

Transformation to electronic purchasing: an empirical investigation

Mansour Naser Alraja*¹, Maryam Ali Said Kashoob²

Department of MIS, College of Commerce and Business Administration,
Dhofar University Salalah, Oman

*Corresponding author, e-mail: malraja@du.edu.om¹, mary.k9977@gmail.com²

Abstract

The main objective of this study is to determine the factors influence consumers in Oman to switch from in-store to electronic purchasing. Therefore, four constructs (perceived ease of use (PEU), perceived usefulness (PU), facilitating conditions (FC), and social influence (SI)) have been employed in this study which are adopted through the integration between UTUAT and TAM models. The respondent in this study were students from Sultan Qaboos University and Dhofar University, 537 cases have been analysed. Exploratory, confirmatory, and structural equation modelling techniques have been employed in this research using SPSS 25, AMOS 25 software. The study revealed that (PU), (FC), and (SI) have a positive and significant influence on the consumers' behavioural intention in Oman to switch into electronic purchasing. While, the findings demonstrated that there is no significant effect by (PEU) on the consumers' behavioural intention to transform from traditional to electronic purchasing. The study provides business and consumers, a good interpretation about the factors influence the transformation to e-purchasing. In addition, this paper encourages companies to shift to interaction e-purchasing portals which help businesses to target different marketplace inside and outside of country to increase sell ratio to sustain their business. However, up to the researchers' knowledge this study considered to be among the first studies which provide another clearer view of e-purchasing in Oman by incorporating selected factors from two different theories. i.e. incorporating two factors related to the use of technology with other two variables about the required technical resources, and the social effect on individuals to use new technology, thereby being unique and original.

Keywords: electronic purchasing, facilitating conditions (FC), perceived ease of use (PEU), perceived usefulness (PU), social influence (SI), TAM & UTAUT

Copyright © 2019 Universitas Ahmad Dahlan. All rights reserved.

1. Introduction

Availability of the Internet service enables consumers to buy products or services online from any place around the world. Nowadays, a lot of businesses are using electronic way to sell their products over the Internet. Most of commerce will be electronic commerce (e-commerce) in 2050 [1]. Moreover, online shopping became as one of the most important and popular application of the Internet [2]. According to Internet World Stats [3], the number of Internet users reached more than four billion and two hundred million in December 31, 2018. E-purchasing defined as the purchasing process of products or services over the Internet [4].

E-purchasing is very important Internet activity according to [4], it considers as the third most popular Internet activity. Thus, any business can increase the work profit through using online shopping by introducing quicker shopping and low prices for consumers [5]. while this may be true, some consumers, on one hand, still not use online shopping because of lack of trust [6], lack of security, inability of consumers to touch the product, shortage of the product information [7], and privacy and security [8]. On the other hand, with the wide prevalence of Internet, the expectations and demand of customers have been changed and they look to purchase products and services with less prices [9]. More, e-purchasing features attract many consumers to buy products or services online. Moreover, The availability of online shopping enables the consumers to purchase any products at 24 hours by 7 days from their houses and get anything they need easily over the Internet, particularly products or services which are not available in their regions or countries [10, 11], and with lower prices, convenience, different selections, original services and special intention to each consumer [12]. In addition, online stores provide links with more details about the products like text, photos, and multimedia files of the product [13]. Furthermore, Customer's acceptance of electronic purchasing (e-shopping)

is very important because of work stress these days. In addition, fast and cheap delivery especially on regional level, and no sales tax [14].

The major types of products that the consumers purchase online are clothes, gifts, electronic goods, travel arrangements, books and products for hobbies [15]. According to Center for the Digital Future (CDF) report 2016, 51% of buyers purchase books online. The usage of printed books is decreased and mainly preferred from the perspective of reading physiology involves high portability, excellent readability, ease of use, and accepted price [16]. The patrons prefer print books more than e-books but sometimes it depends on the disciplines of the readers [17]. The process of replacing traditional textbooks by electronic textbooks is carrying on [18]. The two types of books are preferred for readers [19]. The e-textbook is equal to printed textbook and consider as the main learning sources [20].

The intention to transform to e-purchasing affected by perceived ease of use, usefulness, enjoyment, behavioural control, and social influence [21]. From other perspective online shopping affected by age, perceived usefulness, income, education and marital status [22]. To enumerate, 79% of the respondents have the intention to use online shopping in near future and 90% of them have an idea about online shopping sites but only 38% purchased products online because of lack of security, uncompleted information about the products, inability to touch and test the product, unattractive displays and layouts [7]. Not only-but also, consumers' attitudes toward electronic shopping is affected by trust, perceived website image, perceived website reputation and relative advantage but trust, relative advantage and perceived website image are the main factors that affect online shopping attitudes by 26% of variation [23]. Likewise, the major factors that affect the intention to adopt electronic purchase are privacy/security and customer service [24]. More, convenience and social influence have significant impact on change the consumers' intention but still cost is the main obstacle to change the consumers' intention toward reading e-book [25]. Moreover, perceived ease of use, usefulness and trust have significant impact on online shopping [26]. Further, purchasing intention affected by information richness, extended offers and retailer brand [27].

In general, e-purchasing increases day by day around the world [28]. Whilst, in Oman context some previous studies indicate that many consumers in Oman still not convinced to use ecommerce [29]. But this study integrated only between risk factors and Tam model, where the research model was tested only using multiple regression analysis. More, e-purchasing in Sultanate of Oman is facing a lot of challenges. However, some of those obstacles has been studied by many researchers. In her study [30] tried to determine the main barriers to growth and transformation to online shopping. But the study failed to gain good sample, only 125 questionnaires were valid for analysis from the collected quantitative data, while for qualitative data only eight interviewees had conducted half of them non-online shoppers. This makes the results generalization questionable. More, the collected data had analysed using descriptive statistics. Whilst, the investigated constructs are internet usage, convenience and risk perception, spending intention, and payment methods preferred. Another try to identify the variables that are behind adopting mobile commerce in Sultanate of Oman. Whatever, the data was collected from only 89 respondents, which is again questionable while generalizing the results. Even though, the process of data collection expands over two years (2013 & 2014) which is considered a long period in technology life cycle. Further, the study hypotheses were tested using descriptive statistics only [31]. An initial attempt to determine some predictors of Omani consumers' readiness to adopt online shopping. whoever, this study explored Perceived Efforts of Search and Evaluation, Perceived Price Search, and Perceived Channel Risk, where they showed significant effect, but sample size was 191 and selected from one region (Dhofar governorate), and the statistical analysis all are affecting the results. Another study indicated that many consumers in Oman still not fully convinced to use e-commerce [29]. But this study integrated only between risk factors and Tam model, where the research model was tested only using multiple regression analysis. A study conducted in Oman about adopting e-government, investigated two factors (Social influence, and Facilitating Conditions) where both of them have positive affect on users intention to adopt the electronic services provided by government, but the main issue is that the targeted respondents for this study were the employees even though they have been investigated from individuals' perspective, not as representatives of government institutions, but still there is a room for bias [32]. In his study Shatat [33] attempted to explore what drives consumers in Oman to adopt e-services, though the response rate was to some extent good, but the collected data represent only one specific area called Al-Batina north

region. More, the data analysed using correlation and multiple regression tests. Moreover, the main questionable result is that the cultural and social issues do not affect users to adopt e-services in such community (Omani community) which has a very good and strong relationships and social interactions.

In the same context of the reviewed studies which are conducted in Omani environment, this study comes to address the weakness of the previous works and sheds the light on other factors drive people to adopt and use e-shopping in Oman context through investigating some other constructs using data collected from different areas in Oman (Muscat and Dhofar which are the biggest governorates in Sultanate of Oman) using advanced statistical analysis such as exploratory factor analysis, confirmatory factor analysis, and structural equation modelling.

Thereby, this paper provides another clearer view of e-purchasing in Oman by incorporating selected factors from two different theories. I.e. incorporating two factors related to the use of technology which are adopted from technology acceptance model, with other two variables about the required technical resources, and the social effect on individuals to use new technology from unified theory of acceptance and use of technology. Therefore, the scope of the study is to identify the consumers' perceptions about the use of e-shopping. More, the study hopes to provide, both business and consumers, a good interpretation about the factors influence the transformation to e-purchasing. In specific, how to eliminate consumers fear and fulfil their favours. In addition, this paper helps the firms and educational institutions to know if Omanis in general and students in Oman are ready to buy books online regardless the book they want is printed textbook or e-book, and encourage companies to shift to interaction e-purchasing portals which help businesses to target different marketplace inside and outside of country to increase sell ratio to sustain their business.

The remainder of this paper covers five sections as following: Second section is literature review. Third section is methodology of the study. Fourth section is the results of the research tool. Fifth section is the dissection of the results. Sixth section is conclusion of the research. The last section is the Acknowledgements.

2. Literature Review

The researchers conducted many studies on the consumers' intention to adopt and use information technology and online services by using different models such as Technology Acceptance Model (TAM) and Unified Theory of Acceptance and Use of Technology (UTAUT). However, TAM is the most popular research model used to study the consumer's behaviour toward using and accepting technology systems [34, 35]. This model has been first suggested by Davis [36]. Meanwhile, Unified Theory of Acceptance and Use of Technology (UTAUT) model has been developed by [37] to study the individual's knowledge about new information technology and his behaviour toward this technology.

The current paper derived new model relying on the above-mentioned models. I.e. the paper integrated between perceived usefulness, perceived ease of use, facilitating conditions, and social influence to empirically investigate the consumers' intention to transform to e-purchasing. Perceived Usefulness: refers to the benefits that the consumer will get from using the system [36]. A lot of studies conduct on the intention and acceptance of online services. The perceived usefulness is one of the factors that studied to find out if the system is useful for the consumers. Consumers will continue using online shopping if they found that it is useful for them [38, 39]. More, perceived usefulness has a significant impact on the continuance intention to use e-shopping [40].

H1: *Perceived usefulness positively influence consumers in Oman to switch from in-store to electronic purchasing.* Perceived Ease of Use: defined as to what extent the individual believes that the system is easy to use [36]. Many researchers used this factor to study the intention and acceptance of using new information technology systems in different fields through knowing the usability of the system for the users. Perceived ease of use was integrated with many different factors to study the usability of the system and they found that it has a significant impact on the consumers' intention toward online shopping [41, 42]. Among different variables, ease of use is an important factor that affects the purchasing intention of consumers over the Internet [43].

H2: *Perceived ease of use positively influence consumers in Oman to switch from in-store to electronic purchasing.* Facilitating Conditions: initial and technical resources required to support new technologies which enable users to use new information systems [44]. This variable has been studied in many different contexts in different fields. Facilitating conditions have direct impact on the intention and usage behaviour in context of ICT adoption [45]. Moreover, facilitating conditions is one most important factor affects the consumer's intention to shop online [46]. H3: *Facilitating condition positively influence consumers in Oman to switch from in-store to electronic purchasing.*

Social Influence: the variable shows the effect of others on the individual's intention to use the new system especially the individuals with strong relationships [37]. Social influence reflects the impact of others on our decisions depending on their personal experience, thinking and believes. Many researchers found that social influence has a significant influence on the intention to accept new technologies. Social influence has a positive impact on the usage behaviour of the system in context of knowledge sharing behaviour [47]. Further, social belief has significant impact on consumers' intention to shop online [48]. Furthermore, one of the major factors that drive the older adults toward online shopping is social influence [49]. H4: *Social influence positively influence consumers in Oman to switch from in-store to electronic purchasing.* However, Figure 1 represent the constructs of the adopted model which expected to have a positive influence on consumers in Oman to switch from in-store to electronic purchasing.



Figure 1. Research model

3. Research Method

The study aims to specify whether the consumers in Oman are ready to adopt electronic purchasing, and to identify the main factors that affect them to switch to e-purchasing. In this regard, the study integrated between UTAUT and TAM models by adopting the following constructs perceived ease of use, perceived usefulness, facilitating conditions, and social influence. The primary data has been collected through distributing the survey manually to the respondents, who are the students from Sultan Qaboos University located in Muscat and Dhofar University which is located in Dhofar governorate, the main objective of selecting those two Universities is they are located in the biggest governorate in Oman and the students in those universities are from all governorates in Oman. On the other hand, the items of the distributed questionnaire had been prepared based on previous studies [26, 32, 37, 50].

The number of questionnaires that had been distributed was 696 questionnaires, a number of 159 questionnaires out of the completed questionnaires were rejected because some respondents gave the same answer to all questions, no answers for some questions, or/and others gave more than one answer to a question that must have only one answer. Therefore, the accepted questionnaires for the subsequent analysis were 537 questionnaires with a rate of (77.2%), this response rate is considered a very good rate in the field of Information Systems. The questionnaire's questions were prepared in English language. Then the questions had been translated to Arabic language to make sure that the respondents will be able to understand and answer the questionnaire because the Mother tongue of our respondents is Arabic language. Before distribution the questionnaire had been reviewed by set of faculty members in Dhofar University. After getting their feedback, the researchers made some amendments on the questionnaire items, then the questionnaire had been distributed to respondents. In the questionnaire paper we mentioned that all the data that given by the respondents are secured and used for scientific purposes only. Five-point -Likert scale used was, ranging from 1 (strongly disagree) to 5 (strongly agree). In addition, the survey divided into two parts, the first for demographic data, while the second for variables items. 54.6% of the respondents were female, the participants' age ranged between 18 to more than 43. Further,

prior to test the study hypotheses all the proper statistical tests for confirming the validity and reliability of the measure and research data has been run, e.g. reliability, normal distribution, construct validity, convergent validity, and common method bias. Furthermore, the structural equation modelling was used to test the study hypotheses. I.e. identify the effect of adopted factors on The Omanis' intention to adopt e-purchasing.

4. Results and Analysis

The statistical test Cronbach's alpha was performed to proof the internal consistent of the research constructs, as it seen in Table 1 all the variable reached the acceptable level (0.70) [51]. Further, the normal distribution has been checked using Skewness and Kurtosis statistics tests, the results were within the acceptable rang +2 and -2 [52]. However, Table 1 illustrate that all the loadings of the scale items on their associated factors were above 0.40 [53]. Furthermore, the collected data was suitable for performing Exploratory Factor Analysis (EFA) through Kaiser-Meyer-Oklun (KMO) test of sampling adequacy and Bartlett's test of Sphericity. Table 2 shows the KMO value for the dataset which is above 0.60 and Bartlett's test of Sphericity had a p-value of <0.001) [54]. Thereby, the EFA can be conducted. More, the extracted factor with the highest initial eigen value, displayed in Table 3, was comprised only of 37.585% from the total variance which is less than 50% [55]. Such result indicate that the common method biases not detected in this study. The confirmatory factor analysis (CFA) was applied to identify the model validity. All the fit indices, Table 4, were reached the threshold.

Table 1. Descriptive and Exploratory Factor Analysis

| Constructs | Items | Mean | Std. D | Skew | Kurtosis | α | *Factor loadings |
|------------------------------|-------|------|--------|-------|----------|----------|------------------|
| Perceived Usefulness (PU) | PU 1 | 3.78 | 0.59 | -0.32 | 0.18 | 0.84 | 0.79 |
| | PU 2 | | | | | | 0.77 |
| | PU 3 | | | | | | 0.69 |
| Perceived Ease of Use (PE) | PE1 | 3.89 | 0.77 | -0.42 | -0.24 | 0.70 | 0.78 |
| | PE 2 | | | | | | 0.67 |
| | PE 3 | | | | | | 0.71 |
| Facilitating Conditions (FC) | FC1 | 3.73 | 0.73 | -0.58 | 0.18 | 0.71 | 0.59 |
| | FC2 | | | | | | 0.56 |
| | FC3 | | | | | | 0.45 |
| Social Influence (SI) | SI1 | 3.60 | 0.83 | -0.50 | 0.25 | 0.77 | 0.71 |
| | SI2 | | | | | | 0.87 |
| | SI3 | | | | | | 0.83 |
| Behavioral Intention (BI) | BI1 | 3.78 | 0.69 | -0.63 | 0.07 | 0.75 | 0.62 |
| | BI2 | | | | | | 0.75 |
| | BI3 | | | | | | 0.66 |

*Principal Component Analysis with Varimax rotation

Table 2. Sampling Adequacy Test

| | |
|--|----------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | 0.869 |
| Approx. Chi-Square | 3221.580 |
| Bartlett's Test of Sphericity | df |
| | 105 |
| | Sig. |
| | 0.000 |

Table 3. CMV

| Component | Initial Eigen values | | | Extraction Sums of Squared Loadings | | |
|-----------|----------------------|---------------|--------------|-------------------------------------|---------------|--------------|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 5.638 | 37.585 | 37.585 | 5.638 | 37.585 | 37.585 |
| 2 | | | | | | |
| 14 | | | | | | |
| 15 | .243 | 1.623 | 100.000 | | | |

Note: Extraction Method: Principal Component Analysis

Table 4. CFA Fit Indices

| fit indices | X2/df | GFI | CFI | IFI | TLI | RMR | SRMR | RMSEA |
|-------------|---------------|-------|-------|-------|-------|------|------|-------|
| Recommended | 2 < X2/df < 5 | >0.90 | >0.90 | >0.90 | >0.90 | 0.08 | 0.08 | 0.08 |
| Measured | 3.69 | 0.93 | 0.93 | 0.90 | 0.91 | 0.04 | 0.05 | 0.07 |

More, the Standardized Factor Loadings displayed in Table 5 are exceed the acceptable level 0.50. Moreover, the convergent validity has been determined through conducting the composite reliability, all the variables were gained more than 0.70. In addition, the results of the average variance explained (AVE) confirm the above-mentioned result. Furthermore, to check if the adequate discriminant validity has been determined, the value of square roots of AVE in each column is greater than correlation values which mentioned in that column. The results of this comparison listed in Table 6 indicate that the adequate discriminant validity has been determined. The research model has been examined using Structural Equation Modeling (SEM) as it shown in Figure 2.

Table 5. CFA Results

| Constructs | Items | Standardized Factor Loadings (St. FL>.50) | Square Multiple Correlations (SMC>.30) | CR>.60 | AVE>.50 |
|------------------------------|-------|---|--|--------|---------|
| Perceived Usefulness (PU) | PU 1 | 0.82 | 0.67 | 0.84 | 0.64 |
| | PU 2 | 0.83 | 0.68 | | |
| | PU 3 | 0.75 | 0.56 | | |
| Perceived Ease of Use (PE) | PE1 | 0.84 | 0.70 | 0.74 | 0.50 |
| | PE 2 | 0.64 | 0.40 | | |
| | PE 3 | 0.58 | 0.27 | | |
| Facilitating Conditions (FC) | FC1 | 0.75 | 0.49 | 0.75 | 0.50 |
| | FC2 | 0.68 | 0.39 | | |
| | FC3 | 0.69 | 0.42 | | |
| Social Influence (SI) | SI1 | 0.63 | 0.40 | 0.79 | 0.56 |
| | SI2 | 0.86 | 0.74 | | |
| | SI3 | 0.75 | 0.56 | | |
| Behavioral Intention (BI) | BI1 | 0.71 | 0.50 | 0.76 | 0.51 |
| | BI2 | 0.76 | 0.58 | | |
| | BI3 | 0.67 | 0.45 | | |

Table 6. Discriminant Analysis

| Constructs | PU | PE | FC | SI | BI |
|------------|--------|--------|--------|--------|--------|
| PU | (0.80) | | | | |
| PE | 0.591 | (0.71) | | | |
| FC | 0.729 | 0.755 | (0.71) | | |
| SI | 0.384 | 0.202 | 0.699 | (0.75) | |
| BI | 0.80 | 0.464 | 0.534 | 0.53 | (0.72) |

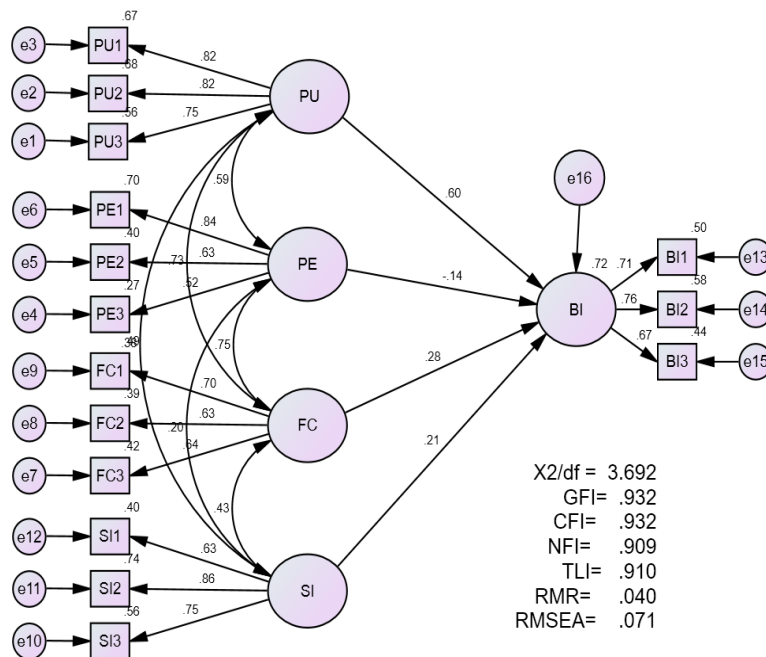


Figure 2. Tested model

More, as it shown in Figure 2 the fit indices illustrate good fit as they are within their recommended values. The results show that perceived usefulness, facilitating condition, social influence positively affects the behavioural intention to adopt electronic purchasing by Omani consumers. With standard regression weights of 0.60 ($p=0.00$), 0.28 ($p=0.02$), and 0.21 ($p=0.00$) respectively, interpreting 72% of variance in the behavioural intention to adopt electronic purchasing as dependent variable. Whilst, perceived ease of use has no effect, -0.14 ($p=0.11$), on the behavioural intention to adopt electronic purchasing. Table 7 represent the hypothesis test which contain the hypotheses, structural path, standard regression weights, t-value for each factor and its p-value, and the result either the hypothesis is accepted or rejected. However, the results will be discussed in detail in the next section.

Table 7. Hypothesis Test

| Hypotheses | Path | Standard Regression Weights (SRW) | T-Value (TV > +1.96 or TV - 1.96 for $p < 0.05$) | Results |
|---|-------|-----------------------------------|---|---------------|
| H1- Perceived usefulness positively influence consumers in Oman to switch from in-store to electronic purchasing. | PU→BI | 0.60 | 7.53 ($p=0.00$) | Supported |
| H2- Perceived ease of use positively influence consumers in Oman to switch from in-store to electronic purchasing. | PE→BI | -0.14 | -1.59 ($p=0.11$) | Not Supported |
| H3- Facilitating condition positively influence consumers in Oman to switch from in-store to electronic purchasing. | FC→BI | 0.28 | 2.3 ($p=0.02$) | Supported |
| H4- Social influence positively influence consumers in Oman to switch from in-store to electronic purchasing. | SI→BI | 0.21 | 4.12 ($p=0.00$) | Supported |

5. Discussion

This study aimed to investigate the influence of perceived usefulness, perceived ease of use, facilitation condition, and social influence on the users' behavioural intention to adopt electronic purchasing in Sultanate of Oman. In this regard the findings suggest that: Perceived usefulness has a crucial role (Standard Regression Weights=0.60, $t=7.53$) in persuading consumers to transform from traditional commerce to adopt electronic purchasing. The rational customer usually tries to maximize the benefits in his/her deals, this finding comes in the same context. I.e. respondents believe that if the transformation to the online shopping will increase the gained benefits, they are ready to do that and obtain all the available benefits over online shopping. Anywise, such result is in agreement with the findings of [56–58] Who found that perceived usefulness has a positive effect on users' behavioural intention to use information and communication technology.

Perceived ease of use has no significant influence (Standard Regression Weights=-0.14, $t=-1.59$ and $p=0.11 > 0.05$) in encouraging the customers to switch from traditional to online shopping. As we are in the technology era, and most, if not all, the businesses and institutions had been transformed their financial process especially in term of salaries and completing many of governments process either in traditional or electronic way people should have a bank account and credit card. On other hand, majority of people are having smart phones which support internet browser and Wi-Fi connection. More, the availability of internet networks which are to some extent affordable. Thence, most people become familiar with using the requested tools for e-purchasing. Given that, in general the users who have limited experience in using technology are expected to be more influenced by the factor ease of use [37]. However, this result is in contrast with findings of [59-61] who found that the perceived ease of use has positive influence users' behavioural intention to adopt technology.

Facilitating conditions play an important role and have a significant effect (Standard Regression Weights= 0.28, $t= 2.3$ and $p=0.02$) in emboldening the customers to transform from in-store to e-purchasing. Such result reflects the users' perception about the availability of the requested resources and support to conduct the online shopping such resources are secure banking system, electronic devices that help users to connect to internet particularly mobile devices, in addition to internet network with good bandwidth, and shopping applications and websites equipped with good technology, plus to trained team to support and assist users while using online shopping application. This finding is supported by the results of [62–64] Who found that Facilitating conditions play an essential role in behavioral intention to use technology.

Social influence does have a significant influence (Standard Regression Weights= 0.21, $t=4.12$ and $p=0.00$) in heartening the customers to transform from traditional to e-purchasing. According to this result the users think it is important that others believe they should use online shopping, which it means that their behavioural intention is affected by the way that others see or evaluate them as a consequence of using online shopping. This result comes in agreement with the results of [65–68] Who found that social influence is an important element in explaining users' intention to use online shopping. Consequently, an awareness programs should be conducted about the benefits of electronic commerce in general and especially about electronic purchasing. More, instructions should be prepared and disseminated among people about how to use e-purchase properly to avoid the expected risks. Moreover, business should be ready for preparing the requested infrastructure related to e-purchasing equipped by privacy and security requirement.

6. Conclusion

The study strives to determine the main factors that influence users (students to purchase books online) in Oman to transform to electronic purchasing. Thus, the study integrated between UTAUT and TAM models. The investigated variables are perceived ease of use, perceived usefulness, facilitating conditions, and social influence. The study revealed that perceived usefulness, facilitating conditions, and social influence have a positive and significant influence on the consumers behavioural intention in Oman to switch into electronic purchasing. While, the findings showed that there is no significant effect by perceived ease of use on the consumers behavioural intention to transform from traditional to electronic purchasing.

However, as all other research this study has its own limitation. The main limitation in this paper is that the respondents are the students from Sultan Qaboos University and Dhofar University which are coming from whole Oman, and it has been assumed that those respondents represent the entire people who are living in Sultanate of Oman. Therefore, as the student are interested in books for their study may be the findings generalization would be limited. Thus, it is better for future studies to include respondents from other segments to avoid this problem. In addition, study more variables in order to find out the other factors that affect the consumers' intention to adopt online shopping.

Acknowledgements

The authors gratefully acknowledge the The Research Council (TRC) in Oman for the great support, as TRC is the primary funding source of this study.

References

- [1] Laudon KC, Traver CG. E-commerce: business, technology, society. Pearson/Prentice Hall. 2007.
- [2] Bourlakis M, Papagiannidis S, Fox H. E-consumer behaviour: Past, present and future trajectories of an evolving retail revolution. *Int J E-bus Res*. 2008; 4(3): 64–76.
- [3] IWS. Internet Users in the World - June 30, 2018 [Internet]. 2018 [cited 2019 Jan 16]. Available from: http://www.knetshop.com/knet_information/Statistics.html
- [4] Zhang P, Li N. *Consumer online shopping attitudes and behavior: An assessment of research*. Proceedings of the Americas Conference on Information Systems (AMCIS'2002). 2002: 9-11. Available from: http://melody.syr.edu/pzhang/publications/AMCIS02_Li_Zhang.pdf
- [5] Koyuncu C, Bhattacharya G. The impacts of quickness, price, payment risk, and delivery issues on on-line shopping. *J Socio Econ*. 2004; 33(2): 241–51.
- [6] Wang B, Guo X, Niu H, Li H. *A Review and Prospects of Initial Trust in E-Commerce*. 2011 International Conference on Management and Service Science. 2011: 1–4.
- [7] Kaur G, Khanam Quareshi T. Factors obstructing intentions to trust and purchase products online. *Asia Pacific J Mark Logist*. 2015; 27(5): 758–83. Available from: <http://www.emeraldinsight.com/doi/10.1108/APJML-10-2014-0146>
- [8] Nazir S, Tayyab A, Sajid A, Ur Rashid H, Javed I. How Online Shopping Is Affecting Consumers Buying Behavior in Pakistan?. *Int J Comput Sci Issues*. 2012; 9(3): 486. Available from: www.IJCSI.org
- [9] Georgiadis CK, Chau PYK. Introduction to the special issue on User Experience in e-Business Environments. *Inf Syst E-bus Manag*. 2013; 11(2): 185–8. Available from: <http://link.springer.com/10.1007/s10257-013-0217-0>

- [10] Lu Wang C, Zhang Y, Richard Ye L, Nguyen DD. Subscription to fee-based online services: What makes consumer pay for online content?. *J Electron Commer Res.* 2005; 6(4): 304–11. Available from: http://www.jecr.org/sites/default/files/06_4_p04.pdf
- [11] Butler P, Peppard J. Consumer purchasing on the Internet:: Processes and prospects. *Eur Manag J.* 1998; 16(5): 600–10. Available from: https://econpapers.repec.org/article/eeeeurman/v_3a16_3ay_3a1998_3ai_3a5_3ap_3a600-610.htm
- [12] Zhou L, Dai L, Zhang D. Online shopping acceptance model-A critical survey of consumer factors in online shopping. *J Electron Commer Res.* 2007; 8(1). Available from: <http://www.pewinternet.org>
- [13] Akbar S, James PTJ. Consumers' attitude towards online shopping Factors influencing employees of crazy domains to shop online. *J Manag Mark Res.* 2014; 14: 1. Available from: <http://connection.ebscohost.com/c/articles/94428574/consumers-attitude-towards-online-shopping-factors-influencing-employees-crazy-domains-shop-online>
- [14] CDF C for the DF. The 2017 Digital Future Report-Surveying the Digital Future [Internet]. 2017 [cited 2019 Jan 16]. Available from: <https://www.digitalcenter.org/wp-content/uploads/2013/10/2017-Digital-Future-Report.pdf>
- [15] CDF C for the DF. Center for the Digital Future releases 2016 report on the impact of digital technology in the United States | USC Annenberg School for Communication and Journalism. 2016. Available from: <https://annenberg.usc.edu/news/centers/center-digital-future-releases-2016-report-impact-digital-technology-united-states>
- [16] Song JS, Kim SJ, Byun GS, Song JH, Lee BG. Comparing wireless networks for applying digital textbook. *Telecommun Syst.* 2014; 55(1): 25–38. Available from: <http://link.springer.com/10.1007/s11235-013-9748-4>
- [17] Corlett-Rivera K, Hackman T. E-Book Use and Attitudes in the Humanities, Social Sciences, and Education. *portal Libr Acad.* 2014; 14(2): 255–86. Available from: http://muse.jhu.edu/content/crossref/journals/portal_libraries_and_the_academy/v014/14.2.corlett-rivera.html
- [18] Racherla P, Mandviwalla M, Connolly DJ. Factors affecting consumers' trust in online product reviews. *J Consum Behav.* 2012; 11(2): 94–104. Available from: <http://doi.wiley.com/10.1002/cb.385>
- [19] Knowlton SA. A Two-Step Model for Assessing Relative Interest in E-books Compared to Print. *Coll Res Libr.* 2016; 77(1): 20–33. Available from: <http://crl.acrl.org/index.php/crl/article/view/16488>
- [20] Gu X, Wu B, Xu X. Design, development, and learning in e-Textbooks: what we learned and where we are going. *J Comput Educ.* 2015; 2(1): 25–41. Available from: <http://link.springer.com/10.1007/s40692-014-0023-9>
- [21] Gao L, Bai X. A unified perspective on the factors influencing consumer acceptance of internet of things technology. *Asia Pacific J Mark Logist.* 2014 Apr 8 [cited 2019 Jan 8];26(2):211–31. Available from: <http://www.emeraldinsight.com/doi/10.1108/APJML-06-2013-0061>
- [22] Gong W, Stump RL, Maddox LM. Factors influencing consumers' online shopping in China. *J Asia Bus Stud.* 2013; 7(3): 214–30. Available from: <http://www.emeraldinsight.com/doi/10.1108/JABS-02-2013-0006>
- [23] Akroush MN, Al-Debei MM. An integrated model of factors affecting consumer attitudes towards online shopping. *Bus Process Manag J.* 2015; 21(6): 1353–76. Available from: <http://www.emeraldinsight.com/doi/10.1108/BPMJ-02-2015-0022>
- [24] Ha S, Stoel L. Online apparel retailing: roles of e-shopping quality and experiential e-shopping motives. *J Serv Manag.* 2012; 23(2): 197–215. Available from: <http://www.emeraldinsight.com/doi/10.1108/09564231211226114>
- [25] Chiang HS, Chen CC. Exploring switch intention of users' reading behaviour. *Electron Libr.* 2014; 32(4): 434–57. Available from: <http://www.emeraldinsight.com/doi/10.1108/EL-06-2012-0070>
- [26] Gefen D, Karahanna E, Straub DW. Trust and TAM in Online Shopping: An Integrated Model. *MIS Q.* 2003; 27(1): 51. Available from: <https://www.jstor.org/stable/10.2307/30036519>
- [27] Yen Y-S. The interaction effect on customer purchase intention in e-commerce. *Asia Pacific J Mark Logist.* 2014; 26(3): 472–93. Available from: <http://www.emeraldinsight.com/doi/10.1108/APJML-07-2013-0080>
- [28] Lenhart AKAK. Social Media & Mobile Internet Use among Teens and Young Adults. Millennials. *Pew Internet Am Life Proj.* 2010. Available from: <https://eric.ed.gov/?id=ED525056>
- [29] Alraja MN, Aref M. Customer acceptance of e-commerce: Integrating Perceived Risk with TAM. *Int J Appl Bus Econ Res.* 2015;13(2).
- [30] Abou Chahla L. Online Shopping in Oman: Obstacles and Challenges. MBA Thesis. University of Wales. Robert Kennedy College/University of Wales; 2013. Available from: <https://www.scribd.com/document/237622497/Online-Shopping-in-Oman-Obstacles-and-Challenges>
- [31] Naqvi SJ, Al-Shihi H. Factors Affecting M-commerce Adoption in Oman using Technology Acceptance Modeling Approach. *TEM J.* 2014; 3(4): 315. Available from: www.temjournal.com
- [32] Alraja MN. The effect of social influence and facilitating conditions on e-government acceptance from the individual employees' perspective (in Polish: Efekt Wpływu Społecznego Oraz Warunków Ułatwiających Akceptację E-Administracji Z Punktu Widzenia Indywidualnych Pracowników). *Polish J Manag Stud.* 2016;14(2).

- [33] Shatat A. Factors affecting the adoption and usage of online services in Oman. *J Internet Bank Commer.* 2017; 22(S7): 1-24. Available from: <http://www.icommercecentral.com>
- [34] Surendran P. Technology Acceptance Model: A Survey of Literature. *Int J Bus Soc Res.* 2012; 2(4): 175–8. Available from: <https://thejournalofbusiness.org/index.php/site/article/view/161>
- [35] Gardner C, Amoroso DL. *Development of an instrument to measure the acceptance of Internet technology by consumers.* 37th Annual Hawaii International Conference on System Sciences. 2004: 10. Available from: <http://ieeexplore.ieee.org/document/1265623/>
- [36] Davis FD. Perceived Usefulness, Perceived Ease of Use, and User Acceptance of Information Technology. *MIS Q.* 1989; 13(3): 319–40. Available from: <https://www.jstor.org/stable/249008?origin=crossref>
- [37] Venkatesh V, Morris MG, Davis GB, Davis FD. User Acceptance of Information Technology: Toward a Unified View. *MIS Q.* 2003; 27(3): 425. Available from: <http://www.jstor.org/stable/10.2307/30036540>
- [38] Al-maghrabi T, Dennis C, Vaux Halliday S. *Adapting tam and ECT: continuance intention of e-shopping in Saudi Arabia.* European, Mediterranean and Middle Eastern Conference on Information Systems 2010. London. 2010. Available from: <https://bura.brunel.ac.uk/handle/2438/8276>
- [39] Boon Liat C, Mun Fei Y. Factors Affecting Consumer's Continuance Online Purchase Intention in Malaysia. *Glob J Bus Soc Sci Rev.* 2013; 1(2). Available from: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3000878
- [40] Al-maghrabi T, Dennis C, Vaux Halliday S, Bin Ali A. Determinants of Customer Continuance Intention of Online Shopping. *Int J Bus Sci & Appl Manag.* 2011; 6(1): 41–66. Available from: <http://www.business-and-management.org/paper.php?id=66>
- [41] Bigné-Alcañiz E, Ruiz-Mafé C, Aldás-Manzano J, Sanz-Blas S. Influence of online shopping information dependency and innovativeness on internet shopping adoption. *Online Inf Rev.* 2008; 32(5): 648–67. Available from: <http://www.emeraldinsight.com/doi/10.1108/14684520810914025>
- [42] Ramayah T, Ignatius J. Impact of Perceived usefulness, Perceived ease of use and Perceived Enjoyment on Intention to shop online. *IUP J Syst Manag.* 2005; 1–16. Available from: <http://citeseerx.ist.psu.edu/viewdoc/citations?doi=10.1.1.461.3102>
- [43] Cho YC, Sagynov E. Exploring Factors That Affect Usefulness, Ease Of Use, Trust, And Purchase Intention In The Online Environment. *Int J Manag Inf Syst.* 2015; 19(1): 21. Available from: <https://clutejournals.com/index.php/IJMIS/article/view/9086>
- [44] Thomas TD, Singh L, Gaffar K. ERIC - The Utility of the UTAUT Model in Explaining Mobile Learning Adoption in Higher Education in Guyana. *Int J Educ Dev Using Inf Commun Technol.* 2013; 9(3): 71–87. Available from: <https://eric.ed.gov/?id=EJ1071379>
- [45] Attuquayefio SN, Addo H. Using the UTAUT Model to Analyze Students' ICT Adoption. *Int J Educ Dev Using Inf Commun Technol.* 2014; 10(3): 75–86. Available from: <https://eric.ed.gov/?id=EJ1059042>
- [46] Dharmawirya M, Smith BA. Analysis of Consumer Repurchase Intention towards Online Shopping in Indonesia's Online Retail Business Market. *Int J e-Education, e-Business, e-Management e-Learning.* 2012; 2(3): 202–5. Available from: https://pdfs.semanticscholar.org/8395/fac38a84d98016c6da1720af44e3148e9a7e.pdf?_ga=2.11654199.209936643.1547656103-840853775.1546967931
- [47] Kasim HA. Factors Affecting Knowledge Sharing Using Virtual Platforms – A Validation of Unified Theory of Acceptance and Use of Technology (UTAUT). *Int J Manag Public Sect Inf Commun Technol.* 2015; 6(2): 1-19. Available from: <http://www.airccse.org/journal/impict/papers/6215ijmpict01.pdf>
- [48] Sareen M, Jain A. The Role of Social Influence And Consumer's Effort Expectancy on Online Shopping: An Empirical Study of India. *Int J Manag Res Bus Strateg.* 2014; 3(1): 138–58. Available from: <http://journals.sagepub.com/doi/10.1177/2278533715578556>
- [49] Lian J-W, Yen DC. Online shopping drivers and barriers for older adults: Age and gender differences. *Comput Human Behav.* 2014; 37: 133–43. Available from: <https://www.sciencedirect.com/science/article/pii/S0747563214002374>
- [50] Herrero-Crespo Ignacio Á, Rodríguez-del-Bosque I. The influence of the commercial features of the Internet on the adoption of e-commerce by consumers. *Electron Commer Res Appl.* 2010; 9(6): 562–75. Available from: <https://www.scijournal.org/>
- [51] Wamba SF, Gunasekaran A, Akter S, Ren SJ, Dubey R, Childe SJ. Big data analytics and firm performance: Effects of dynamic capabilities. *J Bus Res.* 2017; 70: 356–65. Available from: <https://linkinghub.elsevier.com/retrieve/pii/S0148296316304969>
- [52] Al-Adwan AS, Alrousan M, Al-Soud A, Al-Yaseen H. Revealing the black box of shifting from electronic commerce to mobile commerce: the case of Jordan. *J Theor Appl Electron Commer Res.* 2019; 14(1): 51–67. Available from: www.jtaer.com
- [53] Dwivedi YK, Choudrie J, Brinkman WP. Development of a survey instrument to examine consumer adoption of broadband. *Ind Manag Data Syst.* 2006; 106(5): 700–18. Available from: <https://www.emeraldinsight.com/doi/10.1108/02635570610666458>
- [54] Tabachnick BG, Fidell LS. *Using multivariate statistics.* Boston: Pearson/Allyn & Bacon. 2007: 980. Available from: https://books.google.com.om/books/about/Using_Multivariate_Statistics.html?id=AkBIQgAACAAJ&redir_esc=y

- [55] Jakobsen M, Jensen R. Common Method Bias in Public Management Studies. *Int Public Manag J*. 2015; 18(1): 3–30. Available from: <http://www.tandfonline.com/doi/abs/10.1080/10967494.2014.997906>
- [56] K Soundarapandiyan K, Ganesh M. Understanding the Perception of Millennial Generation Towards Online Shopping-A Study with Reference to Chennai. *i-Manager's Journal on Management*. 2017; 12(3): 31. Available from: <http://www.imanagerpublications.com/article/13882>
- [57] Tsai TH, Chang HT, Chen YJ, Chang YS. Determinants of user acceptance of a specific social platform for older adults: An empirical examination of user interface characteristics and behavioral intention. *PLoS One*. 2017; 12(8): e0180102. Available from: <http://dx.plos.org/10.1371/journal.pone.0180102>
- [58] Sheglabo J, McGill T, Dixon M. An investigation of the factors that impact the intention to adopt and use mICT in the Libyan construction industry. *J Constr Dev Ctries*. 2017; 22(1): 55–74. Available from: <https://pdfs.semanticscholar.org/f892/a0db0836db27c0792c6bf453d4c063417a68.pdf>
- [59] Joo YJ, Park S, Lim E. Factors Influencing Preservice Teachers' Intention to Use Technology: TPACK, Teacher Self-efficacy, and Technology Acceptance Model. *Educ Technol Soc*. 2018; 21(3): 48–59. Available from: <https://www.semanticscholar.org/paper/Factors-Influencing-Preservice-Teachers'-Intention-Joo-Park/2658259be39a45527421624c04a0d33e52db9647>
- [60] Yeh Y, Yeh J, Cheng B-W, Lin H-M, Chao C-M. *Applying TAM to Study the BELS Use Behavioral Intention of Clinical Nursing*. 5th Annual global healthcare conference. 2016: 11–6. Available from: <http://dl4.globalstf.org/?wpsc-product=applying-tam-to-study-the-bels-use-behavioral-intention-of-clinical-nursing>
- [61] Septiani R, Handayani PW, Azzahro F. Factors that Affecting Behavioral Intention in Online Transportation Service: Case study of GO-JEK. *Procedia Comput Sci*. 2017; 124: 504–12. Available from: <https://www.sciencedirect.com/science/article/pii/S1877050917329514>
- [62] Wong GWK. The behavioral intentions of Hong Kong primary teachers in adopting educational technology. *Educ Technol Res Dev*. 2016; 64(2): 313–38. Available from: <http://link.springer.com/10.1007/s11423-016-9426-9>
- [63] Sánchez-Prieto JC, Olmos-Migueláñez S, García-Peñalvo FJ. Informal tools in formal contexts: Development of a model to assess the acceptance of mobile technologies among teachers. *Comput Human Behav*. 2016; 55: 519–28. Available from: <https://www.sciencedirect.com/science/article/pii/S0747563215300133>
- [64] Afshan S, Sharif A. Acceptance of mobile banking framework in Pakistan. *Telemat Informatics*. 2016; 33(2): 370–87. Available from: <https://www.sciencedirect.com/science/article/abs/pii/S0736585315001185>
- [65] Kijsanayotin B, Pannarunothai S, Speedie SM. Factors influencing health information technology adoption in Thailand's community health centers: Applying the UTAUT model. *Int J Med Inform*. 2009; 78(6): 404–16. Available from: <https://www.sciencedirect.com/science/article/pii/S1386505608002104>
- [66] Hino H. Assessing Factors Affecting Consumers' Intention to Adopt Biometric Authentication Technology in E-shopping. *J Internet Commer*. 2015; 14(1): 1–20. Available from: <http://www.tandfonline.com/doi/full/10.1080/15332861.2015.1006517>
- [67] Maduku DK. Understanding E-Book Continuance Intention: Empirical Evidence from E-Book Users in a Developing Country. *Cyberpsychology, Behav Soc Netw*. 2017; 20(1): 30–6. Available from: <http://online.liebertpub.com/doi/10.1089/cyber.2016.0287>
- [68] Lee S, Park E-A, Cho M, Jin B. Factors affecting tablet computer users' intention to purchase mobile applications. *Soc Behav Pers*. 2018; 46(1): 25–38. Available from: <http://www.ingentaconnect.com/content/10.2224/sbp.6525>