



Consumer Intention Toward Participation in Proximity Marketing


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ABSTRACT

This study investigates the factors affecting consumers' attitudes toward proximity marketing and their participation intention. An online survey was conducted in the USA to test the research hypotheses, and the data were collected through crowdsourcing via Amazon Mechanical Turk (MTurk). The collected data (n=301) were analyzed using the Partial Least Square-Structural Equation Modelling (PLS-SEM). The results revealed that consumers' privacy concerns, level of knowledge, perceived benefits, and trust have a significant positive effect on their attitude toward proximity marketing, and the results also verified that consumers' attitude has a significant positive effect on their intention to participate in proximity marketing. This study is a pioneering work as it is one of the few research papers examining consumers' intention to participate in proximity marketing by measuring the effect of several variables that were not investigated adequately in the proximity marketing context.

KEYWORDS

Attitude, Intention, Knowledge, Perceived Benefits, Privacy Concerns, Proximity Marketing, Trust

INTRODUCTION

The spread of mobile devices (especially smartphones) and the increasing concentration on mobile marketing have encouraged marketers to find new and creative ways to reach their customers. According to the Group Special Mobile Association (GSMA), it is expected that in 2025, the number of mobile internet users will reach 5.05 billion, and the mobile phone sector will contribute to the world gross domestic product (GDP) of \$4.6 trillion (Almahdi et al., 2018). In business, a new form of marketing has emerged called Geo-Marketing, which is also known as location-based marketing (LBM) or proximity marketing. Proximity marketing involves targeting potential consumers with personalized messages enticing them to make a purchasing decision when the customer is within a

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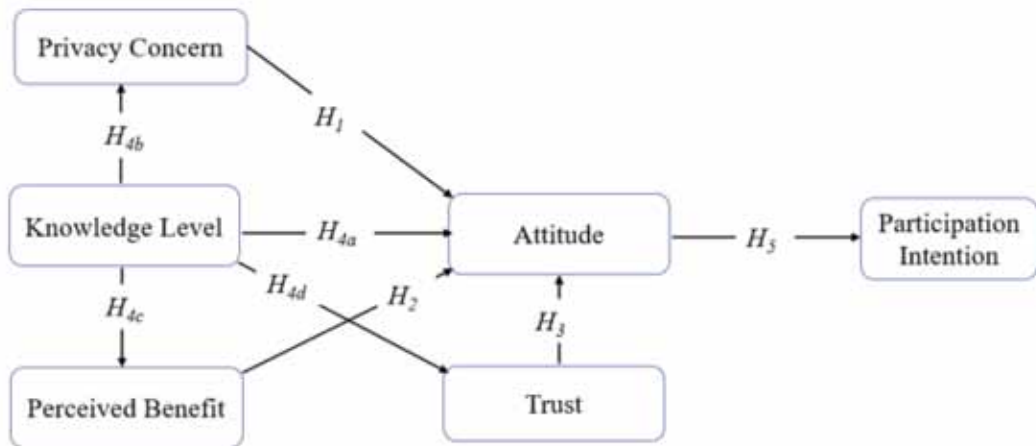
specific range of the location (Karr, 2021). Proximity marketing is also defined as the “means by which brands can deliver branded content to the mobile phones of their target audience based on an individual’s proximity to a physical location using technologies like Bluetooth and infrared and an expressed preference or interest from the individual” (Haines, 2008, p. 23). It is also a “wireless and localized distribution of advertising content related to a specific location” (Levesque et al., 2015, p. 3). Proximity marketing uses various technologies, including Bluetooth, WiFi, geo-fencing, QR codes, near-field communication, and short message service (SMS), or wireless geolocation technology such as Radio Frequency Identification (RFID) (Almahdi et al., 2018; Levesque et al., 2015). This technology accurately tracks customers’ locations through their mobile devices by reaching them at the right place and time and with the right message (Correa et al., 2021). This mobile marketing technique is gaining recognizable importance following the massive adoption of mobile devices worldwide. We are witnessing a swift change in the retail market; many brick-and-mortar retailers are struggling, especially in Omni channel markets (Willems et al., 2017). One of the main reasons for using proximity marketing is that sometimes sellers waste their efforts by sending advertising messages to uninterested customers. Thus, it is more beneficial to reach those close to the store (Gajanova et al., 2019). Moreover, proximity marketing is a timely and modern communication method which helps sellers to build personal relationships with customers, especially during store purchases (Gajanova et al., 2019). It also enables sellers to communicate their offers, discounts, and new product arrivals and send customized messages based on customers’ preferences (Almahdi et al., 2018; Margulis et al., 2017).

By researching marketers who implemented LMB marketing strategy, Statista (2023) identified the benefits which marketers enjoy. These benefits include increased sales, growth in customer base, higher customer engagement, more profound knowledge of customer needs and interest, higher response rates, and improved return on investment. Other research shows that marketers spend 25% of their marketing budgets on proximity marketing, 9 in 10 marketers said that proximity marketing led to higher sales, 86% grew their customer base, and 84% increased customer engagement (Amra & Elma, 2023). PPAI-Media (2023) also revealed that 74% of marketers agreed that location information is a critical element in understanding why and how customers interact with businesses. Because of these various benefits, the spending on proximity marketing has been increasing constantly. The revenue of the global LBM advertising market will be \$111.16 billion in 2023, and it is expected to reach \$296.82 billion at a compound growth rate of 15.1 percent by 2030 (Grand View Research, 2023). Despite these promising findings and awareness of its great potential for mobile marketing, marketers still lack an understanding of which consumer behavior attributes can influence customers’ interest and participation in proximity marketing. Marketers’ knowledge of customer perception toward proximity marketing is limited and still evolving. This valuable knowledge will help marketers optimize their proximity marketing strategy to reach their customers effectively.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Little is known about proximity marketing. It is a new phenomenon which researchers have not explored adequately, and there is a noticeable scarcity of literature on such a topic. To the best of our knowledge, this study is the first or one of the very few that investigates the factors that affect consumers’ intention to participate in proximity marketing. Thus, its findings are expected to add a valuable contribution to the literature of proximity marketing. On the other hand, no existing theory has been developed for proximity marketing, which determines the factors that affect consumer behavior in this context. Previous studies have developed their models depending on consumer characteristics and technology variables, and they tested the effect of these variables on specific issues such as consumer buying decisions, consumer loyalty, consumer adoption of new technology, and mobile payments (Appendix A). In contrast, this paper explores proximity marketing in its general context without focusing on a specific setting or technology. It introduces a model with a new combination of

Figure 1. Research Model



variables. These variables are consumers’ level of knowledge, trust, privacy concerns, and perceived benefits, as shown in Figure 1. Adding consumers’ attitudes to the model was also essential as it is an important antecedent of consumer behavioral intention based on the theory of reasoned action (TRA) (Fishbein & Ajzen, 1975). Furthermore, this study examines consumers’ intention to participate in proximity marketing, not their actual participation. As previously stated, proximity marketing is a modern concept. Therefore, it would be more logical to investigate consumers’ intentions rather than their actual participation.

It is worth mentioning that none of the previous studies have considered attitude when studying consumer behavior in the proximity marketing context. To fulfill the existing research gap on proximity marketing, this study formulates this research question: What are the antecedents of consumers’ intention to participate in proximity marketing?

To address the research question, this study investigates behavioral factors influencing consumers’ intention to participate in proximity marketing. It will examine how consumer trust, knowledge level, privacy concerns, and perceived benefit influence their participation intentions.

Consumers’ Privacy Concerns and their Attitude Toward Proximity Marketing

Privacy refers to “users’ concerns about the collection and use of their location” (Correa et al., 2021). Proximity marketing with RFID generates a massive amount of data about users (Margulis et al., 2017), and proximity-based Bluetooth technology (PBBT) asks users to turn on Bluetooth on their devices, allowing the location tracking function which causes some users to become concerned about their privacy and the disclosure of their private information. Many governments restrict the use of spy software that gathers data about users without their permission. However, proximity marketing is still in its early stages, and no clear and strict regulations control its usage. Thus, consumers are naturally concerned about privacy (Hakim & Almahdi, 2020). Additionally, consumers’ privacy tolerance depends on the level of personal innovativeness of proximity marketing and the benefits of information gathered through it (Lin et al., 2022). Privacy concern is an essential factor that has been widely examined in the context of technology as it is one of the first issues about which consumers might be concerned when considering adopting a new technology. A study by Hassaan et al. (2023) found that privacy concerns are one of the significant predictors of customers’ behavior when adopting smart banking services (SBS) in Pakistan. Moreover, Salem et al. (2019) found that privacy concerns were among the significant factors affecting Palestinian customers’ online banking use. Therefore,

it is possible to hypothesize that consumers' privacy concerns significantly influence their attitude toward proximity marketing; we will call this hypothesis H1.

Consumers' Perceived Benefit and their Attitude Toward Proximity Marketing

According to Kai-ming Au and Enderwick (2000), perceived benefits are “the adopter's belief of the likelihood that the technology can improve the economic benefits of the organization and/or the person” (p. 270). It is also defined as “the sum of online shopping advantages or satisfactions that meet an individual's needs or wants” (Loan et al., 2015, p. 16). This study adopts the first definition since it focuses on the benefits sought from technology adoption and not mainly from online shopping.

Generally, consumers who engage in services with a certain level of privacy risk always conduct a value analysis to compare the associated risk and the service's perceived benefits. If the benefits exceed the risks, they tend to relinquish some of their privacy in seeking the potential benefits (Lin et al., 2022). As mentioned earlier, proximity marketing offers fantastic benefits for retailers and consumers. For instance, a study by Nanggong (2019) found that perceived benefit significantly influences sustainable consumer behavior in technology adoption, and Almahdi et al. (2018) found that proximity marketing would be an upcoming trend in the U.S., especially in near field communication (NFC)- and short message service-cell broadcast (SMS-CB)-enabled mobile phones. This finding indicates that consumers are recognizing the benefits of proximity marketing. Thus, we posit the following hypothesis: Consumers' perceived benefit significantly influences their attitude toward proximity marketing; we will call this hypothesis H2.

Consumers' Trust and their Attitude Toward Proximity Marketing

Numerous studies have examined the impact of trust on people's adoption of various types of mobile technology. However, the effect of trust on the adoption of proximity marketing has not been adequately examined. Trust is a psychological situation that determines an individual's willingness to accept vulnerability, making them more comfortable sharing their personal information by reducing their perception of insecurity (Sharma & Lijuan, 2014). Consumers have hostile behavioral intentions toward companies that are not trustworthy. Consumers will not pay attention to advertisements that seem to manipulate their minds (Sharif et al., 2022). Trust is a vital factor that leads people to adopt modern technologies, especially those with unpredictable consequences, and it is a key variable that affects users' attitudes and behavioral intention toward adopting IT products (AlHogail, 2018). Kaushik et al. (2015) found that trust is a significant determinant of the adoption of mobile money transfers in Kenya. In contrast, Chawla and Joshi (2019) found that trust significantly impacts the consumer attitude and intention to use mobile wallets. Moreover, Slade et al. (2015) found that trust significantly influences consumers' behavioral intention to use near-field communication. Hence, this leads to the following hypothesis: Consumers' trust significantly influences their attitude toward proximity marketing; we will call this hypothesis H3.

Consumers' Knowledge Level and their Attitude Toward Proximity Marketing

Knowledge level is a “judgment process in which individuals scan memory for cues that will help them evaluate their level of product-class knowledge” (Park et al., 1994, p. 72). The role of knowledge level in predicting consumer adoption of technology is underestimated. It is logical to think about consumers' knowledge level as an important factor affecting their acceptance of new technology. This paper gives this factor greater attention and aims to investigate the influence of consumers' knowledge level on their attitude toward proximity marketing.

One of the very few studies that examines the effect of knowledge level is the study by Margulis et al. (2017), who found that consumers' knowledge level of proximity marketing positively affects their purchase intention. The higher the consumer's level of knowledge, the stronger their purchase intention. Thus, it is possible to hypothesize that consumers' knowledge level significantly influences their attitude toward proximity marketing; we will call this hypothesis H4a.

Consumers' Knowledge Level and their Privacy Concerns, Perceived Benefits, and Trust

It is logical to expect that a relationship might exist between consumers' knowledge level and their privacy concerns, perceived benefits, and trust. In general, consumers are vulnerable when engaging in any marketing activity about which they have limited knowledge, especially with the growing usage of digital marketing techniques such as online buying and geo-tracking. In these cases, consumers become more concerned about their privacy and how their personal information is being used (Swani et al., 2021). Nevertheless, some users of mobile technologies give more weight to the benefits of new technologies over privacy concerns, but this behavior is highly correlated with their level of privacy knowledge. Thus, their perceived benefits of mobile technologies might be biased by their lack of knowledge about privacy issues (Fox, 2020). For instance, individuals who are knowledgeable about a new technology and aware of the benefits it provides tend to embrace it more (Huang et al., 2021). In his study about mobile banking, Lin (2011) argues that, according to the relationship between consumers' knowledge and trust, users are sometimes fearful of trying new innovations unless they have sufficient knowledge which boosts their trust. Offering trustworthy service helps to reduce the feeling of uncertainty that users may have, but this can be achieved by making users knowledgeable about products' competency and benefits, which in turn leads to the adoption decision.

Based on the previous discussion, the following hypotheses are proposed:

- Consumers' knowledge level significantly influences their privacy concerns; we will call this hypothesis H4b.
- Consumers' knowledge level significantly influences their perceived benefits we will call this hypothesis H4c.
- Consumers' knowledge level significantly influences their trust; we will call this hypothesis H4d.

Consumers' Attitude Toward Proximity Marketing and their Participation Intention

Attitude is a balanced response toward performing some behavior (Hale et al., 2002). According to Fishbein and Ajzen (1975), a person's attitude toward a particular behavior is a result of the beliefs that a person has regarding the behavior. Attitude is one of the strong predictions of behavioral intention, and a person's intention to do a particular behavior is based on their evaluation of it (Fishbein & Ajzen, 1975). Existing literature supports the positive correlation between attitude toward technology and intention to use it, and many previous studies found a positive association between attitude and behavioral intention. For instance, Ho et al. (2020) identified attitude as one of the determinants of users' behavioral intention to adopt mobile banking. Rivera et al. (2015) found that perceived attitude toward a mobile app had the most significant effect on intent to use mobile apps. Based on this, it is possible to hypothesize that consumers' attitude toward proximity marketing significantly influences their intentions to participate in proximity marketing; we will call this hypothesis H5.

METHODOLOGY

Sample and Data Collection

The data of this study were collected through crowdsourcing via Amazon Mechanical Turk (MTurk). The survey link was posted on the MTurk site, and three conditions for participation were included in this survey. Everyone must meet those conditions to participate in this study. These three conditions entail that participant must (a) be 18 years old or above; (b) own a mobile phone; and (c) live in the U.S. There was no restriction for gender, race, income, or education level for this study. Thus, data were collected indiscriminately from different age groups, income levels, genders, educational levels, and ethnic groups within the U.S.. The survey was anonymous and no personal information

of the participants was collected in this study. The sampling methodology employed in this research closely resembles a purposive non-probability sampling approach, wherein the selection of respondents is predicated on their alignment with the research objectives and thematic context. We used G-power software to conduct a priori power analysis to determine the requisite sample size. The analysis indicated that a minimum sample size of 138 participants would be necessary to achieve a significance level (α) of 0.05, an effect size of 0.15, and a statistical power of 0.95. Nevertheless, in anticipation of potential sample size errors and the prospect of non-response among participants, data collection efforts aimed to surpass this calculated number. A total of 325 surveys were collected, out of which 16 were outliers and 8 had non-engaged errors. Outlier cases were identified by using the boxplots in SPSS. A boxplot is a graphical representation of the dataset that displays minimum, median, maximum, first quartile, and third quartile values. Any case that falls outside the boxplot is considered as an outlier. Using this boxplot method, 16 surveys were identified as outliers, which were rejected. Eight surveys were rejected because of the non-engaged errors. The participants of these eight surveys selected the same answers for all questions in the survey. After rejecting the surveys with outlier cases and non-engaged errors, a total of 301 completed surveys were considered for the final data analysis, which was conducive for partial least squares (PLS) analysis (Leguina, 2015).

Measurement Items

A self-administered survey questionnaire was developed for this study. All five constructs incorporated in this study have been adapted from established scales that exhibited high scores of reliability and validity tests in previous studies (Appendix B). A few items in the questionnaire were slightly modified from the original scale to make them suitable for this study. Questions for knowledge level construct have been self-developed as no existing scale was found for this construct. The questionnaire consists of 29 questions for those six constructs and five for demographics. All the questions included in the survey were close-ended because of their greater uniformity in responses. A 5-point Likert scale (where 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree) was used to measure all items except demographic questions. The demographic items collected basic participant information, such as gender, age, income, ethnic background, and education.

Data Analysis and Results

The data analysis in this study is conducted using Smart PLS 4, a second-generation analytical tool, as described by Hair et al. (2019). Mitigating the potential method bias stemming from single-source data collection requires adopting the recommendation proposed by Kock & Lynn (2012) which involves testing for full collinearity among the variables. Specifically, all variables are regressed against a common variable, and the absence of single-source bias is demonstrated when the variance inflation factor (VIF) is less than or equal to 3.3. The VIF values obtained from our analysis are below the threshold of 3.3. Consequently, it can be inferred that there is no discernible threat of single-source bias in the present study.

Measurement Model

The study evaluated the validity and reliability of the scale using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). In addition, the Kaiser-Meyer-Olkin (KMO) index, together with Bartlett's test, was utilized to verify that the assumptions of normality, linearity, and homoscedasticity were not violated. The KMO index was determined to be 0.829, which is above the threshold of 0.50. Additionally, Bartlett's test yielded a significant result at a p -value of less than 0.05. These findings indicate that the dataset consisting of 301 observations is suitable for conducting exploratory factor analysis (Hair et al., 2019). We applied an EFA after confirming that the assumption remained intact. We conducted a CFA after identifying 26 clear indicators. The factor loadings, as indicated in Table 1 and Figure 2, range from 0.722 and 0.883, surpassing the proposed threshold requirement of 0.70 (Hair et al., 2021). The AVE values range from 0.563 to 0.720, which exceeds the acceptable

Table 1. Measurement Model: Convergent Validity

Construct	Items	Loadings	Cronbach's Alpha	CR	AVE
Attitude	ATT1	0.874	0.870	0.911	0.720
	ATT2	0.827			
	ATT3	0.821			
	ATT4	0.870			
Participation Intention	INT1	0.877	0.847	0.894	0.679
	INT2	0.883			
	INT3	0.760			
	INT4	0.766			
Knowledge Level	KL1	0.794	0.786	0.862	0.609
	KL2	0.785			
	KL3	0.752			
	KL4	0.791			
Perceived Benefit	PB1	0.828	0.867	0.904	0.654
	PB2	0.785			
	PB3	0.792			
	PB4	0.796			
	PB5	0.840			
Privacy Concern	PC1	0.856	0.870	0.906	0.658
	PC2	0.787			
	PC3	0.821			
	PC4	0.832			
	PC5	0.757			
Trust	TRT1	0.772	0.743	0.838	0.563
	TRT2	0.722			
	TRT3	0.744			
	TRT4	0.764			

threshold requirement of 0.50 as stated by Hair et al. (2021). In addition, the composite reliability and Cronbach's α of all the latent variables exceeded the acceptable threshold of 0.70, as determined by Hair et al. (2019).

Subsequently, the analysis examines the discriminant validity. Discriminant validity assessing the extent to which items differentiate among constructs or measure distinct concepts is evaluated according to the methodology established by Franke and Sarstedt (2019), utilizing the heterotrophic to autotrophic microbial (HTMT) ratio. As indicated in Table 2, all HTMT ratios observed are below the threshold of 0.85, thus affirming the distinctiveness of the measures employed. Both evaluations collectively confirm the validity and reliability of the utilized measures in this study. Even though the correlations between some variables are slightly higher than the threshold of 0.7, the HTMT ratios confirm the discriminant validity between variables since all numbers are less than the threshold of 0.85. Thus, the high correlation between some variables is not a concern for the data quality of this study.

Figure 2. Measurement Model

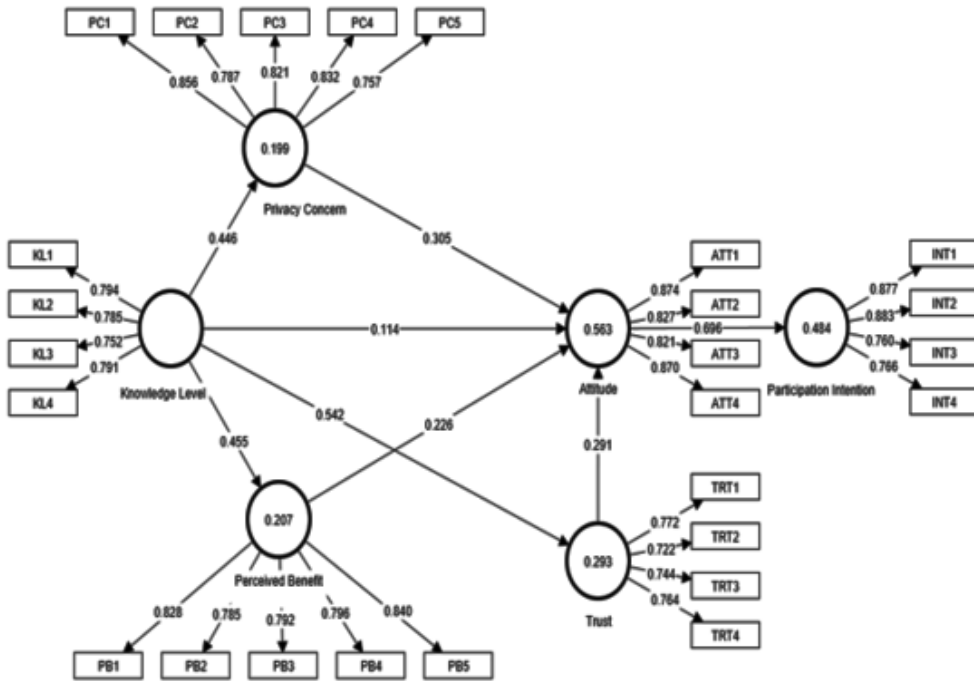


Table 2. Measurement Model: Discriminant Validity (HTMT Ratio)

Constructs	Attitude	Knowledge Level	Participation Intention	Perceived Benefit	Privacy Concern	Trust
Attitude	--					
Knowledge Level	0.616	--				
Participation Intention	0.774	0.573	--			
Perceived Benefit	0.650	0.548	0.608	--		
Privacy Concern	0.725	0.532	0.653	0.565	--	
Trust	0.786	0.692	0.725	0.587	0.699	--

STRUCTURAL MODEL

After scrutinizing the measurement model, the analysis is transitioned to the structural model, with the primary objective of investigating the connections between exogenous and endogenous variables. The assessment of the structural model encompassed several criteria, including t -values, path coefficients (β values), effect size (f^2), predictive relevance (Q^2), and the coefficient of determination (R^2). A bootstrapping procedure consisting of 5,000 resamples at a significance level of 5% (one-tailed) was also conducted to assess the hypotheses for statistical significance.

HYPOTHESES TESTING

Based on the findings presented in Figure 3 and Table 3, it is evident that all hypotheses are empirically supported. Notably, the analysis reveals that the influence of privacy concern ($\beta = 0.305$,

Figure 3. Structural Model

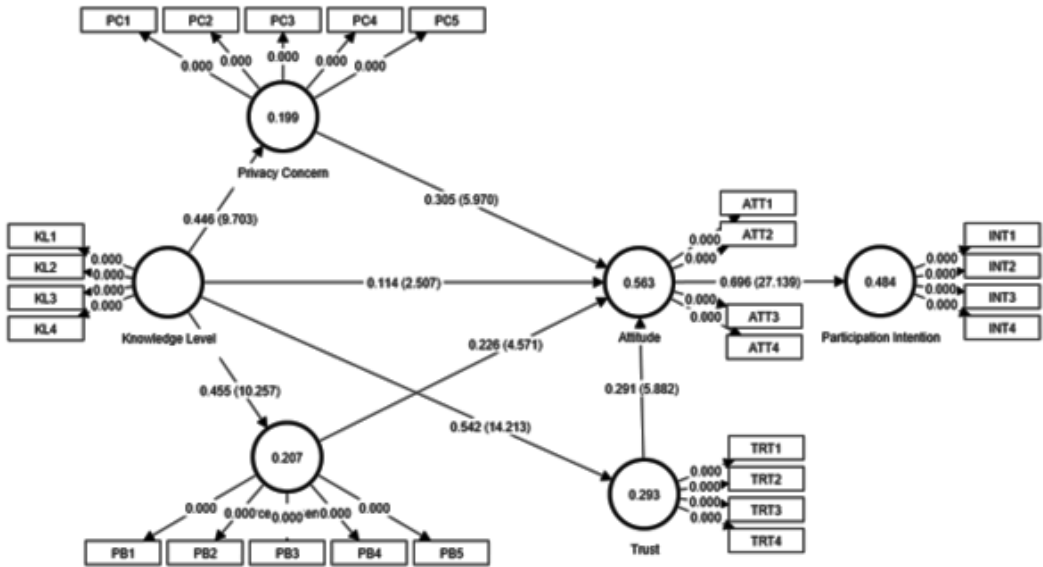


Table 3. Results of Path Analysis and Hypothesis Testing

Hypothesized Path	Estimate	t-Value	p-Value	BCI LL	BCI UL	f ²	Results
H1: Privacy Concern -> Attitude	0.305	5.970	0.000	0.206	0.405	0.128	Supported
H2: Perceived Benefit -> Attitude	0.226	4.571	0.000	0.129	0.322	0.078	Supported
H3: Trust -> Attitude	0.291	5.882	0.000	0.195	0.387	0.108	Supported
H4a: Knowledge Level -> Attitude	0.114	2.507	0.012	0.024	0.203	0.019	Supported
H4b: Knowledge Level -> Privacy Concern	0.446	9.703	0.000	0.357	0.537	0.248	Supported
H4c: Knowledge Level -> Perceived Benefit	0.455	10.257	0.000	0.368	0.544	0.261	Supported
H4d: Knowledge Level -> Trust	0.542	14.213	0.000	0.467	0.618	0.415	Supported
H5: Attitude -> Participation Intention	0.696	27.139	0.000	0.644	0.746	0.939	Supported

T-Statistics = 5.970, $p < 0.05$) on consumers' attitudes is statistically significant. Thus, H1 was accepted. Furthermore, the examination of the variables "perceived benefit" ($\beta = 0.226$, T-Statistics = 4.571, $p < 0.05$) and "trust" ($\beta = 0.291$, T-Statistics = 5.882, $p < 0.05$) demonstrates a statistically significant and positive impact on consumers' attitudes. Consequently, these results substantiate the hypotheses H2 and H3.

Hypothesis H4a is supported by the findings ($\beta = 0.114$, T-Statistics = 2.507, $p < 0.05$). Similarly, hypothesis H4b is also supported by the survey data with the following values: $\beta = 0.446$, T-Statistics = 9.703, $p < 0.05$. Moreover, hypothesis H4c is supported by the survey data with the following values: $\beta = 0.455$, T-Statistics = 10.257, $p < 0.05$. Hypothesis H4d is also supported by

the findings ($\beta = 0.542$, T-Statistics = 14.213, $p < 0.05$). Finally, consumers' attitude ($\beta = 0.696$, T-Statistics = 27.139, $p < 0.05$) exhibits statistically significant positive effects on participation intention, supporting hypothesis H5.

As shown in Figure 2, the R^2 value of consumers' attitude is 0.563, and for participation intention it is 0.484. The higher the adjusted R^2 value, the greater the ability of the exogenous variable can be, and it is elucidated by endogenous variables to better the structural equation. The attitude variable has an adjusted R^2 value of 0.563, demonstrating that 56.3% of the attitude variance is clarified by (privacy concern, perceived benefit, knowledge level, and trust) variables. However, the rest is clarified by other variables outside the research model. Participation intention has adjusted R^2 value 0.484, which means that 48.4% of the participation intention variance can be explained by attitude, while the rest is clarified by other variables outside the research model. To further test the accuracy of the prediction, the Stone-Geisser's Q^2 value with 7-omission distance is also examined. The Stone-Geisser's Q^2 of the attitude and participation intention are 0.385 and 0.302, respectively, as both are larger than zero, indicating that the model has predictive relevance for attitude and participation intention (Hair et al., 2014). The f^2 values are 0.02, 0.15, and 0.35, corresponding to small, medium, and large effect sizes respectively. They can be used following Cohen (1988) to assess the magnitude of the observed effects. Consequently, the f^2 value reported in this study suggests a spectrum of effect sizes, ranging from small to large, as shown in Table 3 (Cohen, 1988).

Moreover, concerning the sufficiency of the structural models, an analysis of the standardized root mean square residual (SRMR) based on composites has yielded a value of 0.060 in the context of Participation Intention. These results exhibit conformity with the predetermined threshold of 0.08, as delineated by Hair et al. (2016), thereby affirming the aptitude of the PLS path models in presenting a valid representation of the latent constructs inherent in the empirical dataset.

DISCUSSION

This study has investigated the factors influencing consumers' intention to participate in proximity marketing. Five factors were tested: privacy concerns, perceived benefits, trust, level of knowledge, and attitude. Based on the data analysis, all of the proposed hypotheses were accepted. For H1, it was proved that consumers' privacy concerns significantly influence their attitude toward proximity marketing ($\beta = 0.305$, $p < 0.05$). However, contrary to expectations, the effect was positive, and this could be due to consumers' perception of proximity marketing benefits that may outweigh its potential risks. Nevertheless, this result came in line with the findings of Correa et al. (2021) and Swani et al. (2021). According to H2, it was proved that consumers' perceived benefits have a significant influence on their attitude toward proximity marketing ($\beta = 0.226$, $p < 0.05$). This implies that when consumers perceive the benefits of proximity marketing, they will have a favorable attitude toward it. The study findings also supported H3: that consumers' trust in a brand influences their attitude toward proximity marketing ($\beta = 0.291$, $p < 0.05$). When consumers trust the company, they form a positive attitude towards it and tend to be more receptive to its messages. Additionally, the results supported H4_a and showed that consumers' knowledge impacts their attitude toward proximity marketing ($\beta = 0.114$, $p < 0.05$). This infers that consumers' knowledge and understanding of proximity marketing are important factors that form their attitude toward such technology. This finding is entirely consistent with the previous work of Margulis et al. (2017). Moreover, the results supported H4_b, H4_c, and H4_d as they found that consumers' knowledge significantly influences their privacy concerns ($\beta = 0.446$, $p < 0.05$), perceived benefits ($\beta = 0.455$, $p < 0.05$), and trust ($\beta = 0.542$, $p < 0.05$). In other words, as consumers' level of knowledge of new technologies increases, their privacy concerns might increase as well. This could be a result of the rapid growth of innovations that make consumers vulnerable when trying new things. This is consistent with the findings of Swani et al. (2021). Further, consumers'

knowledge about proximity marketing has a positive influence on their perception of its benefits and on their trust in such technology. These results are consistent with the findings of Fox (2020); Huang et al. (2021); and Lin (2011). Finally, consumers' attitude also has a significant positive influence on their intention to participate in proximity marketing ($\beta = 0.696, p < 0.05$), and it has the highest effect size among all variables: $f^2 = 0.939$. This implies that consumers with a positive attitude toward proximity marketing would have a significant intention to participate.

Theoretical Implications

The theoretical implications of this study lie in the following points. First, as stated earlier, there is a scarcity of studies that address proximity marketing, and this study is expected to enrich the proximity marketing literature with new findings. Second, unlike what previous studies have done, this study investigates consumers' intentions to participate in proximity marketing in its general context and without framing it with a specific technology or situation. Third, it also introduces a research model that combines a new set of factors (perceived benefits, trust, privacy concerns, knowledge level, and attitude) and measures their influence on consumers' intentions to participate in proximity marketing. Fourth, to the best of our knowledge, none of the existing studies have tested the role of consumers' attitude in the proximity marketing context. This study focuses on consumers' intentions to participate in proximity marketing. Thus, it was logical to add attitude to the research model as it is one of the main antecedents of behavioral intentions according to the theory of reasoned action. Finally, the construct of "consumers' level of knowledge" is one of the essential factors that would affect consumer's adoption of new technology, but it was barely tested in the previous studies. This study sheds light on this construct and brings new findings about how this factor affects consumers' attitude toward proximity marketing and how it affects the other factors (privacy concern, perceived benefits, and trust).

Practical Implications

The findings of this study will be helpful for marketers and retailers (of all types) who seek to increase their consumers' adoption of proximity marketing. First, the findings revealed that privacy concerns are positively correlated with attitude toward proximity marketing. This implies that consumers' perception of proximity marketing benefits seems to offset their privacy concerns. Thus, by considering the distinguished benefits of proximity marketing compared to those of traditional marketing channels, retailers should focus on improving the marketing offers provided to their customers through proximity marketing techniques. Second, trust is essential in shaping a consumer's attitude toward a brand. It should be among the main priorities of any firm to build and maintain a trustworthy relationship with customers. Third, the relationship between consumers' level of knowledge and attitude was positive and significant. However, it is not guaranteed that all customers are knowledgeable about proximity marketing. For this reason, retailers need to devote a considerable effort to enhancing consumers' knowledge about proximity marketing either in-store or through any other appropriate way of communication. Additionally, enhancing consumers' knowledge of proximity marketing is essential to improve their perception of the benefits of proximity marketing and strengthen their trust in the company.

Finally, suppose all of the previous was properly implemented. In that case, consumers will have a positive attitude toward proximity marketing, reflected in their intention to participate. In marketing, they always say that building a positive attitude is much easier than changing a negative one. Thus, a retailers' job is to do everything required to maintain this positive attitude for as long as possible.

Limitations and Future Research

All research has limitations, including this research. First, sampling and data collection were conducted exclusively in the U.S. due to the limited usage of proximity marketing worldwide. This would limit the generalizability of the research findings. Therefore, future research could be conducted to explore

the usage of proximity marketing in other countries. Second, the measurement scale of the knowledge level construct was entirely self-developed. Although its reliability and validity were tested, this opens the door to additional studies that re-examine the scale in different contexts. Third, this study lacks a solid theory that enhances the research model, as proximity marketing is an emerging topic. This paves the way for more studies to extend or re-examine the current model and enrich the literature with new insights about proximity marketing. Fourth, the modest sample size opens the door to future research which encompasses a more diverse range of respondents. Fifth, the research design adopted for this investigation was cross-sectional, and it is advisable to contemplate a longitudinal study in forthcoming research which enables data collection over an extended timeframe. Finally, the utilization of convenience sampling in the current study, as previously noted by Wright (2005), introduces the potential for selection biases. Thus, it is prudent to deliberate upon alternative sampling methodologies to mitigate such biases.

CONFLICTS OF INTEREST

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

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REFERENCES

- AlHogail, A. (2018). Improving IoT technology adoption through improving consumer trust. *Technologies*, 6(3), 64. doi:10.3390/technologies6030064
- Almahdi, H., Shamsudeen, S., & Khalufi, K. (2018). A study on customers' perception and marketing effectiveness of proximity marketing communications on NFC and SMS-CB enabled mobile phones in USA. *Journal of Mass Communication and Journalism*, 8(6). Amra and Elma. (2023). *Top location-based marketing statistics in 2023*. <https://www.amraandelma.com/location-based-marketing-statistics/>
- Chawla, D., & Joshi, H. (2019). Consumer attitude and intention to adopt mobile wallet in India: An empirical study. *International Journal of Bank Marketing*, 37(7), 1590–1618. doi:10.1108/IJBM-09-2018-0256
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Routledge.
- Correa, E. R., Arjona, E. P., Osorio, C., & Pareti, S. (2021). Factors influencing the adoption of geolocation and proximity marketing technologies. In *Proceedings of Information Technology and Systems: ICITS 2021 (Vol. 1)*. Springer International Publishing. doi:10.1007/978-3-030-68285-9_48
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *Management Information Systems Quarterly*, 13(3), 319–340. doi:10.2307/249008
- Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention and behavior: An introduction to theory and research*. Addison-Wiley Publishing Company.
- Fox, G. (2020). “To protect my health or to protect my health privacy?” A mixed-methods investigation of the privacy paradox. *Journal of the Association for Information Science and Technology*, 71(9), 1015–1029. doi:10.1002/asi.24369
- Franke, G., & Sarstedt, M. (2019). Heuristics versus statistics in discriminant validity testing: A comparison of four procedures. *Internet Research*, 29(3), 430–447. doi:10.1108/IntR-12-2017-0515
- Gajanova, L., Nadanyiova, M., Kliestikova, J., & Olah, J. (2019). The potential of using Bluetooth-based system as a part of proximity marketing in the Slovak Republic. *Marketing and Management of Innovations*, 2, 239–252. doi:10.21272/mmi.2019.2-21
- Grand View Research. (2023). *Location-based advertising market size & trends*. <https://www.grandviewresearch.com/industry-analysis/location-based-advertising-market>
- Haines, E. (2008). Brand activation and ROI using Bluetooth proximity marketing solutions in event sponsorship. *Journal of Sponsorship*, 2(1), 22.
- Hair, J. F. Jr, Anderson, R. E., Babin, B., & Black, W. C. (2019). *Multivariate data analysis* (8th ed.). Cengage.
- Hair, J. F. Jr, Howard, M. C., & Nitzl, C. (2020). Assessing measurement model quality in PLS-SEM using confirmatory composite analysis. *Journal of Business Research*, 109, 101–110. doi:10.1016/j.jbusres.2019.11.069
- Hair, J. F. Jr, Hult, G. T. M., Ringle, C., & Sarstedt, M. (2016). A primer on partial least squares structural equation modeling (PLS-SEM). *Sage (Atlanta, Ga.)*.
- Hair, J. F. Jr, Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2021). *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook*. Springer Nature. doi:10.1007/978-3-030-80519-7
- Hair, J. F., Jr., Ringle, C. M., & Sarstedt, M. (2017). Partial least squares structural equation modeling. In C. Homburg, M. Klarmann, & A. E. Vomberg (Eds.), *Handbook of market research* (2nd ed.). Sage. doi:10.1007/978-3-319-05542-8_15-1
- Hair, J. F. Jr, Sarstedt, M., Hopkins, L., & Kuppelwieser, V. G. (2014). Partial least squares structural equation modeling (PLS-SEM): An emerging tool in business research. *European Business Review*, 26(2), 106–121. doi:10.1108/EBR-10-2013-0128
- Hakim, T., & Almahdi, H. K. (2020). Impact of proximity marketing devices on buying decision-strategical approach by small and medium size retail entrepreneurs. *Journal of Management Information & Decision Sciences*, 23(3), 187–198.

- Hale, J. L., Householder, B. J., & Greene, K. L. (2002). The theory of reasoned action. In J. Price Dillard & Pfau, M (Eds.), *The persuasion handbook: Developments in theory and practice*. doi:10.4135/9781412976046.n14
- Hassaan, M., Li, G., & Yaseen, A. (2023). Toward an understanding of Pakistani customers' adoption of smart banking services: An extended application of UTAUT2 model with big brother effect and information privacy concern. *International Journal of Bank Marketing*, 41(7), 1715–1742. doi:10.1108/IJBM-09-2022-0396
- Henseler, J., Ringle, C. M., & Sinkovics, R. R. (2009). The use of partial least squares path modeling in international marketing. *Advances in International Marketing*, 20, 277–319. doi:10.1108/S1474-7979(2009)0000020014
- Ho, J. C., Wu, C. G., Lee, C. S., & Pham, T. T. T. (2020). Factors affecting the behavioral intention to adopt mobile banking: An international comparison. *Technology in Society*, 63, 101360. doi:10.1016/j.techsoc.2020.101360
- Huang, X., Lin, Y., Lim, M. K., Tseng, M. L., & Zhou, F. (2021). The influence of knowledge management on adoption intention of electric vehicles: Perspective on technological knowledge. *Industrial Management & Data Systems*, 121(7), 1481–1495. doi:10.1108/IMDS-07-2020-0411
- Kai-ming Au, A., & Enderwick, P.Kai-ming Au. (2000). A cognitive model on attitude towards technology adoption. *Journal of Managerial Psychology*, 15(4), 266–282. doi:10.1108/02683940010330957
- Karr, D. (2021). Proximity Marketing and Advertising: The Technology, Types, and Tactics, <https://martech.zone/what-is-proximity-marketing/>, Accessed January, 2024
- Kaushik, A. K., Agrawal, A. K., & Rahman, Z. (2015). Tourist behavior towards self-service hotel technology adoption: Trust and subjective norm as key antecedents. *Tourism Management Perspectives*, 16, 278–289. doi:10.1016/j.tmp.2015.09.002
- Kock, N., & Lynn, G. S. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal of the Association for Information Systems*, 13(7), 546–580. doi:10.17705/1jais.00302
- Leguina, A. (2015). *A primer on partial least squares structural equation modeling*. PLS-SEM. doi:10.1080/1743727X.2015.1005806
- Levesque, N., Boeck, H., Durif, F., & Bilolo, A. (2015). The impact of proximity marketing on consumer reaction and firm performance. In *Proceedings of 21st Americas Conference on Information Systems*. AIS.
- Limayem, M., Khalifa, M., & Frini, A. (2000). What makes consumers buy from Internet? A longitudinal study of online shopping. *IEEE Transactions on Systems, Man, and Cybernetics. Part A, Systems and Humans*, 30(4), 421–432. doi:10.1109/3468.852436
- Lin, H. F. (2011). An empirical investigation of mobile banking adoption: The effect of innovation attributes and knowledge-based trust. *International Journal of Information Management*, 31(3), 252–260. doi:10.1016/j.ijinfomgt.2010.07.006
- Lin, M. Y. C., Do, B. R., Nguyen, T. T., & Cheng, J. M. S. (2022). Effects of personal innovativeness and perceived value of disclosure on privacy concerns in proximity marketing: Self-control as a moderator. *Journal of Research in Interactive Marketing*, 16(2), 310–327. doi:10.1108/JRIM-04-2021-0112
- Loan, K. T. M., Fah, B. C. Y., & Samadi, B. (2015). Exploring customer purchasing intention over online store. *International Journal of Business and Social Research*, 5(5), 15–23.
- Malhotra, N. K., Kim, S. S., & Agarwal, J. (2004). Internet users' information privacy concerns (IUIPC): The construct, the scale, and a causal model. *Information Systems Research*, 15(4), 336–355. doi:10.1287/isre.1040.0032
- Margulis, A., Levesque, N., & Boeck, H. (2017). How do consumer characteristics impact purchase intention and brand equity when proximity marketing is involved. In *Proceedings of European Marketing Academy Conference*. EMAC.
- Nijssen, E., Singh, J., Sirdeshmukh, D., & Holzmüller, H. (2003). Investigating industry context effects in consumer-firm relationships: Preliminary results from a dispositional approach. *Journal of the Academy of Marketing Science*, 31(1), 46–60. doi:10.1177/0092070302238604

- Park, C. W., Mothersbaugh, D. L., & Feick, L. (1994). Consumer knowledge assessment. *The Journal of Consumer Research*, 21(1), 71–82. doi:10.1086/209383
- PPAI-Media. (2023). *Marketers' use of location data on the rise*. <https://media.ppai.org/ppai-newslink/marketers-use-of-location-data-on-the-rise/>
- Rivera, M., Gregory, A., & Cobos, L. (2015). Mobile application for the timeshare industry: The influence of technology experience, usefulness, and attitude on behavioral intentions. *Journal of Hospitality and Tourism Technology*, 6(3), 242–257. doi:10.1108/JHTT-01-2015-0002
- Salem, M. Z., Baidoun, S., & Walsh, G. (2019). Factors affecting Palestinian customers' use of online banking services. *International Journal of Bank Marketing*, 37(2), 426–451. doi:10.1108/IJBM-08-2018-0210
- Sharif, A., Awan, T. M., & Paracha, O. S. (2022). The fake news effect: What does it mean for consumer behavioral intentions towards brands? *Journal of Information. Communication and Ethics in Society*, 20(2), 291–307. doi:10.1108/JICES-05-2021-0044
- Sharma, G., & Lijuan, W. (2014). Ethical perspectives on e-commerce: An empirical investigation. *Internet Research*, 24(4), 414–435. doi:10.1108/IntR-07-2013-0162
- Sirdeshmukh, D., Singh, J., & Sabol, B. (2002). Consumer trust, value, and loyalty in relational exchanges. *Journal of Marketing*, 66(1), 15–37. doi:10.1509/jmkg.66.1.15.18449
- Slade, E., Williams, M., Dwivedi, Y., & Piercy, N. (2015). Exploring consumer adoption of proximity mobile payments. *Journal of Strategic Marketing*, 23(3), 209–223. doi:10.1080/0965254X.2014.914075
- Statista (2023). *Leading benefits of using location-based marketing according to industry professionals in the United States as of May 2019*. <https://www.statista.com/statistics/1040830/location-based-marketing-leading-benefits-us/>
- Swani, K., Milne, G. R., & Slepchuk, A. N. (2021). Revisiting trust and privacy concern in consumers' perceptions of marketing information management practices: Replication and extension. *Journal of Interactive Marketing*, 56(1), 137–158. doi:10.1016/j.intmar.2021.03.001
- Taylor, S., & Todd, P. (1995). Understanding information technology usage: A test of competing models. *Information Systems Research*, 6(2), 144–176. doi:10.1287/isre.6.2.144
- Varki, S., & Wong, S. (2003). Consumer involvement in relationship marketing of services. *Journal of Service Research*, 6(1), 83–91. doi:10.1177/1094670503254287
- Vlachos, P. A., Tsamakos, A., Vrechopoulos, A. P., & Avramidis, P. K. (2009). Corporate social responsibility: Attributions, loyalty, and the mediating role of trust. *Journal of the Academy of Marketing Science*, 37(2), 170–180. doi:10.1007/s11747-008-0117-x
- Willems, K., Brengman, M., & Van De Sanden, S. (2017). In-store proximity marketing: Experimenting with digital point-of-sales communication. *International Journal of Retail & Distribution Management*, 45(7/8), 910–927. doi:10.1108/IJRDM-10-2016-0177
- Wright, K.B. (2005). Researching internet-based populations: Advantages and disadvantages of online survey research, online questionnaire authoring software packages, and web survey services. *Journal of Computer-Mediated Communication*, 10(3), <https://doi.org/10.1111/j.1083-6101.2005.tb00259.x>
- Wu, S. I. (2003). The relationship between consumer characteristics and attitude toward online shopping. *Marketing Intelligence & Planning*, 21(1), 37–44. doi:10.1108/02634500310458135

APPENDIX A

Table 4. Previous Studies in Proximity Marketing

Authors	Sample	Independent variables	Dependent variables	Findings
Correa et al., (2021)	404 participants over 16 years old, cell phone users, and residents in the city of Manizales (Colombia)	Performance expectancy, effort expectancy, social influence, hedonic motivations, price value, habit	Adoption of geolocation and proximity marketing technologies	The results confirmed that hedonic motivations, performance expectation, effort expectation, and price affect user's adoption of proximity marketing
Hakim and Al Mahdi (2020)	412 Saudi Nationals and foreigners from five cities in Saudi Arabia	Proximity marketing	Buying decision	Results verified that proximity marketing has a significant impact on the buying decision of the consumer and building brand loyalty.
AlMhadi et al., (2018)	300 customers in different US states	Proximity marketing communications	NFC and SMS-CB enabled mobile phones	Proximity marketing communications, including message content, its relevancy to weekly shopping, latest information on new product arrival, price, message credibility, authenticity, and trust in the retailer, were the significant antecedents of marketing effectiveness.
Slade et al. (2015)	324 British Citizens or permanently residing in the UK who are non-adopters of proximity mobile payments	Performance expectancy, effort expectancy, social influence, facilitating conditions, habit, price value, hedonic motivation, perceived risk, trust in provider	Behavioral intention to adopt proximity mobile payments	The results showed that performance expectancy, social influence, habit, perceived risk, and trust significantly influence behavioral intention to adopt NFC mobile payments.

APPENDIX B

Table 5. Measurement Items

Constructs		References
Participation Intention		
INT1	I am willing to participate in the registration for the proximity marketing program.	Varki and Wong, (2003); Limayem et al., (2000)
INT2	I am willing to provide personal information (e.g., name, address, phone number) when registering for the proximity marketing program.	
INT3	I am willing to receive messages from the marketers who practice proximity marketing programs.	
INT4	I am willing to respond to the messages from marketers who practice proximity marketing programs.	
INT5	I am willing to consider the products for purchase offered by marketers who practice proximity marketing programs.	
Perceived Benefit		
PBF1	Participating in the proximity marketing program would allow me to compare several purchasing options and choose the best one.	Limayem et al., (2000), Davis (1989)
PBF2	Participating in the proximity marketing program would be more rewarding than other marketing programs.	
PBF3	Participating in the proximity marketing program would increase my customer satisfaction.	
PBF4	Participating in the proximity marketing program would enable me to save time.	
PBF5	Participating in the proximity marketing program would allow me to save money.	
PBF6	I think participating in the proximity marketing program is useful.	
Attitude towards Proximity Marketing		
ATT1	Participating in the proximity marketing program would be a good idea.	Taylor and Todd (1995)
ATT2	Participating in the proximity marketing program would be a pleasant experience.	
ATT3	Participating in the proximity marketing program would be a wise idea.	
ATT4	I like the idea of participating in the proximity marketing program.	
Trust		
TRST1	Companies that practice proximity marketing are in general dependable.	Vlachos et al., (2009); Nijssen et al., (2003); Sirdeshmukh et al., (2002)
TRST2	Companies that practice proximity marketing are in general reliable.	
TRST3	Companies that practice proximity marketing are in general honest.	
TRST4	Companies that practice proximity marketing are in general trustworthy.	
Privacy Concern		
PVC1	I am concerned about threats to my personal privacy today.	Malhotra et al., (2004)
PVC2	I am concerned about giving my personal information (e.g., name, phone number, address, hobbies, preferences, etc.).	
PVC3	Compared to other factors, personal privacy is very important.	
PVC4	In my opinion, proximity marketing causes serious privacy problems.	
PVC5	I am concerned about how companies will use my personal information.	
PVC6	To me, the most important thing is to keep my privacy intact from companies that practice proximity marketing.	
Knowledge Level		
KNW1	My knowledge of proximity marketing is higher than that of average consumers.	Self-developed
KNW2	I know very well what proximity marketing is.	
KNW3	I know the features, benefits, and risks associated with proximity marketing.	
KNW4	I am confident about my level of knowledge of proximity marketing.	

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