

SAUDI CONSUMERS CONTINUOUS INTENTION TOWARDS M- SHOPPING: A STRUCTURAL EQUATION MODEL

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Abstract—This paper aims to identify the consumers adoption factors of m-shopping based on the use of modified technology acceptance model (TAM) and adding extra factors from the Information System Success Model. The questionnaire survey was used to collect data from 489 consumers in Saudi Arabia. The reliability and validity of the questionnaire were tested then the strength of correlation between the different constructs was examined. Further, structural equation model was applied to determine the most important driving factors for end consumer’s adoption of m- shopping. The results showed that perceived enjoyment was the strongest factor that affects perceived satisfaction. Satisfaction was found as the factor that has the strongest effect on the customers’ intention to continue using mobile shopping. In addition, perceived usefulness, perceived ease of use, perceived risk and mobile trust have significant influence on consumer’ m-shopping continuance intentions. In contrast, the results found that there is no effect of reviews on customers’ intention to use mobile shopping. electronic document is a “live” template and already.

Keywords— *m-Shopping, acceptance, continuance intention, Saudi Arabia*

1.INTRODUCTION

Saudi market is a one of the most famous market which depends on online shopping for many reasons. The first one is that the Saudi community has a larger group of young people who used internet frequently and usually use the smart phones for all their daily activities, also they have the power and principles of e-shopping culture. Second, Saudi Arabia has the excellent infrastructure, as the Internet is being available in most regions. In addition, the growth rate of economy, mobile usage and social media activity resulted in the development of E- Commerce in Saudi Arabia [1].

Mobile Commerce is the system for purchasing and selling the usage of mobile devices. This system is based on e-trade programs through a good cell phone or tablet. We capable of down load applications, images and acquire textual content by using the cell devices. For this reason, cellular advertising is utilized by sellers, customers and others to have the direct contact with online shopping websites. There are many product categories of mobile shopping in Saudi Arabia. Some

of them are books, electronics, food, fashion and others [2].

Mobile commerce depends on the following elements, the buyer who has a smart device connected to the Internet, a secure payment method, an electronic store, an effective delivery method. These elements are the main keys to achieve the success for e-commerce system.

There is no previous studies investigated the factors that have an effect on the continuance intentions towards mobile purchasing in Saudi Arabia. In this project, we investigated the mobile buying acceptance factors and identified the most vital factors from customer perspective.

Mobile shopping has evolved in Saudi Arabia due to of the huge use of mobile phones and other smart devices among Saudi Consumers. Mobile shopping adoption in particular, is a fast growing trend. This is mainly due to the valuable advantage of using mobile phones easily anywhere and at any time. Many business organizations have started looking to offer their products and services via these devices to facilitate the goods delivery to consumers. Even though the proliferation of several applications of m-shopping via smart phones, the intention to continue using such applications is still not studied in Saudi Arabia. Thus, this project investigated the Saudi consumers acceptance of using mobile shopping by developing technology acceptance model (TAM). Additionally, the developed model was identified which factors may influence on the continuance intentions towards mobile shopping in Saudi Arabia.

Despite the widespread use of mobile shopping, there are no empirical studies on factors that influence on the continuance intentions towards mobile shopping in Saudi Arabia yet. To fill this gap, in this project we investigated the mobile shopping acceptance factors and identified the most influential factors in Saudi context.

The remainder of this paper is organized as follows: Section 2 presents some reviewed related work. Section 3 addresses the research model and hypotheses. Section 4 presents data analysis and research results. Finally, section 5 provides the conclusions and future work.

II. LITERATURE REVIEW

A. *Mobile Shopping Acceptance*

Mobile shopping is the process of purchasing the goods or services by using a mobile device across the internet [3]. Researchers concentrated on the continuance intentions of mobile shopping according cultural values of user in United States and China. The key determinants of this research based on UTAUT which was developed with perceived effort expectancy, performance expectancy, privacy protection, and mobile social influence. The research uses a sample consisted of 656 in US and 866 Chinese individual, the results were analyzed by using Partial Least Square (PLS) procedures to review the research model, including the cultural values of hypothesized antecedent. The research also adopted the product-indicator approach to test the hypothesized moderating effect from the espoused cultural values. However, the espoused cultural values didn't receive the enough enhancement from empirical data. The research data revealed that adopted cultural values were the most effective factor for mobile shopping continuance. The results of this research revealed that culture exerts have great effect on the mobile shopping continuance decision making both at the macro (country difference) and micro (individual difference as espoused

values) level.

Nassuora [4] used a quantitative technique to recognize a few elements they have an effect on the adoption of mobile commerce in Jordan primarily based on conventional era models. They executed on line and paper survey questionnaires. The study conducted survey among 160 Jordanians. The perceived aspect is the most essential aspect in leading to the adoption of m-commerce due to the fact the Jordanian customers are strongly trusting and confident about the safety procedures in mobile commerce. The study discovered that the perceived usefulness, the perceived ease of use, the perceived trust, the perceived cost and the perceived privacy elements had a high quality influence on aim to use cellular commerce.

Gupta and Arora [5] aimed at the investigation of the mobile shopping process using analysis approach of the behavioral theory, which aims to test the relative influence of reasons for, and significance of reasons against adoption of mobile shopping among Indian consumers. The results the recent study of this study emphasize the importance of examining both the pro-adoption and anti- reveal some effective factors while for enhancing marketing strategy.

As the usage of Smartphone ought to specify the customer's mobile purchasing conduct, the study [6] tries to examine the reputation factors of consumers in Germany who've experienced purchasing by smartphone. The model which turned into used on this studies was essentially gathered through individuals without m-buying reveal in; the studies didn't use the phone users. Similarly to the conventional TAM factors, the look at used a changed generation acceptance model (TAM) which showed that consumer's aim to engage in m-purchasing may be more suitable greater via the perceived enjoyment and trust inside the m-supplier which may use to specify the m-buying conduct in general. They have a look at has many barriers. First, the ease sample method which is inclusive of 128 college students, in order that, the belief ought to be distinctive. Second, there have been other appropriate factors that have been indicated by the small defined variance of 40.6% by using the proposed version which can affect m- shopping experience.

In the study [7], the outcomes of five personality traits of agreeableness, extraversion, openness to new experience, conscientiousness, and neuroticism on the usage of cell commerce. There may be an amazing influence of these five factors on person's trust and perceived usefulness and further determining goal. This research depends on the questionnaire survey for accumulating the essential. About 268 valid questionnaires have been accumulated for the survey. The studies confirmed that 28% users who're younger than two decades antique; 31.7% had been between 20 and 29, 24.3% have been among 30 and 39, and 16% had been older than 39, there are also approximately 52.2% have been male customers at the same time as 47.8% were girl. In line with the extent of training, there are about 28%, 37.3%, 22.4%, and 12.3% who joined junior excessive faculty, high faculty, partner, and undergraduate or graduated from college. The person adoption can be the result of each trust and perceived usefulness. This research has a few barriers. First, the objectives corporations are ordinarily from younger users. Second, the studies changed into performed in China, because it has a rabid improvement for cell trade. Third, the research essentially studied the principle results of personality traits on consider and perceived usefulness. Fourth, the dynamic system here is the user conduct.

Reference [8] used Expectation-confirmation model (ECM) to check the factors of mobile shopping by way of incorporating trust. The study applied about 244 questionnaires which used for amassing records for survey analysis. The findings found out that trust may conquer the limitations of ECM on predicating mobile shopping continuance and enhance the explanatory strength of preliminary ECM. There are numerous barriers; the first one is the samples which aren't representing the population as enough. The second predicament is that the studies respondents (59.02%) have only three hundred and sixty five days of enjoy in m-shopping. The remaining difficulty is that maximum examine respondents are from young university students or college who has already able to deal with the superior generation.

B. M- Shopping in Saudi Arabia

E-shopping generates possibilities for groups to get clients without delay [1]. This study examined the continuance intentions towards e-purchasing in Saudi Arabia, through investigating the effects of usefulness, enjoyment, and subjective norms on continuance goal. The survey is prepared to collect the maximum essential facts for the studies factors, and that they mounted an internet survey to ask individuals with on line and internet revel and then design the model and studies hypotheses. The researchers come up with a list of consequences from this study. First, they discovered that enjoyment, subjective norms, and perceived usefulness are the primary elements of continuance purpose, where enjoyment is the most powerful one accompanied with the aid of usefulness and then subjective norms. Second, they found that deferent of the age should be taking into account when executing any purchasing internet web page with other issues together with protection, great, payment, and language. Further, each the old and young people agree with worldwide groups greater than the local corporations in Saudi Arabia with extra trust and entertainment on continuance intention the various more youthful people. As a final concluding the look at indicates that the web purchasing may be affected through the product kind and product rate. Moreover, the website quality and trust have large secondary consequences on continuance intentions. The limitations of the research have been on line strategies cannot forget about both the direct and the indirect outcomes on continuance intentions in Saudi Arabia, the usage of an internet survey within the Saudi Arabian marketplace shows the empirical information can also result in novelty impact bias.

Reference [9] targets to illustrate a deep know-how for the patron orientation closer to e-shopping, and the most not unusual price techniques; the hazard factors concerned and the most effective gadgets were used for e-commerce. For the look at a survey of 128 Saudi customer had been implemented in three months .A established questionnaire turned into used to acquire facts series. The accumulated statistics have been analyzed depending on a few statistical tools. It indicated that most customers had concerned in e- commerce, 73% of customers are feeling e-buying as clean buying, 44% consumer use credit card as a price technique and 40% of the respondents preferred to buying produces using their mobiles and laptops whilst shopping for online. The quality of product was reported as a highest worrying element through most respondents. The study is limited to the dearth of fee and time, primarily based on some services.

Reference [10] takes a look at measuring the mindset of Saudi purchasers toward on-line shopping through numerous elements. The first one is risk factors, amongst these factors the ready time to get the products. Then comes the financial risks which consist of credit playing cards, dropping the privacy and clients aren't be able to return money if they're no longer satisfied with merchandise. additionally, product risks which include the lost for some merchandise or they're receiving products or services specific from the favored ones, additionally the language barrier because of this purchasers don't have the sufficient understanding for English language. Sooner or later the cutting-edge infrastructure isn't enough to make purchaser fully oriented towards the websites and online buying.

The basic factor which makes e-commerce so a success in Saudi Arabia is the growth in ICT marketplace, the expanded deal with net, strong retail region, and young population [11].The research right here aims to determine the barriers which have an effect on customers in Saudi Arabia to adopt e-shopping. The study illustrates those challenges facing Saudi consumers while buying on line in a simple way. It basically identifies the main troubles which were located in Saudi Arabia even as buying on line the usage of their smart-phones. The most important barriers which have an effect on customers in Saudi Arabia to adopt e-shopping are high cost of shipping, unavailability of postal address, lack of previous experience and the language.

Reference [12] presented a look at on determinates influencing shopping among women customers in KSA toward online commerce. It entails 34 Saudi Arabian ladies representing diverse historical past starting from 18 to 35 years vintage. This study is carried out to gain a complete information and knowledge on the viable factors in the back of virtual business transaction. The interview survey includes open-ended questions and analyzed via theme analysis technique. The study yields interesting findings with both trust (45 %) and risk (40%) determined to be the key indicating elements that affect purchasers' intake decision making.

Reference [13] examined information, content sharing, content access, personal attachment, and perceived value as independent factors that impact m-shopping among female Saudi customers. The author here used the quantitative technique and a survey and self-administered questionnaire to have search the m-shopping elements. Eventually, good relationship between study factors and online shopping. The trouble of this research that it's miles tested customer popularity of cell advertising inside the Saudi context; the take a look at become performed in Riyadh where the customers are extra mature than in other areas and The take a look at specializes in some factors that are greater influential in keeping with preceding studies. The sample of the study protected all Saudi girl customers the usage of cellular advertising. The research results indicates advantageous relationship between (providing records, sharing content material, gaining access to materials, perceived price) and cell advertising recognition.

Finally, we conclude from above studies that there is no research related to mobile shopping and factors that influence on the continuance intentions in Saudi Arabia. It is our mission to investigating the mobile shopping acceptance factors and identify the most influential factors in Saudi context.

III. CONCEPTUAL FRAMEWORK AND HYPOTHESIS

Most of previous research on mobile shopping acceptance used a technology acceptance model (TAM) because it has positive effect on a research results especially in context of information system. TAM can be extended to include additional factors. For this purpose, in this project we will use extended TAM model for measuring mobile shopping acceptance. We will keep the core factors in TAM (perceived usefulness and perceived ease of use). Additionally, we incorporate extra factors from IS Success model (information quality, service quality) and some factors (such as application quality, perceived risk, trust, satisfaction). This research proposes the following related hypotheses:

H1: Variety of products is positively related to perceived satisfaction.

H2: Perceived enjoyment is positively related to perceived satisfaction.

H3: Perceived ease of use is positively related to continuance intention toward mobile shopping.

H4: Perceived usefulness is positively related to continuance intention toward mobile shopping.

H5: Perceived risk is negatively related to continuance intention toward mobile shopping.

H6: Mobile trust is positively related to continuance intention toward mobile shopping.

H7: Application quality is positively related to perceived satisfaction.

IV. METHOD

A. *Survey Design*

This research used a quantitative approach with online questionnaire (cross sectional) to collect the data from public consumers in Saudi Arabia. All survey questionnaire items are adapted from previous validated research. The initial survey questionnaire drafts were sent to three experts for face and content validity assessment by experts. The feedback from the experts regarding the survey was considered in revising the survey. The prepared survey was translated from English to Arabic to get more response. The survey consists of two sections. The first section of survey is related to demographic data. The second section of survey is related to model construct items. The item is measured on a 5-point Likert scale where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

B. *Sampling and Data collection*

The number of completed questionnaire forms is 489. Table 1 shows the demographic statistics of collected data. Majority of participants (87.9%) are females, (50%) are 18 to 25 years old and (42.8%) are 26-35 years old. The Largest educational group is with bachelor degree or diploma (69.7%). The fashion is most product type bought through mobile shopping (37.9%). The sample showed that 63.9% of respondents are using the mobile shopping for purchasing purpose, not just browsing the products.

TABLE I. DEMOGRAPHIC DATA

| Measure | Item | Frequency | Percent |
|-------------------|----------------------------|-----------|---------|
| Gender | Female | 429 | 87.9 |
| | Male | 59 | 12.1 |
| Age | 18-25 years | 244 | 50.0 |
| | 26-35 years | 209 | 42.8 |
| | 36-45 years | 30 | 6.1 |
| | 46-55 years | 4 | .8 |
| | +56 years | 1 | .2 |
| Education Level | Less than high school | 8 | 1.6 |
| | High School | 69 | 14.1 |
| | Under graduate or diploma | 340 | 69.7 |
| | Post-graduate and more | 71 | 14.5 |
| Types of products | Books | 10 | 2.0 |
| | Electronics | 39 | 8.0 |
| | Foods | 29 | 5.9 |
| | Fashions | 185 | 37.9 |
| | All | 146 | 29.9 |
| | Nothing Others | 56 | 11.5 |
| Using | Just browsing the products | 23 | 4.7 |
| | Purchasing purpose | 180 | 36.9 |
| | | 308 | 63.1 |

V. DATA ANALYSIS AND RESULTS

A. The measurement model

To evaluate the constructs reliability, we used Cronbach's Alpha (CA) which is a measure internal of consistency. (CA) requires reliability value of 0.70 or above. Also, we need to know the composite reliability (CR) to test the constructs reliability. (CR) measures the different loadings of the indicators. (CR) requires a reliability value of

0.70 or above [14]. Based on the Cronbach's Alpha results, the two constructs (application quality and service quality) will be removed from the model because their reported alpha values were below the acceptable threshold of 0.7. After revision, all constructs reported alpha value above the acceptable threshold of 0.7. Also, all CR values are above the acceptable values.

Convergent validity is "the 'closeness' of a measure to its construct and is evidenced when items thought to reflect a construct converge" [14]. Convergent validity was assessed by using the Average Variance Extracted (AVE) and composite reliability for every factor. AVE was used to calculate the mean variance extracted for the construct items.

The composite reliability coefficients for all factors are greater than the critical value of 0.7. Moreover, AVE score of all factors exceeding 0.5.

Discriminant validity is "the extent to which the measurement items posited to reflect a construct

differ from those that are not believed to make up the construct" [14]. To assess the discriminant validity, we calculated the square root of Average Variance Extracted (AVE) for every factor and then comparing between the values and other factors correlations. AVE score of all factors exceeding 0.5. Moreover, the square root of AVE for each factor is greater than all correlations of other factors except one factor (convenience). The square root of the AVE for convenience factor is less than one the absolute value of the correlations with another factor.

B. Structural Equations Modelling

Structural Equations Modelling (SEM) is statistical technique for testing the hypotheses that explains relationships among factors in the model. SEM allows for testing and estimating the reliability and validity of the measurements and testing hypotheses of the model [14]. In this study, SEM used multiple regression analysis to test research hypotheses and the developed model.

The results showed that females are more likely than males to use mobile shopping especially the fashion field, because most women are usually more interested for shopping and have a desire to buy everything new than men.

First, the variety of products had a positive effect towards perceived satisfaction with ($\beta = .168$, $p \leq 0.01$). Second, perceived enjoyment had the strongest effect towards perceived satisfaction ($\beta = .511$, $p \leq 0.01$), because mobile shopping applications are not only for work purposes, it is also used for playing games, listening to music, watching videos and interacting socially. Enjoyment is thus important to include consumers' needs for pleasure and fun when examining mobile shopping acceptance. Hence, enjoyment will increase consumer's satisfaction to use mobile shopping. This result was consistent with the previous study (Chong, 2013).

Third, information quality had a positive effect towards perceived ease of use ($\beta = .418$, $p \leq 0.01$), because the mobile shopping provided up to date, relevant and accurate information (Rana et al, 2015). Fourth, information quality also have positive effect on perceived satisfaction ($\beta = .477$, $p \leq 0.01$). Fifth, perceived ease of use had a positive effect towards continuance intention to use mobile shopping ($\beta = .091$, $p = .037$). This result was consistent with other studies such as (Chew, 2006). Sixth, perceived usefulness had a positive affect towards continuance intention to use mobile shopping ($\beta = .216$, $p \leq 0.01$). This result was consistent with past studies such as (Hong et al., 2008; Wang and Hiew, 2005). Seventh, perceived risk had a negatively affect towards continuance intention to use mobile shopping with ($\beta = -.120$, $p = .005$). This means that when the perceived risk increases, the customer's intent to continue for use mobile shopping is reduced.

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