

OLDER ADULT'S ACCEPTANCE OF ONLINE SHOPPING (DIGITAL MARKETING): EXTENDED UTAUT MODEL WITH COVID 19 FEAR

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ABSTRACT

The present work aims to examine the factors that influence the online shopping acceptance by older adults during pandemic in Jordan. The current study employees the Unified Theory of Acceptance along with a new variable i.e. COVID-19 fear. The study was conduct on a sample of 274 respondents from Jordan. The data analysis was performed using the variance approach of SEM i.e. the partial least square. The SmartPLS3 software was used for the validity check of the model and analysing the path coefficients. The result shows that older adults' online shopping acceptance was significantly influenced by social influence, performance expectancy, effort expectancy, facilitating conditions, and COVID 19 fear. The research model found 76.2% of the variance in BI, which influences five construct i.e. PE, EE, SI, FC, and covid 19 fear. Furthermore, this study contributes to the literature in the context of validating a model of the study that highlights the factor of acceptance of online shopping by older adults in the context of the COVID-19 pandemic.

Keywords: *Older Adults, Online Shopping, Digital Marketing, UTAUT, COVID 19 Fear*

1. INTRODUCTION

Currently, it has been observed that online shopping has become more attractive and popular especially among the young generation ([10] [42]. Online shopping also shows its positive contribution towards economic stabilization for both developed and developing countries across the globe [32] [35]. According to Ma et al. (2020), the fastest-growing segment is based on the people who fall into the age group of 60 plus in the global population. Beyond this fact, in Jordan's perception, it has been noted that the percentage of older online shoppers is relatively lower than other age groups, in spite of the fact that they have a higher population as well as has a higher level of income and wealth. E-commerce has come up as a platform to flourish the system of online shopping which rapidly increasing business transactions day by day in the global market, to establish this market even further it is important to create awareness among older regarding online shopping systems such as their acceptance to use online shopping system so that it

can also become beneficial for the online retailer to communicate with the older adult segment of their market in a better and effective manner. Therefore, the online retailer needs to pay attention to older adults and shape their online behavior so that they can have effective business strategies that lead to having a competitive business advantage.

On the other side, the rate of using the internet in older adults is growing at an extensive rate. This increase in usage of the internet shows that this age group is very important for the growth of E-commerce. Whereas, prior researchers focus on the shopping behavior of youth and ignore or pay less attention to the older adult as an online consumer[23].

Although older adults are the fastest-growing segment (Mintel News, 2020), still they consider the least tech-savvy and inadequate demographic that access ICT [19]. Cognitive and physical studies support the relationship between adoption of ICT and age as it discussed changes in humans such as people of old age are less interested and connected to digital technology[33]. The review of pervious work also

considers old age as a problem in the low adoption of ICT [41]. Even though this statement is valid because aging or getting old is a process and no one becomes old in a single day[20].

Nevertheless, the sequence of events refers to older adults in most prior researchers (Ma et al., 2020). It is being noticed that when people cross certain age they enter the group titled as 'older adult'. The age can be considered over 40-over 70 depending on the different researches[40]. In some cases the term 'old age' can be described as a legal concept, for instance, retirement age in Jordan is currently 60 years for men and 55 for women. A retiree person can be label as old in the organization or workplace as compare to in the general environment, like most of the studies mention 65 as a limit for older adult group age [39]. It is quite suitable to define older adults in terms of numbers especially in quantitative researchers but it lacks in psychographic and demographic diversity of using ICT by older adults[21]. Due to this reason, it is significant to describe the context for the age group rather than rely on the chronological system. Indeed many older adults think that they must not be linked with a certain age group and the usage of ICT has no link with the age group [19].

The current pandemic of COVID-19 shows the poorer effect on the older age group as compared to any other age group segment, it is because older age people are most likely to experience worse conditions it got infected because of their ill health and critical health problems[16]. While maintaining social distancing and self-quarantine increase their level of social isolation[33]. It has also been reported that older people face greater anxiety, depression, and loneliness in lockdown than ever before either it is in contact with family, friends, or community[22]. Even though the usage of ICT can help to reduce social isolation and provide emotional and collective support to older adults but usually they did not have ICT knowledge or no internet access during lockdown [24].

The convergence of an increasingly aging society and a tremendous era of information technology shows the higher usage of the internet in Jordan by older adults at a significant growth rate. Consequently, the potential target market in e-commerce is older adults. However, literature shows that most of the researches were conducted on the young generation's online buying behavior, less or no attention paid toward the old adult behavior in online shopping. To cover this gap, the current research paper aims to increase awareness and understanding regarding the factors that affect the adoption of online shopping among older adults in the Jordan market.

Finally, the research is based on the integration of (UTAUT) and extended UTAUT model with COVID 19 fear.

The main objective of the current study is to investigate the effect of performance expectancy, effort expectancy, Social influence, Facilitating condition, and perceived COVID 19 fear on the intention to use online shopping by older adults in Jordan. The paper will provide recommendation to help the older adults using online shopping especially in the era of COVID 19.

2. RELATED WORKS

2.1 Performance expectancy

It is considered as a degree to which a person assumes that usage of available systems would help him/her in their job and thus increase their job performance [31] [26] [37] [38]. There is numerous concept discussed in the literature that defines performance expectancy such as job fit in task technology fit model (TTF), theory of acceptance model (TAM), extrinsic motivation in the motivation model (TMM), a relative advantage in innovation diffusion theory (IDT) and social cognitive theory (SCT) in outcome expectancy. Previous studies show that there is an important moderating role of age and gender of performance expectancy influence on behavioral intention [1]. As [3] [1] performance expectancy has a significant impact on the usage of mobile phone services. [11] confirmed that performance expectancy effect positively on mobile marketing adoption by Jordanian consumers. Another study conduct by [36], claims that performance expectancy has a strong relationship with behavioral intention to practice internet banking. [14] stated that performance expectancy was found to has strong significant relationship with students online shopping behavioral intention. Similarly, [17], stated that performance expectancy has a significant relationship with innovative technology usage. Another study conducted by [6] found that performance expectancy has a positive on the online shopping intention for fresh agricultural products .This indicates that performance expectancy has played a vital role in individual older adult behavior for rejecting or accepting online shopping in Jordan. In the current study context, it can be stated that if the older adult in Jordan accepts that shopping via the internet is beneficial for them, then they will accept, adopt and use the system.

H1: PE effect significantly and positively on the acceptance of online shopping by Jordanian older adults.

2.2 Effort expectancy

Effort expectancy can be described as a level of lenience a customer can avail while using technology [31] [26]. It is associated with the effort required by the customer to use information technology. The concept was formed by the technology acceptance model (TAM) in terms of perceived ease of technology use, model of PC utilization (MPCU), and innovation diffusion theory (IDT) as complex. Effort expectancy enlightens the customer perception related to the effort a customer put on while using the technology and the benefit of customer vary from click and collect model and it also depends on user age[37]. [11] confirmed that effort expectancy effect positively on mobile marketing adoption by Jordanian consumers. Correspondingly [5] and [4] claim that users are more likely to connect to those technologies that are easy to adopt and convenient to use. [14] stated that effort expectancy was found to has strong significant relationship with students online shopping behavioral intention. Another researcher pointed out the stress-free accessibility of technology inspire user to adopt and use technology at a higher rate [9]. Another study conducted by [6] found that effort expectancy has a positive on the online shopping intention for fresh agricultural products.

H2: EE effect significantly and positively on the acceptance of online shopping by Jordanian older adults

2.3 Social influence

Social influence refers to the external environmental pressure that an individual faces, it may affect their behavior and perception regarding certain actions or adoption of convinced comporment, and it may include the opinion of family, friends, relatives, or co-workers [31]. It is similar to the concept of subjective norms argued in the theory of reason action TRA, TPB, TAM, and C-TAM-TPB. Online shopping behavior has been significantly influenced by SI that emphasis adopting the technology [36] [11]. An individual is not solely responsible to adopt new technology rather it is also inclined by society and the environment. Preceding researches shows consistent results regarding e-shopping acceptance and its social influence on customer intention to use [34]. [11] confirmed that social influence effect positively on mobile marketing adoption by Jordanian consumers. Moreover, [5] asserted that behavioral intention also influences by factors of social influence such as perceived popularity and affiliation of new technology. [14] stated that social influence was

found to has strong significant relationship with students online shopping behavioral intention.

H3: SI effect significantly and positively on the acceptance of online shopping by Jordanian older adults.

2.4 Facilitating condition

Facilitating conditions act as a variable such as compatibility and perceived behavioral control in IDT and TPB. Facilitating condition variable describe by [31] as the degree to which a person perceived that technical and organizational infrastructure present to support technology use. It can also define as a condition where individuals facilitate with all the required tools, instruments, assistance, and equipment thus, it encourages the individual to support the technology usage [18]. Additionally, [2] pointed out the fact that online shopping required proper technology infrastructure, particular resources, and skills but these facilities are not provided free to the customer. In the same context, [36] argued that users can do online shopping if they have the latest technology to assess the system. FC involves some factors such as individual assessment concerning knowledge capability and technology usage availability. Thus it can be stated that FC is a combination of external as well as internal support in UTAUT aspects. Online shopping has a different experience for the customer and it allows them to overcome physical shopping limitations such as direct interaction with the sales representative, tangible involvement of shopping, and interference in cash counter, whereas they require to build knowledge and awareness that support online shopping and follow shipment tracking system. Therefore, the current study measure FC by buyers' perception of either they can attain necessary support and required resources to do online shopping or not. And these external resources has an impact on customer to adopt a system of online shopping[36]. [11] confirmed that facilitating condition effect positively on mobile marketing adoption by Jordanian consumers. Another study conducted by [6] found that facilitating conditions has a positive on the online shopping intention for fresh agricultural products

H4: FC effect significantly and positively on the acceptance of online shopping by Jordanian older adults.

2.5 COVID 19 fear

Fear can be discussed as an adaptive emotion that provokes an individual and organizes his/her energy to deal with the expected threat[28]. Furthermore,

[30] found that extraordinary and unexpected situations like disease outbursts could inculcate emotion of fear among individuals, thus the COVID-19 fear is a psychological aspect. This opens an area to investigate the effect on customer and their behavior about online shopping acceptance and analyze the market process.

H5: COVID 19 fear effect significantly and positively on the acceptance of online shopping by Jordanian older adults.

3. METHODOLOGY

Participants

Quantitative approach was used in this study to collect the data. A questionnaire based on the literature review was used and distributed among older adults in Jordan to collect the data.

Current research uses that primary data set for analysis. The data collection were done by using survey questionnaire, the target respondent for data collection were Jordanian older adults that aged from 50 and above, irrespective of their living in any of 12 Jordan state. Finally, 274 filled questionnaires were collected from the respondent and it is the sample size for our research.

Instrument

The current study used an instrument that is based on the UTAUT model, furthermore, this model has extended with covid-19 fear in the previous study [37] [27] [8], and apply in the existing study context. The survey questionnaire consists of two parts. First cover the area of respondents' demographics for example education level, age, income, gender, social status, etc., and the second part covers 25 items that use to investigate the relationship in the projected model. The 6 variables are performance expectancy, effort expectancy, social influence, facilitating conditions, covid 19 fear, and behavioral intention. The survey used 5-point Likert scales i.e. 1 (strongly disagree) to 5 (strongly agree). Participation in the survey was anonymous and voluntary.

4. ANALYSIS AND RESULTS

This study uses Smart PLS 3.0 for testing hypotheses. Structural Equation Modeling (SEM) can perform in two steps. The first is to measure a model and the second is to run a structural model by using bootstrapping to investigate path coefficient

significance in a hypothetical relationship in the conceptual framework

4.1 Measurement Model

Likewise other approaches of SEM, PLS-SEM also required measurement and structural model to analyze the data. It is important to check the validity and reliability of the model before impost of the structural model [13]. The first step shows the reliability and validity test of a construct. Table1 shows the entry which fulfills the benchmark of > 0.07 as recommended by [12]. Validity is tested by using average variance extracted (AVE), all values are above 0.5 [7]. Furthermore, composite reliability (CR) tests were also run on the variable and all found greater value than 0.7 [12]. Hence the convergent validity is mandatory for the model. The variables can be examined in figure1 below.

Table 1: Construct measurement summary

Construct	Cronbach's alpha(α)	CR	AVE
Covid 19	0.967	0.974	0.884
Performance expectancy	0.825	0.884	0.655
Effort expectancy	0.885	0.920	0.742
Social influence	0.928	0.949	0.824
Facility conditions	0.913	0.938	0.792
Intention to adopt	0.879	0.916	0.733

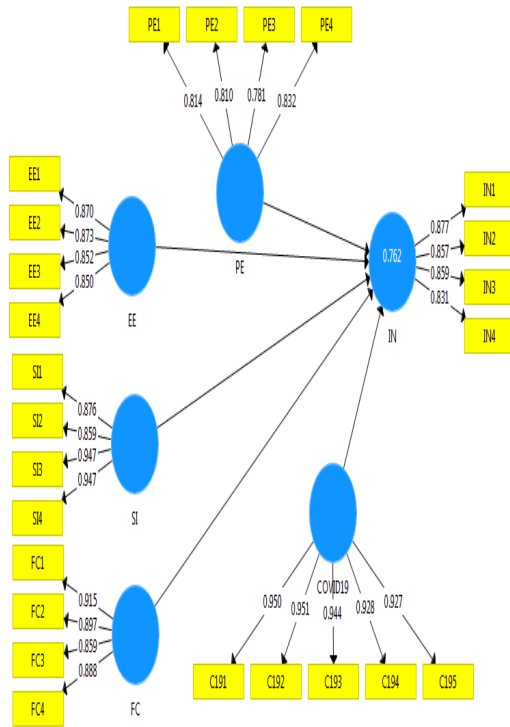


Figure 1: Measurement Model with Item Loadings of all Latent Variables

For the assessment of discriminant validity of the model HTMT has been performed. Following [15] in the contemporary research most of the experts in data analysis suggest the relatively newer criterion of HTMT for examining the discrimination among the different latent construct. HTMT is a better and more strict criterion for assessing the discriminant validity as compared to Fornell-Larcker [15]. The HTMT value should less than 0.90 to meet the discriminant validity. The table 2 below presents the discriminant validity of the constructs in the current study.

Table 2: Discriminant Validity

	COVID-19	EE	FC	IN	PE	SI
COVID-19	1					
EE	0.240	1				
FC	0.247	0.225	1			
IN	0.547	0.417	0.542	1		
PE	0.332	0.268	0.282	0.585	1	
SI	0.403	0.306	0.388	0.867	0.39	1

4.2 Structural Model

The bootstrapping procedure performs multiple iterations to generate the p-values of the path coefficients. Figure 2 below depicts the structural model along with the p-values showing the significance of the relationships hence the examination of the purposed hypotheses has been made possible at this stage. The table 3 below presents the results of the hypotheses testing for the direct relationships in the model. The figure below also depicts the p-values of the relationships.

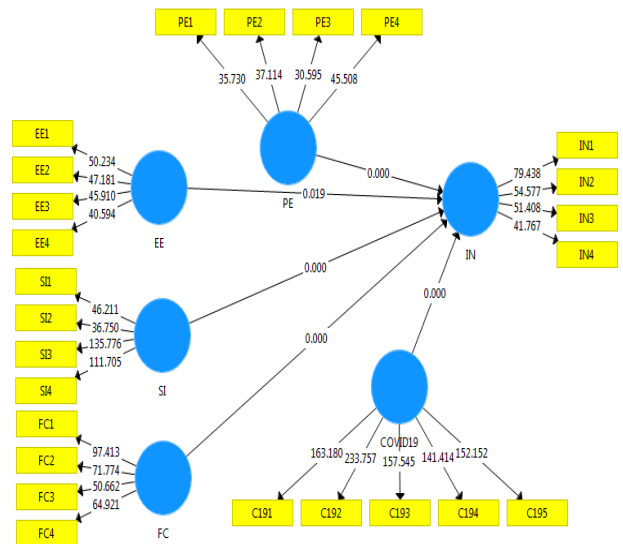


Figure 2: Structural Model

Table 3: Direct Relationships

	Path coefficients	Sample Mean (M)	Standard Error	T Values	P Values
COVID19 -> IN	0.163	0.164	0.034	4.809	0.000
EE -> IN	0.092	0.091	0.039	2.356	0.019
FC -> IN	0.175	0.173	0.037	4.680	0.000
PE -> IN	0.183	0.185	0.031	5.902	0.000
SI -> IN	0.586	0.587	0.039	15.089	0.000

The result supports the hypothesis regarding the relationship between PE and IN (H1: $b = 0.183$, $t\text{-value} = 5.902$, $\text{sig} < 0.000$), in other words, we can say that our result claim that older adults with a higher expectation on online shopping in a context that it will enhance their performance on daily basis are more likely to have a higher degree of acceptance of online shopping and vice versa. This result is consistent with the prior research of [36]. Thus, better performance expectance will lead to use online shopping by older adults in Jordan. EE and IN (H2: $b = 0.092$, $t\text{-value} = 2.356$, $\text{sig} < 0.019$), result indicate that older adults who expect that usage and adoption of online shopping will be effortless, will more probably to accept online shopping. The result is consistent with the study of [5]. SI and IN (H3: $b = 0.586$, $t\text{-value} = 15.089$, $\text{sig} < 0.000$), the result pointed out that older adults who believe that their surroundings emphasis them to use online shopping then they will have a higher degree of online shopping acceptance and vice versa. The family and friends could be effect on older adults in a positive way to use online shopping, for example, the family could encourage the older adults to buy the products and service by online to avoid the negative effect of COVID 19. This outcome is consistent with a previous study conducted by [36]. FC and IN (H4: $b = 0.175$, $t\text{-value} = 4.680$, $\text{sig} < 0.000$), the result of the current study found that older adults with a higher level of facilities and comfortable conditions would have a higher level of online shopping acceptance and vice versa. The result is consistent with the research conducted by [36]. Whereas, H5 covid-19 fear shows positive impact on IN (H5: $b = 0.163$, $t\text{-value} = 4.809$, $\text{sig} < 0.000$), the result indicates that high level of covid-19 fear among older adult allow them to accept online shopping. Since older adults are the most affected by COVID 19, this, fear of COVID 19 will lead to use online shopping by them and

the study expected that the level of using online shopping among older adults will be increase in the coming years.

5. CONCLUSION AND DISCUSSION

Literature shows that Covid-19 has changed the business world dynamic and it boost the online or digital industries such as medical, education, institution, and corporate sectors all become digitalize during a pandemic. The result of the current study underlines the fact that all the constructs i.e. PE, EE, SI, FC, and covid 19 have a positive and strong impact on BI to focus on online shopping by older adults during covid-19. The research model found 76.2% of the variance in BI, which has the influence of five constructs i.e. PE, EE, SI, FC, and covid 19 fear. The result has practical and theoretical implementation. Firstly, the current study is considered as the first empirical study conducted in Jordan that investigates the UTAUT model with the integration of fear emotion, and behavioral intention of the older adult to adopt online shopping, it also contributes to the existing literature of UTAUT that discuss three constructs affecting individual BI. In other words, we can say that the current study shows empirical results that during an unexpected situation like covid-19, existing technology models such as UTAUT can be flourish by integrating other constructs and it will provide better results and also enhance technology adoption. Furthermore, the current study was also found helpful for practitioners and policymakers as it can be applied to managerial and practical levels. When older adults buy more from online shopping it will allow them to ignore crowded areas thus it minimizes their chances to get infected, buying goods and services online must be emphasized for older adults so that they can adopt online shopping behavior.

6. LIMITATIONS AND FUTURE RESEARCH

The current study pays attention to investigate BI for online shopping acceptance by older adults during covid-19 fear, data collection was done in Jordan only and the segment focused for analysis was older adults. The current study covered the gap in the previous studies by focusing on the older adults during COVID 19 pandemic to use

online shopping in a developing country as Jordan. Future researchers can use different countries to collect the data especially they can concentration on those countries that have different cultures, beliefs, and values so that the model reliability can be check in a better way. Apart from this, research can be conducted by using a different segment of demographic such as young generation. Moreover, it is a cross-sectional study and it was completed in a limited timeframe. The perception of older adults can be change at any time regarding the use and adoption of online shopping in terms of PE, EE, SI, and FC. Therefore, future researches can be based on longitudinal methods, and analyze the sequence of time in the relationship among the variables. Lastly, the tool to obtain data for the current study was a self-reported questionnaire which indicates that respondents can provide invalid or untruthful answers. Future research can use mixed-method to obtain more valid and deeper insight to investigate the adoption and usage of online shopping.

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