Understanding purchase intentions in crisis: The role of trust and perceived value in Sudan's F-commerce during the COVID-19 pandemic

Anwar Yahia Shams Eldin *

Department of Business Administration, College of Business, University of Bisha, Bisha, Saudi Arabia

ABSTRACT

This study investigates how purchase intentions on Facebook's commerce platform (F-commerce) are shaped during crises. Focusing on Sudanese customers, the research examines the roles of perceived value, trust, and consumption value in influencing purchase intentions. The study specifically looks at how trust mediates the relationship between perceived value and purchase intentions, as well as how perceived value mediates the relationship between cosmopolitanism value and purchase intentions. The goal is to better understand the mechanisms that enhance purchase intentions in Sudan, a developing country facing crises during and after the COVID-19 pandemic. An analysis of 355 responses reveals that trust mediates some aspects of perceived value's influence on purchase intentions but not others. Notably, the mediation of cosmopolitanism's impact on purchase intentions only occurs when perceived security, safety, and logistics values (affected by fuel shortages) are considered. The findings provide a basis for future research using this mediation model to explore the drivers of e-commerce purchase intentions in similar underdeveloped countries during crises where the use of digital technology for commerce is limited.

1. Introduction

The economic crises that resulted from political unrest and conflicts both before and after the 2018 revolution have had an impact on Sudan. Additionally, external funding support is lacking, given Sudan's listing among the countries that sponsor terrorism (Fadul et al., 2021). Moreover, the removal of fuel subsidies has resulted in high inflation, high poverty, and shortages affecting all basic needs, including fuel and cooking gas, food staples, and available cash. This was one reason for the 2019 government turnover (Fadul et al., 2021). The continuity of conflict between the revolutionaries and the army leadership over the rule of Sudan increased lawlessness and street crime, such as the theft of handbags, mobiles, and cash. Unfortunately, in 2019, COVID-19 appeared, resulting in compulsory lockdowns and social distancing all over the world, which affected Sudan's economy as well as those in other countries (García-Salirrosas et al., 2022). This resulted in a complicated situation where health, economic, and political crises interacted.

These changes impacted Sudanese consumers' attitudes and behaviors, resulting in their adopting digital solutions similar to those used all over the world during and after the COVID-19 pandemic. These include e-payment (Ali et al., 2021) and social media marketing, which is a subset of electronic commerce (Xiang et al., 2022). Social commerce usage increased during the pandemic in developed countries owing to good internet infrastructure (Warganegara and Babolian Hendijani, 2022). In developing countries, Facebook is widely used for commerce, and its usage has increased during the pandemic (Brahem and Boussema, 2023; Alam and Rahman, 2022). After the pandemic, there has been a significant expansion of social commerce due to shifts in customer preferences for using Internet channels (Elshaer et al., 2024).

However, few studies have investigated how consumers use F-commerce during crises in underdeveloped countries (Olaleye et al., 2021). Furthermore, the uses of social media platforms for commerce and consumer behavior changes are rarely investigated during economic and political crises. A rare example is a study. Moreover, studies

focusing on consumer purchase intention in F-commerce are scarce (Leong et al., 2018). In the Sudanese context, according to the best of the author's knowledge, few studies have been conducted regarding the factors deriving consumer intention toward F-commerce.

Different perspectives are used or integrated to identify the factors influencing the purchase intentions of consumers during crises such as the COVID-19 pandemic (Warganegara and Babolian Hendijani, 2022). For instance, the concept of consumer value explains the changes in consumer behavior to enhance purchase intentions based on the value perceived by the customer, which varies with the customer's region and environment and with time (Liu et al., 2020). Accordingly, diverse perceived value dimensions are used to show the impacts of those values on purchase intentions (Li et al., 2021). However, the impact of customer-perceived value on purchase intentions in social media commerce during crises in underdeveloped countries across various industries is rarely studied. One example of such research is Bushara et al. (2023). Other factors that shape purchase intentions in times of crisis are also not given enough attention in underdeveloped countries such as Sudan. For instance, trust in an online environment can reduce risk perceptions affecting consumer behavior (Tahir, 2021). Additionally, a tumultuous environment (which can result from economic and political instability in developing nations like Sudan) can reduce consumer trust, which can have an impact on consumer choices. Furthermore, in developing countries, consumers are less trustful of anything related to technology (García-Salirrosas et al., 2022), which causes an unequal level of trust in using e-commerce and the purchase intentions in developing countries than in developed countries (Wang et al., 2022). Moreover, during the pandemic, it was noted that trust is an important factor in consumers' purchase intentions due to the high level of uncertainty among consumers. The use of social commerce during the COVID-19 pandemic gives easy access to information about products and services that can be compared and shared between consumers. This provides an opportunity to raise customer expectations regarding products and services, resulting in increased purchase intentions as well as a shift in consumer attitudes following COVID-19. This caused a research gap that needs to be investigated to give a deeper understanding of the pathway through which perceived value influences purchase intentions in the context of e-commerce (Elshaer et al., 2024).

Another important factor is the influence on customers' preferences regarding local and foreign products of cultural values such as cosmopolitanism, which influences the customer's perception of value and their attitude towards products or services (Liu and Hong, 2020). Cosmopolitanism plays a critical role in crises. For example, countries with cosmopolitan cultures had difficulty controlling the pandemic when national coordination among citizens was required (Ruck et al., 2021). Furthermore, cosmopolitanism can enhance knowledge sharing in global crises such as COVID-19, climate change, and financial crises. Thus, environmental variables related to consumer choices could change the impact of cosmopolitanism (Green, 2020).

On the other hand, SMEs and micro-enterprises in underdeveloped countries post-COVID-19 need to shift from the traditional way of doing work to more innovative and dynamic ways to compete in the market and cope with their environment; therefore, there is a need to know the mechanisms through which they can be more dynamic and intelligent to enhance consumer purchase intentions. Electronic commerce and e-commerce can enhance operational efficiency, leadership, and customer focus for mini-retailers, as well as improve connections between retailers and industry value chains (García-Salirrosas et al., 2022).

This study aimed to narrow the scope of explanatory research regarding the emergence of purchase intentions by answering the following question: "How do the drivers of F-commerce impact the purchase intentions of Facebook consumers in Sudan during crises?" The study specifically looked at three factors: Cosmopolitanism, trust, and customer-perceived value. It looked at how trust affected the relationships between consumer value and purchase intentions and how customer-perceived value affected the relationships between cosmopolitanism and purchase intentions.

Identifying the relationships between the above factors helps managers identify the drivers of purchase intentions in light of changing markets during crises, thus allowing them to develop successful e-commerce plans by targeting the exact segmentation and the right brand communications. Designers can improve the ability of social media platforms to respond to the needs of consumers and buyers. Furthermore, this study contributes to the literature on social commerce by focusing on its application during disasters and also recommends a response to the environmental impact of consumption.

2. Theoretical background and hypothesis development

2.1. Perceived value and purchase intentions

F-commerce is the use of Facebook platforms to facilitate selling and buying products (Leong et al., 2018). Facebook does not allow the customer to purchase directly from a Facebook page; rather, the Facebook page serves as a store catalog for products or services that may direct the customer to another platform or allow the consumer to communicate with the vendor through telephone or WhatsApp (Alonso-Dos-Santos et al., 2020). The platform also allows customers to view others' comments on products or services, helping them evaluate these items and influencing their decision to buy (Leong et

al., 2018). In the context of social media, purchase intentions indicate consumers' willingness to purchase recommended products or services after using social networks (Chen and Lin, 2019).

In the context of e-commerce, perceived value is the cornerstone of the value-based adoption model, which serves as a metric to indicate the overall effectiveness of services considering the effort and benefits of those services (Kim et al., 2007). Scholars use different dimensions to evaluate perceived value, which may emerge from various sources such as quality, image, availability (Leong et al., 2018), environment, and the customer's region or that of the product or service on which the study focuses (Liu et al., 2020).

Differences in the classification of such dimensions motivated Liu et al. (2020) to explore the categories of customer-perceived value in the context of e-commerce using content analysis. Their model comprises four dimensions: product quality, process perception, risk perception, and emotional value, with two levels for each dimension. These dimensions are easily understood and provide a comprehensive overview of perceived value dimensions for the online consumer that can be used in different environments and regions (Liu et al., 2020). We adapted this model to define the dimensions of perceived value for Sudanese consumers by expanding the risk perception dimensions to include the perceived value of safety and security risks based on political conditions and health risks. Furthermore, we extended and modified the dimensions related to process perception to comply with Sudan's economic, health, and political situation by adding two dimensions: logistics value due to shortage of fuel and transaction value due to payment method. In a different context, academics have examined how the different dimensions of perceived value impact purchase intentions. The following sections give a view of their works and a description of each dimension.

In this study, security and safety values indicate the perceived benefits of avoiding risky economic, political, and health issues. The impact of perceived safety on purchase intentions has been described in different settings. In Bangladesh, Akter et al. (2021) found that risk perceptions of COVID-19 modified consumer behavior. For example, in the F-commerce context, Alam and Rahman (2022), during the COVID-19 pandemic, found that awareness of the risk of buying from physical platforms shifted consumer behavior towards buying from digital platforms like Facebook.

As mentioned earlier, Sudan suffers from economic and political problems, one of which is road safety, leading the British government to recommend its citizens exercise caution when touring Sudan. Other results of the economic crisis include fuel shortages and higher fuel prices, as well as overcrowded public transportation, which can be unsafe, expensive, and unsuitable for the elderly and people with special needs (Fadul et al., 2021). Additionally, during the pandemic, many people preferred not to roam the markets based on health risks (Alam and Rahman, 2022), especially the elderly. Thus, F-commerce, as a means of delivering goods, conveyed a perceived security value that enhanced the purchase intentions of Sudanese consumers. Three attributes of the customer-perceived value process are customer service, logistics, and transactions (Liu et al., 2020). Customer service includes the perceived value of presale and after-sales services. Logistics consists of perceived value based on the benefits customers perceive from delivery services, personnel services, and professionalism. The shortage of fuel and the increase in its price as a result of political and economic crises led to logistical problems for consumers needing to travel to shop (Fadul et al., 2021). Thus, F-commerce's logistical solutions to these problems, such as delivery, reduced physical and search costs, and the cost and effort of finding suitable products to purchase, thus increase consumers' purchase intentions (Buttle and Maklan 2019). Unfortunately, few studies examine the impact of the perceived logistical value of using F-commerce in such circumstances. However, some scholars investigated the value gains from online shopping due to shipping products and services that can minimize physical and search costs, such as Bansal and Muzatko (2021), who explored the impact of shipping and return prices on purchase intentions and the role of gender in these relationships. They showed that shipping and return price increases affect women's purchase intentions more than men's. Tandon et al. (2021) investigated the antecedents of consumer behavior regarding food delivery applications. Their findings indicated that the preference value of consumers for delivery applications has an impact on purchase intentions based on reduced delivery costs.

The process of perceived value includes transactions, which refer to information acquisition, personalized commendations, order placement (including payment methods), return policy, maintenance, and disposal (Liu et al., 2020). In this study, we target E-payment methods during crises. E-commerce includes E-payment systems in different categories (Halim et al., 2020) that consumers use depending on their environment. For instance, in Sudan, consumers rarely use credit and visa cards because of the political and economic situation and the poor internet infrastructure, especially in rural areas, and their use is prohibited (Musbah and Kartiwi, 2017). The most usable e-payment method in Sudan for S- commerce is a mobile application such as mBOK or via point-of-sale on a small scale (Halim et al., 2020). Lack of cash due to the political and economic situation and the consequent danger of street robbery and COVID-19 forced Sudanese consumers to use e-payment transactions more frequently (Ali et al., 2021). Thus, F-commerce's inclusion of e-payment options via mobile applications, such as buy-on-delivery through electronic means, would drive more consumer F-commerce purchases. During the pandemic, most

consumers preferred cashless transactions to prevent infections. For example, Reardon et al. (2021), aiming to identify firm models and strategies for food delivery services in developing countries during COVID-19, pointed out that mobile banking applications have been accelerating product-consumer direct sales via Facebook. Product or service value refers to how product or service characteristics reach useful or physical goals (Watanabe et al., 2020). Many consumers prefer online shopping for the added value they get exclusively from online shops, and this has continued even during the crisis. For example, Chen et al. (2023) examined the influence of product evaluation value on purchase intentions due to social media advertising. The results of their study point out significant relationships between product evaluation value and purchase intentions. Li et al. (2021) investigated the impact of perceived value on purchase intention regarding innovative museum products that leveraged S-commerce during COVID-19. Their results indicated that innovative product values affect purchase intentions. In Japan, Chamnankit et al. (2023) explored the factors that impact the purchase intention of second-hand furniture on Facebook and Instagram platforms. The results of their study showed that product image value and the COVID-19 pandemic were among the factors that influenced purchase intentions.

Emotional value arises from consumers' feelings about the effectiveness of the product (Watanabe et al., 2020). Emotional social support refers to the value users gain when social media interactions show care, empathy, and understanding, focusing on addressing others' concerns and helping them solve problems. Informational social support is the value users receive by sharing recommendations, advice, and knowledge with others (Hammouri et al., 2021). In the context of Facebook, emotional value is gained through Facebook tools such as comments, and informational value is the benefit from information that the user provides on the platform, such as information and news (Maqableh et al., 2021).

Hammouri et al. (2021) found an impact of emotional social support and information on purchase intentions in social commerce. Similarly, Seegebarth et al. (2019) used the acceptance model to investigate the role of emotions in driving purchase intentions for nanotechnological products. They found that emotions mediate the relationships between cognitive evaluation of nanotechnology and behavior intentions. Based on the previous review, we can hypothesize the following:

H1: Perceived value has a positive impact on purchase intentions.

H1a: Security and safety values have a positive impact on purchase intentions.
H1b: Logistics perceived value due to a shortage of fuel has an impact on purchase intention.
H1c: Perceived value due to payment method has a positive influence on purchase intentions

H1d: Product perceived value has a positive impact on purchase intentions.
H1e: Emotional value and informational value have a positive impact on purchase intentions.

2.2. Trust, perceived value, and purchase intentions

According to Al-Bourini et al. (2021), "e-trust" refers to the level of customer satisfaction when using online channels for either one-way or two-way transactions. In the context of trust theory, the interaction between consumers through Facebook can change the level of trust, leading to changes in purchase intentions. Accordingly, trust is necessary for consumers to decide to purchase (Wang et al., 2022). Wang et al. (2022) investigated the impact of trust-related factors on F-commerce usage intentions in Pakistan. His findings suggested that trust and usage intention have a positive link.

Studies suggest that trust mediates the relationship between different dimensions of perceived value and purchase intention. In Indonesia, for example, Yang et al. (2021) examined the relationships between trust, perceived value, and consumer behavior in a sample of online consumers. They measured the perceived value construct through the following dimensions: emotional value, social value, quality or performance, and the price/value of money. Their results indicated that both trust and perceived value influence consumer decisions. Value is the difference between what consumers receive and what they have given, including losses in transportation, time, and effort spent on shopping (Lee and Fenich, 2018). Generating customer value involves customization and meeting customer needs. Building trust involves positive relationships, maximizing value, reducing transaction costs, and providing better service quality (Kaur Sahi et al., 2017). As in Sudan's fuel crisis, lowering travel suffering can do this (Fadul et al., 2021). Trust is the best way to optimize product and service search value and customer purchase decisions because trust between customers and retailers increases purchase intentions (Kaur Sahi et al., 2017). Regarding the impact of the fuel crisis on Sudan, when Facebook retailers customize consumer preferences, for example, by reducing the cost and hardship of finding fuel for shopping or minimizing fuel needs, trust between retailers and consumers is likely to improve consumers' purchase intentions.

Al-Tit et al. (2020) examined the driving factors of the social commerce intention of online communities in Saudi Arabia. Their results revealed the impact of social support on both social commerce intentions and trust. Furthermore, trust mediated the relationship between social and informational support and social commerce intentions.

H2: Trust has a positive impact on purchase intentions.

H3: Perceived value predicts purchase intentions through trust.

H3a: Perceived value due to payment method predicts purchase intentions through trust.
H3b: Security and safety value predict purchase intentions through trust.
H3c: Logistics' perceived value due to a shortage of fuel predicts purchase intentions through trust.
H3d: Perceived emotional and informational factors predict purchase intentions through trust.
H3e: Perceived value from a product predicts purchase intentions through trust.

2.3. Consumer cosmopolitanism, perceived value, and purchase intentions

Perceived social and cultural value is related to how the consumer reference group accepts consumer choice (Watanabe et al., 2020). One of the most influential cultural values for consumer behavior is cosmopolitanism (Long et al., 2022). Cosmopolitanism indicates how group preference can impact consumer choices when purchasing certain products or services (Liu and Hong, 2020). Consumers who have cosmopolitan values typically rate peer groups on their metrics; they may have multiple loyalties, such as loyalty to both foreign and local products, and they act as global rather than local citizens (Nguyen and Pham, 2021).

Cosmopolitanism influences customer purchase intentions. Nguyen and Pham (2021), for instance, assessed the influence of cultural value on purchase intention using the dimensions of cosmopolitanism, xenocentrism, patriotism, world-mindedness, and materialism. Their results show that attitudes of cosmopolitanism and xenocentrism positively affect consumers' intentions towards foreign products. Based on value-attitude behavior and consumer cultural theories, Long et al. (2022) examined the influence of two factors: Social responsibility and cosmopolitanism for young Chinese towards Western products. The results of his study revealed that cosmopolitanism affects purchase intentions. Based on the above discussions, the following is hypothesized:

H4: Consumer cosmopolitanism value has a positive impact on purchase intentions.

Consumers prefer products or services that offer the maximum value. Accordingly, perceived value depends on consumer characteristics and values that evaluate their choice and loyalty to products and services (Liu and Hong, 2020). However, the relationships between cosmopolitanism, perceived value, and purchase intentions are rarely investigated. For instance, in China, in a cross-border e-commerce study, Liu and Hong (2020) examined the mediation effect of perceived value and perceived risk on the relationships between Chinese consumer cosmopolitanism, ethnocentrism, and purchase intention for local and foreign product channels. Their results show that consumer cosmopolitanism influences both perceived risk and perceived value. Long et al. (2022) explored the role of cultural value on purchase intentions. The study's findings demonstrated that cosmopolitanism had a significant impact on brand attitudes as indicators of consumer-perceived product value and that brand attitudes served as a mediator between cosmopolitanism and purchase intentions. In the Sudanese context, Sleiman et al. (2022) explored consumer drivers for the use of mobile payments and found that social influence impacts behavior and intent to use mobile payments. Previously, we concluded that payment method influenced purchase intentions; accordingly, the possibility of the mediating effects of payment method on the relationships between cultural value and purchase intentions is raised. The following hypotheses are developed below:

H5: Consumer cosmopolitanism predicts purchase intentions through perceived value.

H5a: Cosmopolitanism predicted purchase intentions through perceived value due to payment method predictions.
H5b: Consumer cosmopolitanism predicted purchase intentions through security and safety values.
H5c: Consumer cosmopolitanism predicted purchase intentions through logistics' perceived value due to fuel shortages.
H5d: Consumer cosmopolitanism predicted purchase intentions through perceived emotional and informational value.
H5e: Consumer cosmopolitanism predicted purchase intentions through perceived value from products.

3. Methodology

3.1. Instrument and research model

Using cultural value theory, the concept of consumer value, and insights from literature and interviews with Facebook customers, we identified cosmopolitanism, trust, and perceived value as drivers of Facebook purchase intentions in Sudan during the crisis. We adapted Liu et al.'s (2020) dimensions of perceived value, expanding them to include perceived security and safety in light of political, economic, and health issues, logistics value due to fuel shortages, and value related to payment methods. A survey was conducted to test the research model shown in Fig. 1. Questionnaire items were sourced from validated studies and adapted to the Sudanese context. Items on purchase intentions were drawn from Al-Adwan and Kokash (2019) and Al-Tit et al. (2020); those on perceived value from Al-Tit et al. (2020), Liu et al. (2020), Buttle and Maklan (2019), Reardon et al. (2021), Warganegara and Babolian Hendijani (2022), Al-Adwan and Kokash (2019), and Rouibah et al. (2021);

cosmopolitanism items from Nguyen and Pham (2021); and trust items from Sullivan and Kim (2018) and Al-Tit et al. (2020).
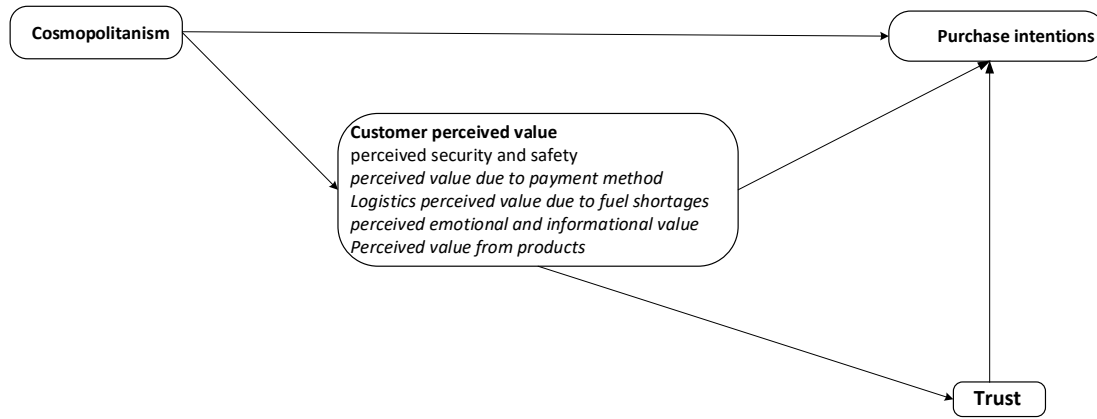

Fig. 1: Conceptual model

3.2. Population sample and data collection

A digital survey was distributed to Sudanese Facebook users with experience in F-commerce. Following Wang et al. (2022), who suggest various strategies for data collection tailored to the research nature and target sample size, survey links were initially shared with Facebook friends in Sudan familiar with F-commerce. These contacts then forwarded the link to others, using a snowball sampling method. This approach yielded 355 completed surveys. Table 1 presents the respondent profile.

Table 1: Respondent profile

Respondent profile	Percentage
Gender	
Male	33.6%
Female	66.4%
Age	
Under 20	16.1%
21-30	48%
31-40	22.3%
41-50	8.5%
51-60	3.4%
Above 60	1.7%
Education	
Postgraduate	23.7%
Bachelor's	72.3%
Intermediate diploma	2.3%
High school	1.7%
The type of services/products the respondent purchase through the Facebook platform	
Cosmetics	33.3%
Clothing	51.4%
Electrical appliances	18.9%
Home furniture	9.6%
Kitchen supplies	17.2%
Plants and supplies	16%
Shoes	31.1%
Bags	23.4$
Perfumes	20.1%
Local foods and dishes grocery items	16.9%
Cleaning materials	4.5%
Other items	23.4%

3.3. Data analysis

A structural equation modeling technique was used to analyze data that was able to deal with a complex model, as in our study, which had many variables and mediating items. This technique consists of two steps. The first is the assessment of the measurement model by checking the internal consistency, reliability, and validity of the construct. The second step is examining the structural model. To accomplish this task, we used the PLS-3 software for data analysis.

3.4. The measurement models

To evaluate the measurement model, we examined its reliability and validity. We assessed the internal consistency and reliability through composite reliability and Cronbach's alpha. We checked the validity using convergent validity and the average variance extracted (AVE). For discriminate validity, we used Heterotrait-Monotrait (HTMT), as suggested by Hair et al. (2021). Table 2 shows the results of reliability and validity.

In Table 2, the value of Cronbach's alpha is above 0.6 for all constructs, which is acceptable for explanatory research. The composite reliability value is above 0.7, showing reliable results, as proposed by Hair et al. (2021). The finding shows that the indicator factor loading is above 0.69, acceptable for the newly developed scale (Hair et al., 2021). Accordingly, this research's reliability is confirmed. The discernment validity of this research is assessed through the Heterotrait-Monotrait ratio (HTMT). The result is shown in Table 3.

In Table 3, the HTMT ratio is less than 0.85, indicating discriminant validity (Hair et al., 2021). Additionally, Table 2 shows that the AVE for each variable is 0.5, above the recommended benchmark (Hair et al., 2021). This proves the existing convergent validity. Based on the above results, the measurement model data can be used to assess the structural model to test hypotheses. Table 4 shows the results of direct and indirect effects to test the hypotheses. In Table 4, cosmopolitanism has a positive effect on perceived security and safety (β=0.369, t=6.948, p=0.000), perceived value due to payment methods (β=0.333, t=6.447, p=0.000), perceived value from products (β=0.408, t=7.384,

p=0.000), and perceived emotional and informational value (β=0.418, t=8.088, p=0.000).

Cosmopolitanism has no impact on purchase intention (β=0.418, t=8.088, p=0.000).

Table 2: Reliability and validity

Variable	Items	Factor loading	Alpha	CR	AVE
Cosmopolitanism value (CONSMP)	CONSMP1	0.868			
	CONSMP2	0.856	0.820	0.893	0.735
	CONSMP3	0.847			
Perceived value from products (PRDV)	PRDV1	0.690			
	PRDV2	0.795			
	PRDV3	0.788	0.806	0.866	0.564
	PRDV4	0.760			
	PRDV5	0.715			
Perceived emotional and informational value (PRVPEI)	PRVPEI1	0.864			
	PRVPEI2	0.854	0.776	0.869	0.688
	PRVPEI3	0.768			
Logistics perceived value due to shortage of fuel (PRVPF)	PRVPF1	0.803			
	PRVPF2	0.778	0.679	0.823	0.609
	PRVPF3	0.759			
Perceived value due to payment methods (PRVPP)	PRVPP1	0.842			
	PRVPP2	0.862	0.802	0.883	0.716
	PRVPP3	0.834			
Perceived security and safety value (PRVPS)	PRVPS1	0.719			
	PRVPS2	0.706			
	PRVPS3	0.772	0.787	0.853	0.538
	PRVPS4	0.753			
	PRVPS5	0.716			
Purchase intention (PURI)	PURI1	0.843			
	PURI2	0.895	0.845	0.906	0.763
	PURI3	0.882			
Trust	TRUST1	0.843			
	TRUST2	0.857	0.822	0.894	0.738
	TRUST3	0.876			

Table 3: Discriminant validity Heterotrait-Monotrait

	CONSMP	PRVPS	PRVPP	PRDV	PURI	Trust	PRVPEI	PRVPF
CONSMP	1							
PRVPS	0.453	1						
PRVPP	0.407	0.837	1					
PRDV	0.506	0.817	0.719	1				
PRDV	0.409	0.659	0.596	0.686	1			
Trust	0.447	0.645	0.520	0.792	0.707	1		
PRVPEI	0.513	0.597	0.545	0.705	0.468	0.551	1	
PRVPF	0.409	0.709	0.738	0.743	0.710	0.548	0.589	1

Table 4: Hypothesis testing

Hypotheses	B	T-value	P-value	result
CONSMP -> PRVPS	0.369	6.948	0.000	Supported
CONSMP -> PRVPP	0.333	6.447	0.000	Supported
CONSMP -> PRDV	0.408	7.384	0.000	Supported
CONSMP -> PURI	0.050	1.060	0.290	Not supported
CONSMP -> PRVPEI	0.418	8.088	0.000	Supported
CONSMP -> PRVPF	0.312	5.662	0.000	Supported
PRVPS -> PURI	0.137	2.278	0.023	Supported
PRVPS -> Trust	0.159	2.286	0.023	Supported
PRVPP -> PURI	0.082	1.318	0.188	Not supported
PRVPP -> Trust	-0.026	0.392	0.695	Not supported
PRDV -> PURI	0.090	1.219	0.224	Not supported
PRDV -> Trust	0.487	7.813	0.000	Supported
Trust -> PURI	0.327	5.711	0.000	Supported
PRVPEI -> PURI	-0.043	0.723	0.470	Not supported
PRVPEI -> Trust	0.099	1.644	0.101	Not supported
PRVPF -> PURI	0.245	4.947	0.000	Supported
PRVPF -> Trust	0.035	0.655	0.513	Not supported
Indirect effect				
CONSMP -> (PRVPEI -> PURI	-0.018	0.713	0.476	Not supported
CONSMP -> PRVPF -> PURI	0.076	3.520	0.000	Supported
CONSMP -> PRDV -> PURI	0.037	1.137	0.256	Not supported
CONSMP -> PRVPP -> trust	-0.009	0.386	0.700	Not supported
CONSMP -> PRVPS -> PURI	0.051	2.085	0.038	Supported
CONSMP -> PRVPP -> PURI	0.027	1.240	0.215	Not supported
PRVPEI -> Trust -> PURI	0.032	1.547	0.122	Not supported
PRVPF -> Trust -> PURI	0.011	0.658	0.511	Not supported
PRDV -> Trust -> PURI	0.159	4.743	0.000	Supported
PRVPS -> Trust -> PURI	0.052	2.114	0.035	Supported
PRVPP -> Trust -> PURI	-0.009	0.396	0.692	Not supported

The results in Table 3 reveal that some dimensions of perceived value affect purchase intentions. For instance, perceived security and safety (β=0.137, t=2.278, p=0.023) and logistics perceived value due to shortage of fuel (β=0.245, t=4.947, p=0.000) positively impact purchase

intentions. On the other hand, perceived value due to payment methods (β=0.082, t=1.318, p=0.188), perceived value from products (β=-0.090, t=1.219, p=0.224), and perceived emotional and informational value (β=-0.043, t=-0.043, p=0.470) do not influence purchase intentions.

The finding demonstrates that some of the perceived value dimensions positively affect trust. For example, perceived security and safety (β=0.159, t=2.286, p=0.023) and perceived value from products (β=0.487, t=0.487, p=0.000) have a positive impact on trust. In contrast, perceived emotional and informational value (β=0.099, t=1.644, p=0.101), logistics perceived value due to shortage of fuel (β=0.035, t=0.655, p=0.513), and perceived value due to payment methods (β=-0.026, t=0.392, p=0.695) do not influence trust. The finding explains a positive relationship between trust and purchase intentions (β=0.327, t=5.711, p=0.000).

From the results of the indirect effect shown in Table 3, the perceived security and safety value (0.051, t=2.085, p=0.038) and logistics perceived value due to shortage of fuel (β=0.037, t=3.520, p=0.000) are the only two dimensions of perceived value that mediate the relationships between cosmopolitanism and purchase intentions. Given the absence of a direct effect between cosmopolitanism value and purchase intentions, these mediation effects are indirect only, as described by Hair et al. (2021). Additionally, there is partial support for the mediating effect of trust on the relationships between perceived value dimensions and purchase intentions. For instance, trust mediates the relationships between the perceived value of products and purchase intentions (β=0.159, t=4.743, p=0.000) and the relationships between perceived security and safety value and purchase intentions (β=0.052, t=2.114, p=0.035). The mediation effects of the perceived value of products are indirect-only mediation, given the absence of direct effects between the perceived values of products and trust. The mediation effects of perceived security and safety are complementary, given the existence of both direct and indirect effects, as suggested by Hair et al. (2021).

4. Results, discussions, and conclusions

Our study aimed to draw a roadmap of the drivers of purchase intentions by investigating the mechanisms through which perceived value dimensions, cosmopolitanism, and trust impact purchase intentions. Our results show that some dimensions perceived directly influence purchase intentions in the Sudanese context. For instance, the perceived value of security and safety has a positive impact on purchase intentions, contradicting the finding of Warganegara and Babolian Hendijani (2022) that health factors have had no impact on purchase intentions during the pandemic. Additionally, perceived value due to payment methods influences purchase intentions, which corresponds with the results of Reardon et al.

(2021). The result shows positive relationships between logistics' perceived value due to a shortage of fuel and purchase intentions, confirming the results of Bansal and Muzatko (2021). This indicates that health, political, and economic factors influence consumer preferences. The results also confirm that perceived emotional and informational value has no impact on purchase intentions, thus not supported by the results of Seegebarth et al. (2019). This suggests that Sudanese consumers' reactions to buying a product on the Facebook platform do not influence purchase intentions. This may be due to the characteristics of Sudanese consumers' preferences to view products, evaluate them, and then make a purchase (Steel, 2021). However, the finding does not support the existence of a relationship between perceived values of products and purchase intentions, which is mismatched with the results of Tandon et al. (2021).

The effect of perceived value from payment methods on trust is not supported, which contradicts the findings of Halim et al. (2020). Our findings do not demonstrate relationships between emotional and informational support and trust. This suggests that user-generated content, rather than receiving emotional and informational support through the platform, gains trust from Facebook users (Ventre et al., 2021). These findings may be supported by some studies in the Sudanese context, where Sudanese consumers prefer to see a product's picture on the platform, see it in reality, and decide whether to purchase it (Steel, 2021). Moreover, the results of studies reveal that logistics' perceived value due to shortage of fuel on trust is not supported. The finding demonstrates a positive relationship between the perceived value of products and trust. This indicates that the characteristics of products from sellers have a greater impact on Facebook consumer trust. The findings of Watanabe et al. (2020) confirmed this. Our study showed a positive effect of trust on purchase intentions, confirming the findings of Abou Ali et al. (2021). This implies that trust influences the purchasing behavior of Sudanese consumers during times of crisis. This is in line with recent observations that demonstrate a significant impact of trust in specific social media pages on the behavior of Sudanese consumers towards various political and economic events. Some studies in the Sudanese context confirm this, indicating that trust is one of the factors that influence Sudanese behavioral intentions toward certain political and economic crises (Attia et al., 2020).

The results show that trust mediates the relationship between product perceived value, perceived security, safety value, and purchase intentions. This indicates that trust is essential for product perceived value, security, and safety value to influence purchase intentions during crises, confirming the findings of Yang et al. (2021). This implies that if Sudanese consumers (who suffer from economic, political, and health problems) gain benefits from Facebook retailers related to the characteristics of the products they bought or

security and safety (such as not roaming in the marketplace, thus gaining benefits from not being exposed to street robbery or not traveling in crowded transport due to a shortage of fuel and thereby not being infected by disease), they will be more trustable to retailers. Hence, this will enhance their purchase intentions.

Our empirical finding demonstrates the absence of mediating effects of trust on the relationship between logistics' perceived value due to a shortage of fuel and purchase intentions. This indicates that Sudanese Facebook retailers could not customize consumer preferences during economic crises by reducing the cost and hardship of finding fuel for shopping or minimizing fuel needs to gain the trust necessary to improve consumers' purchase intentions. This could be because the majority of Sudanese Facebook retailers engage in small-scale cross-border transactions, a practice known as "suitcase trade," which involves trading with limited capital (Steel, 2021). Thus, these traders may not be able to create trustworthy and efficient delivery services in the absence of regular delivery companies in Sudan, thereby not enhancing purchase intentions. According to the study, trust does not mediate the perceived value of payment methods or purchase intentions. This suggests that payment methods do not foster the confidence in Facebook retailers to enhance the purchase intentions of Sudanese consumers. This may be due to poor network coverage and bad internet in wide areas of Sudan (Musbah and Kartiwi, 2017). This makes using e-payment systems limited and risky due to the possibility of failed money transactions. Moreover, opening a bank account with a reliable mobile application presents numerous challenges due to the large number of customers seeking this service, particularly in light of cash shortages resulting from economic and political crises in Sudan (Ali et al., 2021). The results of the study indicated that cosmopolitanism has no impact on purchase intentions, which contradicted the results of Long et al. (2022). Additionally, the findings show that perceived security and safety and perceived value in logistics only mediate the relationship between cosmopolitanism and purchase intentions. This finding, consistent with Liu and Hong (2020), suggests that Sudanese consumers who value cosmopolitanism (openness to foreign cultures) perceive higher security, safety, and logistics value amid fuel shortages, leading them to shop through social media. This highlights how economic and political conditions shape consumer preferences. Cosmopolitanism positively affects perceived security and safety values, aligning with Liu and Hong's (2020) results.

Additionally, cosmopolitanism positively influences perceived value from payment methods, indicating that Sudanese consumers open to foreign cultures find value in these methods, as supported by studies showing that social influence affects their use of electronic payment methods (Sleiman et al., 2022).

4.1. Theoretical implications

This study contributes to the literature on F-commerce purchase intentions during crises by integrating multiple perspectives—cultural values, consumer values, and trust—and identifying mechanisms driving Facebook purchase intentions in Sudan. It introduces new factors not previously studied, offering a roadmap for further research. Additionally, it enhances understanding of how various dimensions of perceived value influence consumer behavior in F-commerce, particularly in Sudan, where digital technology for commercial purposes is still limited (Shahadat et al., 2023). Some of the new dimensions show significant contributions to purchase intention, such as logistics' perceived value due to a shortage of fuel, while some old dimensions of perceived value don't show a significant relationship with purchase intentions' perceived value or perceived emotional and informational value. This discrepancy between the results and the new ones suggests that consumers in countries experiencing economic, political, and health crises may be influenced by different factors than those in countries with stable political, economic, and health environments. This underscores the need for new approaches to investigate the factors influencing consumer purchasing behavior through platforms like Facebook and other social media, which are often considered the most convenient e-commerce methods in crisis-ridden countries. Therefore, future studies in countries similar to Sudan, like Yemen, Somalia, and South Sudan, need to scrutinize the influence of these factors on consumer purchasing behavior and decide whether to incorporate additional factors or not. The integration of perspective value and trust uncovers new mechanisms for enhancing purchase intentions during crises, as the study excels in showing how trust mediating can serve as a bridge between consumer value and purchase intentions during crises. Our results showed how cosmopolitanism influences purchase intention through the mediating effects of perceived security and safety and logistics perceived value due to shortage of fuel, thus showing how the health, economic, and political situation can shape consumers' preferences. Thus, we recommend studying other factors that can shape purchase intentions during crises to construct a theory of factors that impact purchase intentions during crises. Future studies should focus on changes in social commerce purchase intentions during crises such as wars. The study of contextual factors (the foundation of any good theory, as proposed by Andersson et al. (2014) for enhancing purchase intention is a step toward construing a theory of consumer behavior during crises.

4.2. Practical implications

Our findings can assist Facebook marketers in developing strategies to gain a competitive

advantage during crises in developing countries by aligning with consumer preferences. The detailed dimensions of perceived value reveal how consumers with cosmopolitan values, open to foreign cultures, recognize different value dimensions that boost purchase intentions. This insight allows managers and marketers to segment markets and create targeted strategies. The mediating effects also highlight how trust in perceived value enhances purchase intentions across various Facebook groups, enabling marketers to tailor their value propositions for specific audience segments. Our results highlight the critical role of logistics in boosting purchase intentions, presenting a valuable opportunity for Sudanese investors to establish logistics companies that support electronic stores. Such companies, currently rare in Sudan, could promote production, entrepreneurial innovation, and business development, aligning with Sudanese aspirations and sustainable development goals (Xiang et al., 2022). By creating partnerships with Facebook merchants or developing a delivery platform connecting vehicle owners, logistics companies could offer delivery services to Facebook merchants, taking a percentage of each delivery fee—similar to the Uber model. This approach, which requires less capital than a full-scale delivery company, provides income opportunities for individuals, strengthens trust between merchants and consumers, and expands merchants' customer bases. These solutions could be adapted for other countries facing political and economic challenges, such as Yemen (Al Harazi et al., 2023).

Unfortunately, the proposed solution for logistics companies may encounter security challenges in Sudan due to instability since the 2018 revolution, such as street theft, which could potentially impact their performance. This problem was faced by some countries with similar political and economic situations, such as South Sudan, Central Africa, and Cango. To solve this problem, some studies recommended establishing safe transport axes by gathering information about safe roads and government protection to ensure safe delivery operations (Grigoli et al., 2024).

The results indicate that payment methods currently have little impact on consumer choices. Therefore, it is recommended that Sudanese banks, in partnership with telecommunications companies, expand electronic transaction options to boost social commerce. Additionally, the government should introduce regulations to establish and safeguard electronic payment methods, thereby building consumer trust in these systems, as suggested by Sleiman et al. (2021). Facilitating card payments for micro and small businesses operating on social media and implementing laws to regulate this type of commerce would further support national income, encourage the growth of social commerce, and increase consumer and trader confidence. These recommendations could be applied in other countries facing similar economic and political challenges, such as Yemen, Somalia, South Sudan, and Central African nations.

4.3. Limitations of the study

Despite the contributions of our research, it has some limitations. First, consumer behavior may change after the crisis. Thus, a longitude study is required. Second, the results of this study could only explain the slight change in consumer behavior as the study concerned Sudanese consumers during a specified, limited time during the pandemic and political and economic crisis. The data was collected electronically; thus, many consumers were not included. Data were collected from a variety of consumers who have purchased different products through Facebook channels and different geographical areas in Sudan. Future research should focus on different geographic regions and different products. Also, the analysis does not show how the difference between women and men and gender can contribute to results as some research in the Sudanese context indicates that some of the variables affected by the previously mentioned variables, such as impacts of payment methods on consumers behavior intentions (Sleiman et al., 2021). The data was gathered from Facebook users who had experience with F-commerce utilizing the snowball technique. The potential for data generalization issues limits these techniques despite their valuable insights into consumer behavior. This is because not all Facebook users may be willing to respond, which could lead to a skewed representation of the entire population. However, it is important to note that these users do have experience in F-commerce. Additionally, it may exclude those who are not acquaintances of the chosen leaders of gathering data.

Compliance with ethical standards

Ethical considerations

This study was conducted with informed consent from all participants, ensuring confidentiality and anonymity of their responses. Data was collected solely for research purposes, and ethical approval was obtained from the relevant institutional committee.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

References

Abou Ali AA, Ali AA, and Mostapha N (2021). The role of country of origin, perceived value, trust, and influencer marketing in determining purchase intention in social commerce. BAU Journal-Society, Culture and Human Behavior, 2(2): 10. https://doi.org/10.54729/2789-8296.1051

Akter S, Ashrafi T, and Waligo V (2021). Changes in consumer purchasing behavior due to COVID-19 pandemic. Journal of Marketing and Consumer Research, 77: 33-46.

Al Harazi YK, Tian G, Shah SAA, Al Harazi AK, Alwan SY, and Amer AMA (2023). Unlocking the potential of e-commerce in Yemen: Identifying key impacting factors and exploring strategic solutions. Sustainability, 15(18): 13712. https://doi.org/10.3390/su151813712

Al-Adwan AS and Kokash H (2019). The driving forces of Facebook social commerce. Journal of Theoretical and Applied Electronic Commerce Research, 14(2): 15-32. https://doi.org/10.4067/S0718-18762019000200103

Alam S and Rahman M (2022). COVID-19 impact on Facebook-based social commerce in Bangladesh. International Journal of Electrical and Computer Engineering, 12(2): 1636-1649. https://doi.org/10.11591/ijece.v12i2.pp1636-1649

Al-Bourini FA, Aljawarneh NM, Almaaitah MF, Altahat S, Alomari ZS, and Sokiyna MY (2021). The role of e-word of mouth in the relationship between online destination image, e-satisfaction, e-trust and e-service quality for international tourists perception. Journal of Information Technology Management, 13(Special Issue): 92-110.

Ali M, Ibrahim ABMA, Rejal A, and Abou EAE (2021). The mediating role of technology perception in the relationship between customer experience and the adoption of e-payment cards during the COVID-19 pandemic. Uncertain Supply Chain Management, 9(4): 1047-1060.

Alonso-Dos-Santos M, Alguacil Jiménez M, and Carvajal-Trujillo E (2020). Facebook commerce usage intention: A symmetric and asymmetric approach. Information Technology and Management, 21: 145-156. https://doi.org/10.1007/s10799-019-00311-2

Al-Tit AA, Omri A, and Hadj TB (2020). The driving factors of the social commerce intention of Saudi Arabia's online communities. International Journal of Engineering Business Management, 12. https://doi.org/10.1177/1847979019899746

Andersson U, Cuervo-Cazurra A, and Nielsen B (2014). From the Editors: Explaining interaction effects within and across levels of analysis. Journal of International Business Studies, 45: 1063–1071. https://doi.org/10.1057/jibs.2014.50

Attia AM, Gürce MY, Fakhr RA, and Friedman B (2020). The impact of social media on Sudan's uprising behaviour. International Journal of Business Forecasting and Marketing Intelligence, 6(3): 186-203. https://doi.org/10.1504/IJBFMI.2020.111374

Bansal G and Muzatko S (2021). Shipping and return shipping prices and online purchase intentions: The role of gender and product price category. International Journal of Business, 26(3): 53-71.

Brahem M and Boussema S (2023). Social media entrepreneurship as an opportunity for women: The case of Facebook-commerce. The International Journal of Entrepreneurship and Innovation, 24(3): 191-201. https://doi.org/10.1177/14657503211066010

Bushara MA, Abdou AH, Hassan TH, Sobaih AEE, Albohnayh AS, Alshammari WG, Aldoreeb M, Elsaed AA, and Elsaied MA (2023). Power of social media marketing: How perceived value mediates the impact on restaurant followers' purchase intention, willingness to pay a premium price, and E-WoM? Sustainability, 15(6): 5331. https://doi.org/10.3390/su15065331

Buttle F and Maklan S (2019). Customer relationship management: Concepts and technologies. Routledge, London, UK. https://doi.org/10.4324/9781351016551

Chamnankit C, Ru-Zhue J, and Aujirapongpan S (2023). Buying behavior of Japanese second-hand furniture: Online channels; Facebook and Instagram. GSC Advanced Research and Reviews, 16(2): 061-068. https://doi.org/10.30574/gscarr.2023.16.2.0336

Chen SC and Lin CP (2019). Understanding the effect of social media marketing activities: The mediation of social identification, perceived value, and satisfaction. Technological Forecasting and Social Change, 140: 22-32. https://doi.org/10.1016/j.techfore.2018.11.025

Chen WK, Ling CJ, and Chen CW (2023). What affects users to click social media ads and purchase intention? The roles of advertising value, emotional appeal and credibility. Asia Pacific Journal of Marketing and Logistics, 35: 1900-1916. https://doi.org/10.1108/APJML-01-2022-0084

Elshaer IA, Alrawad M, Lutfi A, and Azazz AM (2024). Social commerce and buying intention post COVID-19: Evidence from a hybrid approach based on SEM–fsQCA. Journal of Retailing and Consumer Services, 76: 103548. https://doi.org/10.1016/j.jretconser.2023.103548

Fadul N, Hussein ME, and Fadul AA (2021). Re-opening Sudan: The balance between maintaining daily living and avoiding the next peak of COVID-19. Current Tropical Medicine Reports, 8: 231-237. https://doi.org/10.1007/s40475-021-00237-2 **PMid:33816059 PMCid:PMC8006878**

García-Salirrosas EE, Acevedo-Duque Á, Marin Chaves V, Mejía Henao PA, and Olaya Molano JC (2022). Purchase intention and satisfaction of online shop users in developing countries during the COVID-19 pandemic. Sustainability, 14: 6302. https://doi.org/10.3390/su14106302

Green B (2020). International higher education and global citizenship education: The rise of critical cosmopolitanism's 'personhood' in the age of COVID-19. Knowledge Cultures, 8: 55-59. https://doi.org/10.22381/KC8320208

Grigoli GA, Júnior MFDS, and Pedra DP (2024). Challenges and perspectives for humanitarian logistics: A comparative study between the Democratic Republic of Congo, the Central African Republic and the Republic of South Sudan. Journal of Humanitarian Logistics and Supply Chain Management, 14(4): 384-398. https://doi.org/10.1108/JHLSCM-07-2022-0087

Hair JF, Hult GTM, Ringle CM, Sarstedt M, Danks NP, and Ray S (2021). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. Springer Nature, Berlin, Germany. https://doi.org/10.1007/978-3-030-80519-7

Halim E, Januardin R, and Hebrard M (2020). The impacts of e-payment system and impulsive buying to purchase intention in e-commerce. In the International Conference on Information Management and Technology, IEEE, Bandung, Indonesia: 847-852. https://doi.org/10.1109/ICIMTech50083.2020.9211154

Hammouri Q, Al-Gasawneh JA, Nusairat NM, Hanandeh A, and Barakat S (2021). The determinants of trust and its influence on online buying intention: An empirical study on social commerce in Jordan. Annals of the Romanian Society for Cell Biology, 25(5): 4522-4539.

Kaur Sahi G, Sehgal S, and Sharma R (2017). Predicting customers recommendation from co-creation of value, customization and relational value. Vikalpa, 42: 19-35. https://doi.org/10.1177/0256090916686680

Kim HW, Chan HC, and Gupta S (2007). Value-based adoption of mobile internet: An empirical investigation. Decision Support Systems, 43: 111-126. https://doi.org/10.1016/j.dss.2005.05.009

Lee SH and Fenich GG (2018). Reconnoitering relationships among value, trust, affect, and loyalty at association events.

Journal of Convention and Event Tourism, 19(3): 313-326. https://doi.org/10.1080/15470148.2018.1470053

Leong LY, Jaafar NI, and Ainin S (2018). Understanding Facebook commerce (F-commerce) actual purchase from an artificial neural network perspective. Journal of Electronic Commerce Research, 19(1): 75-103. https://doi.org/10.1037/t67487-000

Li Z, Shu S, Shao J, Booth E, and Morrison AM (2021). Innovative or not? The effects of consumer perceived value on purchase intentions for the palace museum's cultural and creative products. Sustainability, 13(4): 2412. https://doi.org/10.3390/su13042412

Liu C and Hong J (2020). The effects of consumer cosmopolitanism and consumer ethnocentrism on cross-border e-commerce in China. Journal of International Trade and Commerce, 16(3): 43-57. https://doi.org/10.16980/jitc.16.3.202006.43

Liu C, Wang S, and Jia G (2020). Exploring e-commerce big data and customer-perceived value: An empirical study on Chinese online customers. Sustainability, 12(20): 8649. https://doi.org/10.3390/su12208649

Long F, Bhuiyan MA, Aziz NA, and Rahman MK (2022). Predicting young Chinese consumers' intentions to purchase Western brands: Structural model analysis. PLOS ONE, 17(5): e0267563. https://doi.org/10.1371/journal.pone.0267563 **PMid:35522658 PMCid:PMC9075654**

Maqableh M, Obeidat Z, Obeidat A, Jaradat M, Shah MH, and Masa'deh RE (2021). Examining the determinants of Facebook continuance intention and addiction: The moderating role of satisfaction and trust. Informatics, 8(3): 62. https://doi.org/10.3390/informatics8030062

Musbah A and Kartiwi M (2017). Factors hindering the adoption of business-to-consumer (B2C) in developing countries: A case study of Sudan. Information Management and Business Review, 9(4): 28-33. https://doi.org/10.22610/imbr.v9i4.1896

Nguyen NT and Pham TN (2021). Consumer attitudinal dispositions: A missing link between socio-cultural phenomenon and purchase intention of foreign products: An empirical research on young Vietnamese consumers. Cogent Business and Management, 8(1): 1884345. https://doi.org/10.1080/23311975.2021.1884345

Olaleye B, Hamdan S, and Awwad R (2021). The mediation-moderation effect on the nexus between social media adoption, customer satisfaction, social media competence and SMEs performance during COVID-19 pandemic. International Journal of Data and Network Science, 5(4): 803-814. https://doi.org/10.5267/j.ijdns.2021.x.001

Reardon T, Heiman A, Lu L, Nuthalapati CS, Vos R, and Zilberman D (2021). "Pivoting" by food industry firms to cope with COVID-19 in developing regions: E-commerce and "copivoting" delivery intermediaries. Agricultural Economics, 52(3): 459-475. https://doi.org/10.1111/agec.12631 **PMid:34230730 PMCid:PMC8250822**

Rouibah K, Al-Qirim N, Hwang Y, and Pouri SG (2021). The determinants of eWoM in social commerce: The role of perceived value, perceived enjoyment, trust, risks, and satisfaction. Journal of Global Information Management, 29(3): 75-102. https://doi.org/10.4018/JGIM.2021050104

Ruck DJ, Borycz J, and Bentley RA (2021). Cultural values predict national COVID-19 death rates. SN Social Sciences, 1: 74. https://doi.org/10.1007/s43545-021-00080-2 **PMid:34693315 PMCid:PMC7939727**

Seegebarth B, Backhaus C, and Woisetschläger DM (2019). The role of emotions in shaping purchase intentions for

innovations using emerging technologies: A scenario-based investigation in the context of nanotechnology. Psychology and Marketing, 36(9): 844-862. https://doi.org/10.1002/mar.21228

Shahadat MH, Nekmahmud M, Ebrahimi P, and Fekete-Farkas M (2023). Digital technology adoption in SMEs: What technological, environmental and organizational factors influence in emerging countries? Global Business Review. https://doi.org/10.1177/09721509221137199

Sleiman KAA, Jin W, Juanli L, Lei HZ, Cheng J, Ouyang Y, and Rong W (2022). The factors of continuance intention to use mobile payments in Sudan. SAGE Open, 12(3). https://doi.org/10.1177/21582440221114333

Sleiman KAA, Juanli L, Cai X, Lei H, and Liua R (2021). Antecedents of the adoption of the new mobile payment system in Sudan. Revista Argentina de Clínica Psicológica, 30(2): 212-227.

Steel G (2021). Going global–going digital: Diaspora networks and female online entrepreneurship in Khartoum, Sudan. Geoforum, 120: 22-29. https://doi.org/10.1016/j.geoforum.2021.01.003

Sullivan YW and Kim DJ (2018). Assessing the effects of consumers' product evaluations and trust on repurchase intention in e-commerce environments. International Journal of Information Management, 39: 199-219. https://doi.org/10.1016/j.ijinfomgt.2017.12.008

Tahir M (2021). A study of factors affecting customers purchase intention for online shopping of fashion products among Omani customers. International Journal of Management and Entrepreneurship Research, 3(7): 266-276. https://doi.org/10.51594/ijmer.v3i7.247

Tandon A, Kaur P, Bhatt Y, Mäntymäki M, and Dhir A (2021). Why do people purchase from food delivery apps? A consumer value perspective. Journal of Retailing and Consumer Services, 63: 102667. https://doi.org/10.1016/j.jretconser.2021.102667

Ventre I, Mollá-Descals A, and Frasquet M (2021). Drivers of social commerce usage: A multi-group analysis comparing Facebook and Instagram. Economic Research-Ekonomska Istraživanja, 34(1): 570-589. https://doi.org/10.1080/1331677X.2020.1799233

Wang J, Shahzad F, Khan I, and Siyal AW (2022). Decision making with an alternative mindset in an online shopping environment: Identifying user intentions toward Facebook-commerce. Frontiers in Psychology, 13: 848931. https://doi.org/10.3389/fpsyg.2022.848931

Warganegara DL and Babolian Hendijani R (2022). Factors that drive actual purchasing of groceries through e-commerce platforms during COVID-19 in Indonesia. Sustainability, 14(6): 3235. https://doi.org/10.3390/su14063235

Watanabe EA, Alfinito S, Curvelo IC, and Hamza KM (2020). Perceived value, trust and purchase intention of organic food: A study with Brazilian consumers. British Food Journal, 122(4): 1070-1184. https://doi.org/10.1108/BFJ-05-2019-0363

Xiang H, Chau KY, Iqbal W, Irfan M, and Dagar V (2022). Determinants of social commerce usage and online impulse purchase: Implications for business and digital revolution. Frontiers in Psychology, 13: 837042. https://doi.org/10.3389/fpsyg.2022.837042 **PMid:35242088 PMCid:PMC8886314**

Yang F, Tang J, Men J, and Zheng X (2021). Consumer perceived value and impulse buying behavior on mobile commerce: The moderating effect of social influence. Journal of Retailing and Consumer Services, 63: 102683. https://doi.org/10.1016/j.jretconser.2021.102683