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FACTORS INFLUENCING ACCEPTANCE OF ONLINE SHOPPING IN TANZANIA USING UTAUT2

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Abstract

This study aims at exploring factors influencing Tanzanians to purchase goods and services online. The motivation was gained from the fact that, recently there is increase in internet penetration and smartphone use in the world that has changed consumer behaviour from using physical store to online store. The study adopted the extended unified theory of acceptance and use of technology (UTAUT2) model and modified it by adding personal innovativeness, perceived risk and trust. A total number of 364 Tanzanians participated in the survey and out of these, only 346 were used for analysis. The analysis of proposed model was conducted using Partial Least Squares Structural Equations Modeling (PLS-SEM) method. Findings portray

that effort expectancy, price value and trust significantly influences behavioural intention to purchase online. The study shows the adoption of online shopping in poor and developing country context. This study provides online shopping venders and E-commerce mobile application/ website designers' strategic inputs on how to enhance consumers' retention via localization of E-commerce mobile applications/websites.

Keywords: **UTAUT2; Online Shopping; E-commerce; Trust; Personal Innovativeness; Behaviour Intention**

INTRODUCTION

Online shopping is an act of purchasing or selling any kind of goods or services via an electronic device such as a smartphone and computer connected to the internet. Recently the surge of using smartphone and internet penetration has caused a change in consumers' shopping behavior; now, consumers like to purchase goods or services online [1]. In 2017, Africa was estimated to have more than 21 million online shoppers in which, South Africa, Nigeria and Kenya account for the big portion of online buyers, which is less than 2% of the world total online shoppers [2]. The report reveals that there was annual growth of 18% by the year 2014 exceeding the world average of rate 12%. It's expected that the E-commerce market will mount to 75 billion dollars by 2025 with approximately 50% of internet penetration in Africa [3]. This shows that there is room for significant growth in the near future.

In Tanzania, there is 43% penetration of the internet, 81% online mobile users, and 19% online shoppers [3,4]. The report further shows that the percentage of online shoppers in Tanzania is smaller compared to neighboring countries like Kenya, which has 60% of online shoppers despite a slight difference in population size. Tanzania and Kenya have slightly the same number of desktop/laptop and mobile phone users. Therefore, this research intends to explore factors influencing Tanzanians to purchase goods or services online. Knowing factors influencing consumers to shop online can benefit online shopping vendors and the E-commerce mobile application/website designers with strategic inputs on how to enhance customers' retention through localization of E-commerce mobile applications/websites.

The good design of the computer application affects how people interact with the application and their perception of the application. Also, the quality design of E-

commerce mobile applications/websites is the central point for attracting visitors to perform online purchases. Therefore, a mobile application/website for this purpose must ensure customers acquire appropriate user experience in order for the business to triumph [5]. Good user experiences will improve customer retention, more customer recommendations, additional repeating customers, and enhanced credibility [6]. Online shoppers are motivated by the presence of discounts, selections and comparison of the products from different online stores at the fingertips, ability to do shopping at any place [7]. Other additional things that motivate online consumer are free shipping, ability to track shipped orders and packages, also getting information on ability to return products which may perform unexpectedly. It is unfortunate that most of the local E-commerce mobile application and website in Tanzania lacks all these features.

Among the most popular E-commerce website in Tanzania are kivuko.com, jumia.com, inauzwa.com, and kupatana.com. All of those websites are lagged behind by mobile commerce in which venders utilize social media to sell their products. Mobile commerce takes advantage of the rapid growth of mobile money like M-Pesa, Tigo Pesa, Halopesa and Airtel money as the payment method. Moreover, there is poor penetration of credit card usage in the area. While E-Commerce Companies in Tanzania still uses pay on delivery method, there is need for integrating payment service on the E-commerce website. As previously proposed on study [8] that it is time for the Tanzania government to set good policies for E-commerce and mobile commerce development, the good policies will increase consumers' trust in online business which will lead to more consumers' adoption.

In this study, the unified theory of acceptance and use of Technology (UTAUT2) was altered by adding three constructs that study individual consumer characteristics, namely personal innovativeness, perceived risk, and trust. The proposed research framework was used to explore factors influencing Tanzanians to adopt online shopping. For strong investigation of factors influencing adoption of online shopping in Tanzania, personal innovativeness was added in order to assess the willingness of Tanzanians when trying new technologies such as online shopping. It is assumed that people with a high level of innovativeness adopt new technology very easy [9]. The study incorporated product perceived risk knowing that for the people who used to buy in physical store where they are capable to touch and feel the goods, this can be the factor which hinders them from adopting online purchase. While another form

of online shopping risk, like financial risk and privacy risk, seems to be irreverent in Tanzania context. Moreover, in developing countries, trust in business is the main concern [10]. Therefore, this factor was added too. The addition of those three constructs in the UTAUT2 model stands as the theoretical contribution of this study in the context of developing countries to study online shopping behavior.

The remaining parts of the paper are arranged as follows: section number two presents literature review, hypothesis development, and propose the research model. Section number three presents the methodology used to conduct this research, while section number four present result and discussion. The final part presents conclusion, limitation, and future research.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Literature Review

In Tanzania there is limited research which study consumers' adoption of online shopping (E-commerce). Despite the factors that most of the government agency and private sector are offering online transactions service now like most bank in Tanzania are offering online Banking. Previous research conducted in Tanzania is study [8] which utilize Technology acceptance model (TAM) with addition of constructs such as national policy initiatives, technology infrastructure and trust. The aim of the study was to study factors for e-commerce adoption. The result showed that the most important factors for adoption of e-commerce is technology infrastructure. The study used TAM is criticized of not incorporate consumers' individual characteristics. The survey also involved only government worker only.

Other study like [11] investigated small and medium enterprises environmental factors for E-commerce institutionalization. The study used theory of communicative action to study 32 Tanzania Small and Medium Enterprise (SMEs) and result showed that environmental factors were not favorable for growth of e-commerce in Tanzania. This research study use extended unified theory of acceptance and use of technology (UTAUT2) to study adoption of online shopping in Tanzania. UTAUT2 have constructs which study consumers individual characteristics but in order to have robust investigation of factors influencing adoption of online shopping this study added personal innovativeness, perceived risk and trust.

Hypothesis Development

Performance expectancy (PE): This describes the extent to which utilizing technology proves advantageous to consumers [12]. For the context of online shopping, performance expectancy express the benefits consumer get when using technology as the ability to search information about products from different stores, ability to compare the price from different stores, and ability to track shipped orders and packages at fingertips [13]. The performance expectancy is perceived as the dominant predictors of users' behavior intention to use technology as referring to UTAUT model. This construct was adopted from TAM's perceived usefulness. Previous studies like the study by Musleh et al. [14] elaborated performance expectancy to have significant influence on users' desire to make an online purchase. Based on the factor discussed here, this survey believes that performance expectancy will positively determine behavioral motives to do online shopping. Therefore we hypothesize:

H1: Performance Expectancy positively influences shoppers' behavioral intention to do online shopping

Effort expectancy (EE): This term measures how simple/easy to apply the technology. The term was borrowed from TAM also, perceived ease of using technology (online shopping for this study). For an involuntary activity like a purchasing product online, effort expectancy is the pivotal contributing factor for user intention to apply technology. Therefore designers of mobile applications and websites must guarantee ease of use of their product. Research by [15] indicates that effort expectancy, which is equal to perceived ease of using technology positively influences users' desire to use technology. It is believed that the easier it is to use mobile applications/ website to purchase goods and services online, the more consumers will be positively influenced to do online shopping.

The hypothesis for this construct states:

H2: Effort Expectancy positively influences shoppers' behavioral intention to do online shopping.

Social influence (SI): From UTAUT2 framework social influence expresses consumer adoption of using technology (online shopping) being influenced by important people around the consumer like family and friends, who believe and

encourage the consumer to use technology. Social influence has the same meaning as the subjective norm from theory of reasoning action (TRA) [16] and theory of planned behavior (TPB) [17]. Consumers' intention to do online shopping is a voluntary action, and social influence possesses direct influence on personal willing to use technology because of personal desire to keep social status high [18]. In consumer context, social setup proved to portray positive outcomes on behavior intention to apply technology. This is strongly proved to be true by the studies [19,20]. Therefore, we hypothesized:

H3: Social Influence positively influences shoppers' behavioral intention to do online shopping.

Facilitating condition (FC): The term aims to assess the presence of necessary equipment and support for the user to use technology. For the context of online shopping, facilitating conditions can be explained as 'consumers' perception of the presence of materials/equipment and support to help the consumer to develop online shopping behavior. This is adapted from the model of PC utilization (MPCU) [21] as the environmental factors which enable the easy accomplishment of the desired task. The resources and support for this setting are like having high-speed internet connection, having smartphones and computers, and the presence of customers' service or presence of contact information on online shopping websites/mobile applications. This plays significant part in behavior intention to apply technology. Thus, hypothesis states:

H4: Facilitating Condition positively influences shoppers' behavioral intention to do online shopping.

Hedonic motivation (HM): This constructs explain the kind of entertainment and joy (good feeling) users acquire when using technology. For the setting of online shopping, a website and mobile application which gives the buyer some fun or pleasure is, likely to attract more customers. This is also adopted from the model of PC utilization (MPCU) [21] which is known as effects towards use. Effects towards use are used to assess feelings of excitement, comfortability, or happiness associated with when consumers use a certain service. The previous study shows that hedonic motivation has positive influence on behavior intention to use technology [9]. Thus, it's hypothesized as follows:

H5: Hedonic Motivation positively influences shoppers' behavioral intention to do online shopping

Price value (PV): Price value is defined as a "consumers" cognitive tradeoff between the perceived benefits of the application and the monetary cost for using them". But when referring to online shopping, the cost and pricing structure of goods or services have a positive impact on customers' attitudes toward online shopping [19] . So, if the price of goods and services is low and possesses good quality compared to the physical store, consumers will opt to adopt online shopping. This is hypothesized as follow:

H6: Price Value positively influences shoppers' behavioral intention to do online shopping.

Habit (HB): Habit is defined as "the extent to which people tend to perform behaviors automatically because of learning" Limeyen et al. [22]. Studies [9,23] showed that habits have an indispensable role in consumers' continuous usage of online shopping application for buying products online. For this survey, we hypothesize:

H7: Habit positively influences shoppers' behavioral intention to do online shopping

Personal innovativeness (PI): A research by Slade et al. [19] describes this as the personal desire to find innovation or novelty by means of trying new technology. Doing online shopping instead of visiting the physical store is an innovative behavior [13]. Personal Innovativeness measures the willingness of person to adopt a new technology. The research by Limeyem et al. [24] showed that personal innovativeness influence behavior intention for customers to do online shopping. The proposed hypothesis is:

H8: Personal Innovativeness positively influences shoppers' behavioral intention to do online shopping

Perceived risk (PR): The construct express the feeling of uncertainty customers encounter when buying goods in online platform. An online shopper may encounter three forms of risk, namely financial risk, privacy risk and product risk [25]. Customers feel those risks because of lack of physical access to products and sales people, as the business is conducted via the internet. For the case of Tanzania, online venders tend to use pay on delivery systems, while buyers provide information on where goods should be delivered. Due to this, financial risk and privacy risk seems to be

invalid. Because of that, this study investigated product risk only. Lack of physical access to products rises concern of product risk, in which consumers feel that the product may perform unexpectedly. In general, perceived risk negatively impacts the attitude of buyers to perform online shopping. The proposed hypothesis for this is:

H9: Perceived Risk negatively influences shoppers' behavioral intention to do online shopping.

Trust (TR): In E-commerce and marketing studies, consumers' trust of the vender is the most important factor for the growth of the business. Trust is defined as consumers' belief, that each party involved in business transactions will fulfill their obligations. It provides expectations of successful transactions, so it acts as the motivation to the customers. Lack of Trust will lead to poor adoption of online shopping activities [26]. Trust consists of a set of consumers' beliefs towards online shopping vendors like integrity, benevolence, ability, and predictability, which leads to behavioral intention. The proposed hypothesis for this is:

H10: Trust positively influences shoppers' behavioral intention to do online shopping.

Proposed Research Model

For a deep understanding of factors influencing Tanzanians to purchase online, this survey modified UTAUT2 framework by incorporate consumers' related constructs which are Personal Innovativeness, Perceived Risk, and Trust. After adding those constructs, the proposed research model is presented in Figure 1.

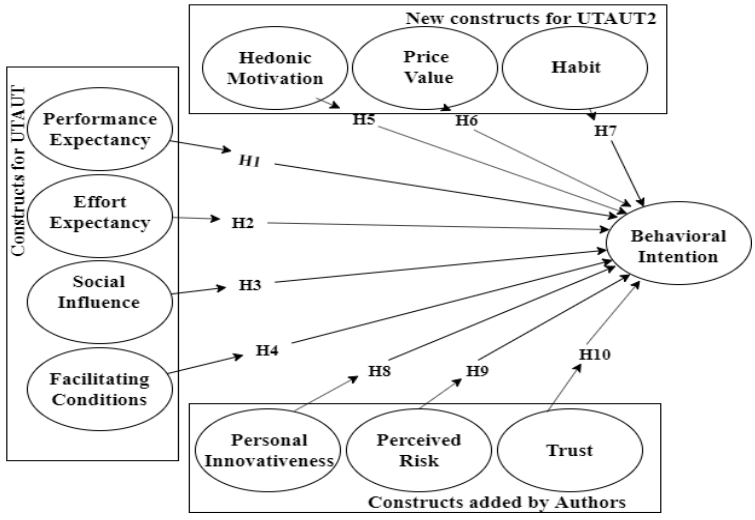

Figure 1: Research Model.

METHODOLOGY

Instrument Development

This research study used a quantitative survey in which the questionnaire was designed based on previous studies related to online shopping. The questionnaire had two parts, and the first part aimed to ask about participants' biodata including age, gender, shopping experience, education level, monthly income, and job description. The second part had 34 questions that consisted of all research model variables. The five-point Likert scale starting with 'strongly disagree' (1) to 'strongly agree' (5) was used to assess the measured variables. This scale is commonly used to measure behavior directly. The respective questions for the constructs like effort expectancy, social influence, facilitating conditions, hedonic motivation, habit and price value were adopted from study by Venkatesh et al. [12]. On the other hand, performance expectancy questions were borrowed from study by [27], behavioral intention questions were borrowed from study [28], and trust questions were borrowed from study [29]. Furthermore, we adopted perceived risk questions from [25], while personal innovativeness questions were borrowed from study [30].

The questionnaire passed through a pilot test by 30 online shoppers in Tanzania. A pilot test is to get participants' views about questions and to ensure respondents can easily understand, perceive or interpret the questions. The result of the pilot test showed that respondents can understand the questions very clearly. Items used to measure each construct are presented in Appendix.

Sample Design and Data Collection

The targeted population was Tanzanians with experience in online purchasing. The experience was needed in order to ensure good reliability of the study [31] and that respondents answer questions about what they understand. Then rule of thumb of ratio 10:1 was used to know the desired sample size of the survey, whereas 10 present minimum number of respondents per 1 item measure of the variables. Whereby to calculate sample size is done by multiplying 10 with the number of items in the theoretical model [32]. This is very widely used criterion for calculating sample size. This technique was selected because it is easy and efficient to give minimum required sample size for study because we did not know the population size of online shopping users. For this research study, numbers of constructs are 11 with 34 items to measure those constructs. Then the minimum number of respondents is 10 time's

number of measured items 34. Result of calculation gives us minimum sample size required for this study to be equal to 340.

The questionnaire was distributed to respondents using social media, namely WhatsApp, Facebook, Instagram, and email. The link of Google form with the questionnaire was shared on those social media using mobile applications and websites:- with the main scenario that social friends would forward to friends (snowballing) until we manage to get the targeted sample size. A total of 364 respondents living in Tanzania participated in this research study. The questions were fixed to mandatory so that respondents could answer all the questions.

Data cleaning involved removing respondents who answered straight-line (the same answer numbers) to all questions. Those answers indicated that the respondents were answering the questions with no thought at all. The process of cleaning the data reduced the sample to 346, which meet the targeted sample size of 340. Table 1 shows the demographic distribution of respondents.

Table 1: Demographics of respondents.

Demographic Group	**Demographic Category**	**Frequency**	**Percentage**
Gender	Male	281	77
	Female	83	23
Age Group	18-29 Years	114	30
	30-39 Years	231	64
	40-49 Years	17	5
	More than 50 Years	2	1
Education	Secondary School	18	5
	Certificate-Diploma	51	14
	Bachelor Degree	186	51
	Masters and above	109	30
Job Description	Government Employee	172	47
	Private Sectors	93	26
	Self Employed	52	14
	Students	47	13
Monthly Income in Tshs	Less than 100,000	49	14
	100,000-490,000	89	25

	500,000-1,000,000	109	30
	More than 1,000,000	117	31
Shopping Experience	Less than 2 times	100	28
	2-5 times	137	38
	6-10 times	39	11
	More than 10 times	88	23

DATA ANALYSIS

The sample data used for analysis were 346, descriptive statistics which show demographic presentation of the sample data were analyzed using SPSS software. Partial Least Square-Structural Equations Modeling (PLS-SEM) method was used to analyze the proposed research model. The analysis was done using Smart PLS 3.0 software. This method was selected because of its ability to work with small sample size and without restriction of data distribution [32]. PLS-SEM analysis follows a two-step approach:- first is analysis of measurement model convergent validity which was evaluated via factor loading, composite reliability, average variance extracted (AVE), and Cronbach's Alpha. Second: followed by assessment of the discriminant validity of all items and variables in the study. Second is analysis of the structural model, which was also assessed by looking at R^2, Beta, t-values, effect size and the predictive relevance of the model.

RESULTS AND DISCUSSION

Measurement Model

Based on a study by [32], reflective measurement model is evaluated by checking convergent indicator validity, by checking factor loadings (loadings), Cronbach's Alpha, Average Variance Extracted (AVE), and Composite Reliability (CR). Items loading presents relative importance of measured variable (items reliability), so item loadings are recommended to be greater than 0.7 [33]. The composite reliability measure scale reliability of latent constructs, a value greater than 0.7 was considered acceptable [32]. The average Variance Extracted (AVE) measure convergent validity of latent constructs, a value greater than 0.5 was acceptable [32],while Cronbach's alpha which is the average measure of internal consistency and measured reliability,

value greater than 0.7, was considered acceptable [32]. The results are presented in Table 2.

Table 2: Validity and Reliability of Constructs

	Items	**Loadings[a]**	**AVE[b]**	**CR[c]**	**Cronbach's Alpha[d]**
Performance	PE1	0.785	0.623	0.868	0.798
expectancy	PE2	0.838			
	PE3	0.772			
	PE4	0.760			
Effort	EE1	0.776	0.701	0.904	0.858
expectancy	EE2	0.852			
	EE3	0.858			
	EE4	0.860			
Social	SI1	0.816	0.643	0.843	0.723
influence	SI2	0.708			
	SI3	0.873			
Facilitating	FC1	0.778	0.585	0.808	0.644
conditions	FC2	0.795			
	FC3	0.719			
Hedonic	HM1	0.822	0.781	0.914	0.860
motivation	HM2	0.924			
	HM3	0.902			
Price value	PV1	0.879	0.755	0.902	0.838
	PV2	0.873			
	PV3	0.854			
Habit	HB1	0.834	0.716	0.883	0.805
	HB2	0.845			
	HB3	0.859			
Personal	PI1	0.805	0.640	0.842	0.718
innovativeness	PI2	0.754			

	PI3	0.838			
Perceived risk	PR1	0.904	0.742	0.895	0.868
	PR2	0.749			
	PR3	0.920			
Trust	TR1	0.902	0.808	0.927	0.882
	TR2	0.919			
	TR3	0.876			
Behavior	BI1	0.903	0.793	0.920	0.869
intention	BI2	0.904			
	BI3	0.864			

Note: This table shows the result of the assessment of the convergent validity of the measurement model. Facilitating conditions constructs has Cronbach's alpha which is less than suggested by Hair et al. 2011, so the construct is dropped.

After we checked convergent validity next to that, we tested discriminant validity using Fornell-Locker criterion and new approach suggested by Henseler et al. [34] known as Heterotrait-Monotrait (HTMT) ratio criterion. Discriminant validity shows independence of every item on its latent construct this measure help to assess the existence of multicollinearity between the latent construct. Fornell-Locker criterion which looks on the square root of the AVE (diagonal values) supposed to be larger than its corresponding correlation coefficients results are presented in Table 3. And finally looking at Heterotrait-Monotrait (HTMT) ratio criterion which was assessed by looking at HTMT value must be higher than $HTMT_{.85}$ value [35]. This is a new criterion that indicates approximation of the true correlation between two latent constructs. Henseler et al. [34] suggested that the value above 0.90 indicate absence of discriminant validity. Results are presented in Table 4.

Table 3: Discriminant Validity (Fornell-Locker criterion)

	BI	**EE**	**HB**	**HM**	**PR**	**PE**	**PI**	**PV**	**SI**	**TR**
Behavior intention	**0.890**									
Effort expectancy	0.460	**0.837**								
Habit	0.428	0.281	**0.85**							
Hedonic motivation	0.500	0.532	0.35	**0.884**						
Perceived risk	0.083	0.153	-0.060	0.103	**0.861**					
Performance expectancy	0.430	0.571	0.340	0.443	0.117	**0.789**				
Personal Innovativeness	0.410	0.417	0.260	0.448	0.150	0.301	**0.800**			
Price Value	0.575	0.405	0.430	0.495	0.062	0.461	0.481	**0.869**		
Social influence	0.347	0.305	0.400	0.406	-0.030	0.251	0.322	0.325	**0.802**	
Trust	0.561	0.344	0.530	0.509	-0.110	0.361	0.353	0.518	0.451	**0.899**

Note: The diagonal value which is bolded present the square root of AVE and those off diagonals presents correlations. This present inter-constructs correlation, from the table it shows that variables share more variances with their indicators than with other variables.

	BI	EE	HB	HM	PR	PE	PI	PV	SI	TR
Behavior intention										
Effort expectancy	0.522									
Habit	0.495	0.321								
Hedonic motivation	0.570	0.616	0.407							
Perceived risk	0.083	0.170	0.070	0.134						
Performance expectancy	0.513	0.69	0.418	0.529	0.127					
Personal Innovativeness	0.513	0.525	0.339	0.56	0.211	0.396				
Price Value	0.669	0.467	0.513	0.578	0.074	0.565	0.616			
Social influence	0.429	0.392	0.504	0.499	0.093	0.324	0.464	0.410		
Trust	0.637	0.390	0.613	0.572	0.128	0.423	0.442	0.601	0.549	

Table 4: Dicriminant validity (Hetorotrait-Monotrait (HTMT)).

Note: Gray boxes are standard reporting formats for HTMT criterion

Structural Model

The inner model conveys relationships between latent constructs and errors in the equations. With the inner model, we were capable to estimate the relationships among latent constructs, test the overall model with respects to individual paths, and be able to model errors in the equations. Based on study by to Hair et al. [32] the valuation of the structural model is done by evaluating collinearity issues, checking significances and relevance of the inner model relations, then the value of R^2, beta, and t-value obtained after doing bootstrapping procedures with 5000 resample. Moreover, they suggest after checking the measure above the researcher must report the effect size (f^2) and predictive relevance (Q^2) of the inner model.

Researchers started by assessing literal collinearity in the structure model. Literal collinearity happens when two variables that are theorized to be causally related measure the same construct. So before evaluating the structural model researcher is advised to check for literal collinearity between the independent construct and dependent construct. Literal collinearity must be evaluated despite the factor that the discriminant validity criterion is already met by the outer model. Because lateral collinearity can leady to misleading results like masking strong causal effects in the model [36]. The assessment of collinearity was done by looking at the inner Variance Inflation Factor (VIF) value. This can show the presence of multicollinearity in the structure model. The inner VIF value result is presented in Table 5.

Table 5: Inner VIF.

Constructs	**BI**
Behavior intention	
Effort expectancy	1.823
Habit	1.529
Hedonic motivation	1.869
Perceived risk	1.096
Performance expectancy	1.692
Personal Innovativeness	1.505
Price Value	1.822
Social influence	1.404
Trust	1.915

Note: The value of VIF correlations are below 3.3 which indicates no strong indications of multicollinearity.

The direct effect between nine exogenous variables and one endogenous variable was assessed by conducting bootstrapping with 5000 resample and 5% confidence interval. This process measures the strength of the proposed model and allows testing the strength of the proposed hypothesis. Out of nine suggested hypotheses tested six were not supported (H1, H3, H5, H7, H8, and H9) while three were supported (H2, H6, and H10). The result is presented in Table VI illustrates that the

effort expectancy significate influences behavior intention to do online purchase among Tanzanian (β=0.133; p<0.05). The accepted hypothesis planned that the effort expectancy would positively influence behavior intention to do online purchases. Price value significate influence behavior intention to do online shopping (β=0.242; p<0.05). The accepted hypothesis was suggested that price value would positively influence behavioral intention to do online purchases. The last accepted hypothesis is the trust which is significate influence behavior intention to do online shopping (β=0.257; p<0.05) and the accepted hypothesis was proposed that trust would positively influence behavior intention to do online purchase.

After all, we checked how the independent variable describes dependent variable (behavior intention) by looking at the value of R^2. The value of R^2 obtained by the model is 0.484 which indicates that performance expectancy, effort expectancy, social influence, hedonic motivation, habit, price value, personal innovativeness, perceived risk, and trust explain 48.4% of variance of behavior intention to do online shopping. The R^2 value of 0.484 is closer to the 0.50 value that Hair et al. [32] recommend would indicate moderate model. Effect size shows the influences of each exogenous variable on endogenous variables done by investigating the R^2 value. To know the exogenous variable effect size is done by looking at the R^2 value when that exogenous variable is included and the R^2 value when that exogenous variable is not included. The result of the effect size of each exogenous variable is presented in Table 6. but according to the Cohen [37] value of 0.02, 0.15 and 0.35 indicate small, medium and large effect size (f^2) and value below 0.02 indicates there is no effect. Now from Table VI, it shows that all effort expectancy, price value, and trust shows small effect size and others show no effect at all.

Q2 test by Stone and Geisser, commonly known as Stone-Geisser's Q^2 value is used to evaluate the predictive relevance of the inner model. This value allows evaluating each exogenous variable predictive relevance for a given endogenous variable. The Q^2 value is obtained by doing the blindfolding procedure on SmartPLS software. The value was obtained by calculating the value of Q^2 when the exogenous variable is included and when it is not included. Table 6 shows the result of calculated predictive relevance. Where the value of 0.02, 0.15 and 0.35 indicate week, moderate and strong predictive effect. Now our results show that the Price value and Trust has a week predictive relevance effect of 0.04 meanwhile remain exogenous variables show no predictive relevance.

Table 6: Hypothesis test.

Hypothesis	Relationship	std Beta	std error	[t-value]*	Decision	f^2	Q^2
H1	PE → BI	0.056	0.056	0.912	Rejected	0.00	0
H2	EE → BI	0.133	0.054	2.532*	Accepted	0.02	0.01
H3	SI → BI	0.014	0.048	0.201	Rejected	0.00	0
H5	HM → BI	0.088	0.060	1.408	Rejected	0.01	0.00
H6	PV → BI	0.242	0.062	4.042*	Accepted	0.01	0.00
H7	HB → BI	0.085	0.047	1.765	Rejected	0.07	0.04
H8	PI → BI	0.059	0.050	1.054	Rejected	0.00	0.00
H9	PR → BI	0.049	0.066	0.884	Rejected	0.01	0.00
H10	TR → BI	0.257	0.061	4.317*	Accepted	0.06	0.04

Note: critical t-values. *1.96 ($p<0.05$) for the two tailed test

DISCUSSION

The results of this research study show that effort expectancy significant influences behavior intention to do online shopping. The finding relate with findings in the past studies [38,39]. This implies that Tanzanians perceived easy of using shopping mobile applications and websites in doing shopping would significantly impact their intention to do shopping of products and services online. So online shopping vendors and mobile application and website developers should consider ease of use during designing of their mobile application/website.

This study verifies that price value significantly influences behavior intention to do online shopping among Tanzanians. This finding relates to findings from studies by [28,40]. This conclusion also supports the result of UTAUT2 model which anticipates that Price value positively influences behavior intention to use technology. The rational justification of these findings might be that the cost and pricing structure of goods and services sold online have positive influence on Tanzanian intention to do online shopping. Increase advertisement for promotion, discounts and flash sales would attract more Tanzanian into adopting online shopping.

This study also proves that trust has a significate influence on behavior intention to do online shopping which is in line with other studies [14,41,42]. This implies that trust in using online shopping has a positive impact on behavior intention to shop goods

and services online. With this result developer of a mobile application/ website for online shopping which targets the Tanzanian market must develop mobile application/website which attracts users' trust mostly by using user-center design by including all elements of trust. Also to follow usability guidelines for designing E-commerce like home page to contain all categories of products, navigation in home page must be easy as possible, and putting the advertisement of flash sales, promotion in home page for the visitor to see easy. For online shopping vendor in Tanzania, they must find a way to increase trust in their brand (institution trust) for customers to feel safe when they do online shopping. This will attract more Tanzanian towards using online shopping as a way to get goods and service.

CONCLUSION, LIMITATION AND FUTURE RESEARCH

To know the factors that influence Tanzanians to purchase goods and services online, this research used the extended unified theory of acceptance and use of technology (UTAUT2). The study intended to advance our understanding of UTAUT2 and how to apply it in developing countries' setting. In this research study, we modified UTAUT2 model by adding another consumer's related constructs such as Personal Innovativeness, Product Perceived Risk, and Trust. The theoretical contribution of this study is the addition of those constructs in UTAUT2 model. While the practical contribution of the study is to understand factors influencing Tanzanians to purchase goods and services online. The results show that effort expectancy, price value, and trust significantly influenced Tanzanian to make online purchases. Knowing those factors can help online shopping venders and E-commerce mobile application/ website designers the strategic input on how to localize business and design in order to accelerate the adoption.

There is no research study without limitations; limitations give room for future study. First, the survey was conducted in Tanzania, so the results reported in this study reflect the views of Tanzanians regarding their online shopping behaviour. Second, the study didn't investigate the moderating effects of age, gender, shopping experience and monthly income on behaviour intention to do online shopping. Therefore, future researches should investigate further on those moderating factors and use behaviour.

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