

The Antecedents of Online Purchase Intention During Covid-19: A Serial Mediation Approach

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ABSTRACT: The objective of this study is to investigate how consumers' online shopping experience influence online purchase intention through a serial mediation model using stimulus organism response (SOR) framework. 378 valid responses were collected from online shoppers in India and the data were analyzed using the SPSS Process macro model 6. The findings showed that online shopping experience (OSE) positively influenced online purchase intention (INT). Further, the result supported that trust and attitude has mediation effect between OSE and INT. Finally, the serial mediation results found that trust and attitude together as sequential mediators significantly influenced the impact of OSE on INT. The results offer practical insights for online retailers and the study also delves into the discussion of theoretical contributions.

Keywords: Covid-19, Online shopping experience, trust, attitude, Online purchase intention.

I. INTRODUCTION

The outbreak of Covid-19 has profoundly impacted societies and economies across the globe. To curb the swift transmission of the virus, numerous preventive measures, including lockdowns, prohibitions on large gatherings, stay-at-home orders, and social distancing, have been enforced in numerous countries [1]. Consequently, individuals have increasingly turned to online shopping as a means of fulfilling their daily needs from the safety of their homes [2]. The surge in online shopping and the utilization of the internet for acquiring goods and services has been notable. Throughout the pandemic, there has been an 81% increase in online shopping in Nigeria, a 25% increase in the United States, a 29% increase in Germany, and Southeast Asia is projected to experience a remarkable growth of 295% from 2019 to 2025. In India, there is a projected increase in the number of internet users, expected to rise from 604.21 million in 2018 to 829 million in 2021. The growth of e-commerce sector is substantial, with anticipated revenue reaching US\$120 billion by 2020, compared to US\$39 billion recorded in 2017, signifying a remarkable growth rate of 51%. As reported by Tandan, the internet has already reached approximately 430 million individuals in India. Here is a rising demand for online purchases, prompting a pressing need for various stakeholders, including marketers and retailers, to formulate effective strategies aimed at influencing consumer purchasing behavior. Consequently, it becomes crucial to ascertain the extent to which consumers have shifted towards online shopping, especially in the context of the ongoing pandemic [3].

The paper structure: have the Background Theory in Section I, Literature Review in Section II, Material and methods in Section III, Data analysis and results in Section IV, the conclusion in section V.

II. LITERATURE REVIEW

Online shopping: Many of the studies were investigated before the Covid-19 pandemic [4-8]. However, limited studies have conducted in the post-pandemic. The investigators have delved into a multitude of factors that play a significant role in online purchasing behavior. For instance, [9] applied grounded theory approach to test the

effect of emotional and psychological experience on shopping behavior among Indians. It was revealed [10] that price, product range, convenience and speed delivery emerged as an important predictor of online shopping. [11] and [12] explored the influence of awareness, affection of society, utilitarian, and hedonic motivations on purchase intention among Vietnamese consumers [13] employed the Fear Appeal theory to examine the role of health fears, and economic fears on online shopping behavior among European consumers. Furthermore, the literature also investigated the mediation effect. [14, 15] investigated the mediating role of trust among perceived risk, website design and purchase intention. Study [16] investigated the mediation effect of cognitive attitude between motivation and intention. Drawing upon the available literature, this study has identified specific gaps. First, numerous studies [17] have been undertaken to examine online purchase intention, but only few have explored within Indian context during the Covid-19 pandemic. Secondly, although, a handful of studies have tested the mediation effect, the sequential mediation analysis has received relatively scant attention.

Therefore, the current study aims to 1. Explore the factors influencing online purchase intention during Covid-19 and 2. Examine the sequential mediation effect of trust and attitude in the relationship between online shopping experience (OSE) and intention.

III. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT THROUGH STIMULUS ORGANISM RESPONSE (SOR) MODEL

The SOR theory posits that stimulus (S) triggers diverse responses (R), where organism (O) serves as the intermediary between stimulus and response [18]. The organism includes psychological processes such as motivation, attitude, and emotions. The SOR framework is instrumental in comprehending the underlying motives for an individual's actions, making it highly pertinent and valuable in predicting behavior. Therefore, this study utilizes the SOR model, which includes online shopping experience as an independent variable (S), trust, and attitude as a mediator (O), and online purchase intention as dependent variable (R) (refer fig. 1).

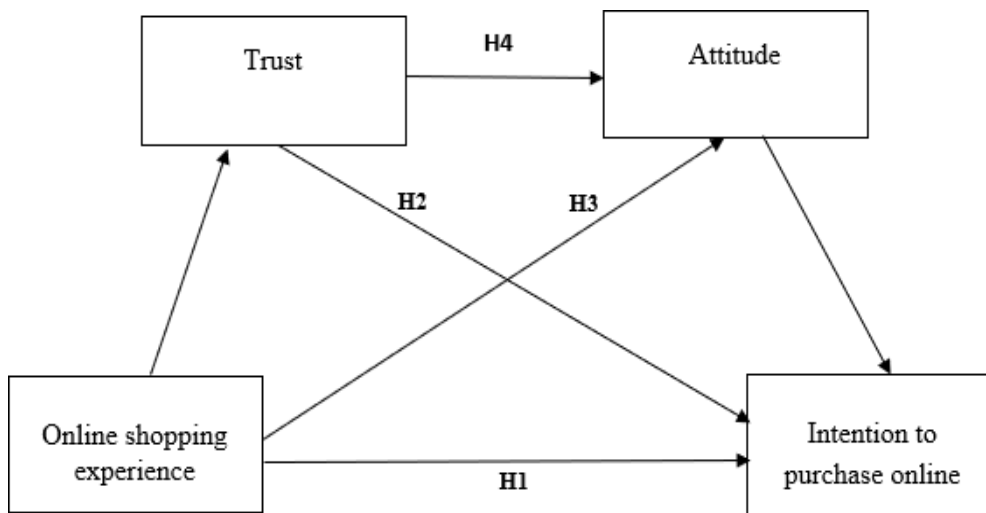


FIGURE 1. Research model

1. ONLINE SHOPPING EXPERIENCE (OSE)

Online shopping has profound impact on the contemporary world, leading to a significant surge in transactions. Particularly, during the Covid-19, individuals who involved in online shopping gained greater experience, which has expedited the shift towards more digital transaction environment, instigating alterations in consumer purchasing patterns [19]. The process of online shopping involves a personal and subjective response that takes place within the framework of indirect interaction between customers and enterprises [20]. This facet

holds considerable importance in business. Limited research has explored the linkage between OSE and intention. For instance, [21] suggested that customers who experienced positive online shopping, they exhibit higher willingness to continue their shopping activities through online platforms. Study [22] found that online purchase experience has significantly influenced customer purchase intention.

2. THE MEDIATION EFFECT OF TRUST

It is defined [23] trust as “the belief of an individual in the trustworthiness of others which can be determined by their perceived integrity, benevolence, and competence”. The establishment of trust is a gradual process, evolving as consumers accumulate experience through repeated online transactions, fostering the belief in the security of the e-commerce environment for risk-free dealings [24]. Existing research primarily explored the direct effect of trust on purchase intention [6, 21]. Nevertheless, few studies explored trust as a mediating factor. For instance, [24] investigated the mediating role of trust between perceived risk factors (performance, social, financial, psychological, payment, and delivery), and purchase intention. Their findings indicated that trust has full mediation effect of performance risk and partial mediation effect of psychological risk on consumers’ intention to buy online. Study [25] found trust has full mediation effect among consumer engagement, awareness, and purchase intention. Study [26] suggested that trust has strong impact on online purchase intention and mediate the relationship between website awareness and intention.

3. THE MEDIATION EFFECT OF ATTITUDE TOWARDS ONLINE SHOPPING

Attitude refers to “an individual who has a positive or negative evaluation or appraisal of the behavior.” It is identified as a crucial and direct predictor of purchase intention [27]. The formation of attitude is influenced by various factors such as relative advantage, e-WOM, enjoyment of website, perceived usefulness, and so on [28-31] highlighted that consumers’ attitude depends on the ease of use, enjoyment, product characteristics, shopping experience and trust. Additionally, few studies have investigated the intermediary function of attitude between the antecedents and their outcomes. For example, [32] highlighted the mediating role of attitude towards blog among trust, information quality, perceived usefulness, and benefits and online purchase intention. Study [33] suggested that consumer’s attitude serves as a mediator between personal values and purchase intention among Chinese consumers. Thus, we propose the following hypotheses;

H1: Online shopping experience is significantly related to online purchase intention.

H2: Trust mediates the effect of Online shopping experience on online purchase intention.

H3: Attitude towards online shopping mediates the effect of online shopping experience on intention

H4: Trust and attitude serially mediate the effect of Online shopping experience and intention.

IV. MATERIAL AND METHOD

This study used the purposive sampling technique, targeting Indian online shoppers during Covid-19. A questionnaire link was sent through online via Google form, accessible for nearly six months. The first section covered demographic information namely gender, age, and education (refer table 1). The second section comprised of online purchase intention measures, totally contains 12 items and were rated on “5- point Likert scale” ranged from 5- strongly agree to 1- strongly disagree. All the items were sourced from the previously published studies (refer table 2). In total, 401 samples were collected, of which 378 were valid and analyzed using Smart PLS and SPSS Process Macro.

V. DATA ANALYSIS

Table 1. Demographic Data

	Categories	No. of respondents	Percentage
Gender	Male	223	58.9
	Female	155	41.1
Age (years)	18 – 30	73	19.3
	31 – 40	113	29.9
	41 - 50	150	39.7
	Above 51	42	11.1
	Below graduates	85	22.5
Education	Graduates	203	53.7
	Others	90	23.8

Table 2. List of items and its source

Constructs	Items	Sources
Online shopping experience	"I feel comfortable of using the onlineshopping websites".	
	"I am experienced with the use of the onlineshopping websites".	Thamizhvanan et al., 2013
	"I feel competent of using the online shoppingwebsites".	
Trust	"It is safe to pay money and perform afinancial transaction on websites".	
	"The online retailer will protect my financialrelated information".	AI-Debei et al.,2015
	"The retailer's website will not sell my personal information to others for commercialuse".	
Attitude	"I am interested in online shopping".	
	"I think online shopping is easy to use".	Khare andRakesh, 2011
	"My attitude toward online shopping ispositive".	
Online purchase intention	"I would like to purchase a product fromonline store".	
	"I would like to recommend others to shonline"	Hong and Cha,2013
	"If there is a product that I want to purchase, Iwould like to use the online store"	

The preceding Table No. 2 shows the list of items and their various sources. A construct is a theoretical notion, topic, or idea derived from empirical data. A few entries in the "construct" category are drawn from existing literature that supports the research. In a related vein online shopping experience, trust, attitude, and online purchase intention are essential constructs taken from previous literature, as shown in this table's Source column. Scales were also adapted from previous literature and cited in double quotations.

1. RELIABILITY AND VALIDITY

The reliability and validity of the study were evaluated using the Smart-PLS software. First, reliability was measured using Cronbach’s alpha and composite reliability (CR). All the alpha and CR values exceeded the threshold limit of 0.7 thus confirmed adequate reliability. Secondly, convergent validity was measured using factor loadings and average variance extracted (AVE) and found that the loading value of all the items and AVE values were greater than the threshold limit of 0.7 and 0.5 recommended by [34]. Table 3 presents reliability and convergent validity results.

Table 3. Reliability and validity results

Factor	Items	Loadings	Alpha	CR	AVE
Online shopping experience	OSE1	0.982	0.986	0.991	0.973
	OSE2	0.985			
	OSE3	0.992			
Trust	TR1	0.903	0.801	0.882	0.716
	TR2	0.886			
	TR3	0.739			
Attitude	AT1	0.798	0.831	0.899	0.749
	AT2	0.893			
	AT3	0.902			
Online purchase intention	INT1	0.797	0.746	0.855	0.663
	INT2	0.844			
	INT3	0.799			

Table 4. Discriminant validity result (Fornell and Larcker criterion)

Factor	1	2	3	4
Online shopping experience (1)	0.986			
Trust (2)	0.515	0.846		
Attitude (3)	0.521	0.812	0.866	
Online purchase intention (4)	0.559	0.651	0.809	0.814

The discriminant validity was tested based on Fornell and Larcker criterion and cross-loadings method. According to [35] method, the square root of AVE should be greater than the correlation of latent construct. According to [36] cross-loadings criterion, the loading indicators of the assigned construct should be higher than all the other construct items with the threshold value of 0.70. The results of all the two approaches were found adequate thus discriminant validity also achieved. Table 4, and 5 shows the discriminant validity results.

Table 5. Discriminant Validity (cross-loadings)

Constructs	OSE	TR	AT	INT
OSE1	0.982	0.503	0.511	0.550
OSE2	0.985	0.502	0.502	0.544
OSE3	0.992	0.518	0.529	0.559
TR1	0.410	0.886	0.842	0.572
TR2	0.480	0.903	0.822	0.622
TR3	0.424	0.739	0.497	0.440
AT1	0.411	0.571	0.798	0.779
AT2	0.442	0.838	0.893	0.617
AT3	0.497	0.840	0.902	0.694
INT1	0.407	0.573	0.795	0.797
INT2	0.518	0.517	0.594	0.844
INT3	0.443	0.491	0.559	0.799

2. SERIAL MEDIATION

The serial mediation model was tested using SPSS Process Macro model 6 with a bootstrapping technique of 5,000 subsample. Table 6 shows the direct effect and indirect effect results with the beta value, standard error, t-value and p value, ULCI, and LLCI. The result found that online shopping experience ($t=6.30$; $p=0.000$) has direct significant effect on online purchase intention thus H1 was supported. Further, we tested the mediation effect of trust and attitude between OSE and INT. Regarding the indirect effects, the result found that trust has negative mediation effect (ULCI= -0.14; LLCI= -0.02) and attitude has positive mediation effect (ULCI= 0.25; LLCI= 0.11) thus H2 and H3 were supported. Finally, the indirect effect of OSE on INT, through trust and attitude was also significant (ULCI= 0.20; LLCI= 0.36), having no zero between ULCI and LLCI thus H4 was supported. The result statistically confirmed that trust and attitude sequentially mediated the relationship between OSE and intention.

Table 6. Serial mediation result

Hypothetical relationships			B	SE	t value	p value	Decisions		
Direct effect									
H1	OSE	INT	0.179	0.028	6.305	0.000	Supported		
Indirect effects									
	Hypothetical relationships		B	SE	ULCI	LLCI	Decisions		
H2	OSE	TR	RI	-0.081	0.030	-0.141	-0.024	Supported	
H3	OSE	AT	RI	0.070	0.024	0.025	0.118	Supported	
H4	OSE	TR	AT	INT	0.278	0.038	0.208	0.360	Supported

The current study focused on identifying the key factors that significantly influenced online purchase intention, specifically in the times of pandemic. the result indicated a positive impact of online shopping experience on online purchase intention (h1). aligns with previous research, emphasized the role of shopping experience in encouraging online purchase intention [22]. The finding indicates that individuals who experience satisfaction during their shopping endeavors and hold a positive perception of online retail establishments intended to participate actively in online shopping activities. therefore, online retailers can take specific actions such as offering responsive and easily accessible customer support through various channels such as live chat, and e-mails. they may also provide accurate delivery estimates and keep informed about the status of their orders can foster a positive online experience and create a satisfying environment for the consumers.

VI. DISCUSSION

The study examined the mediating role of trust on the relationship between online shopping experience and online purchase intention (h2). the result confirmed that trust has partial mediation effect, thereby enhancing the relationship with ose and int. such findings get support from the previous studies of [37] conferred that trust acted as a partial mediator between purchasing experience and purchase intention. the finding implies that the trustworthiness of e-commerce regarding prompt deliveries and secure payment methods, play a vital role in enhancing online purchase intention during the pandemic. customers are more likely to make online purchase when they feel confident that their orders will be delivered on time with good conditions and their personal and financial information are secured. therefore, companies should prioritize transparency, safety, and reliability regarding online transaction and data protection are likely to foster trust, which ultimately increases online purchase intention.

Finally, the findings revealed that online shopping experience significantly impact online purchase intention through attitude towards online shopping (h3). the result confirmed that attitude has partial mediation effect, thereby enhancing the effect of ose on purchase intention. the finding is consistent with the existing literature of [38] stated that consumers' attitude has a mediation effect on purchase intention. the finding suggests that a favorable attitude enhanced the connection between ose and intention. suppose, if consumer has a negative attitude, even if the online shopping experience is positive, it may hinder their intention. therefore, the businesses should and online retailers should focus not only on improving the technical aspects but also on enhancing consumer attitudes through various means such as excellent customer service, transparent policies, and quality products.

VII. CONCLUSION

In conclusion, the findings showed that trust and attitude have sequential mediation effect between ose and intention (h4). the result confirmed that people who perceived positive online shopping experience fosters trust, leading to a favorable attitude which ultimately increases the intention to make online purchases. this finding is like prior study of [39], where they posited that the association between perceived ethics and purchase intention was mediated by trust and attitude, however, as no prior studies have examined the sequential mediation role of trust and attitude in connecting the online shopping experience and online purchase intention.

The study makes significant contributions to the literature in many ways. first, the research addresses the timely and context-specific motives of online shopping behavior during the covid-19, providing insights into the distinctive opportunities in the Indian market. second, the application of SOR theory enriches the theoretical foundation, offering a structured understanding of how shopping experience influence internal processes such as trust and attitude leading to the desired response namely online purchase intention. third, this study delves into the mediating roles of trust and attitude between ose and intention. this study particularly highlighting the sequential mediation effect, contributing novel insights into the underlying mechanisms. fourth, this study focusing on Indian context during the covid-19, the research provides empirical evidence that can inform both academics and practitioners about the online consumer behavior in a challenging environment. finally, the findings offer practical implications for both businesses and policymakers by illuminating factors influencing online purchase decisions in the pandemic, aiding in the development of targeted strategies to enhance consumers' shopping experience, trust, attitude towards online purchase intention.

Although, the research provides various benefits, it also has its own limitations. first, the study employed a cross-sectional survey during the covid-19. so, the future researcher may conduct a longitudinal study to assess the behavioral over a period. secondly, the data were gathered only from Indian consumers. therefore, to generalize the findings, researchers may conduct studies across different developing countries and compare the outcomes. thirdly, this study analyzed the responses with prior online shopping experience while leaving those who have no online purchase experience. finally, this study performed a serial mediation analysis which considered trust and attitude as a mediator. the future researcher may also extend this model by including additional mediating variable.

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