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UAE Retail Insights: Mobile Shopping Apps and Purchase Intentions via UTAUT 2 Framework

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Abstract

Mobile apps are transforming the retail business in a huge way. Considering mobile shopping apps as technology, researchers have adopted a number of technology adoption models to explore factors that impact the acceptance of apps. One of the newest models is the Unified Theory of Acceptance and Use of Technology (UTAUT 2) model that is used by researchers to analyse the factors of user acceptance and behavioural intention towards technology adoption. To examine the influence of mobile shopping apps in the UAE, the research also used the UTAUT 2 model. The study, which surveyed 200 respondents, focused on all six factors (performance expectancy, effort expectancy, facilitating conditions, social influence, hedonic motivation, and price value) and examined their impact on shopping app adoption. The research found that all factors, except for performance expectancy, significantly affect the UAE's adoption of shopping apps. The study's findings will enhance our understanding of shopping app dynamics in the UAE retail industry.

Keywords: Shopping Apps, Performance Expectancy, Effort Expectancy, Facilitating Conditions, Social Influence, Hedonic Motivation, Price Value, Unified Theory of Acceptance and Use of Technology (UTAUT 2)

Introduction

A mobile app is an interactive technology that is used by users in a number of ways. Retail companies have also begun to encourage consumers to use apps to make purchases. Over time, the retail companies started to use mobile apps as the main source of driving sales (Pantano et al., 2017). Beyond transactions, these apps serve as a medium to collect consumer feedback (Grewal et al., 2021; Moorhouse et al., 2018; Parise et al., 2016) allowing retail companies to understand consumer preferences. Additionally, these apps are also used to deliver real-time updates on promotions or offers keeping consumers engaged (Hoffmann & Mai, 2022; Riar et al., 2022). Despite the growing use of mobile apps in retail, suggest that the retail sector still has significant potential to harness shopping app capabilities (Oliveira et al., 2022; Parekh et al., 2020). This has led to increased interest in exploring how apps can be leveraged more effectively in retail business.

To better understand the impact of apps in retail, the Technology Acceptance Model (TAM) provides insights into how consumers perceive the ease of use and usefulness of the apps (Ajibade, 2018; Koutromanos et al., 2023; Li & Jiang, 2023; Marto et al., 2023). (Venkatesh et al., 2003) expanded on this by introducing the UTAUT model (as shown in Fig.

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1) with 4 variables: performance expectancy, effort expectancy, social influence, and FC to understand the likeliness of technology adoption. Later, (Venkatesh et al., 2012) refined this model into the UTAUT 2 model and included two more variables: hedonic motivation and price value (PV) enhancing the model's ability to predict user acceptance of the technology (Ayuning Budi et al., 2021; Jajić et al., 2022).

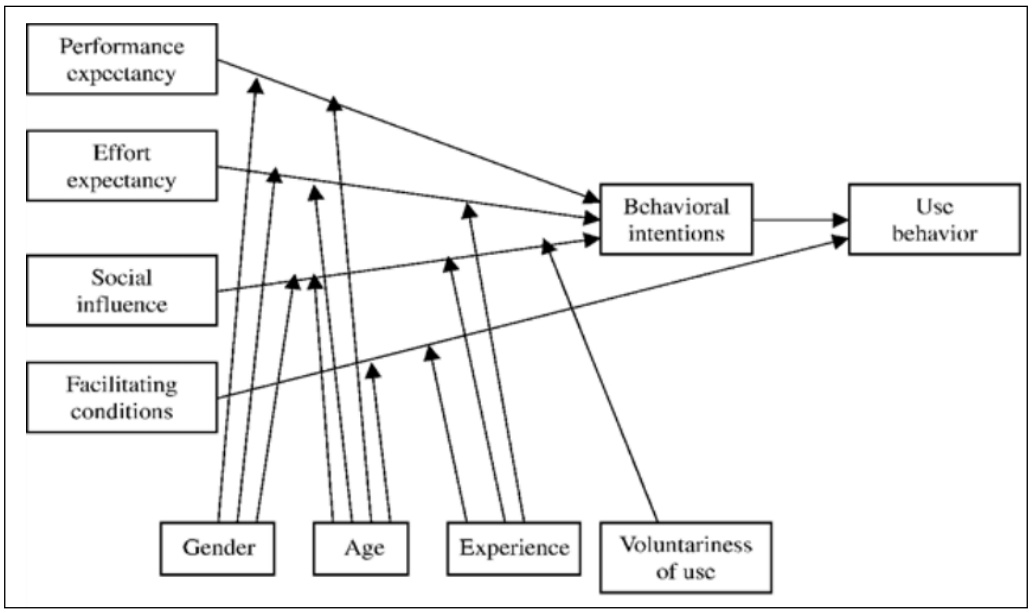

Fig. 1: The Unified Technology Acceptance and Use of Technology Theory (UTAUT) (Venkatesh et al., 2003)

Research on mobile shopping app adoption has focused on aspects that affect user acceptability and use. For example, (Taufiq-Hail et al., 2023) carried out the study by integrating the Theory of Planned Behaviour (TPB) and TAM. The finding stated that social influence had a favourable effect on consumer satisfaction and adoption behaviour for delivery services using apps. Similarly, a survey by (McKinsey, 2023) highlighted that app adoption in the UAE is popular; nevertheless, adoption in sectors like grocery and fashion lags due to demand for in-person experiences. Also, (Indrawati et al., 2022) suggests that hedonic motivation motivates consumers to use mobile shopping apps. The study builds upon the previous research and underscores the necessity of tailored and compelling experiences to encourage app adoption using the UTAUT 2 model with reference to the UAE market.

This study is structured into four sections: the first section provides a detailed literature review of the UTAUT 2 model along with the research hypotheses proposed for the study. The second section outlines the research methodology, which includes the sampling technique and sample size, data collection methods, and data analysis techniques. The findings are presented in the third section, providing an in-depth analysis of the shopping apps adoption within the context of the UAE retail market. Finally, the fourth section discusses the findings and offers recommendations based on the outcomes. By following this structured approach, the study aims to provide comprehensive outcomes of shopping app adoption in the UAE.

The UTAUT 2 Model and Research Hypotheses

Retail companies are experimenting with the integration of shopping apps in a variety of scenarios (Du et al., 2022; Flacandji et al., 2024; Stocchi et al., 2022). Apps allow consumers with regular updates and easy access to digital information (Heller et al., 2019; Rese et al., 2017). (Scholz & Smith, 2016) further demonstrated that shopping apps serve as a valuable tool for collecting consumer reviews and feedback. Moreover, (Hilken et al., 2017; Rauschnabel et al., 2019) show that these apps can also offer features, such as product reviews and offers.

Despite the growing adoption of shopping apps, there are concerns about their adoption owing to a lack of clarity

in integrating the apps technology into retail operations (Chadha et al., 2024). Research has consistently shown that an individual's desire to adopt new technology plays an important role in its acceptance (Venkatesh et al., 2003). Thus, to improve the chance of technology adoption, it is crucial to understand the factors that impact its acceptance (Rahman et al., 2017).

Although shopping apps are adopted by the retailers in the UAE, consumer adoption rates remain low (McKinsey, 2023). This research is based on the UTAUT 2 model and focuses on key factors that influence the purchase intention using shopping apps in the UAE. Additionally, the moderating variables, gender, age, experience, and voluntariness of use are removed to simplify the analysis. The proposed model is shown in Fig. 2 and allows for streamlined analysis of factors that drive the shopping app adoption in the UAE.

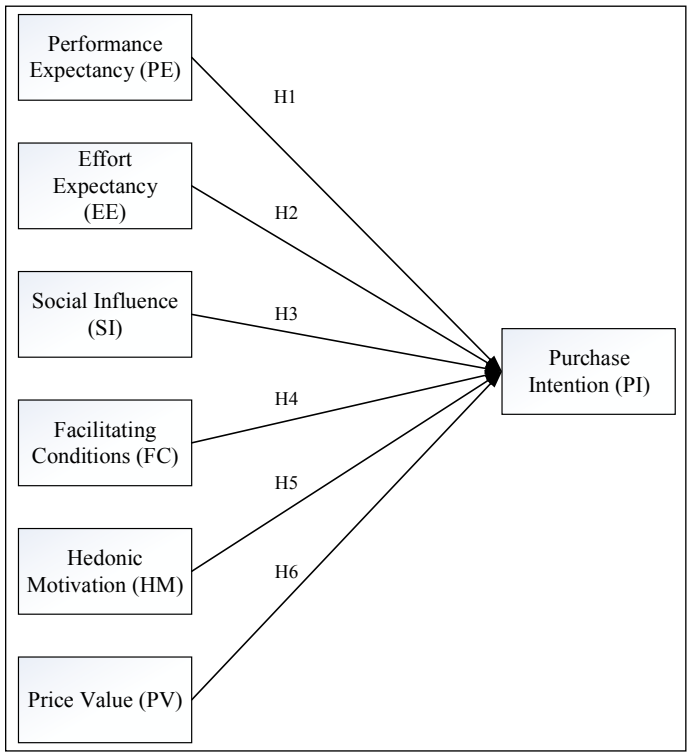

Fig. 2: Proposed Research Model and Hypotheses

Performance Expectancy

Performance Expectancy (PE) measures the consumers' expectation of using the shopping apps, which will influence purchasing decisions. Numerous studies using the UTAUT 2 model demonstrated that PE has a significant effect on purchase intention (Cabrera-Sánchez et al., 2020; Chang et al., 2016; Dewi et al., 2019; Palau-Saumell et al., 2019; Zhang & Yang, 2019). Thus, the proposed hypothesis is:

H1: PE has a positive effect on Purchase Intention in the UAE.

Effort Expectancy

Effort Expectancy (EE) refers to ease for technology adoption (Venkatesh et al., 2003), and is same as perceived ease of use from the TAM. Studies have demonstrated that EE have substantial effect on purchase intention (Chao, 2019; Dewi et al., 2019; Jiang et al., 2019; Saputra et al., 2020; Wu & Gong, 2023). The hypothesis statement is:

H2: EE has a positive effect on Purchase Intention in the UAE.

Social Influence

Social Influence (SI) is the extent to which the technology adoption is shaped by opinions of family and friends (Venkatesh et al., 2003). There are number of studies that stated that SI has a significant impact of technology adoption (Alam et al., 2022; Hoque & Sorwar, 2017; Hu et al., 2019; Huang & Hung, 2023; Pick, 2020; Yildiz Durak, 2019). The proposed hypothesis statement is thus:

H3: Social influence has a positive effect on Purchase Intention in the UAE.

Facilitating Conditions

Facilitating Conditions (FC) refer to the level of support users get when using the technology (Venkatesh et al., 2003). Several studies have highlighted the effect of FC on purchase intention (Alfanur & Kadono, 2019; Andijani & Kang, 2022; Saputra et al., 2020; Whang et al., 2021; Wong et al., 2020). On this basis, the following hypothesis has been proposed:

H4: FC has a positive effect on Purchase Intention in the UAE.

Hedonic Motivation

Hedonic Motivation (HM) is the pleasure and enjoyment consumers derive when using the technology (Pantano & Laria, 2012; Parker & Wang, 2016). The hypothesis statement is:

H5: Hedonic motivation has a positive effect on Purchase Intention in the UAE.

Price Value

Price Value (PV) is the comparison between the benefits derived from technology versus the associated costs (Venkatesh et al., 2012). Numerous studies confirm the importance of PV on technology adoption (Ashfaq et al., 2021; Ling et al., 2021; Moorthy et al., 2019; Palau-Saumell et al., 2019; Twum et al., 2021). Thus, the hypothesis statement is:

H6: Price Value has a positive effect on Purchase Intention in the UAE.

Research Methodology

This section gives the detailed description of the research methodology which includes the following components:

Research Design

The study adopts the quantitative approach to examine the relationship between the factors (as mentioned in Fig. 2 of the proposed conceptual framework) and the adoption of mobile apps for shopping in the UAE.

Population and Sampling

Target Population: The target population are the respondents from the UAE who use mobile apps for shopping.

Sampling Technique and Sample Size: A random sampling method to be used to collect the data with the sample size of 200 UAE residents.

Data Collection

Survey Development: Data is collected through the structured survey using a 7-point Likert scale for the research questions, where 1 is "strongly disagree" and 7 is "strongly agree."

Survey Administration: The survey was distributed using Google Form. The link was shared through email. To ensure that respondents can fill the form only once, the multiple entry option in Google Form was disabled.

Data Analysis Techniques

Reliability Analysis: To identify that all the factors of the UTAUT 2 model are measuring the same underlying concept, Composite Reliability (CR) and Average Variance Extracted (AVE) are used. The accepted values of CR and AVE are greater than 0.7 and 0.5, respectively.

Validity Analysis: To assess the validity of each factor of the UTAUT 2 model, the Heterotrait-Monotrait Ratio (HTMT) is used. An HTMT value of less than 0.85 is generally considered to be good discriminant validity, indicating that factors are distinct from each other.

Hypotheses Analysis: In the study, a two-tail hypotheses test is also conducted to evaluate the relationship between each factor of the UTAUT 2 model and shopping app adoption. The p-value determines the significance of results, and a p-value less than 0.05 is statistically significant.

Results

In this study, R programming is used to measure the reliability, validity, and hypothesis testing.

Reliability Analysis Results

Table 1 demonstrates the reliability analysis results using CR and AVE. Table 1 is observed that all reliability indicators meet the threshold, indicating good reliability.

Table 1: Composite Reliability (CR) and Average Variance Extracted (AVE) Results

Variables	*Composite Reliability (CR)*	*Average Variance Extracted (AVE)*
PE	1.14	0.62
EE	1.72	0.70
SI	2.09	0.76
FC	1.49	0.68
HM	2.49	0.83
PV	1.68	0.70

Validity Analysis Results

Table 2 displays the validity analysis using HTMT criteria. The outcome shows that all the variables have HTMT < 0.85, indicating the achievement of the discriminant validity criterion.

Table 2: Heterotrait-Monotrait Ratio (HTMT) Results

Variables	*PE*	*EE*	*SI*	*FC*	*HM*	*PV*
PE						
EE	0.56	0.63				
SI	0.59	0.32	0.29			
FC	0.17	0.40	0.46	0.66		
HM	0.36	0.30	0.39	0.56	0.64	
PV	0.25	0.47	0.52	0.53	0.57	0.52

Hypotheses Test Results

As given in Table 3, among the 6 proposed research hypotheses, 5 hypotheses are significant, and only one hypotheses is not supported. As shown in Table 3, effort expectancy ($\beta = 0.151$, $t = 1.973$, $p<0.05$), social influence ($\beta = 0.243$, $t = 3.016$, $p<0.05$), facilitating conditions ($\beta = 0.232$, $t = 3.068$, $p<0.05$), hedonic motivation ($\beta = 0.177$, $t = 3.137$, $p<=0.05$), and price value ($\beta = 0.149$, $t = 2.277$, $p<0.05$) has an impact on purchase intention for consumers using shopping apps in the UAE. Thus, H2, H3, H4, H5, and H6 are supported. However, performance expectancy ($\beta = 0.006$, $t = 0.079$, $p>0.05$) do not have an impact on purchase intention, therefore H1 is not supported (Fig. 3).

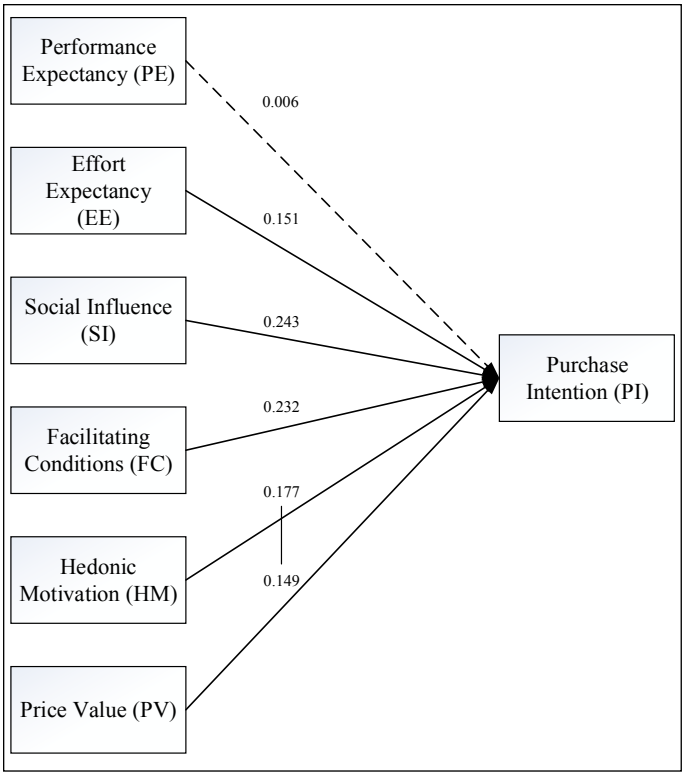

Fig. 3: Model Evaluation Results

Table 3: Hypotheses Results

Hypotheses	*Path*	*β*	*T-Values*	*P-Values*	*Supported*
H1	PE → PI	0.006	0.079	0.936	No
H2	EE → PI	0.151	1.973	0.049	Yes
H3	SI → PI	0.243	3.016	0.002	Yes
H4	FC → PI	0.232	3.068	0.002	Yes
H5	HM → PI	0.177	3.137	0.001	Yes
H6	PV → PI	0.149	2.277	0.02	Yes

Discussion and Implications

Discussion

The findings of the research disclose that effort expectancy, social influence, facilitating conditions, hedonic motivation, and PV affect purchase intentions using shopping apps in the UAE. Unexpectedly, PE did not have an impact, showing that consumers do not hold expectations from the apps. This shows the need for

retailers in the UAE to focus on app usability to improve adoption rates.

Theoretical Implications

This research expands the applicability of the UTAUT 2 model in the context of shopping apps in the UAE. The results contradict earlier assumptions regarding PE and complement understanding of dynamics driving the adoption of shopping apps. The study also addresses a gap in the literature on shopping apps adoption by highlighting the non-performance-related factor.

Practical Implications

Based on the conclusions of the study, it is clear that consumers in the UAE do not anticipate much from the apps. Thus, it is necessary for companies to develop apps for ease of use. Also, the companies ought to offer competitive pricing and provide app reliability to boost consumer satisfaction and elevate expectation. This may lead to increased shopping app adoption.

Conclusion

This study explores the factors determining purchase intentions in the UAE's retail business using shopping apps using the UTAUT 2 model. The findings demonstrate that effort expectancy, social influence, facilitating conditions, hedonic motivation, and PV impact user adoption, however PE does not. This suggests that consumers are more driven by convenience, social recognition, and satisfaction but do not expect much from these apps. For companies, it is crucial to boost user experience, focus on factors that do not fulfil consumer expectations, and attempt to improve the desires of consumers.

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