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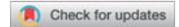
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## Customer Experience in Online Shopping: A Structural Modeling Approach

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### ABSTRACT

Online retail's rapid growth in India has triggered both untapped growth opportunities and challenges to maintain consumer "stickiness" to retailer websites. In this context, online customer experience (OCE) has emerged as a strategic differentiator for sustainable competitive edge. However, there is a paucity of empirical research in this field. Therefore, drawing on extant literature and qualitative research of online shoppers, this study proposes an integrated model of OCE with antecedents, components, and outcome variables. Data for this study were collected from Indian online shoppers; the data are empirically tested along with the moderating effect of time availability on OCE. Results of the study largely support the model and contribute to knowledge creation on OCE in the Indian context and to strategy development for online retailers.

### KEYWORDS

Online customer experience; retailer credibility; electronic word of mouth; customer satisfaction; repurchase intention; time availability

### Introduction

The growth of India's online retail presence has attracted the attention of both industry and academia. According to a 2016 report, "Digital Retail 2020"<sup>1</sup> by Google and AT Kearney, online shopping in India is growing at a compounded annual growth rate (CAGR) of over 40% and is estimated to reach 175 million in 2020 from 50 million in 2015. The growth drivers of this phenomenon are the rise of digital natives, changing urban consumer lifestyles, and better infrastructure in terms of logistics, broadband, and Internet-ready devices to fuel the demand in e-commerce, according to an Assocham-Resurgent India study (2016). In a youth-driven society, digital presence is paramount for brands and organized retail to connect and engage the net-savvy youth segment. In a fiercely fought Indian online retail scenario, one of the challenges retailers face is how to improve the "stickiness" of the online shopper to a particular online retailer. In this context, online customer experience (OCE) has emerged as a crucial differentiator for sustainable competitive advantage in a market full of options and lacking loyalty. According to Forrester's Customer Experience Index report (2017)<sup>2</sup>, online retailers have earmarked OCE as a priority and a stated organizational goal. However, the literature shows that OCE research is an

emerging field and still evolving, with comparatively little empirical research published (McLean & Wilson, 2016). Specifically, due to the multidimensional nature of the construct of customer experience (Gentile, Spiller, & Noci, 2007) and online customer experience (Rose, Hair, & Clark, 2011), managerial insights into the OCE antecedents are limited, though these may lead to profitable behavioral outcomes (Martin, Mortimer, & Andrews, 2015; Rose, Clark, Samouel, & Hair, 2012). This study is important for online retailers, since online shopping's adoption and penetration are on the rise and retailers are facing a constant challenge to improve consumer "stickiness: to their respective websites in a fiercely competitive online marketplace. Rose et al. (2011) have observed the customer online retailer interaction through websites could create positive customer experiences which, in turn, may lead to long-term customer satisfaction, repurchase intention, or loyalty. In this context, this study will address the following objectives:

- (a) Developing a conceptual model of OCE consisting of antecedents, components, and consequent variables and hypothesizing interrelationships;
- (b) Testing the model for reliability and validity to support hypothesized relationships;
- (c) Testing the moderating effect of time on OCE.

This research contributes to the present body of knowledge in the domain of OCE by incorporating two new OCE antecedents and also testing the moderating effect of time availability on OCE in an Indian context. The article is divided into the following sections: theoretical background and hypotheses, conceptual framework, research methodology, data analysis, theoretical contributions, managerial implications and, finally, limitations and scope for future research.

## Theoretical background and hypotheses

### *Customer experience (CE)*

Holbrook and Hirschman (1982) challenged the traditional information-processing model of consumer decision making which assumed that the customer is purely rational. They advocated the concept of an “experiential” view of consumption, which instead focused on symbolic, hedonic, and esthetic factors of consumption (Holbrook & Hirschman, 1982).

Further research proposed that CE could be a differentiator in a cluttered and competitive market, and that any marketing plan must include it to make a positive impact on the customer. Pine and Gilmore (1998) stated that since today’s customers live in an “experience economy,” which is a more evolved form than the earlier commodity-based and service economies, modern marketing’s success depends on “staging experiences that sell.” They also argued that “people have become relatively immune to messages targeted at them. The way to reach your customers is to create an experience within them” (Gilmore & Pine, 2002, p. 3).

This focus on CE later gave rise to the term “experiential marketing” by Schmitt (1999), which indicated a major shift in focus from the traditional product-centric “features-and-benefits” to a more holistic “pleasurable experience,” which is an interplay of both cognitive thinking and affective emotions. Schmitt’s framework focused on two pillars of experience: experience types (Strategic Experience Modules) and experience-causing factors (Experience Producers) and five classes of CE: sense (sensory), feel (affective), think (cognitive), act (behaviors, lifestyle), and relate (social identity).

Carbone and Haeckel (1994), who earlier defined CE as “the takeaway impression formed by people’s encounters with products, services, and businesses—a perception produced when humans consolidate

sensory information,” took the research farther when they reported that “total customer experience” was a component of the overall value creation process and the firm should place suitable “clues” in the customer’s buying environment to create the desired emotional aspect of experience (Berry, Carbone, & Haeckel, 2002). They also argued that superior CE and customer loyalty could be created by placing cognitive and affective signals in the shopping environment (Berry & Carbone, 2007).

The importance of CE, as a critical component of the value creation process, was emphasized by other researchers as well (Prahalad & Ramaswamy, 2004), which led to the understanding of the different components of CE: sensorial, emotional, cognitive, pragmatic, lifestyle, and relational (Gentile et al., 2007).

CE, as a multidimensional construct, has led to multiple interpretations signifying the subjectivity involved in the process; e.g., it is “the internal and subjective response that customers have of any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service, and is usually initiated by the customer. Indirect contact most often involves unplanned encounters with representatives of a company’s products, services, or brands and takes the form of word-of-mouth recommendations or criticism, advertising, news reports, and reviews” (Meyer & Schwager, 2007, p. 2); it is composed of a customer’s cognitive, affective, social, and physical responses to the retailer; future customer experiences will be governed by past customer experiences and “this experience is created by not only by those elements which the retailer can control (e.g., service interface, retail atmosphere, assortment, price) but also by elements that are outside of the retailer’s control (e.g., influence of others, purpose of shopping)” (Verhoef et al., 2009, p. 32). CE happens through interaction between the customer and the business at every possible contact point (Grewal, Levy, & Kumar, 2009). Gentile et al. (2007) incorporated the multiple facets of CE into a comprehensive definition: “The customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly personal and implies the customer’s involvement at different levels (rational, emotional, sensorial, physical and spiritual).” A more recent definition of CE is “multidimensional construct focusing on a customer’s cognitive, emotional, behavioral, sensorial, and

social responses to a firm's offerings during the customer's entire purchase journey" (Lemon & Verhoef, 2016, p. 71). However, all of the researchers agreed on the importance of CE as a strategic differentiator in defining the customer-company dynamics in a competitive environment.

### **Online customer experience (OCE)**

Extant literature has pointed out that, for an online retailer's success, OCE plays a critical role as a strategic differentiator (Grewal et al., 2009; Martin et al., 2015; Rose et al., 2011). The first model of OCE was rooted in the concept of "flow"—a psychological construct that refers to customer motivation and is characterized by a feeling of seamless online navigation, intrinsic enjoyment, and lack of self-consciousness (Hoffman & Novak, 1996). Trevinal and Stenger (2014) have defined OCE as a "psychologically subjective response to the e-retail environment" and it "a complex, holistic, and subjective process resulting from interactions between consumers and the online environment." Rose et al. (2012) extended the concept by incorporating both cognitive and affective aspects of OCE.

However, despite few noteworthy works in this field, a review of the existing literature shows that there is a dearth of empirical studies on OCE (Klaus, 2013; Klaus & Nguyen, 2013; Martin et al., 2015; Rose et al., 2011, 2012; Trevinal & Stenger, 2014). This is true especially in India, where, despite rapid growth of online retail, OCE as a research field is still not explored. Hence, the present research, drawing from previous work in this field, aims to develop and empirically test a conceptual framework where OCE consists of both cognitive and affective components.

### **Cognitive experience in online shopping**

Cognitive experience in online shopping (CEOS) has its origin in the concept of online "flow," which refers to "a cognitive state experienced during online navigation" (Novak, Hoffman, & Yung, 2000) and "connected with thinking or conscious mental processes" (Gentile et al., 2007; Rose et al., 2012). Earlier definitions of online flow assumed telepresence, challenge, skills, and interactive speed as its antecedents (Novak et al., 2000); however, later works in the field of OCE found that skills and interactive speed have no statistical significance on OCE (Martin et al., 2015). In sync with the recent trend of OCE research, the present study

considers that CEOS is composed of telepresence and challenge. This study hypothesizes (H1) that CEOS influences repurchase intention.

### **Telepresence**

Telepresence, an antecedent of CEOS, is related to the customer's experience of the Internet as a medium and refers to the customer's comparative evaluation of his/her online environment and real environment at a particular time. This antecedent helps us to understand the degree of a customer's involvement in the "virtual reality" (Steuer, 1992) and how an online shopping process may lead to unconscious passage of a shopper's time (Hoffman & Novak, 1996; Novak et al., 2000; Hoffman & Novak 2009). According to extant OCE literature, telepresence positively influences OCE (Mollen and Wilson, 2010; Rose et al., 2012; Martin et al., 2015).

Based on extant literature, this study considers that telepresence is an antecedent to the cognitive aspect of online customer experiences. The present study hypothesizes (H1a) that telepresence influences CEOS.

### **Challenge**

Challenge, in the context of web browsing, refers to the level of anxiety of the user related to the interplay between the perceived complexity of the medium and his/her web browsing skill (Ghani & Deshpande, 1994). In this context, website design is found to influence perceived ease of use and indirectly influences attitude and behavioral intentions (Bashir & Madhavaiah, 2015). Extant literature in the field of OCE has found that challenge, acting as an antecedent, positively influences online flow experience and cognitive experiential state of online flow experience (Ghani & Deshpande, 1994; Ghani, Supnick, & Rooney, 1991; Hoffman & Novak, 1996; Martin et al., 2015; Novak et al., 2000; Rose et al., 2012; Trevino & Webster, 1992).

Drawing on the extant literature, this article considers that challenge is an antecedent to the cognitive aspect of online customer experience. The present study hypothesizes (H1b) that challenge influences CEOS.

### **Interrelationship between antecedents of CEOS**

Telepresence and challenge have been considered as antecedents of OCE by earlier researchers (Martin et al., 2015). Novak et al. (2000) and Rose et al. (2012) conceptualized OCE with only cognitive aspect (flow)

with four antecedents: (a) skill; (b) challenge; (c) focused attention; and (d) telepresence/time distortion. Among these four antecedents, direct paths to flow from skill, challenge, and telepresence were found to be significant.

Later, Rose et al. (2012), based on supportive literature (Gentile et al., 2007), challenged the earlier notion and conceptualized OCE with two components—cognitive and affective. They also used the phrase “cognitive experiential state” instead of “flow,” and considered telepresence, challenge, skill, and interactive speed as antecedents. Their study found the relationship between telepresence and challenge with cognitive experiential state to be significant, while no support was found for the hypothesis that skill and interactive speed influenced cognitive experiential state. They explained that the latter phenomenon was due to the significant passage of time between the two studies, which had led to the upgrading of the skill level of online shoppers and improvement of interactive speed of online shopping websites. Three years later, Martin et al. (2015) also used telepresence and challenge as antecedents of the cognitive aspect of OCE, finding that telepresence has a significant relationship, while challenge did not. Hence, in line with earlier works in this field, the present study also decided to explore the role of telepresence and challenge as indicators of cognitive experience in online shopping.

### ***Affective experience in online shopping***

Barring the early research in OCE (Novak et al., 2000), OCE is conventionally considered to have an affective component (Gentile et al., 2007; Martin et al., 2015; Rose et al., 2012). Affective experience in online shopping (AEOS) triggers an emotional connection between the customer and the product, service, brand, or organization and “involves one’s affective system through the generation of moods, feelings and emotions” (Gentile et al., 2007, p. 398; Rose et al., 2012).

The present research studies the influence of two antecedents of affective experiences in online shopping—retailer credibility and electronic word of mouth. These two antecedents were chosen with an aim to adapt the model for India’s online shopping context based on two focus group discussions featuring Indian online shoppers of different demographics. This exploratory phase was conducted prior

to finalizing the conceptual framework and was used to decide antecedents of AEOS.

Based on the extant literature, this study hypothesizes (H2) that affective experience in online shopping (AEOS) positively influences customer satisfaction.

### ***Retailer credibility***

As online shopping is a relatively new phenomenon in India, and also due to the lack of direct company-customer interaction, shoppers have a higher risk perception toward this channel in general and toward a specific online retailer in terms of reliability, security, and privacy. Kotler and Keller (2016, p. 192) have defined retailer credibility as “the extent to which customers believe a firm can design and deliver products and services that satisfy their needs and wants.” Hence, this antecedent plays an important role in shaping the customer’s emotional feeling toward the retailer, to drive revisit intention to the website and repurchase intention from a particular retailer (Brunelle, 2009; Kapoor & Sharma, 2016; Merrilees & Miller, 2005).

Based on this, the present model considers that retailer credibility is an antecedent to the affective aspect of online customer experience. The present study hypothesizes (H2a) that retailer credibility influences AEOS.

### ***Electronic word of mouth***

With the advent of online social media, modern customers are more assertive, demanding, and ready to share their opinions and experiences about a product, brand or company—both good and bad. That is why electronic word of mouth (eWOM) has become the focus of attention for marketers to influence customer experience. Hence, marketers actively use eWOM as a marketing tool on social media sites (Alboqami et al., 2015). eWOM refers to “any positive or negative statement made by potential, actual or former customers about a product or company, which is made available to a multitude of people and institutions via the Internet” (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004, p. 39) and shapes decisions by information seeking in online buying regarding which movie to watch, which stock to buy, what provides product value, likelihood to recommend, and website’s reputation (Kietzmann & Canhoto, 2013). A study done on Indian online

shoppers by market research firm Nielson (2015)<sup>3</sup> also stressed the importance of eWOM, especially for first-time online shoppers. Based on the extant literature, for this study the online product review is taken as a source of eWOM, which in turn influences AEOS. The present study hypothesizes (H2b) that eWOM influences AEOS.

### **Interrelationship between antecedents of AEOS**

This study incorporates two new antecedents of affective components of OCE based on the insights gained from focus group discussions carried out with Indian online shoppers in the exploratory research phase, and also based on literature support. According to the literature, a retailer's credibility is a component of trust between the buyer and the seller and is an indicator of customer loyalty (Ganesan, 1994; Prasarnphanich, 2007).

Since OCE is cumulative in nature (Gentile et al., 2007; Rose et al., 2012), a positive shopping experience related to a specific online retailer leads to positive electronic word of mouth from satisfied shoppers related to the specific retailer's credibility. Research has found that positive electronic word of mouth from others influences an individual online shopper's affective state and, in turn, positively influences OCE (Hennig-Thurau et al., 2004).

### **Online customer satisfaction**

Satisfaction, which is defined as a "judgment that a product or service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or over-fulfillment" (Oliver, 2014; Oliver, 1997, p. 2; Oliver & DeSarbo, 1988; Yi, 1990), is a consequence of both transaction-specific and cumulative online customer experience and leads to desirable marketing outcome variables. For online shopping, satisfaction formation is contingent upon cognitive and affective experience (Homburg, Koschate, & Hoyer, 2006; Jin & Park, 2006; Khalifa & Liu, 2007; Martin et al., 2015; Rose et al., 2012), and it acts as a mediating variable which leads to online repurchase intention (Martin et al., 2015; Rose et al., 2012). The present study hypothesizes (H3) that satisfaction influences repurchase intention.

### **Online repurchase intention**

According to the Theory of Reasoned Action, the Theory of Planned Behavior, and the Technology Acceptance Model (Ajzen, 1991; Davis, Bagozzi, & Warshaw, 1989; Cheng, Chen, & Yen, 2015), behavioral intention is a reliable predictor of actual behavior. The literature shows that this variable is considered to be an outcome of customer satisfaction in physical retail shopping (Choi, Cho, Lee, Lee, & Kim, 2004; Seiders, Voss, Grewal, & Godfrey, 2005), and also in online retail (Ha, Janda, & Muthaly, 2010; Khalifa & Liu, 2007; Martin et al., 2015; Rose et al., 2012), and is a better measure than behavioral parameters (Ling, Chai, & Piew, 2010). Online repurchase intention is influenced by the overall shopping experience (Dai, Forsythe, & Kwon, 2014; Khalifa & Liu, 2007; Rose et al., 2012) and is defined as the "re-usage of the online channel to buy from a particular retailer" (Khalifa & Liu, 2007, p. 782). Drawing on the available literature, it is hypothesized that repurchase intention is influenced by OCE through satisfaction. Hence, the mediating hypothesis is: OCE influences repurchase intention through satisfaction.

### **Time available: Moderating variable**

A shopper's decision to shop online is influenced by the amount of discretionary time he/she has. Belk (1975) first reported the effect of time as a situational variable on consumer behavior. Also, according to the Pleasure-Arousal-Dominance (PAD) theory, situational factors impact behavior through emotional responses (Mehrabian & Russell, 1974), which include product choice and store choice. In this context, time available refers to "the amount of time the shopper feels s/he has available that day" (Beatty & Ferrell, 1998) and is positively linked to search activity in a retail setting. Other factors being equal, shoppers with more available time should browse longer. Also, limited time to browse may give rise to a negative effect (Babin, Darden, & Griffin, 1994; Beatty & Ferrell, 1998). Studies have found that shopping decisions are influenced by the amount of discretionary time of the shopper in both offline (Saigal & Mann, 2010) and online (Bellman, Lohse, & Johnson, 1999) shopping. In the OCE research field, Martin et al. (2015) observed that customers who are "time poor" are more prone to use online shopping for time saving.

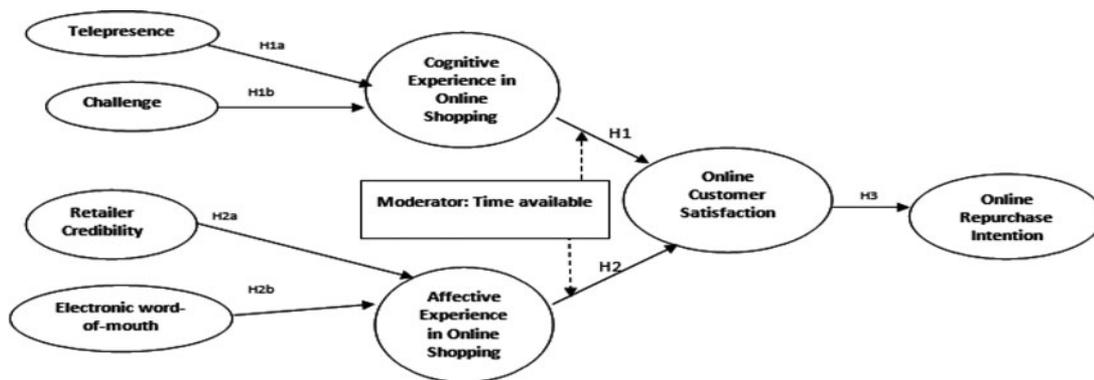


Figure 1. Conceptual model.

Based on the extant literature, the model in this study hypothesizes that the time available to shoppers has a moderating effect on both components of OCE.

### Conceptual model with hypothesized relationships

Based on the previous literature review and discussion, the conceptual model for this study is depicted as follows. The model contains the antecedents of OCE, components of OCE, and the outcome variables of OCE along with hypothesized interrelationships (Figure 1).

## Methodology

### Survey instrument and measurement

As this study aims to gain insight into OCE, a web-based structured questionnaire for data collection was used, in line with earlier research (Martin et al., 2015; Rose et al., 2012). Other advantages for adopting an online survey method include speedy response, low cost of conducting the survey, and faster access to a wider population (Ilieva, Baron, & Healey, 2002).

The sampling frame for the study consisted of Indian online shoppers—male and female—who purchased online for self-consumption, or for gifting purposes, or on another person's behalf in the last 12 weeks (Martin et al., 2015).

The survey instrument was adapted from established measurement scales of previous studies. The CEOS and AEOS scales were adapted from Rose et al. (2012). Antecedents of CEOS—i.e., Telepresence and Challenge scales—were adapted from Rose et al.

(2012), and antecedents of AEOS—i.e., Retailer Credibility and Electronic word of mouth—were adapted from Featherman, Miyazaki, and Sprott (2010) and Jalilvand, Esfahani, and Samiei (2011), respectively. Online Customer Satisfaction and Online Repurchase Intention scales were adapted from Rose et al. (2012). Lastly, the scale for time available, the moderating variable, was adapted from Beatty and Ferrell (1998).

In total, the survey instrument was composed of 35 scale items used to measure level of agreement with a series of statements related to OCE (cognitive and affective components of online shopping), OCE antecedents (telepresence, challenge, retailer credibility, and electronic word of mouth), and OCE outcomes (satisfaction, repurchase intention). Scale items were measured on a 7-point Likert scale ranging from (1) Strongly Disagree to (7) Strongly Agree. The scale items of AEOS were measured on a semantic differential 1–7 scale (Rose et al., 2012). The details of the scale items are given in Appendix 1.

The online data collection link for the study was circulated through e-mails and various social networking platforms. Potential respondents were informed that participation in this research study was voluntary and data collected would be used for academic research. Prior to the final data collection, a pilot test was done with 72 online shoppers to ascertain proper functioning of the link to the survey, and of the links within the survey.

Responses from the pilot test were also used to gauge the respondents' understanding of the questionnaire in terms of wording, sequencing, and layout. Accordingly, a few questions and scale items were modified or re-worded to ensure better respondent understanding. A total of 806 respondents took the survey and submitted their questionnaires online. After screening these

**Table 1.** Sample characteristics.

Sample profile	Sample %
<b>Gender (N = 607)</b>	
Male	53.9
Female	46.1
<b>Age (in years)</b>	
18–24	45.6
25–35	36.6
36–45	12.7
46–55	4.3
56–65	0.8
<b>Education level</b>	
Higher secondary level	2.2
Bachelor's degree	32.6
Post-graduate degree	55.0
Professional degree	10.2
<b>Occupation</b>	
Student	48
Public sector employee	4
Private sector employee	34
Family business	4
Self-employed	4
Homemaker	6
<b>Frequency of online shopping</b>	
Daily	4.4
2–3 times a week	14.8
Once a week	22.7
2–3 times a month	58.0

for outliers, 607 complete responses were considered for final analysis, which is appropriate for structural equation modeling (Hair, Black, Babin, Anderson, & Tatham, 1998; Kelloway, 1998). The test for non-response bias was done as proposed by Armstrong and Overton (1977), which revealed no issues related to non-response bias.

### Data analysis

Table 1 shows the sample characteristics. The gender distribution of the sample was in line with actual gender distribution of the Indian population (Census India, 2012). The sample is skewed toward youth because the median age in India is 27.9 years (CIA Factbook, 2017).

### Model analysis

Structural equation modeling (SEM), a powerful statistical tool, has been used extensively in management research, particularly in a marketing research context (Bagozzi & Yi, 1988; Fornell & Larcker, 1981; Hooper, Coughlan, & Mullen, 2008), to analyze data. This technique has also been used to study OCE online customer experience (Khalifa & Liu, 2007; Novak et al., 2000; Hausman & Siekpe, 2009; Ganguly, Dash, Cyr, & Head, 2010; Rose et al., 2012; Martin et al., 2015;

Bilgihan, Kandampully, & Zhang, 2016). The two-step approach of SEM, as recommended by Anderson and Gerbing (1992), is used for this study. The first step involves ascertaining the reliability and validity of the instrument using the measurement model and, in the second step, the structural model is assessed for the hypothesized relationships.

### Reliability and validity of the instrument

For this study, all scale items were rated on a 7-point Likert scale. Initially, exploratory factor analysis (EFA) was performed using principal component analysis (PCA) and Varimax rotation. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and the Bartlett's test of sphericity were used for sample appropriateness. Factors with eigenvalue greater than one were retained and factor loadings with a value greater than 0.50 were considered significant (Hair, Black, Babin, Anderson, Tatham, 2010). Cronbach's alpha coefficients (greater than 0.7) were used to measure scale reliability and internal consistency.

### Measurement model

At this stage, confirmatory factor analysis (CFA) was carried out. The goodness-of-fit indices ( $\chi^2/df = 1.506$ , RMSEA = 0.029, GFI = 0.937, NFI = 0.937, CFI = 0.978) suggested that the proposed model represents a good fit to the data. Though the factor loadings of a few indicator items were below the threshold value of 0.7 (Fornell & Larcker, 1981), based on the existing literature and the researchers' call, these were retained for subsequent analysis. The measurement model demonstrates evidence of both convergent validity (AVE > 0.50) and discriminant validity (AVE/Corr2  $\geq$  1) (Fornell & Larcker, 1981) as reported in Table 2. Construct validity refers to the degree to which measurements actually measure the variables that they are intended to measure (Gravetter & Wallnau, 2007). Construct validity is established by convergent validity and divergent validity. Convergent validity refers to the extent to which the scale correlates positively with other measurements of the same construct, while discriminant validity refers to the extent to which a measure does not correlate with other constructs from which it is supposed to differ. Average variance extracted (AVE) is a measure of convergent validity; it is the mean variance extracted for the items loading on a construct and is a critical indicator of convergence. Discriminant validity

**Table 2.** Convergent and divergent validity.

	Item	Factor loading	S.E.	C.R.	(AVE > 0.5) Convergent validity	Correlation <sup>2</sup> (highest correlation <sup>2</sup> between the examined factor and the rest of factors)	Discriminant validity (AVE/Inter construct correlation <sup>2</sup> > 1)	Construct reliability
<b>Telepresence</b>	TP1	0.604	0.053	14.025	0.548	0.21	Yes	0.828
	TP2	0.783	0.055	18.129				
	TP3	0.799	0.056	18.424				
	TP4	0.760						
<b>Challenge</b>	CHAL1	0.650	0.067	13.878	0.529	0.21	Yes	0.817
	CHAL2	0.813	0.072	16.407				
	CHAL3	0.747	0.070	15.574				
	CHAL4	0.689						
<b>CEOS (Flow)</b>	CEOS1	0.991			0.900	0.17	Yes	0.964
	CEOS2	0.905	0.018	47.879				
	CEOS3	0.948	0.015	61.997				
<b>Electronic word of mouth</b>	WOM1	0.750	0.076	15.757	0.550	0.08	Yes	0.859
	WOM2	0.843	0.074	17.131				
	WOM3	0.704	0.080	14.974				
	WOM4	0.731	0.074	15.443				
	WOM6	0.668						
<b>Retailer Credibility</b>	CREDI1	0.735	0.063	16.315	0.511	0.28	Yes	0.806
	CREDI2	0.745	0.062	16.499				
	CREDI3	0.645	0.062	14.451				
	CREDI4	0.730						
<b>AEOS</b>	AEOS1	0.737			0.541	0.38	Yes	0.825
	AEOS2	0.779	0.058	17.856				
	AEOS3	0.751	0.059	17.253				
	AEOS4	0.672	0.058	15.474				
<b>Satisfaction</b>	SAT1	0.796			0.520	0.38	Yes	0.811
	SAT2	0.708	0.053	17.373				
	SAT3	0.760	0.055	18.753				
	SAT4	0.607	0.059	14.631				
<b>Repurchase Intention</b>	RINT1	0.793			0.558	0.38	Yes	0.834
	RINT2	0.738	0.051	18.271				
	RINT3	0.658	0.053	16.084				
	RINT4	0.790	0.050	19.642				

is established by comparing the AVE values for any two constructs with the square of the correlation estimate between these two constructs. The AVE values should be greater than the squared correlation estimate.

### Structural model and hypothesis testing

The structural model (Figure 2) was estimated using AMOS 20 with maximum likelihood estimation. Based on the goodness-of-fit indices ( $\chi^2/df = 1.617$ , RMSEA = 0.032, GFI = 0.930, NFI = 0.930, CFI = 0.972), there was a good fit between model and observed data (Hu & Bentler, 1998).

The structural model was also tested with the hypothesized theoretical relationships. The hypothesis testing results are given in Table 3.

### Moderating effect of time available

In this study, the moderator, Time Available, was considered as a continuous variable, since dividing it into

categories may lead to loss of information (Altman & Royston, 2006). Researchers studied the moderating effect of Time Available on two direct relationships: (a) CEOS (Predictor) → Satisfaction (Outcome); and (b) AEOS (Predictor) → Satisfaction (Outcome). Since we dealt with a continuous moderator, the goal was to measure the interaction effect in both cases. If the interaction was found to be statistically significant, it meant that the moderator was moderating the relationship between the predictor (independent) variable and the outcome (dependent) variable. In case of

**Table 3.** Hypothesis testing and path analysis.

	Hypothesized path	Standardized path coefficients	CR	P	Interpretation
H1a	TP → CEOS	0.320	6.150	***	Supported
H1b	CHAL → CEOS	0.226	4.343	***	Supported
H2a	CREDI → AEOS	0.741	13.264	***	Supported
H2b	eWOM → AEOS	0.154	3.988	***	Supported
H1	CEOS → SAT	0.067	1.974	0.048	Supported*
H2	AEOS → SAT	0.759	14.595	***	Supported
H3	SAT → RINT	0.784	15.602	***	Supported

\* =  $p < .05$ , \*\* =  $p < .01$ , \*\*\* =  $p < .001$ .

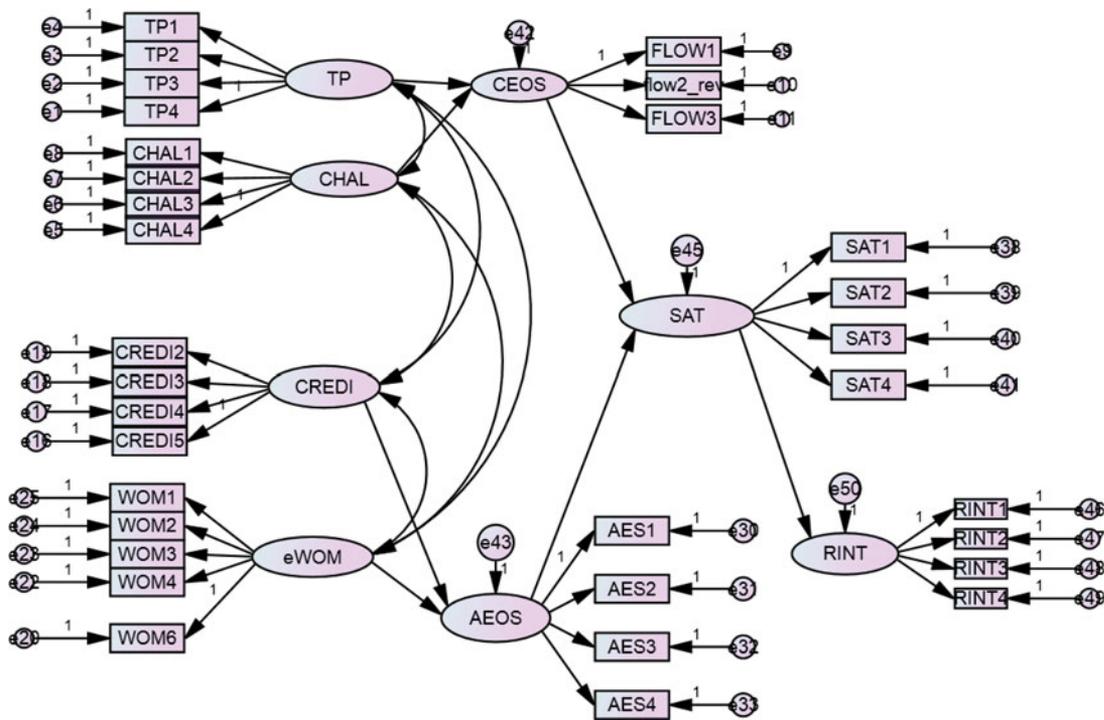


Figure 2. AMOS structural model.

Table 4. Regression test results for the moderator.

	Coefficient	S.E.	t-value	p-value	LLCI	ULCI
Constant	.0052	.0331	.1556	.8764	-.0599	.0702
AEOS	.5488	.0336	16.3417	.0000	.4829	.6148
Time	.0403	.0334	1.2050	.2287	-.0254	.1059
Interaction (AEOS x Time)	-.0987	.0275	-3.5891	.0004	-.1528	-.0447

(a), the interaction term was CEOS x Time Available and in case of (b) it was CEOS x Time Available. Using SPSS 20.0 with Process macro, hierarchical regression tests for both (a) and (b) were done.

From these tests, it was found that the interaction term CEOS x Time Available had a *p*-value of 0.9543, which was not statistically significant, and hence it was concluded that Time Available was not moderating the relationship CEOS → Satisfaction.

The interaction term AEOS x Time Available was found to be statistically significant with a *p*-value of 0.0004 at a 95% confidence level. Also, the confidence interval did not include zero (LLCI = - 0.1528; ULCI = -0.0447). The coefficient of the interaction term was found to be negative (Table 4).

The effect of the AEOS (predictor) on online customer satisfaction (outcome) at different levels of the moderator (low, average, and high levels of times available) was also found to be statistically significant (Table 5).

### Discussion

The objective of this study was to test the construct OCE with its components, antecedents, and outcomes. Toward this goal, the hypotheses of the structural model using structural equation modeling were supported at a *p*-value of .001, except CEOS, which was supported at a *p*-value of .05. The support for telepresence and challenge, the two antecedents of CESO, was in line with previous literature (Martin et al., 2015; Rose et al., 2012). Though retailer credibility and electronic word of mouth were tested for the first time in an OCE context, both were found to be statistically significant.

### Theoretical contributions

Findings of the present study contribute to the extant literature of OCE research, validating a measurement scale of OCE antecedents, components, and outcomes in a new online shopping context. The model extends Rose et al.'s (2012) base model by incorporating new antecedents of OCE—retailer credibility and electronic word of mouth—and their influences on the OCE components and OCE outcomes. The statistical significance of all hypothesized relationships is empirically tested. Further, our model extends the existing literature by empirically testing the moderating effect of time available on OCE.

**Table 5.** Effect of predictor variable at values of the moderator.

Time (moderator)	Effect (of predictor)	S.E.	t-value	p-value	LLCI	ULCI
-.9290 (Low)	.6406	.0388	16.5043	.0000	.5643	.7168
.0986 (Moderate)	.5391	.0341	15.7980	.0000	.4721	.6061
.8693 (High)	.4630	.0442	10.4659	.0000	.3761	.5499

### Managerial implications

As OCE is a critical differentiator for modern online retailers, this study focuses on antecedents of OCE that are relevant to Indian online shoppers. Findings of the study aim to give a direction to online marketers to finetune their marketing strategies for superior OCE.

In line with previous research (Martin et al., 2015), this study finds that OCE antecedents significantly influence business outcomes, specifically online customer satisfaction and online repurchase intention. This observation reinforces the strategic importance of designing an online retail environment which provides an overall positive OCE. Though all four antecedents of OCE were found to be statistically significant, they vary in their level of importance. For example, telepresence was found to be a slightly stronger antecedent of cognitive experience of online shopping as compared to challenge. The reason for this observation could be the fact that the sample for this study incorporates the net-savvy youth segment, who do not find the online shopping process challenging.

The antecedent telepresence also deserves attention from online retailers, as many times the goal of online shopping is not buying, but could be to simply browse in order to escape boredom and provide an escape from the real world. Thus, investing to make the shopping process more entertaining and engaging makes good business sense to ensure that shoppers spend more time in this medium. This is in sync with previous retail research findings which show that the more time a prospect spends in the retail store, the greater the probability that she/he will end up buying. Also, since telepresence and challenge positively influence CEOS, and in turn influence overall OCE, “cognitive immersion” (Mollen & Wilson, 2010) of shoppers takes place in online shopping in a way that is similar to the physical form of shopping. The authors argue that online retailers should take into account this aspect and explore the differences related to personality traits, gender, age, education level, buying occasion (purchasing for self, purchasing on behalf of others, and gifting), and product type.

The relationship of retailer credibility with the affective experience of online shopping was found to be stronger than the influence of electronic word of mouth. This finding holds special significance for online retailers and nudges them to allocate more marketing resources to incorporate and enhance the element of trustworthiness in their overall value proposition to enhance the OCE, which, in turn, influences customer satisfaction and repurchase intention.

Another important point to be considered by both pure online retailers and multichannel retailers is the finding that OCE is not transaction specific but cumulative over time (Rose et al., 2012). Hence, to develop strong retailer credibility online, retailers should focus on providing positive OCE over time, which, in turn, will lead to more customer satisfaction. In line with previous prominent studies in this field (Martin et al., 2015; Rose et al., 2012, p. 3), this study establishes a link between OCE and online repurchase intention, a key managerial objective, using two new OCE antecedents.

Finally, time available to a shopper moderates the relationship between affective experience in online shopping and online customer satisfaction. This observation leads to significant managerial communication implications for online marketers for time-rich and time-poor online shoppers; e.g., for shoppers with less time available, the peripheral route of communication involving environmental cues would be more apt, while for shoppers with more time (hence more time to search and analyze before purchase) the central route of persuasion, which involves thoughtful consideration of the message, will be more suitable (Petty & Cacioppo, 1986).

### Limitations and scope for future research

The research findings of this study should be generalized with caution, as it was carried out in an emerging economy context. Since the study primarily focuses on the Indian youth segment, the representativeness of the sample is limited. Future studies can focus on better representation of online shoppers in the sample,

segregating overall OCE into components according to different phases of shopping, and can focus on the difference in online buying patterns in different product categories.

## Notes

1. <https://www.atkearney.in/documents/4773014/8192273/Digital+Retail+in+2020%E2%80%93Rewriting+the+Uls.pdf/392551c2-7b43-4666-938e-2168a6bd7f6d>
2. <https://www.prnewswire.com/news-releases/forrester-releases-us-2017-customer-experience-index-ranks-cx-quality-of-more-than-300-brands-300497343.html>
3. <http://www.nielsen.com/content/dam/corporate/in/docs/reports/2015/nielsen-featured-insights-what-clicks-with-the-online-shopper.pdf>

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## Appendix 1. Measurement scales

Construct	Scale reference	Code	Scale
Telepresence	Rose et al. (2012)	TP1	Online shopping websites create a new world for me, and this world suddenly disappears when I stop browsing.
		TP2	I forget about my immediate surroundings when I use online shopping websites.
		TP3	Online shopping often makes me forget where I am.
		TP4	After online shopping, I feel like I come back to the “real world” after a journey.
Challenge	Novak et al. (2000)–adapted		As your favorite game or sport challenges you while you play it, in the same way an online retail site “challenges” you when you apply your computer skill to discover relevant information in the website or navigate through website features. If such an online shopping challenge is positive, you have an enjoyable shopping experience and may again visit the site to buy something.
		CHAL1	Compared to the sport or game I am best at, online shopping challenges me more.
		CHAL2	Online shopping websites challenge me to perform to the best of my ability.
		CHAL3	I find that online shopping websites stretch my capabilities to my limits.
Cognitive experience in online shopping (flow)	Rose et al. (2012)	CHAL4	Online shopping websites challenge me.
			The word “flow” is used to describe a state of mind sometimes experienced by people who are deeply involved in some activity. One example of flow is the case where a professional athlete is playing exceptionally well and achieves a state of mind where nothing else matters but the game; he or she is completely and totally immersed in it. The experience is not exclusive to athletics; many people report this state of mind when playing games, engaging in hobbies, or working.
			Activities that lead to flow completely captivate a person for some period of time. When one is in flow, time may seem to stand still, and nothing else seems to matter. Flow may not last for a long time on any particular occasion, but it may come and go over time. Flow has been described as an intrinsically enjoyable experience.
Retailer credibility	Novak, Hoffman, & Yung (2000)–adapted	CEOS1	When shopping online, I have experienced flow.
		CEOS2	When shopping online, I have never experienced flow.
		CEOS3	Most of the time I shop online, I feel that I am in flow.
		CREDI1	Online retailers are Dishonest–Honest
		CREDI2	Online retailers are Unreliable–Reliable
		CREDI3	Online retailers are Insincere–Sincere
Electronic word of mouth	Hsu and Lu (2004) Featherman, Miyazaki, and Sprott (2010)	CREDI4	Online retailers are Untrustworthy–Trustworthy
		eWOM1	I often read other consumers’ online product reviews to know what products/brands make good impressions on others.
		eWOM2	To make sure I buy the right product/brand, I often read other consumers’ online product reviews.
		eWOM3	I often consult other consumers’ online product reviews to help choose the right product/brand.
		eWOM4	I frequently gather information from online consumers’ product reviews before I buy a certain product/brand.
		eWOM5	When I buy a product/brand, consumers’ online product reviews make me confident in purchasing the product/brand.
Affective experience in online shopping	Jalilvand et al. (2011)	AEOS1	Unhappy–Happy
		AEOS2	Sad–Cheerful
		AEOS3	Irritated–Pleased
		AEOS4	Lethargic–Energetic
Customer satisfaction	Rose et al. (2012)	SAT1	I am satisfied with my overall experiences with online shopping.
		SAT2	I am satisfied with the pre-purchase experience of online shopping websites (e.g., consumer education, product search, quality of information about products, product comparison).
		SAT3	I am satisfied with the pre-purchase experience of online shopping websites (e.g., consumer education, product search, quality of information about products, product comparison).
		SAT4	I am satisfied with the post-purchase experience of online shopping websites (e.g., customer support and after-sales support, handling of returns/refunds, delivery care).
Repurchase intention	Rose et al. (2012)	RINT1	It is likely that I will repurchase from online shopping websites in the near future.
		RINT2	I anticipate repurchasing from online shopping websites in the near future.
		RINT3	I regularly repurchase from the same websites.
		RINT4	I expect to repurchase from online shopping websites in the near future.
Time available	Beatty and Ferrell (1998)–adapted	TIME1	I have limited time available to me during online shopping sessions.
		TIME1	I am not rushed for time during online shopping sessions.
		TIME1	The amount of time pressure I feel while shopping online is very high.