met according to Fornell and Larcker (1981). Besides the construct and discriminant validity maintained as the value of AVE appeared to be greater than the squared correlation coefficient as depicted in Table 2 (Fornell and Larcker, 1981).

Table 1. Results of the Measurement Model

Variable	Question	Crobanch Alpha	Standar dized loading	Average Variance Extraxted (AVE)	Composite Reliability (CR)
FAC	The existence of Interoperable network infrastructure is appropriate for all mobile phone users to receive marketing message	0.93	0.924	0.78	0.95
	High penetration of mobile phone usage in the country is appropriate for us to share our marketing message with our friends.		0.907		
	I have a mobile phone which is appropriate to receive our marketing message at their convenience.		0.897		
	I have the knowledge and the resources to interact with mobile marketing messages		0.887		
	I will not look into mobile marketing messages because it will cost me		0.809		
PERUSEF	Marketing messages received on my mobile phone will help me make better shopping decisions.	0.90	0.918	0.75	0.92
	Marketing messages received on my mobile phone will help me to reduce the time I take to search for products and services		0.877		
	Marketing messages received on my mobile phone will help to improve my shopping efficiency,		0.851		

	especially when I am in a hurry or in a new city				
	I think marketing messages received on my mobile phone will save me money.		0.818		
PEOU	I believe purchasing via mobile phone is very easy	0.91	0.931	0.66	0.9
	WI believe receiving marketing ads through mobile phones is very effortless.		0.911		
	The search for marketing messages via mobile phone is very simple		0.756		
	The task of interacting with marketing messages via mobile phone is very simple		0.733		
	It would be easy for me to become skillful in using mobile marketing		0.700		
CID	Given the chance I intend to use mobile marketing	0.82	0.816	0.63	0.87
	I intend to buy products and services via my mobile phone		0.815		
	I expect to continue with mobile marketing in the future		0.811		
	I would respond to a coupon offer for a product or service on my mobile phone.		0.743		
ATT	It just makes sense to use mobile marketing to the familiarity of mobile technology nowadays	0.85	0.846	0.67	0.89
	Mobile marketing is so interesting, that you just want to learn more about it		0.826		
	If someone taught me how to use mobile marketing, I would continue to use it		0.810		
	Other people should use mobile marketing		0.791		

HM	Mobile marketing would be compatible with mobile lifestyle	0.86	0.880	0.7	0.88
	Mobile marketing would be appropriate for me to express my personality and status		0.828		
	Mobile marketing would be much more pleasant and entertaining to me		0.810		

Table 2. Discriminant Validity; Correlation Matrix and AVE Values

FACTOR	PEOU	CIA	FAC	PU	ATT	HD	Square of AVE
PEOU	1						0.812
CIA	0.349	1					0.793
FAC	0.377	0.385	1				0.883
PU	0.405	0.305	0.317	1			0.866
ATT	0.370	0.352	0.401	0.546	1		0.818
HM	0.587	0.350	0.354	0.315	0.426	1	0.836

Note: CIA: Consumer Intention to adopt Mobile Marketing, HD: Hedonic Motivation, FC: Facilitating Condition, PU; Perceived Usefulness, PEOU; Perceived Ease of Use. ATT; Attitude.

Latent model

The latent relationship in the model was measured through SEM-AMOS version 25. The structural model found that most of the GIF indices meet the accepted fit for the data in the hypothesized model based on Byrne (1998). The evaluation of GIF reports that the $\chi^2 = 1015.238$, $df=393$, $p=.00$, χ^2/df is 2.5 which is satisfactory for the sample of $N>200$, $RMR=.05$, $RMSEA$ values 0.06 which indicates of good fit between the hypothesized model and the observed data (Byrne, Barbara p101; Hu and Bentler,1999). the $NFI = 0.9$ acceptable cutoff (Byrne 1998), CFI value 0. 927 meets the cutoff criteria based on Hu and Bentler (1999) the result caused by the low observed correlations for most of the variables in the study.

Among the hypotheses, perceived usefulness was found to have significant positive effects on the consumer intention to adopt mobile marketing ($B= 0.166$ $p<0.05$), and perceived usefulness also had a positive significant effect on consumer intention to adopt mobile marketing ($B=0.263$ $p<0.05$), facilitating condition also has a positive significant effect on consumer intention to adopt mobile marketing in rural areas ($B=0.291$ $p<0.000$), therefore H1; H2 and H5 were accepted. The unexpected result appeared that Attitude did not affect consumers' intention to adopt mobile marketing ($B=0.096$ $p>0.05$), thus H3_a was rejected. Hedonic motivation did not affect consumers' intention to adopt mobile marketing ($B=0.166$ $p>0.05$)

and therefore H4 was rejected. The structure model of the extended TAM framework is presented in Figure 2 below

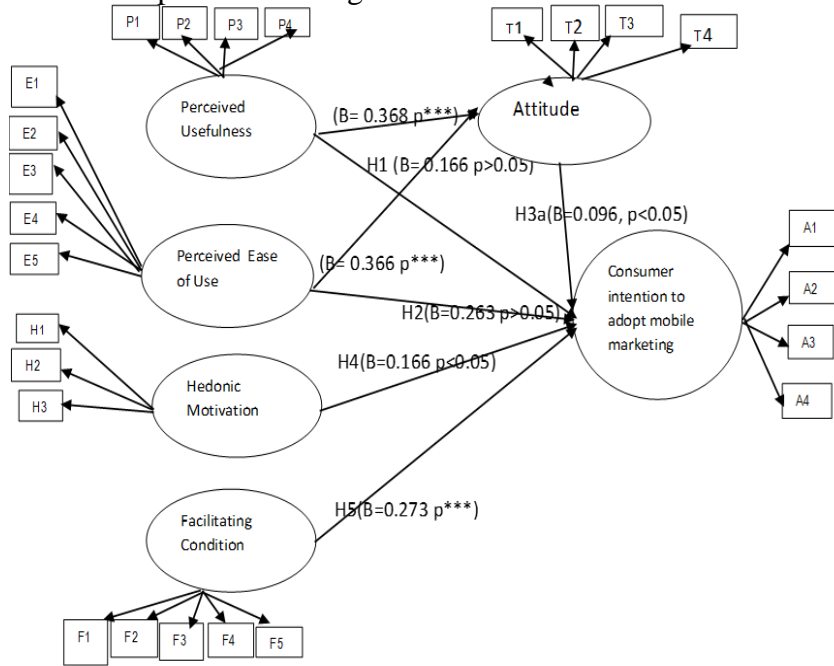


Figure 2. SEM results. (source; Authors data, 2023)

Mediation

The mediation effect of attitude toward the relationship between PU, PEOU, and consumer intention to adopt mobile marketing is shown in Table 2. The Hayes Macro is used to analyze the mediating effect of attitude on consumer intention. The results revealed significant mediating effect of ATT on the relationship between PU and CIA ($\beta=368$, Boot-LLCI=0.0212, ULCI=0.1810, $p=.000$). The mediating effect of attitude on the relationship between PEOU and CIA was ($\beta=.0.3663$, $p=.000$) together providing sufficient evidence of mediating effect and enforced to support the hypothesis H3b.

Table 3. Mediation

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence interval		T statistics	Conclusion	Label
				Lower bound	Higher bound			
PU->ATT->CIA	0.368 (0.000)	0.272 (0.05)	0.096	0.0212	0.1810	3.7900	Partial Mediation	Supported
PEOU->ATT->CIA	0.3663 (0.000)	0.315 (0.000)	0.0560	0.0174	0.0966	5.9915	Partial Mediation	Supported

Discussion

The purpose of this study was to explore consumers' intention to adopt mobile shopping among rural consumers in the South district of Unguja and the mediating effects of attitudes toward behavioral intention regarding the perception of usefulness and ease of use. Concerning TAM, the obtained results of this study provide evidence that attitude mediates the relationship between PEOU, PU, and BI. This infers that if mobile marketing is perceived to be easy to use, has no complexity encountered in getting knowledge, and is expected to be compatible and useful to them, creates a positive attitude toward the intention to adopt mobile marketing.

Perceived usefulness was found to be associated with consumers' intention to adopt mobile marketing in rural areas. Mobile marketing platforms with a user-friendly interface will increase consumers' intention to adopt such particular innovations. The design interface quality will affect the traffic of consumers while information quality will raise the consumers' intention to purchase through mobile phones (Sun and Chi, 2018). Consumers in rural areas will feel positive toward mobile marketing if they can easily access brands by browsing their mobile phones, and thus minimize their shopping time. According to Ghazali et al. (2018), the vital characteristics of mobile marketing technology the personalization and interactivity offering consumers the ability to interact and communicate directly with retailers the flexibility features of this channel increase the usefulness of the mobile marketing technology hence becoming the driving factor of consumer behavioral intention toward mobile marketing adoption. The finding is about Chille et al., (2021) and Haq and Ghouri (2018)

PEOU has a significant effect at $p < 0.05$ (in the research model) on consumer intention as stipulated in TAM theory (Davis et al., 1989). Consumers in rural areas will be more likely to adopt the innovative technology when they perceive the mobile marketing technology as easier to learn no much effort needed to study and be able to use efficiently. Thus, the complexity of the mobile marketing technology affects their intention and will diminish the propensity to adopt such technology. Since the study was based in rural areas, consumers have little or no technical skills that could help them execute mobile applications effectively, thus the perception of less technical complexity to grasp the expertise on the application did influence their adoption decision.

This result was deemed relevant in the prior scholars related to mobile marketing adoption in different contexts. The study of Chille et al., (2021), Ghazali (2018), and Chan et al., (2022) concomitantly suggest that consumers tend to adopt technology when they believe the mobile marketing innovation will be free of effort to learn and to use, hence directly could improve their intention toward adoption of the innovative technology. Based on this study

sample most of the respondents were youth aged from 18 to 29 years regarded as the early majority in the adoption of innovation specifically on mobile phone technology (Kharono et al., 2022, Arora, Malik and Chawla, 2020) become keen to find the awareness on how to use the innovation, the perception of less complexity is the main determinants of their decision to adoption as stipulated by Rogers (2003).

The study, however, is contrary to the findings of previous researchers who found the perceived ease of use to have no significant effect on the adoption. Ismail (2015), and Elizavita and Jean-Paul (2012) found the insignificant effect of complexity on technology adoption. This could be attributed to the familiarity with the use of such technology as expected to reduce the anxiety of complexity as revealed by Maduku et al., (2016).

Hedonic motivation as an extended construct in the TAM model was found to have an insignificant effect on consumers of rural areas to propel their intention to adopt mobile marketing. The expected consumers' hedonic motivation obtained from using mobile marketing such as consumers' enjoyment, personality, and social status did not influence consumers in rural areas. They just consider the usefulness such as interactivity and ubiquity of the mobile marketing channel rather than luxury and enjoyment purposes. Therefore, consumers in rural areas appear to be less concerned about the leisure and gratification obtained when it comes to adopting mobile marketing. The hedonic motivation is also not significant in the adoption of mobile applications such as mobile banking (Oliveira, Thomas, Baptista, and Compos, 2016) and Slade, Williams, Dwivedi, and Piercy, 2015), however, contend that Jordanian consumers as confirmed that perceived enjoyment to be the most influential factor of intention to adopt mobile marketing Eneizan et al., (2019).

Facilitating condition

The study shows the significant effect of facilitating conditions to facilitate the consumer intention to adopt mobile marketing in rural areas. Since the study was conducted on consumers living in rural areas, their expertise in performing technical functions in the mobile phone is not adequate at large. They need technical support to facilitate easy and efficient utilization of the channel. The prevailing facilitating conditions such as interoperable networks, low cost of internet service, availability of toll-free numbers, and live chat box to communicate with suppliers found to significantly affect consumer intention to adopt mobile marketing. Consumers mainly consider the availability of vendors whenever needed to interact in entering into business agreements. The availability of an interoperable network environment also influences the adoption of mobile marketing. In addition to that in conducting mobile marketing the products need to be sent

to the consumer at their place, thus is the most considered aspect in consumers' intention to adopt this channel in rural areas. Since the infrastructures in most of rural areas are not well-established transportation is difficult to enable mobile marketing operations. The finding is relevant in the adoption of other mobile business applications as Lin, Lin, and Deng (2022) and Alm, Chotiyaputta and Bejrakashem (2022) revealed in the adoption of mobile payment in different contexts. and contradict the finding of Hakimian (2017) in the adoption of mobile marketing in Malaysia.

Mediating effect

The results showed the partial mediation effect of attitude on the relationship between PU, PEOU, and CIA. This implied that PU is the intrinsic factor influencing on consumers' attitude which subsequently drives their behavior intention on technology. This infers that, if the consumer has a positive attitude toward the intention to adopt mobile marketing technology, would perceive mobile marketing as beneficial and easy to use to enable their shopping effectively. Thus, emphasis on the improvement of the positive attitude on the consumers' mindset could be attributed to making the mobile application simpler

This result is consistent with that of Riantini et al., (2021), Gbongli et al., (2019), and Lopez and Bonilla (2017) which confirmed that PU indirectly had a great impact on user desired emotional attitude toward the intention to adopt the technology. Kumar et al (2020), Haq and Ghour (2018), and Verma et al., (2017) asserted the significant effect of mediation of attitude on the relationship between PEOU and consumer intention to adopt mobile technology. However, the results were contrary to other studies which found an insignificant mediation effect of attitude Chauhan (2015), Tobbin (2014), and Ajibade (2018) insisted that in the workplace, the system could be adopted due to the perceived relative advantage irrespective of attitudinal influence to the use of such system.

Implication

Mobile marketing has become the core business strategy nowadays thus it is an unavoidable trend in any organization wishing to compete in the marketplace. The current study presented significant theoretical and practical implications for mobile marketing vendors, to propose an opportunity that allows them to promote their marketing strategies through consumers' hands via mobile phone devices. The strategy could benefit both vendors and consumers. The obtained results provide a roadmap for a better understanding of the factors that shape consumers in rural areas intention to adopt mobile marketing, thus practitioners and researchers in this domain could be beneficial. Theoretically, this study proved the significance of the TAM model

as crucial factors for consumers' behavioral intention that afterward reflect the intention to adopt mobile marketing in their daily business transactions. In addition, mobile marketing vendors can design and develop more innovative user-friendly interfaces, and improve service delivery to maximize consumer perceptions of value and satisfaction so that consumer intention to adopt mobile marketing could be maximized. Managerial implication drawn from this study results is that, with the rapid increase of mobile phone ownership and internet subscriptions there is a need to extend coverage and competitive advantage to rural areas since mobile marketing enables the ubiquitous reach of marketing messages to the target consumers.

Secondly, mobile marketing vendors need to be aware of the strong effect of PU, PEOU, FC, and mediation of attitude. From the extensive use of mobile phone service consumers nowadays especially youth intend to adopt mobile applications such as mobile money, mobile banking, mobile gaming, and mobile marketing since the youth become mobile savvy. Thus, it is recommended to focus on delivering frequent, accessible mobile marketing app so that consumers might lose interest or quit while browsing the app. Therefore, it is highly recommended for mobile marketing strategy to target the consumers in rural areas whose encompass a high concentration of population due to high income generated from business activities such as tourism, fishing and mining obtained in the area compared with other villages. To sum up, the current study aimed to investigate motivation factors affecting the perceptions of rural consumers in adopting mobile marketing technology. The proposed model explored TAM variables in extension with the UTAUT2 model to achieve this study objective. In our model facilitating condition, perceived ease of use, and perceived usefulness were the main factors driving intention. The result emphasized the vitality of providing technical support and relevant information to consumers to facilitate ease of adoption and utilization of the channel in rural areas. Attitude did not directly influence intention, however partially mediated the behavioral intention through perceived usefulness and perceived ease of use. Thus, mobile service providers should focus on the features that consumers in rural areas find useful with less effort to understand to build favorable attitudes toward behavioral intention. Most consumers in rural areas are now knowledgeable in using mobile phone applications such as mobile marketing since this technology is still new in Tanzania. Therefore, the role of attitude in the intention to adopt mobile marketing should not be neglected.

Limitations and Future Studies

The study has some limitations. Firstly, the study used data from two villages in the south district, thus limiting the generalization of the findings to the consumers in rural areas. Future studies should extend the sample to

include more villages from south regions to acquire an in-depth understanding of the position of consumers in south regions regarding the intention to adopt mobile marketing. Secondly, the current study extends only two constructs from UTAUT2 to evaluate the proposed conceptual model. Future studies recommended extending the TAM model with more constructs from UTAUT2 such as price value, habit, and its moderating constructs to gain a more comprehensive understanding of consumers' behavioral intention to adopt mobile marketing.

Conflict of Interest: The Authors report no conflict of Interest.

Data availability: All of the data are included in the content of the paper.

Funding Statement: The Author did not receive any funding for this study.

Human Studies

This research followed The Office of the Second Vice President of Zanzibar guidelines and for research ethics involving human subjects. Also, abide by the code of conduct provided to the research scientist. The research was Approved by the Office of Chief Government Statistician Zanzibar. The study followed the Declaration of Helsinki ethical standards.

References:

1. Abdinoor A and Ulingeta O.(2017) Lorenzo Ardito (Reviewing Editor) (2017) Factors influencing consumers' adoption of mobile financial services in Tanzania, *Cogent Business & Management*, 4:1, DOI: 10.1080/23311975.2017.1392273
2. Abraham, J. (2018). Factors Influencing Adoption of Digital Marketing in Commercial Banks Operating in Tanzania: A Case of Dar -Es- Salaam City. *European Journal of Business and Management Vol 7(2) p.44-62*
3. Ajibade, P. (2018). Technology Acceptance Model Limitations and Criticisms: Exploring the Practical Applications and Use in Technology-related Studies, Mixed-Method, and Qualitative Researches. *Library Philosophy and Practice, 2019(January)*. Available in [https:// www. Researchgate.net](https://www.researchgate.net).
4. Alm, H., Chotiyaputta, V., and Bejrakashem, S. (2022). Factors Influencing Mobile Payment Adoption By Silver Generation In Thailand And Sweden. *Journal of Social Science research Asia 8(2)*. p: 22-44
5. Anandarajan, M and Simmers, A. (2005) Developing Human Capital through Personal Web Use in the Workplace: Mapping Employee

- Perceptions. Communications of the Association for Information Systems: 15(1)776-791
6. Arora, N., Malik, G., and Chawla, D. (2020). Factors Affecting Consumer Adoption of Mobile Apps in NCR: A Qualitative Study. *Global Business Review*, 21(1), 176-196. <https://doi.org/10.1177/0972150919876748>
 7. Chille, F., Shayo, F., & Nasra, K. (2021). The Effects of perceived trust and ease of use in adoption of mobile marketing in telecommunication industry in Tanzania. *American Scientific Research Journal for Engineering, Technology, and Sciences (ASRJETS)*, 76(1), 155-168
 8. Chauhan, S. (2015), Acceptance of mobile money by poor citizens of India: integrating trust into the technology acceptance model. *info*, 17(3), 58-68. <https://doi.org/10.1108/info-02-2015-0018>
 9. Choudrie, J., Junior, O., McKenna, B., Richter, S. (2018). Understanding and Conceptualizing the Adoption, Use and Diffusion of Mobile Banking in Older Adults: A Research Agenda and Conceptual Framework. *Journal of Business Research*. 88(1), 449-465 <https://doi.org/10.1016/j.jbusres.2017.11.029>
 10. Davis, D. (1989) Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Quarterly*, 13(3) 319-340
 11. Davis, F. D., Bagozzi, R., P., & Warshaw, P. R. (1989). User Acceptance of computer technology. A Comparison of two theoretical models. *Management Science*, 35, 982-1003
 12. Eneizan, B., Mohammed, A. G., Alnoor, A., Alabboodi, A. S., and Eneizan, O. (2019). Customer acceptance of mobile marketing in Jordan: An extended UTAUT2 model with trust and risk factors. *International Journal of Engineering Business Management*. <https://doi.org/10.1177/1847979019889484>
 13. Engotoit B., Kituyi G. M., Moya M. B. (2016). Influence of Performance Expectancy on Commercial farmers' Intention to Use Mobile-based Communication Technologies for Agricultural market Information Dissemination in Uganda. *Journal of Systems and Information Technology*, Vol. 18 Iss: 4
 14. Fornell, C, and Larcker, F. (1981). Structural equation models with unobservable variables and measurement error: Algebra and statistics. *Journal of Marketing Research*, 18(3), 382–388 Gyankovandar (2022) Pilot Testing, Procedure Pilot testing, Questionnaire design, Questionnaire Administration, Content or Components of Questionnaire writing, Principles of Questionnaire. Retrieved from. [http; www.gynkovandar.com](http://www.gynkovandar.com).

15. Ghazali, E.M., Mutum, D.S., Chong, J.H. and Nguyen, B. (2018), "Do consumers want mobile commerce? A closer look at M-shopping and technology adoption in Malaysia", *Asia Pacific Journal of Marketing and Logistics*, Vol. 30 No. 4, pp. 1064-1086. <https://doi.org/10.1108/APJML-05-2017-0093>
16. Gbongli K, Xu Y, Amedjonekou M (2019) Extended Technology Acceptance Model to Predict Mobile-Based Money Acceptance and Sustainability: A Multi-Analytical Structural Equation Modeling and Neural Network Approach. *Sustainability*. 11(13) p 3639. <https://doi.org/10.3390/su11133639>
17. Haq M.and Ghouri M (2018) Mobile Advertising Technology Acceptance Model (M-TAM): An Extension of TAM in Mobile Marketing Context. *South Asian Journal of Management Sciences* 12(2), 188-209.
18. Hall, J. (2018). Mobile Marketing strategy. Retrieved march,13, 2019, from <http://www.businessapp.com/wp-content/uploads>.
19. Hu, L.and Bentler, M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling*, 6(1), 1–55. <https://doi.org/10.1080/10705519909540118>
20. Kombe, C. A., Yabu, N., Mwita, D. L., & Mbiha, G. E. (2020) Mobile Phone Payments and Demand for Cash: The Case of Tanzania. *American Journal of Industrial and Business Management*, 10, 1505-1573. DOI: 10.4236/ajibm.2020.108099.
21. Kharono B, Kaggiah. A, Mugo C, Seeh D, Brandon L. Guthrie (2022). Mobile technology access and use among youth in Nairobi, Kenya: implications for mobile health intervention design. *mHealth* 2022;8 (7) pp 21-23 <https://dx.doi.org/10.21037/m>
22. Lin, Y., Liu, Y., Fan, W., Tuunainen, V. K. & Deng, S. (2021). Revisiting the relationship between smartphone use and academic performance: A large-scale study. *Computers in Human Behavior*, 122. <https://doi.org/10.1016/j.chb.2021.106835>
23. Lin, C.-H., Shih, H.-Y. and Sher, P.J. (2007), "Integrating technology readiness into technology acceptance: the TRAM model", *Psychology and Marketing*, Vol. 24 No. 7, pp. 641-657, doi: 10.1002/mar.20177.
24. Lwoga, E. and Lwoga, N. (2017). User Acceptance of Mobile Payment: The Effects of User-Centric Security, System Characteristics and Gender. *Electronic Journal of Information Systems in Developing Countries*, 81(3) p 1-24.
25. Maduku D, MpinganjiraM, and Duh H (2016). Understanding mobile marketing adoption intention by South African SMEs: A multi-

- perspective framework. *International Journal of Information Management*, 36(5) p 711-723.
26. Msavange M. (2015) Usage of Cell Phones in Morogoro Municipality, Tanzania. *Journal of information engineering and Applications* ISSN 2224-5782 (print) ISSN
 27. Maisara S, Hamad, A. Yusuf, S. (2022) Effect of Consumers Perceived Risk on Online Purchasing Intention in Zanzibar: A Case of JUBIWADA. *International Journal of Accounting, Finance and Risk Management*. Vol. 7, No. 4, 2022, pp. 181-187. doi: 10.11648/j.ijafmr.20220704.16
 28. Nyatsambo, M. (2021). Adoption and Usage of Mobile Marketing Practices to Promote Domestic Tourism: A Case of Zimbabwe's Hospitality Sector. Unpublished Doctoral Thesis, University of KwaZulu-Natal
 29. Nabot, A, Firas, O & Almousa, M. (2020). Perceptions of Smartphone Users' Acceptance and Adoption of Mobile Commerce. *Journal of Computer Science*, 16 (10).p 532-542
 - Rogers, E. M. (2003). Diffusion of innovations (5th ed.). *New York, US: Free Press*
 30. Ndyali, L (2014). "Consumer Perception and Attitude on Mobile Phone Market in Tanzania." *Journal of Marketing and Consumer Research*. Vol 3 (10)
 31. Nysveen and Pedersen (2016) "Consumer adoption of RFID-enabled services. Applying an extended UTAUT model" DOI 10.1007/s10796-014-9531-4 Springer Science+Business Media New York 2014
 32. Omar H. Hamad A, Yusuf S. (2022). Influence of Digital Marketing on Consumers' Purchasing Decision in Tailoring Industries in Zanzibar: A Case of Special Department Industrial Development Unit (SDIDU). *International Journal of Economic Behavior and Organization*, 10(4), 106-112. <https://doi.org/10.11648/j.ijebo.20221004.13>
 33. Oscar, R. Alexandra, M. and Sandra, R. (2017) Mobile marketing: Conceptualization and Research Review . *Revista Escapios*, 38 (61) 26-41
 34. Olushola T. and Abiola J (2016). The Efficacy of Technology Acceptance Model: A Review of Applicable Theoretical Models in Information Technology Researches. *Journal of Research in Business and Management* 4 (11) pp: 70-83 ISSN(Online) : 2347-3002
 35. Oliveira, T., Thomas, M., Baptista, G., & Campos, F. (2016). Mobile payment: Understanding the determinants of customer adoption and intention to recommend the technology. *Computers in Human Behavior*, 61, 404-414

36. Riquelme H. E, Rios. E and. Al Enezi S. O. (2011) Drivers of three SMS ad responses. *Journal of Targeting, Measurement, and Analysis for Marketing* Vol. 20, 1, 1–15
37. Riantinia R, Tjhinb V, Atmojo R (2021). How is The Adoption of Digital Marketing Services for Smart City Application Users? *International Journal On Informatics Visualization*. 5(1) 57-62
38. Sabokwigina D, Malima G and Mpogole H (2013). SMS advertising in Tanzania: factors affecting consumer attitudes. IST- Africa conference proceedings ISBN:978-1-905824-38-0
39. Slade, E., Williams, M., Dwivedi, Y., & Piercy, N. (2015a). Exploring consumer adoption of proximity mobile payments. *Journal of Strategic Marketing*, 23(3), 209-223.
40. Tanakinjal, G., H., Deans, K., R., Gray, B., J., (2011). Intention to Adopt Mobile Marketing: An Exploratory Study in Labuan, *Asian Journal of Business Research*, 1(1), pp. 9-21
41. Tamilmani K, Rana NP, Prakasam N et al (2019) The battle of Brain vs. Heart: A literature review and meta-analysis of "hedonic motivation" use in UTAUT2. *International Journal of Information Management*. 46: 222-235.
42. Tobbin, P. (2014). Investigating the Role of Attitude in the Adoption of Mobile Data Services. *International Journal of E-Services and Mobile Applications*, 6(1), 23–43. doi:10.4018/ijesma.2014010102
43. Uwamariya (2021) Determinants of Mobile Commerce Adoption in Developing Countries: Evidence from Rwanda. Retrieved from <https://kups.ub.uni-koeln.de/54113/1/PhD%20Dissertation%20Marthe%20uwamariya.pdf>
44. Venkatesh. V, Thong, James. Y.L, and Xu, X (2012) Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology (February 9, 2012). *MIS Quarterly*, Vol. 36, No. 1, pp. 157-178, 2012, Available at SSRN: <https://ssrn.com/abstract=2002388>
45. Yamane, T. 1967. *Statistics, An Introductory Analysis*, 2nd Ed., New York: Harper and Row