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ONLINE PAYMENT OPTIONS AND CONSUMER TRUST: DETERMINANTS OF E-COMMERCE IN AFRICA

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ABSTRACT
The purpose of this paper is to investigate the effect of online payment options and consumer trust on the awareness and perception of e-commerce in Africa. A five-construct model was developed and empirically tested utilizing the structural equation modeling (SEM) technique to probe answers for the variables under study. More than 750 professionals and college students who reside in Somalia responded to an online questionnaire; 744 clean responses were selected for analysis after removing incomplete answers. The study results determined that the availability of locally popular payment options such as mobile payment in Africa affects the level of awareness and public perception towards e-commerce. Moreover, the current global online payment options overlook the local technologies popular in Africa. Also, consumer trust was found to be a good determinant of the awareness and perception of e-commerce in the Least Developed Countries (LDCs). This paper finds that including more payment options would make a difference in Africa. It also shows that low consumer trust could be influenced if consumers are given assurances for their online financial transactions. This paper contributes to the existing literature proving that various online payment options and consumer trust can be strong determinants of e-commerce, even in LDCs such as Somalia. Also, it added a new value to the current understanding of the impact of both awareness and perception of e-commerce on the propensity for online shopping by finding contradictory results in the research context.

KEYWORDS: online payment, consumer trust, e-commerce awareness, e-commerce perception, online shopping propensity, Least Developed Countries

JEL CLASSIFICATION: L81, D12, E42

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INTRODUCTION

For many years, brick-and-mortar stores were the main popular places to go for shopping for global consumers. However, thanks to technological advancements for the last three decades, e-commerc has evolved as a viable option for consumers replacing traditional shopping. Today, Internet shopping is no longer an only option, but a dominant form of shopping as sales growth from the Internet outpaced that of regular and traditional channels (Roudposhti et al., 2018; Schwarzl & Grabowska, 2015; Wang, Lin, & Tai, 2016). E-commerce allows existing companies to reach their regular and potential customers through e-stores cost-effectively while providing consumers with more merchandise options and the availability of products anytime, anywhere.

However, for the majority of developing countries, especially in Africa, the image of e-commerce is not as attractive and striking as for developed nations. Africa has more work in Internet diffusion and much more in e-commerce. For example, according to Internet World Stats (IWS) (2017), Africa's Internet penetration is as low as 31.2%, the lowest when compared to other regions (e.g., Asia, 46.7%; Europe, 80%; and North America, 88%). These are worrisome figures considering that the continent hosts almost

1.3 billion people. However, the future is promising for Africa as it has made 8,503.1% growth in Internet usage for the last 17 years (between 2000 and 2017). Within the same period, for comparison, Asia grew 1,595.5%; Europe, 527.6%; and North America, 196.1%. Therefore, Africa's Internet acceptance and usage rate has increased dramatically during the last decade.

The rise and the impact of the Internet in Somalia are significant and noteworthy. According to IWS (2017), the growth rate of Internet usage in Somalia was 449,900% between 2000 and 2017, meaning Somalia exhibited the second highest Internet usage growth in Africa, only second to the Democratic Republic of Congo. In addition, Somalis became pioneers of mobile banking during this time period. The country has one of the most active markets in the world for mobile money usage (Firestone, Kelly, & Rifon, 2017). More than 70% of the population has mobile accounts compared to 15% who use formal bank accounts. In addition, more than 80% of mobile phone owners use mobile money (more than 85% of Somalis aged above 16 years old have subscribed to a phone company). These stats are the major reasons for the increasing number of e-retailers being established in the country and a strong call for the global e-retailers to establish their presence in Somalia.

Since Somalia is one of the least developed countries in the world, this paper takes the country as a case to study e-commerce in the developing world, especially in Africa. Particularly, the paper focuses on the awareness level and perception of e-commerce in Somalia and examines the importance of consumer trust issues and the online payment options available since the use of mobile money is more popular in the country than ATM cards. Therefore, the goal of this study is to investigate the impact of consumer trust and online payment options on the awareness and perception of e-commerce, and propensity to shop online. We develop a five-construct model and empirically test the model using structural equation modeling (SEM) technique to conduct path analysis.

2 LITERATURE REVIEW

2.1 Online Payment Options, Awareness and Perception of E-Commerce, and Propensity to Shop Online

Because of the dominance of studies conducted in the West in the literature, the majority of the research has overlooked some variables deemed essential in Africa, hence assuming that characteristics of African consumers are similar to those in the West or Asia (Kwarteng & Pilik, 2016). However, for example, electronic payment options that are commonly used in Western and Asian countries are still new and emerging in Africa and in need of extensive research to identify their impact on various stakeholders, including consumers (Kabir, Saidin, & Ahmi, 2015). As a result, the majority of the studies ignored payment problems in Africa as an option when studying online consumer behavior although this affects African consumers' adoption of e-commerce as a viable option. This omission is logical because online payments are a non-issue in developed countries since they have well-established and functioning financial systems. However, in Africa, these online payment options alone are a significant factor that denies millions of consumers from joining the e-shopping bandwagon.

In addition, the majority of African consumers are not familiar with credit or debit cards. Gholami, Ogun, Koh, and Lim (2010) found that there is evidence that the lack of effective electronic payments solution in Nigeria affects the awareness level of electronic shopping. In another study by Antwi, Hamza, and Bavoh (2015), Ghanaian consumers prefer mobile money payment option over ATM cards even though this mobile payment option is not supported by the popular global e-retailers. Because of these challenges, African consumers believe that there are not many payment options available for them, so the majority of them overlook the e-shopping phenomenon hence the propensity to shop online in Africa is not stepped up (Kabir et al., 2015). Therefore, using this rationale, this research developed a model that

integrates "online payment options" as a construct in the framework and tested its impact on other factors. The proposed hypotheses are

H1*. Online payment options directly affect the awareness of e-commerce in Somalia.*
H2*. Online payment options determine the perception of e-commerce in Somalia.*
H3*. Online payment options are the reason of Somali consumers' propensity to shop online.*

2.2 Consumer Trust, Awareness and Perception of E-Commerce, and Propensity to Shop Online

Consumer trust is a major factor hindering the spread of e-commerce awareness and perception in the majority of developing countries, including Africa (Naberesah, 2014). However, many authors agree that the Internet trust issues is now more of a psychological risk than real financial or technological risks (e.g., Han & Kim, 2017); consumers only need to be reassured that they are protected through good marketing tools (Kovanoviene, Romeika, & Baumung, 2021). On the other hand, there are other pressing e-commerce problems to be tackled in the developing countries. For example, consumers are still not confident of the reliability and delivery capability of e-retailers in these countries. Hong, Farha, Zulkiffli, and Hamsani (2016) found that product risk, financial risk, and non-delivery risk have a significant impact on consumers' attitude toward online shopping. Also, in another study, consumers' attitude is negatively affected by fear of giving financial details and financial loss (Moshrefjavadi et al., 2012).

Once e-commerce companies start handling these issues, then the frequency of Internet shopping is a good indicator of consumers' trust in the Internet as an alternative shopping channel. As Pappas (2016) concluded, the amount and frequency of online purchases made were the results of perceived benefits and perceived risks of Internet shopping among consumers. In general, frequent shopping from the Internet is preceded by a positive attitude toward e-shopping. For example, Chen et al. (2016) found that consumers with high attitude scores are more likely to do online shopping more frequently compared to consumers with low scores.

In addition, if consumers accept e-commerce as a viable shopping option, then a wider adoption and a regular propensity to shop online would follow. As Pappas (2016) pointed out, the perceived benefits of online shopping should be greater than its perceived risks. Also, Soopramanien and Robertson (2007) determined that e-retailers who integrate technologies that consumers are familiar with into their platform would experience success. Therefore, this study predicts,
H4*. Consumer trust determines the awareness level of e-commerce in Somalia.*
H5*. Consumer trust directly affects the perception of e-commerce in Somalia.*
H6*. Consumer trust precedes Somali consumers' propensity to shop online.*

2.3 Awareness and Perception of E-Commerce, and Propensity to Shop Online

A major reason of the low take off of e-commerce in Africa is the low awareness of the shopping approach. Many African countries have not yet even formed a perception of the relevance of these online stores. Although e-commerce is keeping pace with technological advancement, in-stores are still the places-to-go for shopping for the majority of consumers in the developing world. Customers' preference of online stores in these countries is very low compared to mortar-and-brick stores (Kwarteng & Pilik, 2016) and the preference of in-stores over e-stores is widespread (Saleh, 2015). After identifying the reason for this preference, Soopramanien and Robertson (2007) concluded that demographics, attitude, and beliefs affect how consumers adopt and use the Internet for shopping.
There is a long way to go for ensuring a wider adoption of e-shopping in Africa. Nabareseh (2014) warns the need for the governments' roles in various areas such as setting up Internet shopping regulations and preparing the critical infrastructure required. There are also cultural issues that are delaying the mass

adoption of e-commerce in the developing world. For example, countries with high masculinity, females only do not decide when and what they buy from the Internet (Rigas & Riaz, 2015). According to Rigas and Riaz (2015) males do not only influence their e-retailing decisions; they even sometimes make purchases for the females' behalf. Because of this male dominance, many females are not aware of the emergence of new e-retailers in these countries.

To better measure the awareness level and perception of e-commerce, we adopted questions from Raman and Pramod (2015) and Xu and Paulins (2005). The main reason for this adoption is that these studies have already worked on the reliability and validity of the relevant question items. This ensures we have integrated proper and relevant queries.

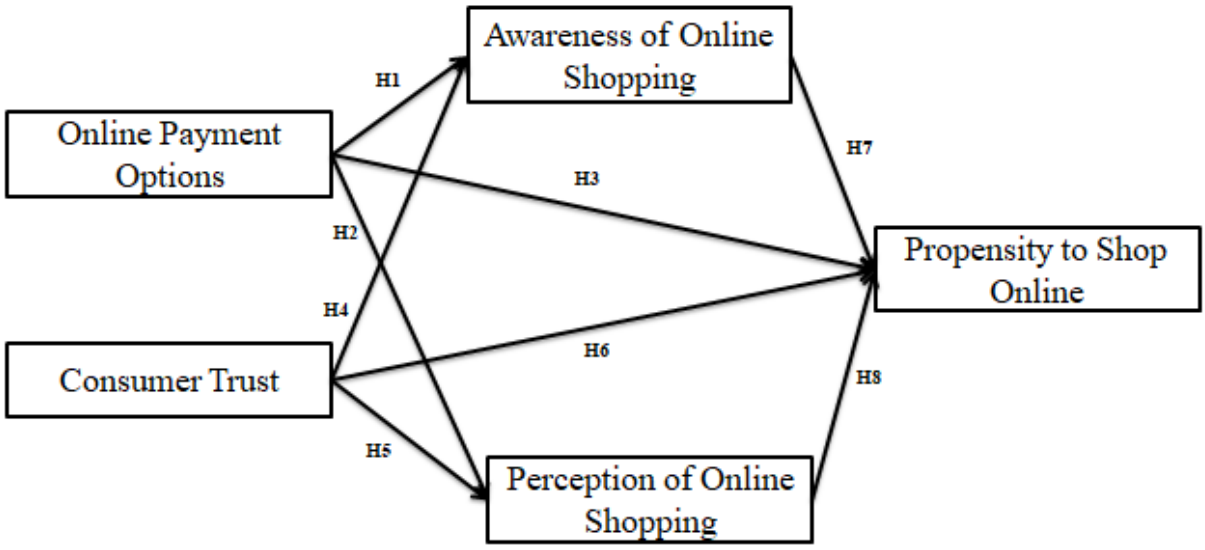
H7. *Awareness of e-commerce determines Somali consumers' propensity to shop online.*

H8. *Perception of e-commerce affects Somali consumers' propensity to shop online.*

2.4 Conceptual Framework

To better answer the specific questions raised in this research, we developed and empirically tested a model (shown in Figure 1 below) that suits best to the study. Some of the theoretical aspects of the framework are derived from the literature. For example, the relationships between the variables "consumer trust", "awareness of online shopping", "perception of online shopping" and "propensity to shop online" are derived from the studies of Hong et al. (2016), Moshrefjavadi et al. (2012), and Pappas (2016). However, there is an inclusion of a new variable in the model, "online payment options", which is important in the context of developing countries, namely Africa.

Figure 1 **Conceptual Framework**



(Source: own research*)*

3 METHOD

In order to test our hypothesis, we employed a questionnaire method for the data collection. We distributed it through online means and targeted Somali professionals, including experienced

professionals and newly-graduated students, and current students who reside in Somalia. In a period of almost two months, the study collected 760 responses through a questionnaire administered online. The large sample size allowed deep analysis of each target population such as professionals and fresh college graduates; it also enables comparisons of different variables; hence, making the generalization of the findings more likely.

The questionnaire was adopted from the body of relevant research knowledge. The paper could not adopt a complete questionnaire from a single source since the paper has a complicated and multi-variables structure. Hence, with a combination of different relevant question items, the paper finally adopted a questionnaire with 20 question items. As for the first construct, "awareness of online shopping", the research adopted five question items from Raman and Pramod (2015). The reason for this adoption was the relevance of the question items to the study. Also, for the second construct, "perception of online shopping", the paper used five questions from Xu and Paulins (2005). Again, the target of this study was similar to the research target; therefore, there was a high relevance of the question items to the paper. Furthermore, question items for the "consumer trust" and "propensity to shop" was adopted from Kelvin (n.d.) and Eriksson et al. (2017) respectively. These two studies were also relevant to the paper. Finally, once the paper could not find relevant question items, the research developed question items for the "online payment options". This was difficult because the local technology available in Somalia was difficult to find in other contexts.

The questionnaire was administered for almost two months the reason being to collect quality responses. To collect only relevant responses for the study, we did not publish it publicly, but instead we personally shared it with confirmed and known participants. Furthermore, we followed them every two to three days to increase the response rate of the distributed questionnaire.

As the first step of the data analysis, the data was cleaned up to prepare for analysis. Thirteen responses were removed as more than 20% of their answers were missing. We also removed 3 respondents who were unengaged in the questions. This was demonstrated by giving the same responses, i.e., "agree" to almost all the statements. Therefore, 744 clean responses became available for further analysis.

The study then used the partial least squares path modeling or partial least squares structural equation modeling (PLS-PM, PLS-SEM) which is a method of structural equation modeling which allows estimating complex cause-effect relationship models with latent variables. The PLS-SEM is best suited for predicting behavioral changes when complex latent variants are being examined. The PLS-SEM includes some critical variables which are useful for the analysis such as Exploratory Factory Analysis (EFA), model validity and reliability test, and the KMO which measures sampling adequacy.

PASW Statistics 18 was used to summarize the descriptive and inferential statistical data shown in the following analysis. Table 1 below summarizes the demographic profile of the respondents.

Table 1 **Demographic Profile of the Respondents**

Variable		Frequency	Percentage
Gender			
	Male	566	76.1
	Female	178	23.9
	Total	744	100.0
Age			
	Below 20	58	7.8
	20 - 30	601	80.8

	31 - 40	73	9.8
	41 - 50	9	1.2
	51 and Above	3	.4
	Total	744	100.0
Education Level Finished			
	High School	65	8.7
	Bachelor Degree	479	64.4
	Master Degree	189	25.4
	PhD	11	1.5
	Total	744	100.0
Current Status			
	Student	252	33.9
	Professional	492	66.1
	Total	744	100.0
Internet Usage			
	Sometimes	154	20.7
	Frequently	273	36.7
	All the time	317	42.6
	Total	744	100.0
Primary Internet Access Point			
	Cybercafé	2	.3
	University	36	4.8
	Workplace	135	18.1
	Home: Mobile	443	59.5
	Home: Laptop	128	17.2
	Total	744	100.0

(Source: own research*)*

As shown in Table 1, six factors were used to collect the demographic information relevant to the study. Gender was the first demographic variable. Then, their ages, educational background, current position, usage of the Internet followed.

Several question items were used to measure the different constructs used in the study. The question items for the four variables were adapted from the literature, but the items for one construct (i.e., Online Payment Options) were self-developed ones since it required local technology familiarity and knowledge. See Appendix 1 for the detailed information of the question items used in the questionnaire and their sources.

4 RESULTS

4.1 Structural Equation Modeling (SEM): Path Analysis

4.1.1 Exploratory Factor Analysis

The paper used structural equation modeling (SEM) to conduct path analysis. As an initial step, we conducted an exploratory factor analysis (EFA). After a series of iterations and removal of factors with low loadings or cross-loadings, we settled with a pattern matrix with KMO = .767; Sig. < .001; all of the commonalities were above .3; the five-factor model explained 56.24% of the variance; we had less than 2% nonredundant residuals; as evidenced by the convergent validity, we had all the factor loadings above

.5 except PYMN1; as discriminant validity and factor correlation matrix (shown below), and the data had no strong cross-loadings.

Table 2 **Pattern Matrix**[a]

	Factor				
	AWRN	TRST	PRPN	PYMN	PRCP
Cronbach's Alpha	**.793**	**.806**	**.831**	**.735**	**.724**
AWRN1	.559				
AWRN2	.938				
AWRN4	.951				
AWRN5	.540				
PRCP2					.565
PRCP4					.736
PRCP5					.774
PYMN1				.403	
PYMN2				.985	
PYMN3				.648	
TRST1		.577			
TRST2		.687			
TRST3		.729			
TRST4		.853			
PRPN1			.745		
PRPN2			.846		
PRPN3			.770		

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.

4.1.2 Reliability Analysis

We also conducted a reliability test for the internal consistency of the measurement tool. As shown in the pattern matrix (Table 2), all the five factors have shown Cronbach's alpha greater than .7. Therefore, the items used for the analysis were internally consistent.

4.1.3 Discriminant Validity

Table 3 **Factor Correlation Matrix**

Factor	1	2	3	4	5
1	1.000	-.035	-.014	.075	-.038
2	-.035	1.000	.189	.484	.332
3	-.014	.189	1.000	.277	.048
4	.075	.484	.277	1.000	.252
5	-.038	.332	.048	.252	1.000

Extraction Method: Maximum Likelihood.
Rotation Method: Promax with Kaiser Normalization.

As evidenced by the above factor correlation matrix table, there is no value above .7 of all the non-diagonal values, which would indicate sharing a majority of the variance. In addition to that, as evidenced by the pattern matrix (Table 2), the matrix has no strong factor cross-loadings.

4.1.4 Model Validity and Reliability Check

Table 4 **Model validity and reliability check**

	CR	AVE	MSV	MaxR(H)	AWRNS	TRUST	PRPNSTY	PYMNT	PRCPTN
AWRNS	0.846	0.596	0.007	0.946	**0.772**				
TRUST	0.808	0.514	0.227	0.815	-0.023	**0.717**			
PRPNSTY	0.831	0.621	0.075	0.834	-0.033	0.177***	**0.788**		
PYMNT	0.759	0.523	0.227	0.810	0.083†	0.477***	0.273***	**0.723**	
PRCPTN	0.748	0.650	0.135	1.179	-0.014	0.239*	0.101†	0.153*	**0.807**

The research conducted a CFA model validity test and we had convergent validity issues with one latent factor, PRCPTN. After removing the item with the lowest factor loadings, PRCP5, we succeeded in the validity test as evidenced by the AVE all above .5; we have reliability as evidenced by CR all above .7; and we have discriminant validity based on the square root of the AVE being greater than any inter-factor correlation on the above table matrix.

4.1.5 Common Method Bias Test

A common method bias test was conducted to compare the unconstrained common method factor model to the fully constrained, zero constrained common method factor model. In the Chi-square test, it came out to be significant ($p<0.01$) with a 34.9 Chi-square difference and 14 df difference. Therefore, we had significant shared variance which led us to retain the CMF.

4.2 Hypothesis Test

Table 5 **Hypothesis Test**

Hypothesis	***Evidence (Betas, p-values, and R^2)***	***Conclusion***
H1. PYMN -> AWRNS	β = .171; P = .011; R^2 = .31	Supported
H2. PYMN -> PRCPN	β = .272; P < .001; R^2 = .32	Supported
H3. PYMN -> PRPNSTY	β = .332; P < .001; R^2 = .30	Supported
H4. TRUST -> AWRNS	β = .138; P = .039; R^2 = .25	Supported
H5. TRUST -> PRCPN	β = .360; P = .024; R^2 = .46	Supported
H6. TRUST -> PRPNSTY	β = .010; P = .281; R^2 = .16	Not supported
H7. AWRNS -> PRPNSTY	β = .022; P = .250; R^2 = -.03	Not supported
H8. PRCPN -> PRPNSTY	β = .094; P = .481; R^2 = .09	Not supported

As indicated in the table above (Table 5), hypotheses from 1 to 5 were all supported. In the first hypothesis, we found β = .171, p = 0.011, and R2 = .31. This indicates that online payment options greatly amount to the variance, 31%, in the awareness level of Somali consumer. Therefore, we reject the null hypothesis and accept H1. In H2, we tested whether online payment options affect consumers' perception of online shopping. The result indicated β = .272, p < 0.01, and R2 = .32. Therefore, there is a strong evidence of a relationship between the two variables. As such, we reject the null hypothesis and accept H2. We also tested H3 to identify the impact of online payment options on the propensity to shop online. The analysis found β = .332; P < .001; R2 = .30, which indicate a significant relationship between the two variables. As such, we reject the null hypothesis and accept H3. We hypothesized in H4 that consumer trust directly affects the awareness of e-commerce in Somalia. Therefore, as shown in the above table, we accept H1 and reject the null hypothesis (β = .138, p = 0.039, and R2 = .25). In other words, consumer trust greatly amounts to the variance in the awareness level of e-commerce in Somalia.

Therefore, we accept H4. The fifth hypothesis, H5, stated that consumer trust determines the perception of e-commerce in Somalia. The analysis result show β = .360, p = 0.024, and R2 = .46. Therefore, since p-value is less than .05, there is a strong evidence of a relationship between consumer trust and perception of e-commerce. As such, we reject the null hypothesis and accept H5.

Also, the result of hypothesis test shows that hypotheses from 6 to 8 were not supported. H6 tested the relationship between consumer trust and propensity to shop online. The analysis showed β = .010; P = .281; R2 = .16. The relationship is not significant and R2 is not that strong to explain the variance. Therefore, we accept the null hypothesis and reject H6. Finally, in H7 and H8, we test the impact of awareness and perception of e-commerce on the propensity of consumers to shop online. The analysis showed β = .022; P = .250; R2 = -.03 for awareness and propensity, and β = .094; P = .481; R2 = .09 for perception and propensity. Both variables indicated that they do not have a significant relationship with the propensity to shop online. Therefore, we accept the null hypothesis and reject H7 and H8.

CONCLUSIONS

This research examined the determinants of e-commerce in Somalia. Specifically, the study focused on the effect of online payment options and consumer trust on the awareness and perception of e-commerce and how these factors affect the propensity to shop online among Somali consumers.

A major finding of the study was the significant evidence that online payment options impact both the awareness level and perception of e-commerce in Somalia. As hypothesized in the study, consumers in developing countries like Africa prefer more online payment options catered to their local context. For example, mobile payment is an option vastly available in Africa, but not supported by the major international e-retailers, like Amazon and eBay. This confirms the previous findings of Antwi et al. (2015), Gholami et al. (2010), and Kabir et al. (2015), which agreed that African consumers preferred mobile payments over ATM cards; hence, this affected their awareness level of the Internet shopping bandwagon.

As indicated by the hypothesis test result, the study also found that consumer trust determined both the awareness and perception of e-commerce in Somalia. This means Somali consumers still do not trust local and global online retailers. But this lack of consumer trust toward e-commerce sites is prevalent in Africa (Naberesah, 2014) and depends on many other factors (Svatosova, 2020). Although this fear of online risk is more of a psychological risk than a real financial or technological risk (Han & Kim, 2017), African consumers still need reassurances that their interaction with e-retailers is safe and protected, which can be created through good marketing communication tools (Kovanoviene, Romeika, & Baumung, 2021).

However, the most noteworthy finding of the study is that there is no evidence of the impact of both awareness and perception of e-commerce on the propensity to shop online in Somalia. This finding is contrary to the findings of widely accepted existing research (e.g., Das, 2016; Kashyap, Musante, & Donthu, 2008; Richard, Chebat, Yang, & Putrevu, 2010; Saleh, 2016; Svatosova, 2020). The result of these previous studies found evident relationships between awareness and perception of Internet shopping and propensity to shop online. However, this contrary finding from this particular study in the context of Africa can be explained by the following studies such as Akman and Rehan (2014), Kwarteng and Pilik (2016), and Raman and Pramod (2015). For example, Akman and Rehan (2014) found that the behavior of consumers in the developing world might be different from the behavior of consumers in developed countries because of cultural, socio-demographic, and religious differences. They also used "professionals" as a construct in their study, which was another similar variable studied in this research. On the other hand, Raman and Pramod (2015) indicated that consumers' awareness of online shopping

issues is affected by their knowledge related to information technology. This can be another reason why the findings of this study are contrary to many other studies, as the knowledge of IT in Somalia is shallow. The main conclusion of this study is that increased online payment options are needed in Somalia and, in general, in Africa. Any online retailer targeting African markets might face difficult times unless it integrates technologies that are popular locally into their e-stores, like mobile payments. According to the literature of Antwi et al. (2015) and Gholami et al. (2010), this is one of the major factors hindering the takeoff of e-commerce in Africa. This paper also concludes that African consumers' trust toward online retailers is very low, which also affects the level of awareness and perception of e-commerce. This can be solved if consumers are given assurances for their financial transactions (Kovanoviene, Romeika, & Baumung, 2021; Zhou et al., 2018). Again, e-retailers need to educate African consumers that online shopping is just another alternative to the traditional way of shopping (Nabareseh, 2014).

Despite the meaningful findings added to the previous studies done by various researchers, there are some limitations that need to be discussed. First, the participants' responses were self-reported, which means their responses can be 100% trustworthy because consumers' state of mind is not static and can change anytime. Due to the methodological limitation, the authors understand the difficulty of generalizing the results. Also, the study participants only included the educated population of Somalia, professionals, and students, which may have led to the same result as Akman and Rehan (2014). Since the country has a large number of uneducated people who interact with the local technologies, the generalizations of the findings of this study need careful attention, which requires the authors to continue the follow-up research using different sets of populations. Finally, the study considered minimal constructs to investigate the determinants of online shopping in Somalia. Instead of relying on only two factors: consumer trust and online payment options, adding additional factors will help future studies produce more concrete evidence to explain the impacts of other determinants on the propensity of online shopping in the context of the least developed countries, like Somalia.

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APPENDIX I: MEASUREMENT SCALES

Construct Dimension	Item Coding	Item Description	Source
Awareness of Online Shopping (AWRN)	AWRN1	I heard a lot about e-commerce or internet shopping.	Adapted from Raman and Pramod (2015)
	AWRN2	I think I can explain what e-commerce is.	
	AWRN3	I already bought a product from the Internet.	
	AWRN4	I know some online shops (e.g., Amazon, eBay, or Alibaba) which sell products on the Internet.	
	AWRN5	I know Somali websites that sell products online (Samionline, Hubaal Inc., or SOSTEC Inc.).	
Perception of Online Shopping (PRCP)	PRCP1	The prices of products sold online are lower than the same products sold in stores.	Adapted from Xu and Paulins (2005)
	PRCP2	Online retailers cannot offer good customer services.	
	PRCP3	Products offered online may not have the same quality as products I can get from normal stores.	
	PRCP4	Returning products bought online is not as easy as returning products bought from stores.	
	PRCP5	Shopping online cannot offer the personal connection I can get from normal shopping stores.	
Online Payment Options (PYMN)	PYMN1	I do not shop from the Internet because of online payment problems.	Self-developed
	PYMN2	I will shop online if I can pay using my mobile money, e.g., EVC Plus.	
	PYMN3	I will shop online if I can make the payment at a later time when the product is delivered, known as Cash on Delivery (COD) method.	
Consumer Trust (TRST)	TRST1	Trust is a major factor for me when I shop online.	Adapted from Kelvin (n.d)
	TRST2	Lack of effective delivery system in Somalia is a major reason I do not shop online.	
	TRST3	I do not feel safe in giving out my personal details in online environments.	
	TRST4	I cannot trust online retailers because there is no law governing the Internet in Somalia.	
Propensity to Shop Online (PRPN)	PRPN1	I intend to buy goods from the Internet in the near future.	Adapted from Tapson (2010)
	PRPN2	I'm excited about shopping from the Internet.	
	PRPN3	I would use the Internet to search for products I want to buy.	

(Source: own research*)*