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# Modeling Consumer Behavior: Exploring the Adaptability of M-Shopping and Its Influence on Behavioral Intention and Usage

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## Abstract

This study aimed to identify the factors contributing to adaptability of M-shopping among online shoppers using the Unified Theory and Acceptance of Technology extended version (UTAUT-2). The participants of the study were selected users of mobile shopping app in the Philippines, identified using purposive sampling technique called River Sampling. The Partial Least Squares Structural Equation Model (PLS- SEM) with moderation analyses was used to gauge the hypotheses of the study. A causal-predictive research design was utilized. Tests of hypotheses showed that performance expectancy (PE), facilitating condition (FC) and trust (T) have direct effect to behavioral intention (BI) to use M-shopping while FC and BI directly affected customers' usage behavior (UB). The findings also revealed that there is a direct relationship between PE, FC, T and BI. The customer's intention to use M-shopping app is positively influenced by their perception on the performance of the app, how it facilitates their online shopping and the trust they've established in the shopping platform. Alongside with this, customer's usage behavior is positively influenced by FC and BI. As FC and BI increased, UB also increased which implies that M-shopping app must be more facilitating to increase customer's patronage. The moderation analysis results indicated that trust directly mediates the link between perceived effort expectancy and hedonic motivation (HM) to behavioral intention.

**Keywords:** *adoption of technology, M-commerce, M-shopping, trust, UTAUT 2*

## Introduction

Within the context of M-commerce, instead of using a desktop computer or laptop for shopping goods or services online, consumers use their smartphones through the online marketplace apps installed in the cellphone (Singh, 2021). M-commerce, which is a chunk of the e-commerce industry played a significant role in the economy, not just locally but also globally (Kenton, 2022; Taher, 2021). Globally, as reported by (Keenan, 2023), Amazon and e-Bay are respectively the top 1 and top 2 online marketplaces. However, locally, according to (Chan, 2023; Locad Team, 2023) the online marketplaces are dominated by Shopee, Facebook Marketplace, Lazada, Zalora, and Carousell, with Shopee having the highest monthly traffic of 74.91 million (Chan, 2023; Statista, 2023 & 2020).

With this tremendous rise of customers in the virtual market, it cannot be denied that M-commerce will eventually dominate the business industry in the future. In fact, in the United States of America (USA), sales through M-commerce hit $359.32 billion in 2021 and is expected to at least double and may reach $728.28 billion in 2025 (Insider Intelligence, 2022). The Philippines which has many internet users (Capistrano, 2021), has been into M-commerce in response to changes in the environment more so, during the COVID-19 pandemic. According to Locad Team (2023), in the Philippines online shopping is a booming industry, with expected revenue amounting to $18.16 billion in 2023, growing at a rate of 12.93%, and which is projected to reach a market volume of $29.54 billion by 2027.

With these considerable revenues, it is evident that M-commerce has already penetrated a significant part of the Philippine online industry which further indicates that Filipino consumers patronized M-commerce. As Filipinos ventured into M-shopping, they created a path of interaction with brands or products (Hogan, 2021; Quiamba & Calizo, 2019; Lemon & Verhoef, 2016), creating within them awareness, consideration, purchase/decision, retention, and advocacy of these brands/products (Pantouvakis & Gerou, 2022; Hogan, 2021). Indeed, the consumer's journey plays a vital role in the life expectancy of a product or service. It is central to every business endeavor to ensure customer delight, which is only possible if there is a deeper understanding of the customers in relation to their purchase decisions (Alotaibi, et al., 2021) which could be possible using models of technology acceptance and use like UTAUT.

The Unified Theory of Acceptance and Use of Technology (UTAUT) is deemed as the most widely accepted theory in Information Systems (IS) in many contexts of usage (Tamilmani et al., 2017). Studies using this model showed that acceptance of M- commerce is largely influenced by facilitating conditions, performance expectancy, effort expectancy and social influence (Venkatesh, et al., 2003). Extending UTAUT specific to the consumer context (UTAUT 2), habit, hedonic motivation, and price value (Venkatesh, et al., 2012) were determined as additional factors that determine intention of use and use behavior. Furthermore, perceived trust, hedonic motivation, habit, and facilitating conditions positively predict the intention to use m-commerce (Dakduk et al., 2020) among consumers within an emerging economy, but this is not true for performance expectancy, social influence, and perceived security. For studies of M-commerce within the Philippine context, it was determined by Capistrano (2021) that in tourism booking and food delivery services, trust positively influence the customer's behavioral intent to use these online services. In addition, Bernardo & Tangsoc (2019) also determined that perceived trust in the system greatly influenced intention and use behavior. Also, according to (Cudis, 2021), most Filipino shoppers prefer convenience and price in deciding what to buy. These facts indeed contributed to the advantages of M-commerce as it posits convenience among people on the go and even those staying at home (Gumasing et al., 2022).

## Conceptual Framework

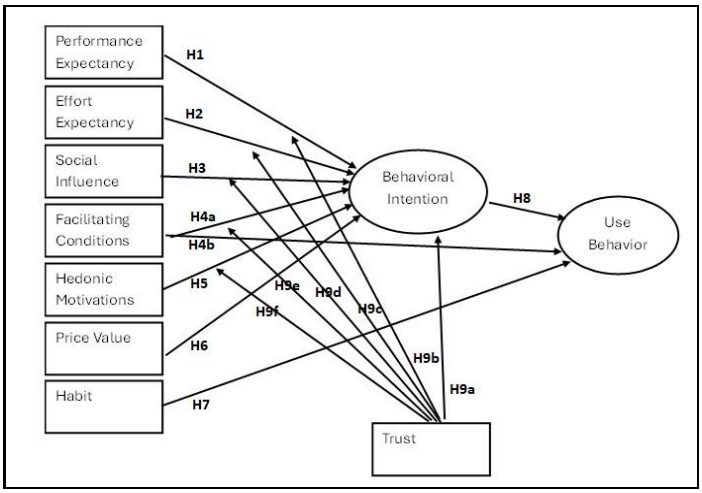


**Figure 1. The Proposed Research Model**

With the increasing trend of consumer's utilization of their mobile gadgets to browse, shop, and make purchase decisions, understanding the complexity of this mobile ecosystem is necessary, hence, the use of UTAUT 2 model in this Philippine-conducted study to explore the adaptability and trustworthiness of M-commerce for online purchases. It aimed to assess the degree of trust related to M-commerce as well as how adaptable it is with several factors, including performance expectancy, effort expectancy, social influence, facilitating conditions, hedonic motivations, price value, and habit. The study also attempted to measure perceived adaptability concerning both behavioral intention and actual usage behavior. It also looked at usage behavior and the relationship between behavioral intention and trust. Additionally, the study investigated the connections between behavioral intention and use behavior and variables such as price value, habit, performance, effort, social impact, facilitating conditions, and hedonic motivation.

## *Literature Review*

### *M-commerce and M-shopping*

M-commerce is a form of electronic commerce (e-commerce) that uses handheld wireless devices like smartphones and tablets in buying, and selling of goods and services (Yasar, 2022). Within M-commerce, is Mobile shopping (M-shopping) as defined by Marriott et al., (2017) which comprised of the shopping activity done by consumers using their wireless handheld or mobile devices, i.e., online searching, browsing, comparing, and purchasing.

### *Trust*

In the context of e-commerce, trust is defined as the "development of favorable reactions, attitudes and perceptions toward the service provider" Capistrano (2021). It is the belief and perception of customers that the company, brand, product, or service will never give them disappointments (Reza, et al., 2020; Wilson & Makmud, 2018). This happens if the promises of the company, brand, product, or service are fulfilled (Veloutsou, 2015). Users who trusted the technology application would likely achieve a positive

experience using it which would eventually lead to favorable perceptions toward the technology including its service provider.

### *UTAUT 2*

The Unified Theory of Acceptance of Use of Technology extended version (UTAUT 2) stems from the Social Cognitive Theory (SCT) of Bandura which was used to understand how social influence affected the consumers adaptation of M-shopping (Bandura, 1986). It is also aligned with the Perceived Risk Theory (PRT) which looked at consumer's perceived risks associated with M-shopping in relation to their perceived trust of the M-shopping system (Mitchell, 1999). This theory helped identify how perceived risks influence consumers' adaptability, behavioral intention, and use of M-shopping platforms. which can also be associated with Technology Acceptance Model (TAM) that deals with how user's behavioral intention to adopt a technology be influenced with their perception on its ease of use and usefulness (Marikyan & Papagiannidis, 2023; Blaise et al., 2018). When it comes to M-shopping, it examined the adaptability of mobile shopping platforms according to benefits and ease of use, as perceived by the consumers (Caushaj, 2021). After TAM, the Unified Theory of Acceptance and Use of Technology (UTAUT) was also considered to account for additional factors influencing behavioral intention and technology use.

### *Related Research*

In a study conducted by Omar, et al. (2021) on fashion clothing, it was confirmed that there are four dimensions of M-commerce: efficiency, fulfillment, responsiveness, and contact which are applicable to the retail industry. Within the customer's perspective, it was determined by Xu (2013) that age, background, and economic level impacted consumers' perception, however, gender and educational attainment level are not. Checking on M-commerce acceptability among low-income consumers in Ecuador, it was determined by Dakduk, et al. (2020) that the intent to use M-commerce is positively influenced by perceived trust, hedonic motivation, habit, and facilitating condition. And it is best predicted by facilitating conditions, while perceived trust is the second-best predictor. In the same study, it was shown that performance expectancy, perceived security, and social influence did not significantly influence consumer's use intention. This is contrary to the constructs as embodied in UTAUT2 (United Theory of Acceptance and Use of Technology), thus needing further examination and validation of the model in different countries.

In another study which took perceived security into consideration, the study of Gull (2022) among M-commerce consumers in Saudi Arabia, determined that M-commerce application use need further improvement in security. On a similar context, customer's perception of the mobile application is positively influence by an effective privacy policy (Tangsoc & Bernardo, 2019). Results of the same study also showed that based on information sensitivity of mobile shopping applications, the privacy-security perceptions of users differ. It was then suggested that M-commerce apps should have improved security infrastructure, extensive authentication mechanisms and enhance trustworthiness.

In the perspective of Filipino young consumers who considered cellular phones as one of the necessities in life (Almonte et al., 2020), it was revealed that factors such as risks, and usefulness of M-commerce influence its adoption. It was then suggested to further examine the risk factors associated in using M-commerce (Almonte, et al., 2020). As to the study of Capistrano (2021), trust was determined to contribute to the use and acceptance of e-commerce in the Philippines under the Tourism and Online Food Delivery Services. It was found out that trust significantly contributes to customer's perceptions of

their utilitarian, environmental, and hedonic expectations. It was also determined that not all these expectations significantly influence the intention to use technology. And, although the effect of effort expectancy construct may become nonsignificant over a long period of technology usage (Gupta et al., 2008, Chauhan & Jaiswal, 2016 as cited in Marikyan & Papagiannidis), this is still included in the construct of the proposed model, as M- shopping is still in the limelight of Philippine M-commerce (Bernardo & Tangsoc, 2019).

Direct evidence on the influence of trust as a moderator variable between the relationship of performance expectancy and behavioral intention is not clearly shown, however, in the study of Bernardo and Tangsoc (2019) it was determined that trust toward the shopping activity influence the adoption of smartphone shopping applications. Considering the umbrella of M- shopping which is M-commerce, trust directly influenced behavioral intention toward M-commerce (Dakduk et al., 2020). Specific to M-shopping, trust was found to directly influence behavioral intention toward M-shopping (Bernardo and Tangsoc, 2019). In addition, in the study of Capistrano (2021), it was determined that trust significantly contributes to performance expectancy in its influence toward behavioral intention to use technology.

## Methodology

This study was tailored within the Philippine context of e-commerce by examining adaptability of M-commerce among Filipino consumers especially in the B2C business (retail). It collected data using an internet-mediated, self-administered questionnaire using Google Forms. The 155 participants of this study were smartphone users who experienced online shopping using the M-commerce app installed in their mobile phone. The desired number of participants was computed using the inverse square root method by Kock & Hadaya (2018), wherein a minimum path coefficient (pmin) of 0.20 was considered at a significance level of 5% with a power of 80% (Kock & Hadaya, 2018; Hair, et al. 2021). Data were then collected using a non-probability sampling method for online sampling known as river sampling. The type of river sampling technique employed here is the purposive sampling wherein hyperlink of the survey form was placed in Facebook messenger/page and was also sent through e-mails to get the desired sample size.

It employed a predictive-causal design which is descriptive and predictive in nature (Bhandari, 2022; McCombes, 2021). The *descriptive part* described the behavior of the variables as contextualized in the study, such as the demographics of the respondents (age, income, educational attainment, online marketplaces visited, items bought online, etc.), the independent constructs (performance expectancy, effort expectancy, social influence, facilitating condition, hedonic motivations, price value, and habit), the moderating construct, "trust", and the dependent constructs (behavioral intention and use behavior). The *predictive part* dealt with modeling of the different constructs using Partial Least Squares Structural Equation Model or PLS-SEM (Kaplan, 2001). Final model of the relationship between constructs was determined based on the model as indicated in the result of the PSL-SEM procedure using appropriate statistical software available (WarpPLS).

The research instrument in this study was adopted from studies that utilized the UTAUT model, i.e., Venkatesh et al. (2012), Ghazali et al. (2017), among others. Statements in this questionnaire were modified in accordance with the context of this research. Rating SCALE used was from 1 to 5, where 5, 4, 3, 2, and 1 are respectively described as strongly agree, agree, neutral, disagree and strongly disagree. Demographic profiles of the subjects in this study were chosen by the researcher such that it would aid in

describing the consumer's characteristics with respect to utility of M-shopping applications. Of the 155 respondents, majority of them were male (53.55%); with age ranging from 30–49 years old (54.19%), with monthly income of at most 20,000 pesos (40.64%), has been using smartphone for at least 3 years (81.93%) and has been using virtual shopping app (95.48%) through their smartphone in purchasing goods online. For the demographic "interests", majority (56/155 or 36%) shops online through their smartphone for once a month, followed by on a weekly basis (42/155 or 27%), twice a month (28/155 or 18%) and so on. The "Culture" on the other hand was measured using the respondents' choice on statements pertaining to reasons of engaging in mobile shopping. Since a respondent was allowed to give multiple responses, results on this variable were ranked accordingly. It was determined that the number one (#1) reason on using the M-shopping app was "COD" feature, followed by 'with reviews", "person on the go", product facts available on same site, money back guarantee, and on sale.

The adapted instrument was subjected to a pilot testing with 50 respondents to determine reliability and internal consistency using Cronbach Alpha criterion. As cited in Tavakol and Dennick (2011), a reliable research questionnaire should have a Cronbach Alpha greater than or equal to 0.70. The requirement for internal consistency tests is to have CA of at least 0.70 (Tavakol & Dennick, 2011). Findings revealed that Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Condition, Hedonic Motivation, Price Value, Habit, Trust, Behavioral Intention, and Usage Behavior exhibited Cronbach Alpha (CA) of at least 0.73, hence all latent constructs as embodied in the research instrument are reliable. Aside from the reliability test, Face Validation of the questionnaire from 3 experts was also done to ensure validity of the items included for each construct.

## Results

Among the 10 constructs being considered, facilitating condition (FC) was rated "very high" with a mean rating of 4.21, which means the participants highly believed that vital resources, support services, and other conditions are available in their mobile gadgets where they do virtual shopping. These conditions facilitated their adoption and usage of M-shopping app that led to continued patronage and usage (Canziani & MacSween, 2021; Wong, et al., 2020; Venkatesh, et al., 2003). Likewise, the rest of the 9 constructs namely, performance expectancy (PE), effort expectancy (EE), social influence (SI), hedonic motivation (HM), price value (PV), habit (H), trust (T), behavioral intention (BI), and usage behavior (UB) were rated "high" with mean rating between 3.46 – 4.13. For reliability analysis, Cronbach's alpha (CA) and composit e reliability (CR) must be 70% and above (Tavakol and Dennick, 2011; Fornell & Larcker, 1981). On the other hand, convergent validity includes assessment of the factor loadings and average variance extracted (AVE). For factor loading each indicator must have a load of at least .50, and the corresponding p- value must be at most 0.05 (Hair et al., 2009). As for AVE, the coefficient for each latent construct must be at least 0.50 (Fornell & Larcker, 1981; Kock & Lynn, 2012). The latent constructs, PE, EE, SI, FC, HM, PV, H, T, BI, and UB have CA and CR between 77% - 95% showing reliability of these constructs since this range of values (77% - 95%) is greater than the threshold of 70%. Measuring the convergent validity through factor loading and AVE, results showed values between 0.65 – 0.95 indicating reliability and convergent validity of all latent constructs.

**Table 1. Discriminant Validity Using Fornell and Larcker (FL) Criterion**

| | PE | EE | SI | FC | HM | PV | H | T | BI | UB |
|---|---|---|---|---|---|---|---|---|---|---|
| **PE** | **0.809** | | | | | | | | | |
| **EE** | 0.691 | **0.837** | | | | | | | | |
| **SI** | 0.653 | 0.618 | **0.849** | | | | | | | |
| **FC** | 0.621 | 0.804 | 0.566 | **0.874** | | | | | | |
| **HM** | 0.498 | 0.334 | 0.332 | 0.447 | **0.938** | | | | | |
| **PV** | 0.622 | 0.547 | 0.553 | 0.637 | 0.611 | **0.895** | | | | |
| **H** | 0.639 | 0.367 | 0.399 | 0.436 | 0.691 | 0.534 | **0.929** | | | |
| **T** | 0.625 | 0.382 | 0.433 | 0.419 | 0.623 | 0.576 | 0.745 | **0.875** | | |
| **BI** | 0.677 | 0.496 | 0.459 | 0.538 | 0.581 | 0.605 | 0.786 | 0.709 | **0.836** | |
| **UB** | 0.732 | 0.576 | 0.408 | 0.609 | 0.502 | 0.559 | 0.633 | 0.599 | 0.750 | **0.820** |

Legend: *(PE – performance expectancy; EE- effort expectancy; SI – social influence; FC – facilitating conditions; HM – hedonic motivation; PV – price value; H – habit; T – trust; BI – behavioral intention; UB – usage behavior. ALL FL values are significant at p<0.001)*

With respect to the discriminant validity analysis results using the Fornell and Lacker Criterion or the commonly known as the FL criterion (Table 1), the values located on the diagonal (in bold font) are 0.820, 0.836, 0.875, 0.929, 0.895, 0.938, 0.874, 0.849, 0.837, and 0.809 which are within the range 0.820 to 0.938. Examining the values below the diagonal (off-diagonal) it is evident that the smallest is 0.332 while the largest is 0.786. Accordingly, the validity of the constructs is established when the diagonals are greater than the off-diagonal entries (Hamid et al., 2017; Fornell and Larcker, 1981). Since the range of values in the diagonal (0.820 – 0.938) is greater than the range of values in the off-diagonal (0.332 – 0.786) portion of the matrix, it suffices to conclude that the measurement model is valid.

Perceived performance expectancy ($\beta = 0.263$, $p = 0.013$) and facilitating condition ($\beta = 0.158$, $p=0.046$ significantly and directly influence perceived behavioral intention to use M-shopping (Table 2). Furthermore trust ($\beta = 0.477$, $p < 0.001$) has a highly significant direct influence toward perceived behavioral intention to use M-shopping. Also, facilitating condition ($\beta = 0.296$, $p=0.006$), and behavioral intention ($\beta = 0.518$, $p < 0.001$) has a highly significant and direct influence on usage behavior. Therefore, H1, H4a, H4b, H8 and H9a are supported. In interpreting the effect sizes of the hypothesized relationships, Cohen (1988) suggests the following: 0.02 (small), 0.15 (medium), and 0.35 (large).

Among the direct hypothesized relationships (Table 2), the influence of behavioral intention to usage behavior ($f^2 = 0.391$) exhibited substantial effect size, including the influence of trust on behavioral intention ($f^2 = 0.345$). The influence of facilitating condition to behavioral intention ($f^2 = 0.180$) as well as the influence of facilitating condition to usage behavior ($f^2 = 0.183$) all indicated medium effect sizes. The rest of the direct hypothesized relationships all indicated small effect sizes. Moreover, moderation analysis was also performed. The findings showed that trust has moderating influence on the relationship between effort expectancy and behavioral intention ($\beta=0.189$, $p = 0.048$) and hedonic motivation and behavioral intention ($\beta = 0.220$, $p = 0.033$). Therefore, H9c and H9f are supported. However, these hypothesized moderating relationships all exhibited small effect sizes.

Based on these results, the direct effects (H1, H4a, H4b, H5a, H8, and H9a), and moderation effects (H9c and H9f) of the hypothesized relationships are supported. On the other hand, direct effects (H2, H3, H5, H6, H7) and moderating effects (H9b, H9d, and H9e) are not supported.

**Table 2. Direct and Moderating Effects**

| Hypothesis | β | *P* | *SE* | *f²* |
|---|---|---|---|---|
| ***Direct Effects*** | | | | |
| H1: PE→BI | 0.263 | 0.013 * | 0.116 | 0.180 *** |
| H2: EE→BI | -0.144 | 0.119 | 0.121 | 0.075 |
| H3: SI→BI | 0.004 | 0.489 | 0.127 | 0.002 |
| H4a: FC→UB | 0.296 | 0.006** | 0.115 | 0.183 *** |
| H4b: FC→BI | 0.158 | 0.046 * | 0.120 | 0.090 |
| H5: HM→BI | 0.085 | 0.247 | 0.123 | 0.052 |
| H6: PV→BI | -0.010 | 0.467 | 0.127 | 0.007 |
| H7: H→UB | 0.103 | 0.202 | 0.123 | 0.066 |
| H8: BI→UB | 0.518 | <0.001** | 0.106 | 0.391 *** |
| H9a: T→BI | 0.477 | <0.001** | 0.108 | 0.345 *** |
| ***Moderating Effects*** | | | | |
| H9b: T Mod PE→BI | -0.005 | 0.485 | 0.127 | 0.002 |
| H9c: T Mod EE→BI | 0.189 | 0.048* | 0.119 | 0.087 |
| H9d: T Mod SI→BI | -0.065 | 0.301 | 0.124 | 0.019 |
| H9e: T Mod FC→BI | 0.150 | 0.110 | 0.121 | 0.057 |
| H9f: T Mod HM→BI | 0.220 | 0.033* | 0.118 | 0.081 |

As to R-squared ($R^2$), Chin (1998) recommended the following interpretation of the values: 0.67(substantial), 0.33(moderate), and 0.19(weak). Based on the $R^2$ coefficients of the structural model, the values are within substantial (0.79) and moderate (0.64) coefficient of determination. With respect to the measure of predictive validity ($Q^2$) of the structural model, for predictive relevance to exist in the model, $Q^2$ must be greater than zero (Kock, 2022). Results showed values of $Q^2$ for BI (0.809) and for UB (0.641) which are all greater than zero, hence, the structural model passed this $Q^2$ requirement.

Among the exogenous factors, performance expectancy and facilitating conditions exhibited significant positive direct relationship to behavioral intention. This suggests that users adopt M- shopping app that help in gaining efficiency and productivity in their mobile shopping activities. That is, consumers use M-shopping app with the hope of bettering their shopping experiences (Dwivedi et al., 2019; and Venkatesh et al., 2017) as cited in Capistrano (2021). This further implies that as the perceived performance expectation of the technology by the customers increases the more likely users accept the M-shopping technology for their virtual shopping. As determined by Chao (2019), behavioral intention to use the technology was significantly and positively influenced by performance expectancy.

Hence, PE, FC and trust directly influence the customer's intention to use M-shopping when shopping virtually. Further, the customer's BI is directed affecting their UB. Through the PLS-SEM method, it can be guaranteed that the model variance explained is maximized, hence making the model good for prediction. Moreover, moderation analysis revealed that trust has moderating influence on the relationship between EE and BI ($\beta$=0.189, $p = 0.048$) and H M and BI ($\beta = 0.220$, $p = 0.033$).

### *The Final Model*

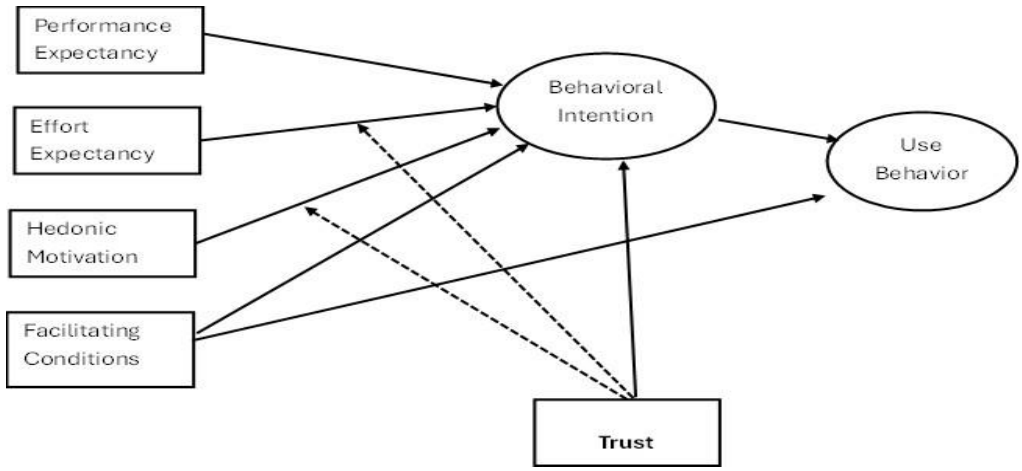


**Figure 2. The Final Cleaned Model**

Performance Expectancy (PE), Effort Expectancy (EE), Hedonic Motivation (HM), and Facilitating Condition (FC) all directly influence the Behavioral Intention (BI) of shoppers to engage in mobile shopping (Figure 1). Furthermore, FC also has a direct influence on consumer's Use Behavior (UB). This indicates that the more agreeable the consumers on these four factors (PE, EE, HM, and FC), the more they intend to use M-shopping and the more their usage of M-shopping app. With trust directly influencing the consumers BI to use M-shopping, implies that the more agreeable the consumers are that M-shopping is trustworthy, the more they intend to engage in M-shopping. Trust moderates the relationship between EE and behavioral intention to use M-shopping as well as the relationship between HM intention to use M-shopping. The indirect role of trust in moderating the relationship between EE and HM to behavioral intention to use M-shopping, indicates that the necessary features for a trusted technology should be included in the M-shopping platform for it to be adapted by consumers.

### *Conclusion and Recommendation*

The positive and direct influence of Performance Expectancy (PE) to Behavioral Intention (BI) to use M-shopping indicated a significant role of PE and BI in the decision of the consumer within the M-shopping business landscape. The positive relationship further implies that users are inclined to engage in M-shopping activities when they perceived M-shopping platform's performance to meet or even exceed their expectations. Thus, encompassing factors such as speed, efficiency, and over-all functionality of the M-shopping application are critical in influencing the consumers intention to adopt and or use M-shopping applications when they shop online. Further, the positive influence of FC to BI suggests that ease of access, availability of resources, and the support structures of M-shopping system impacted the willingness of shoppers to adopt and continue using M-shopping platforms. This further implies that aspects that compose FC such as reliable internet connectivity, convenient payment methods, and responsive customer service are necessary for consumers to adopt M-shopping ecosystems. In addition, the positive relationship between IB and UB of consumers on M-shopping, showed that UB is positively influenced by the pre-formed intentions to use the app. This suggests that businesses and M-shopping

platforms can benefit from this relationship by encouraging and maximizing positive behavioral intention among their patrons. This can be done by taking extra efforts to shape positive perceptions amongst patrons, communicate the business value proposition and ensure confidence in users to use M-shopping technology, which will eventually increase user engagement and prolonged usage of the app.

In conjunction, the direct influence of trust on behavioral intention to use M-shopping indicated the critical role of trust as a foundational element in the consumers decision to engage in M-shopping. That is when users' perception on the trust level of the M-shopping platform is high, i.e., security, reliability, credibility, etc., it creates an environment of positive BI to use M-shopping. This trust-driven BI exudes the user's confidence that the platform can give a secure and satisfactory online shopping experience. While the moderating effect role of trust in the relationship between EE and BI to use M-shopping suggests that the effect of perceived effort on BI is depending on the level of trusts in M-shopping platform as perceived by users. When the trust is high, the effect of EE on BI is also high, suggesting that consumers are more likely to overcome perceived difficulties that maybe encountered while using the app, when trust on the M-shopping is present. Also, the moderating effect of trust on the relationship between HM and BI to use M-shopping is cognizant to the level of trust users have in the platform. As user's trust on the platform increases, the positive effect of HM on consumer's intentions to engage with M-shopping becomes more evident. This suggests that trust intensified the attraction of HM and BI to use M-shopping services for non-utilitarian and enjoyment-driven reasons.

***Managerial and Theoretical Implications***

In view of the above, a User-Centric Approach (UCA) in the design, implementation, and monitoring of M-shopping app should be formulated. Even though the standardization of the M-shopping system has been thoroughly formulated, still as time evolved glitches emerge during its implementation. Using UCA, these glitches may be minimized when intended users were involved from the start of the product development. Their preferences as to functionality, aesthetic features, efficiency, among others can already be incorporated from the very beginning of product conceptualization until updating of the product version. In this way, expectations of consumers on the performance of the M-shopping app could be satisfied. Also, with UCA**,** feedback from users of the M-shopping app could be used for its further enhancement to satisfy customers. M-shopping app should include features incorporating educational facts like user guides, FAQs and tooltips since communication can empower users to navigate the M-shopping environment with confidence and ease. Businesses operating in the M-shopping domain should invest in the technological infrastructure, user interface design and M-shopping app system responsiveness, to meet the needs of the continually evolving shopping environment and the dynamic behavior of consumers.

Laws and Policies pertaining to Electronic Commerce in the Philippines, i.e., RA 8792 or the Electronic Commerce Act of 2000 as to its applicability with mobile shopping transactions should be revisited. As for legislators, attention should be placed on what transpired in every transaction between sellers, buyers, payment services, and delivery services of products available within the M-shopping platform to address issues on fraud, product quality, delivery, and payment issues. Implementing rules and regulations specific to mobile shopping should be formulated to protect consumers and sellers alike.

Further research within the context of M-shopping should be done**.** Research with similar nature should be conducted to come up with emerging factors that may propel the M-shopping ecosystem to its fullest potential. Eventually, shopping will mostly be done online and whether we like it or not, mobile shopping

is already here, within our reach through our smart cellular phone.

Vigilance of the user should be emphasized. "Think before you click", as the famous saying goes. To succeed in any online transaction, vigilance is the key. Before buying any product from a particular seller in a shopping platform, we should check on reviews and legitimacy. We should also scrutinize the way sellers respond to queries/questions from their previous clients through the feedback mechanism of the app. We should look at their transaction history as embodied in the shopping app we are dealing with. The shop app is just a platform helping us do our business the easy way. As consumers, we need to be vigilant of our individual moral and social obligations as humans, as part of the business community and as member of the online community.

**References**

Almonte, R.G., Gonzales and Natividad. (2020). M-Commerce Adoption in the Philippines: Perception of Young Consumers**.** Association of Computing Machinery; https://doi.org/10.1145/3409891.3409914

Alotaibi, R.S. (2021). Understanding Customer Loyalty of M-Commerce Applications in Saudi Arabia. *International Transaction Journal of Engineering Management, & Applied Sciences & Technologies, 12*(6), 12A6J, 1-12. http:/TUENG.COM/V12/12A6J.pdf doi:10.14456/ITJEMAST.2021.115

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Printice Hall.

Bernardo, E. and Tangsoc, J. (2019). Explanatory modeling factors influencing adoption of smartphone shopping application. Industrial Engineering Management Systems. The Korean Institute of Industrial Engineers. ISSN: 2234-6473 (online)

Bhandari, P. (2022, December 02). *What is Face Validity/Guide, Definition & Examples.* Scribbr. Retrieved December 5, 2022, from https://www.scribbr.com/methodology/face-validity/

Bhandari, P. (2022, May 7). Ethical Considerations in Research| Types and Examples. Scribbr. https://www.scribbr.com/methodology/research-ethics/

Blaise, R., Halloran, M., Muchnick, M. (2018). Mobile Commerce Advantage: A Quantitative Study of Variables that Predict M-Commerce Purchase Intentions. Journal of Internet Commerce. DOI: 10.1080/15332861.2018.1433911

Caushaj, J. (2021). Application of M-Commerce in Retail Companies in Albania – A Study of consumer behavior determinants in adopting m-commerce. Catolica Lisbon Business and Economics. Downloaded from https://repositorio.ucp.pt on April 12, 2022.

Capistrano, E.P. (2021). Trust in E-commerce Acceptance and Use: The Case of the Philippine Online Food Delivery and Tourism Booking Services. *Philippine Management Review, 28*(37-56).

Canziani, B., and MacSween, S. (2021). Consumer acceptance of voice-activated smart home devices for product information seeking and online ordering. *Comput. Human Behav.* 119, 106714. doi: 10.1016/j.chb.2021.106714

Chan, N. (2023, Nov 13). Filipino Online Shopping Behavior: Statistics & Trends You need to Know. https://www.spiralitics.com/blog/filipino-online-shopping-behavior-statistics-trends/

Cudis, C. (2021, April 13). Filipinos lap up online shopping amid pandemic: survey. The Philippine News Agency. https://www.pna.gov.ph/articles/1136660.

Dakduk, S., Santalla-Banderali, Z., and Siqueira, J.R. (2020. Acceptance of mobile commerce in low-income consumers: evidence from an emerging economy. *Heliyon 6*(2020) eo 5451. https://doi.org/10.1016/j.heliyon.2020.e05451.

Fornell, C. & Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39-50. https://doi.org/10.2307/3151312.

Ghazali, E., Soon, P.C., Mutum, D.S. & Nguyen, B. (2017). Health and cosmetics: Investigating consumers' values for buying organic personal care products. *Journal of Retailing and Consumer Services, 39*, 154-163.

Gull, H.; Saeed, S.; Iqbal, S.Z.; Bamarouf, Y.A.; Alqahtani, M.A.; Alabbad, D.A.; Saqib, M.; AlQahtani, S.H.; Alamer, A.; An Empirical Study on Mobile Commerce and Customers Security Perception in Saudi Arabia. *Electronics 2022, 11,* 293. https://doi.org/10.3390/electronics11030293

Gumasing, M.J.J., Pratseyo, Y.T., Persada, S.F., … (2022). Using online grocery applications during the COVID-19 pandemic: The relationship with open innovations. *Journal of Open Innovation: Technology, Market, and Complexity, 8*(93). https://doi.10.3390/joitmc8020093

Hair, J.F., Risher, J.J., Sarstedt, M., and Ringle, C.M. (2019). "When to use and how to report the results of PLS-SEM", *European Business Review,* Vol. 31 No. 1, pp. 2-24. https://doi.org/10.1108/EBR-11-2018-0203

Hair, J.F. Jr., Hult, G.T.M., Ringle, C.M., Sarstedt, M., Danks, N.P., and Ray, S. (2021). *Partial Least Squares Structural Equation Modeling (PLS-SEM) Using R,* Classroom Companion: Business. https://doi.org/10.1007/978-3-030-80519-7_1

Hamid, M.R. Ab, Sami, W. and Sidek, Mohmad, M.H. (2017). Discriminant Validity Assessment: Use of Fornell & Larcker criterion versus HTMT Criterion. *IOP Conf. Series: Journal of Physics Conf. Series 890.* doi: 10.1088/1742-6596/890/1/012163

Hogan, S. (June 29, 2021). What is the Customer Journey and Why Do You Need to Create One? *The Daily Egg.* https://www.crazyegg.com

Kaplan, D. (2001). *Structural Equation Modeling. International Encyclopedia of the Social & Behavioral Sciences, 15215-15222.* doi:10.1016/b0-08-043076-7/00776-2

Keenan, M. (2023, January 18). The Best Ecommerce Marketplaces for Selling Globally. Global Commerce. https://www.shopify.com

Kenton, W. (2022, March 20). Business-to-Consumer (B2C). Investopedia. https://www.investopedia.com/terms/b/btoc.asp

Kock, N. (2022). WarpPLS User Manual: Version 8.0. https://scriptwarp.com/warppls/UserMnual_v_8_0.pdf

Kock, N. & Lynn, G.S. (2012). Lateral collinearity and misleading results in variance-based SEM: An illustration and recommendations. *Journal for Information Systems, 13*(7). doi: 10.17705/1jais.00302. https://aisel.aisnet.org/jais/vol13/iss7/2

Kock, N. (2014). Advanced mediating effects tests, multi-group analyses, and measurement SEM: An illustration and recommendations. *Journal of the Association for Information Systems*, 13(7), 546-580. https://doi.org/10.4018/ijec.2014010101

Kock N., & Hadaya, P. (2018). Minimum sample size estimation in PLS-SEM: The inverse square root and gamma exponential methods. *Information Systems Journal,* 28(1)), 227 - 261.

Lemon, K.N.; Verhoef, P.C. Understanding customer experience throughout the customer journey. J. Mark. 2016, 80, 69–96.

Locad Team. (2023, May 24). Philippines' E-commerce Shoppers at a Glance. Social. https://www.golocad.com/blog/philippine-shoppers/

Marikyan, D. & Papagiannidis, S. (2021). *Unified Theory of Acceptance and Use of Technology: A review.* In S. Papagiannidis (Ed.). TheoryHub Book. http://open.ncl.ac.uk.

Marikyan, D. & Papagiannidis, S. (2023). *Technology Acceptance Model: A review.* In S. Papagiannidis (Ed), TheoryHub Book. Available at http://open.ncl.ac.uk/ ISBN:9781739604400

Marriott, H.R., Williams, M.D. and Dwivedi, Y.K. (2017). "What do we now about consumers M-shoppingbehavior?", *International Journal of Retail and Distribution Management,* Vol. 45 No. 6, pp 568 -5876. https://doi.org/10.1108/IJRDM-09-2016-0164.

McCombes, S. (2021, June 7). Research Design| A Step-by-Step Guide with Examples. Scribbr. https://www.scribbr.com/methodology/research-design/

Mitchell, V.W. (1999). Consumer perceived risks: conceptualization and models. *European Journal of Marketing, 33, 163-195.*

Omar, S., Mohsen, K., Tsimonis, G., Oozeerally, A., Hsu, J.H., (2021). M-commerce: The nexus between mobile shopping service quality and loyalty. *Science Direct, 60.* https://doi.org/10.1016/j.jretconser.2021.102468

Pandey, S. & Chawla, D. (2018). Exploring Factors that Drive Adoption of Various Categories of M-commerce: An Emerging Market Study. *Global Business Review, 21*(1). 097215091879214. doi:10.1177/0972150918792146

Pantouvakis, A. and Gerou, A. The theoretical and practical evolution of customer journey and its significance in services sustainability. Sustainability **2022**, 14,9610. https://doi.org/10.3390/su14159610

Quiamba, F.M.A. & Calizo, S.C.Jr. (2019). Determinants of e-commerce adoption of Philippine businesses. Philippine Institute for Development Studies. https://pidswebs.pids.gov.ph.

Reza, S. Mubarik, M.S., Naghavi, N., and Rub Nawaz, R. (2020). Relationship marketing and third-party logistics: evidence from hotel industry, *Journal of Hospitality and Tourism Insights.* https://doi.org/10.1108/JHTI-07-2019-0095.

Rise of M-commerce: Mobile Ecommerce Shopping Stats & Trends in 2022. April 15, 2022. Insiderintelligence.com/insights/mobile-commerce-shopping-trends-stats/

Singh, S. (2021, April 10). 5 Important Types of M-Commerce Services and Applications. https://www.4seohelp.com/types-of-m-commerce/

Statista Research Department. (2022, November 29). Leading e-commerce sites Philippines Q2 2022, by monthly web visits. https://www.statista.com

Statista Research Department (2020). Leading B2C e-commerce sites Philippines Q1 2022, by monthly websites. https://www.statista.com

Taher, G. (2021). E-commerce: Advantages and Limitations. *International Journal of Academic Research in Accounting Finance and Management Sciences, 11*(1), 153-165. doi: 10.6007/IJARAFMS/v11-i1/8987

Tamilmani, K., Dwivedi, Y.K., and Rana, N. (2017). *A Systematic Review of Citations of UTAUT2 Article and Its Usage Trends.* LCNS 10595, pp. 38b-49, 2017. Doi: 10.1007/978-3-319-68557-1_5.

Tavakol, M. and Dennick R. (2011). Making sense of Cronbach's alpha. *Int J Med Educ (2)* 53-55. doi: 10.5116/ijme.4dfb.8dfd.

Venkatesh, V., Thong, J.Y.L., & Xin Xu (2012). Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology. *MIS Quarterly 36*(1) pp. 157 – 178. https://www.jstor.org

Venkatesh, V., Morris, M.G., Davis, G.B., & Davis, F.D. (2003). User Acceptance of Information Technology. *MIS Quarterly 27*(3) pp. 425 – 478. https://www.jstor.org

Veloutsou, C. (2015). Brand evaluation, satisfaction and trust as predictors of brand loyalty: the mediator-moderator effect of brand relationships. *Journal of Consumer Marketing, 32*(6), 405 - 421.

Wilson, N., & Makmud, S.T. (2018). The Impact of Brand Evaluation, Satisfaction, Brand Relationship and Trust to Brand Loyalty: A Case Study of the Indonesian Smartphone Industry. *Jurnal Muara Ilmu Sosial, Humaniora, dan Seni 2(*2), 633 – 649. https://journal.untar.ac.id

Wong, L. W., Leong, L. Y., Hew, J. J., Tan, G. W. H., and Ooi, K. B. (2020). Time to seize the digital evolution: adoption of blockchain in operations and supply chain management among Malaysian SMEs. *Int. J. Inf. Manage.* 52, 101997. doi: 10.1016/j.ijinfomgt.2019.08.005

Xu, Hongjiang, "M-commerce development in developing country: User's perspective" (2013). *Scholarship and Professional Work – Business*. 210. https://digitalcommons.butler.edu/cob_papers/210

Yasar, K. (2022, August 05). What is m-commerce? TechTarget. https://www.techtarget.com/m-commerce