


The Effects of Atmospheric and Influencers on Purchase Intention in Social Commerce

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ABSTRACT

This study uses the approach-avoidance theory to investigate the impact of the atmospheric of a social commerce page, which comprises page aesthetics and page interaction. The study looks at how a digital influencer's perceived influence affects a customer's purchase intention. The research also examines whether perceived risk influences customers' purchase intent. Four hundred twenty-eight customers who had recently engaged with a social commerce page were empirically surveyed using structural equation modeling (SEM). The research shows that page atmospheric and digital influencers do influence a customer's purchase intention through emotions and cognition in social commerce. Emotions and purchase intentions, as well as cognition and purchase intentions, are moderated by perceived risk. The findings have implications for marketers who want to develop customer engagement strategies based on social commerce platforms.

KEYWORDS

Approach-Avoidance Theory, Cognition, Customer Experience, Digital Influencers, Emotion, Page Aesthetics, Page Interactivity, Perceived Risk

INTRODUCTION

COVID-19 has influenced various global trends, one of which is the rapid expansion of online shopping via social networking sites (SNS) (Shoheib & Abu-Shanab, 2022). All transactions before, during, and after purchase on an SNS are included in social commerce (s-commerce) activities, including decisions about purchasing, purchasing preferences, and customer service (Esmaeili & Hashemi, 2019). Research and Markets (2020) claimed that the worldwide reach of s-commerce would reach US\$ 604.5 billion by 2027. S-commerce plays a significant role in the future of online retail for marketers and customers.

A visit to an e-commerce platform is often premeditated, whereas companies can use SNS to streamline product discovery using personalization to present customers with the most appropriate

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products. In an environment where customers are highly engaged in activities other than shopping, touchpoints play a crucial role for firms competing for customers' attention. To enrich the customer experience (CX) throughout the customer journey, tracking and understanding CX at all touchpoints is critical (Kranzbühler et al., 2018). Previous studies have investigated the impact of touchpoints in traditional brick-and-mortar retail and e-commerce contexts (e.g., Wagner et al., 2020). However, more research is needed in s-commerce because it differs from traditional retail and e-commerce contexts (Lăzăroiu et al., 2020). According to Tang and Zhang (2020), only a few studies have investigated an answer to why customers choose to purchase from on an s-commerce page. According to them, further research is required into the design aspects of an s-commerce page that provides its users with a positive experience.

Elliot (2006) mentioned that an examination of approach and avoidance mechanisms is necessary for successful adaptation to a particular environment. Customers' approach or avoidance intentions could be triggered by a stimulus in an environment (Carver, 2006). To address these gaps and understand the impact of stimuli on customer's purchase intentions on an s-commerce page, the authors propose a research model that evaluates the influence of s-commerce touchpoints such as page aesthetics, page interactivity, and the perceived influence of digital influencers on a customer's intent to purchase while browsing an s-commerce page. Page aesthetics and page interactivity represent categories of design cues (Tang & Zhang, 2020) critical to an online environment. Digital influencers play a pivotal role in influencing customer behavior on s-commerce pages (Wang & Huang, 2022). However, investigations assessing their perceived influence on customers' purchase intentions on s-commerce pages have been limited (Wang et al., 2020). Investigating perceived influence as a touchpoint adds breadth to the categories of design cues in an s-commerce environment. This study further investigates the impact of perceived risk on s-commerce customers (Ashoer & Said, 2016) as the customers interact with the touchpoints. The study proposes the following research questions:

RQ1: Do s-commerce touchpoints (page aesthetics, page interactivity, and digital influencer's perceived influence) impact customers' purchase intentions in s-commerce?

RQ2: Does customer experience (emotional and cognition) during the interaction with the s-commerce touchpoints influence the customer's purchase intention?

The study uses structural equation modeling using AMOS software on 428 responses to investigate the above questions empirically. The approach-avoidance theory (AAT) provides a foundation to the study and its inferences. For two reasons, the use of AAT as an overarching theory for this investigation was deemed appropriate. To begin with, humans automatically evaluate a stimulus on a positive and negative scale, and these assessments elicit approach and avoidance behavioral predispositions on the spot (Lewin, 1935). Second, as shown in the following sections, the theory has been widely used to better understand retail and website design in consumer behavior.

By addressing the research gaps, the study contributes to the field of s-commerce in two fundamental ways. First, this study extends prior research on s-commerce adoption by focusing on the relationship between s-commerce touchpoints, purchase intention, and perceived risk. Second, exploring the impact of perceived risk in the presence of touchpoints could provide marketers and practitioners with design insights for s-commerce pages.

BACKGROUND

Social Commerce

Social commerce, also known as s-commerce, is an "Internet-based commercial application that makes use of Web 2.0 technologies and social media; and supports user generated content and social

interactions” (Esmaceli & Hashemi, 2019, p. 320). S-commerce pages allow customers to interact with the firms’ offerings without leaving the SNS. Previously, researchers have investigated social and emotional dimensions of s-commerce to improve visitor purchase intentions on the s-commerce pages which includes social support and relationship quality (Tajvidi et al., 2021), degree of friendship (Li et al., 2018), social desire (Ko, 2018) and privacy concerns (Lim et al., 2020).

With more touchpoints getting involved in s-commerce (Terra & Casais, 2021), managing CX becomes significant in influencing the visitor’s purchase behavior (Kuehnl et al., 2019). One of the top motivations to explore SNS, according to a GlobalWebIndex report (2020), is to know more about a product and its launch dates rather than purchasing the product (Chaffey, 2021). A study published by Superoffice (2020) reports the causes for this mismatch. The most common complaints regarding s-commerce pages on SNS, according to the report by Superoffice, are navigation, site search, and load time (Kulbyt, 2021) and highlight the poor atmospherics of an s-commerce page, which creates consumer frustration. Frustration caused by poor atmospherics frequently leads to purchase cancellation and churn. For a traditional retail context, Kotler (1973, p. 50) defines atmospherics as “the conscious design of space to create certain buyer effects, specifically, the designing of buyer environments to produce effects in the buyer that enhances purchase probability.” Online retail store environments often influence shoppers’ reactions, just like their offline counterparts (McLean & Osei-Frimpong, 2019). While s-commerce can boost a company’s omnipresence, more research and evidence are required to confirm customer preference and channel adoption (Lăzăroiu et al., 2020). The authors of this study recommend the use of AAT as one of the approaches to investigate the likelihood of s-commerce adoption.

Approach-Avoidance Theory

Approach-avoidance conflicts, first introduced by Lewin (1935), occur when a single goal or activity has positive and negative consequences, making the goal appealing and unappealing simultaneously. The early research on approach-avoidance response to stimuli was extended to environmental psychology and suggested that individuals respond to their environment through emotions in two ways: approach and avoidance, where the approach is a willingness to stay, explore, and affiliate, and avoidance is the reverse, a desire to leave and not return (Mehrabian & Russell, 1974).

Earlier researchers’ wide use of AAT establishes the influence of various situational and atmospheric influences on purchase intentions. Previously AAT has been applied to offline retail (Wu & Chien, 2019) and e-commerce (Esteky, 2021) to understand customers’ approach-avoidance behaviors. The behavioral intentions in the literature point towards both approaches (for example, purchase intentions, customer spend, time spent on websites) and avoidance behaviors (for example, ambivalence, customer frustration, purchase abandonment). For the current study, the authors investigate purchase intentions that are a kind of behavioral intentions (Bergmann, 2015). The context of s-commerce requires high interactivity between customers and the sellers, along with the regular features of the e-commerce environment, thus opening a new and fertile ground to investigate the impact of AAT on purchase intentions. Kranzbühler et al. (2018) found enough evidence of extensive research on CX from a customer’s perspective and suggested a need to investigate the CX from the organizational perspective. The current study addresses this call for research by investigating the influence of emotion and cognition on purchase intentions both from the organizational (s-commerce page aesthetics and page interactivity) and customer perspective (influencer’s impact on the s-commerce customer). In the current study, a customer of an s-commerce page is a shopper who interacts with an s-commerce page to find goods or services and purchases them. The following section defines the constructs of interest, followed by respective hypotheses and proposed research model.

HYPOTHESIS AND RESEARCH MODEL

S-Commerce Page Aesthetics (SCPA)

Web aesthetics is a two-dimensional construct that comprises aesthetic formality and aesthetic appeal (Schenkman & Jönsson, 2000). Aesthetic formality in web pages involves the website layout, readability, and simplistic style. Aesthetic appeal in a web page is the degree of pleasure and enjoyment the users obtain from the website. The current study adapted these definitions for an s-commerce page with which a customer interacts, considering web aesthetics similar to s-commerce page aesthetics.

The aesthetic appeal of a website evokes customers' emotional responses to service, further affecting customers' preferences for the service (Kumar et al., 2021). Appeal of a website is not entirely a result of the emotional responses but also requires cognitive processing (Pengnate et al., 2021). User satisfaction with novel technologies results from user's pleasurable experiences (emotions) and the perceived benefits from its adoption (cognition) (Yousaf et al., 2021). Wang et al. (2010) indicated aesthetic formality affects customers' cognitive evaluations of the service. In the context of banks, website aesthetics positively affected customer engagement comprising customers' cognition and emotional responses (Islam et al., 2020). Apart from the evaluation of the website, website aesthetics also impact the users' behaviors (Nissen & Krampe, 2021). Further, user satisfaction with an s-commerce website leads to purchase intentions (Filiari et al., 2017). Hence, the authors hypothesize the following relations for s-commerce pages using the transitive law:

Hypothesis One (H1): S-commerce page aesthetics positively influence customers' emotions towards the s-commerce page.

Hypothesis Two (H2): S-commerce page aesthetics positively influence customers' cognitive evaluation of the s-commerce page.

Hypothesis Three (H3): S-commerce page aesthetics positively influence customers' purchase intentions.

S-Commerce Page Interactivity (SCPI)

Interactivity is "the degree to which two or more communicating parties can act on each other, on the communication medium, and on the message and the degree to which such influences are synchronized" (Liu & Shrum, 2002, p. 54; Voorveld et al., 2013). This study uses the definition of interactivity in the context of an s-commerce page, with the two communicating parties being the consumer and the s-commerce page with which a customer interacts. Previous research demonstrates that perceived website interactivity should positively impact customers' affective involvement (Jiang et al., 2010). Islam et al. (2020) stated that website interactivity positively affects customer engagement made up of cognition and emotional responses. Also, emotional responses and cognitive evaluations to perceived website interactivity encourage outcomes such as intent purchase online (Cano et al., 2017). Huang et al. (2021) mentioned that a website perceived as more interactive is likely to positively influence the attitude towards the website, which may further lead to positive behavioral intentions. Hence, the authors hypothesize the following relations:

Hypothesis Four (H4): S-commerce page interactivity positively influences customers' emotions towards the s-commerce page.

Hypothesis Five (H5): S-commerce page interactivity positively influences customers' cognitive evaluation of the s-commerce page.

Hypothesis Six (H6): S-commerce page interactivity positively influences customers' purchase intention.

Digital Influencer's Perceived Influence (DP)

Digital influencers communicate with their followers in real time with direct, swift, and engaging two-way communication (Jun & Yi, 2020). Following the work of Jiménez-Castillo and Sánchez-Fernández (2019), the current study uses perceived influence to understand the impact of an influencer on their followers' emotions, cognition, and purchase intentions in an s-commerce setting. Perceived influence is "the tendency to accept information from an individual, in this case, the influencer, and consider it to be true" (Shen et al., 2010, p. 53). Jiménez-Castillo and Sánchez-Fernández (2019) revealed that the impact of a digital influencer is crucial in forming cognitive and affective associations with suggested brands in online branding. Further, when an influencer talks positively about a brand, the processing could be grounded on cognitive and affective evaluations (Torres et al., 2019). The influence of members from social networks and other external channels has a major effect on customer behavior (Lu & Wang, 2020). Opinions from influencers spread through eWOM are interpreted as of high quality by customers, help in gaining credibility, and even lead to an intent to purchase (Torres et al., 2019). The authors extend this reasoning in the context of s-commerce by hypothesizing the following relations:

Hypothesis Seven (H7): Perceived influence of a digital influencer positively influences a customer's emotion towards the recommended s-commerce page.

Hypothesis Eight (H8): Perceived influence of a digital influencer positively influences a customer's cognitive evaluation of the recommended s-commerce page.

Hypothesis Nine (H9): Perceived influence of a digital influencer positively influences a customer's purchase intention towards the recommended s-commerce page.

Emotion (EM) and Cognition (CO)

Emotion refers to "a mental state of readiness that arises from cognitive appraisals or events or thoughts" (Bagozzi et al., 1999, p. 184). Tang and Zhang (2020), in the context of s-commerce, provided evidence for the impact of emotions on behavioral intentions. Previous studies investigated the impact of emotions on customers' purchase decisions via concepts like enjoyment (MacKenzie et al., 2011), delight (Bartl et al., 2013) and enthusiasm (Dessart et al., 2016), among others. The current study defines the emotional response to an environmental stimulus as a feeling of pleasure/displeasure, arousal/non-arousal, and/or dominance/submissiveness (Donovan et al., 1994) experienced by a customer while interacting with an s-commerce page. Cognitive states refer to "everything that goes in the customers' minds concerning the acquisition, processing, retention, and retrieval of information" (Eroglu et al., 2001, p. 181). A customer's cognitive response includes their memory, beliefs, thoughts, knowledge, and protocols (Holbrook & Hirschman, 1982). In their study, Akram et al. (2021) found that cognitive appraisals influence online purchase intention in a social commerce environment. Cognitive state as a foundation for purchase decisions has previously been investigated using concepts like trust (Oghazi et al., 2018) and ease of use (Chen et al., 2017), among others. The current study defines cognitive processes as perceptions of the amount of information the customer perceives interacting with an s-commerce page. Following the e-commerce research (Kowalczyk et al., 2021), where purchase intentions are a product of customers' affective and cognitive responses to stimuli, this research hypothesizes:

Hypothesis Ten (H10): Positive emotions towards an s-commerce page will positively influence customers' purchase intention.

Hypothesis Eleven (H11): Positive cognitive evaluation of an s-commerce page will positively influence customers' purchase intention.

Purchase Intentions (PI)

AAT (Mehrabian & Russell, 1974) classified behavior towards or against a setting as either approach or avoidance. These actions are the outcome of the emotional and cognitive state of individual experiences within the environment (Eroglu et al., 2001). Purchase intention is the “consumer’s possibility of purchasing in the future” (Kim & Ko, 2010, p. 167). Previous research in s-commerce described and used purchase intentions as a predictor of actual purchase for existing customers and a proxy for future buying behaviors for new and repeat customers (Akram et al., 2021). The current study defines purchase intentions as a willingness to purchase from the s-commerce page.

Perceived Risk (PR)

Perceived risk is a customer’s understanding of the uncertainty and adverse outcomes of participating in a particular activity (Jayashankar et al., 2018). Customers find online shopping riskier than shopping in a physical store because they are more uncertain about achieving their shopping goals, so they are less likely to buy online (Shiau et al., 2018). The customer’s perception of risk for purchase on an s-commerce page could be higher for two possible reasons. First, most s-commerce pages on SNS are small, homegrown firms unfamiliar to customers (Priceza Group, 2016), making customers skeptical of making investments via the page. Second, most purchases on s-commerce pages are unplanned, implying the importance of immediacy in purchase decisions on such pages (Abdelsalam et al., 2020). Any touchpoint that irritates the customer could lead to purchase abandonment. This study adapts perceived risk from Forsythe and Shi (2003) as subjectively determined expectation of loss by an s-commerce shopper when considering a specific online purchase. Customers’ affective evaluations of a stimulus impact risk evaluation and, eventually, the decision-making process (Chen et al., 2019). Breaches in data privacy by SNS like Facebook lead to perceptions of privacy risks in customers, which leads to a deficit of trust (Ayaburi & Treku, 2020) on s-commerce pages operating on such SNS. Customers frequently abandon purchases when required to include private information related to payment methods, even if the experience was enjoyable, as shown by emotions (Chang & Tseng, 2013). Uncertainties related to online transactions continue to be a critical issue on social commerce pages, especially if the firm is unknown to the user (Featherman & Hajli, 2016). As the customers approach the checkout, they may consider whether prices are fair and whether they may get a better offer later, both are cognitive decisions (Kukar-Kinney & Close, 2010). Hence, the perceived risk could moderate the relationship between emotion or cognition and purchase intention (Arruda Filho et al., 2020). Thus, the authors hypothesize:

Hypothesis Twelve(a) (H12a): Perceived risk acts as a moderator between emotions towards the s-commerce page and a customer’s purchase intentions, such that high perceived risk would weaken the positive influence of emotions on purchase intentions.

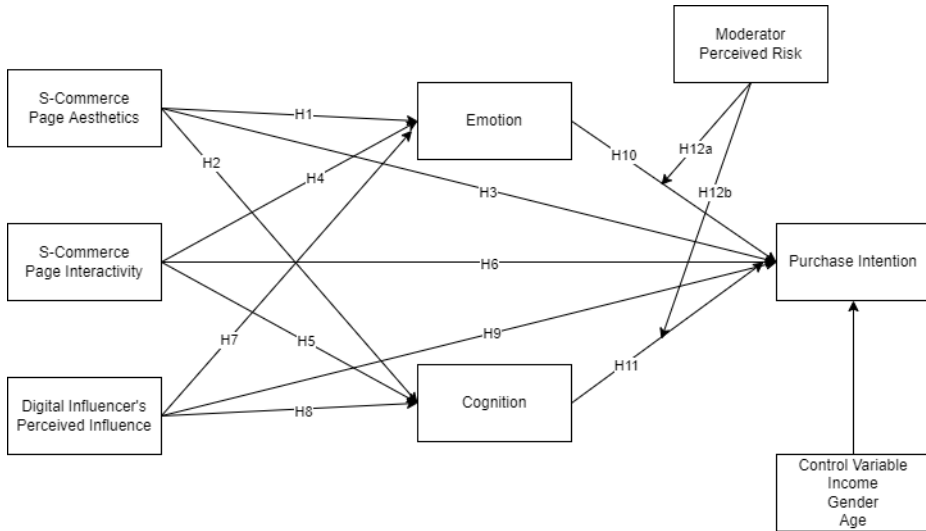
Hypothesis Twelve(b) (H12b): Perceived risk acts as a moderator between cognitive evaluations of the s-commerce page and a customer’s purchase intentions, such that high perceived risk would weaken the positive influence of cognition on purchase intentions.

Figure 1 shows the research model with the constructs and their respective hypothesis.

METHOD

This study used a quantitative approach to survey customers (n=428) who had previously interacted with s-commerce websites in the retail industry. The study adopts Google Forms as the survey design platform. A jargon-free description and s-commerce websites examples were provided to the respondents. Respondents were selected based on a qualifying criterion. Participants need to be citizens of India and should currently reside in the country (Sadiq et al., 2021). The survey was open

Figure 1. Research model



to those who had participated in an s-commerce activity in retail services in the three months before filling the survey (Akram et al., 2021). Purposive sampling has been used as an acceptable recruiting method while collecting data (Akram et al., 2021). Researchers needed to focus on respondents with specific experiences to assist the survey better.

Out of 525 responses, a total of 428 responses were found complete. Most of the respondents were from the age categories of 18-25 (29.20%) and 25-34 (62.38%); the rest, 8.42%, were divided among other categories. This data set represents the categories in terms of age and gender that constitute the majority of Internet users and online consumers in India (Keelery, 2021). Table 1 provides the demographics for the respondents.

The study uses previously established scales to test the constructs (see Table 6 in Appendix A). Research questions in the study do not distinguish customers based on their genders, age, and income; hence, the authors included them as a control variable to minimize the spuriousness of the results. This research used SPSS 22 and AMOS 25 to conduct the empirical analysis. A Kaiser–Meyer–Olkin

Table 1. Respondent demographics

Demographics	Number of Respondents
Gender	
Male	258
Female	170
Average Family Income (in INR)	
<10,000	10
10,000-25,000	19
25,000-50,000	40
50,000-1,00,000	84
1,00,000-5,00,000	170
>5,00,00+	105

(KMO) value of 0.902 and a significant value of Bartlett's test of sphericity (<0.005) indicated the sample was adequate for performing exploratory factor analysis (EFA) (Khan & Kirmani, 2018). An item loading below 0.50 was eliminated from further analysis during factor analysis. Cronbach's alpha values for all the constructs were satisfactorily above 0.7 (Hair et al., 2010). The overall reliability of the scale was 0.914, which was satisfactory to proceed with the analysis.

RESULTS

Measurement Model Results

Confirmatory factor analysis (CFA) was conducted on the final data set of 428 respondents. The CFA results for the study were acceptable, with $\chi^2/df=2.315$, ($p<0.01$); comparative fit index (CFI)=0.944; root mean square error of approximation (RMSEA)=0.056; normal fit index (NFI)=0.936. Such findings indicate model suits the data. The study uses a 7-point Likert scale (1-Strongly Disagree to 7-Strongly Agree) for a 34-item questionnaire.

The convergent validity for each construct except EM was supported, with the average variance extracted (AVE) being above 0.5 (see Table 2). The AVE value of the EM is 0.41, which is less than 0.5 but greater than 0.40. An AVE value between 0.40 and 0.50 is acceptable if the construct has an adequate composite reliability (above 0.60) (Fornell & Larcker, 1981; Samal et al., 2021), fulfilled in the case of EM.

Furthermore, each pair of constructs had a discriminant validity, as the average AVE of each construct was greater than the maximum shared squared variance (MSV) (see Table 2). The scales were internally consistent with Cronbach α 's value falling in the acceptable range (Cronbach $\alpha > 0.70$) (see Table 2).

MSV: Maximum Shared Squared Variance

Common Method Bias

Only a single response from a particular IP address was allowed to prevent multiple entries in the response sheet. To reduce agreement bias, questions were phrased positively and negatively (Sadiq et al., 2021). To check the common method bias (CMB) in the data, the study first applied the Harman single-factor test (Podsakoff et al., 2003). The first factor explained less than 30% (29.36%) of the variance, implying CMB is not a problem in the data (Podsakoff et al., 2003). Second, the study further applied the common latent factor method test to confirm the results of the first check (Sadiq et al., 2021). The difference in the standardized regression weights of items between the two models (with common latent factor and without the common latent factor) in the common latent factor test was less than 0.2 for all the items in the scale, implying CMB is not a problem in the data.

Hypothesis Testing

Except for H3, H4, and H6, all the hypotheses were supported (see Table 3). Process Model 1 in SPSS 22 (Preacher & Hayes, 2004) was used to check for the moderation effect of PR on the relationship between EM, CO, and PI, respectively. PR as a moderator weakens the relationship between CO and PI only at the 10% significance level (coefficient=-0.0643, SE=0.0341, $p=0.0602$), thus offering marginal support for H12b. However, although significant, PR strengthens the relationship between EM and PI (coefficient=0.200, SE=0.0613, $p=0.0012$) (see Table 4).

Figure 2 shows path coefficients for each of the hypotheses. The moderating impact of PR was confirmed using a simple slope analysis. The analysis shows that PR enhances the positive relationship between EM and PI (see Figure 3). However, it weakens the positive relationship between CO and PI (see Figure 4).

Table 2. Test results of reliability and validity

Constructs	Item Code	Standardized Factor Loading	Cronbach's alpha	CR	AVE	MSV
SCPA	SCPA1	0.753	0.829	0.776	0.635	0.264
	SCPA2	0.848				
SCPI	SCPI1	0.795	0.765	0.910	0.718	0.409
	SCPI12	0.837				
	SCPI13	0.832				
	SCPI14	0.748				
DP	DP1	0.762	0.896	0.878	0.707	0.391
	DP2	0.788				
	DP3	0.752				
EM	EM1	0.630	0.802	0.800	0.409	0.264
	EM2	0.718				
	EM3	0.786				
	EM4	0.746				
	EM5	0.655				
	EM6	0.542				
CO	CO1	0.695	0.937	0.943	0.732	0.403
	CO2	0.812				
	CO3	0.799				
	CO4	0.829				
	CO5	0.856				
	CO6	0.810				
PI	PI1	0.710	0.953	0.953	0.746	0.391
	PI2	0.771				
	PI3	0.799				
	PI4	0.869				
	PI5	0.892				
	PI6	0.890				
	PI7	0.879				
PR	PR1	0.712	0.930	0.911	0.634	0.088
	PR2	0.835				
	PR3	0.830				
	PR4	0.889				
	PR5	0.867				
	PR6	0.832				

CR: Composite Reliability

AVE: Average Variance Extracted

MSV: Maximum Shared Squared Variance

Table 3. Results summary

Hypothesis	Estimates	P value	Rejected/Not rejected
H1 (SCPA → EM)	0.474	***	Supported
H2 (SCPA → CO)	0.256	***	Supported
H3 (SCPA → PI)	-0.093	0.115	Not supported
H4 (SCPI → EM)	-0.027	0.240	Not supported
H5 (SCPI → CO)	0.553	***	Supported
H6 (SCPI → PI)	0.001	0.980	Not supported
H7 (DP → EM)	0.084	***	Supported
H8 (DP → CO)	0.236	***	Supported
H9 (DP → PI)	0.473	***	Supported
H10 (EM → PI)	0.363	***	Supported
H11 (CO → PI)	0.101	0.033**	Supported

*** and ** indicate significance at 1% and 5%, respectively.

Table 4. Moderation effect of perceived risk

Moderation effects	Bootstrapping (5000 sample)				
Hypothesis	Coefficient	SE	LCI	UCI	Comments
H12a: PR moderates EM → PI	0.200	0.0613	0.0795	0.3206	Supported
H12b: PR moderates CO → PI	-0.0643	0.0341	-0.1206	-0.0081	Marginally supported

N=428; SE=standard error; LCI=lower confidence interval; UCI=upper confidence interval

Figure 2. Hypothesis testing results

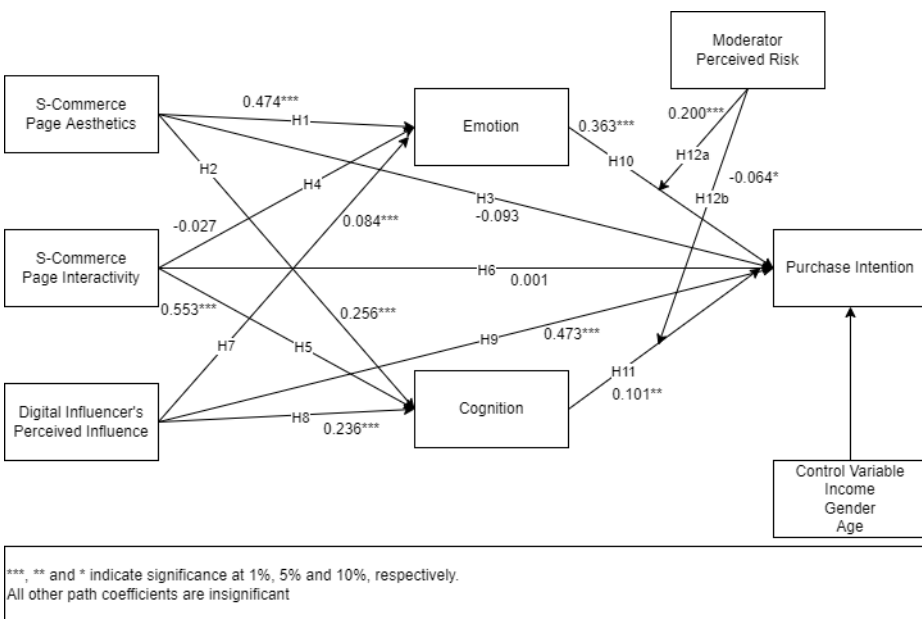


Figure 3. Two-way interaction of EM and PR on PI

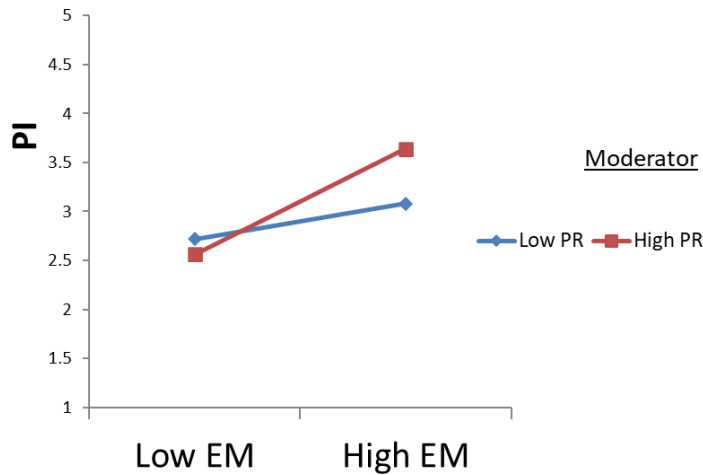
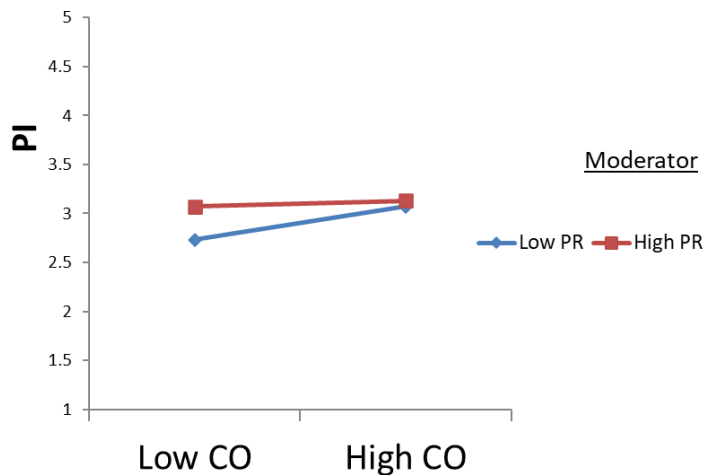


Figure 4. Two-way interaction of CO and PR on PI



Indirect Effects

This study follows the research of Adapa et al. (2020) to test the indirect mediation effect of emotions and cognition between independent variables (SCPA, SCPI, and DP) and PI without formulating a mediation hypothesis. The findings observe a full mediation by emotions between SCPA and PI, a partial mediation between DP and PI, and no mediation between SCPI and PI (see Table 3). Cognition shows partial mediation in all the three relationships between the independent variables (SCPA, DP, and SCPI) and purchase intentions (see Table 3).

The researchers tested a moderated mediation effect observed between PR acting as a moderator on the mediation effect of EM and CO on the three independent variables and PI. PROCESS macro model 14 in SPSS 22 (Preacher & Hayes, 2004) was used to test the six independent cases. The three

situations with PR moderating EM-mediated paths were significant. In contrast, the three cases with PR moderating CO-mediated paths did not provide significant results (see Table 5).

DISCUSSION

Three hypotheses, H3, H6, and H9, were used to investigate the direct impact of three independent variables on PI. The study found no support for the direct influence of SCPA (H3) and SCPI (H6) on PI. On the other hand, DP directly influences PI (H5). This result supports recent findings from Torres et al. (2019), who found that a digital influencer’s attractiveness is positively related to PI. The direct influence of DP on PI may be because, unlike SCPA and SCPI, the intention to purchase a product or service recommended by a digital influencer may develop on an SNS before interacting with the recommended s-commerce page. The impact of internal environmental stimuli (SCPA and SCPI) on PI is realized through the customer’s experience (emotional and cognitive response). This finding is consistent with AAT (Eroglu et al., 2001) and prior studies with similar results in retail and e-commerce (Liu & Shrum, 2002; Wang et al., 2010).

Customers cognitively evaluate all the stimuli before intending to purchase from the s-commerce page (H2, H5, H8). This finding is consistent with previous research on websites (Cano et al., 2017; Torres et al., 2019). These stimuli influenced customers’ cognitive evaluations, resulting in positive PI on the website. EM fully mediates the relationship between SCPA and PI (H1). This result finds support in the study conducted in the cross-border e-commerce platform by Zhu et al. (2019) where aesthetically pleasing product display leads to positive EM towards the provider and higher PI on the platform. EM partially mediates the relationship between DP and PI (H7), like in previous e-commerce (Wang et al., 2010) and s-commerce (Jiménez-Castillo & Sánchez-Fernández, 2019) studies. However, EM does not mediate the relationship between SCPI and PI (H4), allowing SCPI to influence PI only through cognition. This is contrary to the findings of Hewei and Youngsook (2022) who provide evidence of positive EM mediating the impact of social media interactivity on customers’ continuous PI in the context of fashion products on social e-commerce. However, the current study’s findings could be justified through the work of Jiang et al. (2010), who confirmed that website interactivity through reciprocal communication increased only the cognitive involvement of customers looking for utilitarian products online. Most s-commerce users use the s-commerce platform to seek information on products, prices, and sale offers, which is primarily objective information, according to recent reports by GlobalWebIndex (Chaffey, 2021) and Superoffice (Kulbyt, 2021). Customers interested in buying a hedonic product felt less compelled to seek objective information (Dahlen et al., 2003). As a result, product type may impact page interactivity and purchase intention. Researchers discovered that PR as a moderator weakened the positive relationship between CO and PI while strengthening

Table 5. Indirect effects

Indirect effects	Bootstrapping (5000 sample)			
	Effect size	SE	LCI	UCI
PR moderates SCPA - EM - PI	0.0966	0.0369	0.0240	0.1691
PR moderates SCPI - EM - PI	0.0270	0.0109	0.0080	0.509
PR moderates DP - EM - PI	0.0216	0.0084	0.0052	0.0382
PR moderates SCPA - CO - PI	-0.0413	0.0232	-0.0855	0.0061
PR moderates SCPI - CO - PI	-0.0454	0.0269	-0.096	0.0063
PR moderates DP - CO - PI	-0.0165	0.0119	-0.0399	0.0382

N=428; SE=standard error; LCI=lower confidence interval; UCI=upper confidence interval

the relationship between EM and PI. In environments where the PR is high, emotional attributes, such as experiencing pleasure from a high-risk shopping process, have been found to drive the consumer's purchase decisions (Chiu et al., 2014; Hepola, 2019), which could be the reason for PR strengthening the relationship between EM and PI.

To the best of the authors' knowledge, this is one of the first attempts at a moderated-mediation analysis to examine the influence of PR on the impact of environmental stimuli on PI via EM and CO. PR did not significantly moderate the relationship between the stimuli and PI with CO as a mediator in the moderated mediation tests. As a result, when customers are cognitively convinced of the atmospherics of an s-commerce page, the presence of PR has no impact on their PI. When mediated by EM, PR plays a positive role in moderating the relationship between stimuli and PI. According to Arruda Filho et al. (2020), emotions are not influenced by risk perceptions because the customers' risk analysis includes evaluations of the purchase's prices and usability, explicitly linked to utilitarian values. The results could also imply the presence of trust in customers based on cognition or affect (McAllister, 1995) upon interacting with a page. The presence of trust reduces the influence of perceived risk on s-commerce customers (Ali et al., 2020). Han et al. (2022) also found customers' cognitive and affective trust on influencers to reduce the negative effects of perceived risk in the context of customers' travel intentions. Thus, the results imply that in the presence of cognition-based trust based on the judgment of a target's reliability and dependability (Legood et al., 2022), the perceived risk would not influence a customer's PI on the page. Similarly, the development of affect-based trust due to interactivity and provision of help and assistance (Legood et al., 2022) could make customers accept certain risks (Hong & Cho, 2011) and go ahead with a purchase.

CONCLUSION

In conclusion, this study provides evidence of a positive impact of s-commerce touchpoints (SCPA, SCPI, and DP) on s-commerce users' purchase intentions. The study further delineates the impact of PR on the users' interaction with the touchpoints. The study presents the contributions, limitations, and future research agenda in the following section.

Practical Contributions

The contributions of this research for practitioners are twofold. First, the findings provide organizations with positive evidence regarding s-commerce page features that significantly influence customers' purchase intention. Based on the findings, it is reasonable to assume that improving these features would positively influence a customer's PI (Jain, 2021). Second, using the AAT, the study confirms the argument favoring a digital influencer's perceived influence on a customer's PI. Influencers should be encouraged to share their company-specific feedback. Influencers can be approached in two ways: organically, without compensation, or through paid promotions (Kemp et al., 2019). Customers who arrive at an s-commerce page because of a positive influencer recommendation are more likely to engage with the firm's offers (Jiménez-Castillo & Sánchez-Fernández, 2019).

From the indirect effects taken into consideration, the findings provide s-commerce managers insights that could circumvent PR's negative influence on the PI. Practitioners could use atmospherics and influencers to improve their s-commerce pages and lessen the impact of PR. New firms that customers do not have much experience with could use touchpoints to develop trust in customers (Pfeuffer & Phua, 2021). Based on the categories of highly influential SNS users identified by An et al. (2021) (namely, opinion leader, topic initiator, and opinion reverser), s-commerce firms should engage with influencers who best meet their needs. Customers that trust social media influencers for information or affect will be able to overcome the negative impact of perceived risk (Han et al., 2022) on the s-commerce page. Touchpoints like page aesthetics and page interactivity could develop cognition-based trust (Legood et al., 2022) in customers leading to an affect-based trust (McAllister,

1995). With enough evidence in the form of touchpoints, customers would be willing to go through with a purchase after accepting some uncertainties.

Finally, the results from this study imply the use of emerging technologies in the form of touchpoints such as chatbots (Han, 2021) and voice assistants (Lee et al., 2021) by s-commerce firms. Their use might allow customers to achieve their respective instrumental values leading to satisfaction and consequential behavioral intentions (Coursaris & Van Osch, 2016). Future research could qualitatively identify specific touchpoints on an s-commerce page that increase PI, allowing customers to avoid PR.

Theoretical Contributions

This study brings to light three crucial theoretical contributions by extending the study on atmospherics and the role of digital influencers in s-commerce. First, the study extends AAT into s-commerce by introducing PR in a moderator and a moderated-mediation analysis. By articulating the underlying processes governing page atmospherics, DP, and PR's impact on PI, the study contributes to the literature regarding s-commerce adoption. Identifying the touchpoints that impact a customer's judgments and decision-making processes on the s-commerce page allows the study to advance the scholarly knowledge on general IT adoption.

Second, the moderated-mediation study extends the understanding of emotions as a mediator under PR as a moderator in s-commerce. It warrants further inquiry of its role and effects in similar conditions, thereby extending our understanding of consumer behavior. Such findings should pave the way for applying other theories like the means-end theory to understand customer values when interacting with such touchpoints.

Finally, results from this study imply further investigations of emerging technologies being used as touchpoints (for example, chatbots and voice assistants) in order to test their influence on PI and circumventing the negative impact of PR. Investigating such touchpoints through the lens of AAT should add further breadth to the categories of design cues critical to an s-commerce page.

Limitations and Future Research Agenda

While investigating the influence exerted by dependent variables on purchase intentions, the study has some limitations. It does not consider the role played by demographic variables such as age, gender, income, and education level. Future research may focus on how demographics affect the findings' outcome.

The study does not compare different product types (utilitarian vs. hedonic), which could impact how much risk a customer perceives when buying a product. Future research could look at the impact of perceived risk on purchase intentions for high vs. low involvement products to get more precise results (Liu et al., 2021). Future researchers are encouraged to use a qualitative research methodology to analyze the findings of this study in order to understand underlying reasons for perceived risk acting in different ways between emotion and cognition. Further research can examine a variable such as perceived risk, divided into sub-categories to determine the precise types of dangers in an s-commerce environment. An assessment of customers' interaction with emerging touchpoints including virtual shopping assistants like chatbots and avatars and their impact on customers' perception of risk could be a potential avenue for future researchers.

CONFLICT OF INTEREST

The authors of this publication declare there is no conflict of interest.

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APPENDIX A

Table 6. Study variables

Variable Name	Items	Item Code
Social Commerce Page Aesthetics (Wang et al., 2011)	In my view, the social commerce page was poorly organized/ well organized	SCPA1
	In my view, the social commerce page was illegible/legible	SCPA2
Social Commerce Page Interactivity (Liu, 2003)	The social commerce page processed my input very quickly	SCPI1
	Getting information from the social commerce is very fast	SCPI2
	I was able to obtain the information I wanted without any delay	SCPI3
	When I clicked on the links, I felt I was getting instantaneous information	SCPI4
Digital Influencer's Perceived Influence (Jiménez-Castillo & Sánchez-Fernández, 2019)	My perceptions often change when I receive information from the influencers that I follow	DP1
	I value the opinion of the influencers that I follow as if they were someone close whom I trust	DP2
	The influencers that I follow suggest helpful products or brands to me	DP3
Cognition (Kim & Lennon, 2000)	The social commerce page was very informative	CO1
	The product descriptions were very informative	CO2
	From browsing the social commerce page, I learned a great deal about the product	CO3
	After browsing the social commerce page, I know enough to make an informed purchase decision	CO4
	The social commerce page I visited contained a lot of information	CO5
	I fully understand the product information on the social commerce page	CO6
Emotion (Mehrabian & Russell, 1974)	Using this social commerce page, I felt calm/excited	EM1
	Using this social commerce page, I felt sluggish/frenzied	EM2
	Using this social commerce page, I felt dull/jittery	EM3
	Using this social commerce page, I felt sleepy/wide awake	EM4
	Using this social commerce page, I felt unaroused/aroused	EM5
	Using this social commerce page, I felt influenced/influential	EM6
Perceived Risk (Hassan et al., 2006; Crespo et al., 2009)	It is difficult to feel, try or/and experience the product prior to purchase during social commerce shopping	PR1
	It is difficult to ascertain the reputation of some social commerce pages	PR2
	I am concerned about the trustworthiness and believability of some social commerce pages	PR3
	If I used social commerce page to shop there would be many chances that my personal information would be used without my knowledge	PR4
	If I used social commerce page to shop it would increase the possibility of receiving unwanted e-mails	PR5
	If I used social commerce page to shop it would lead to a loss of privacy because of the improper use of my personal information	PR6
Purchase Intention (Jiménez-Castillo & Sánchez-Fernández, 2019; Mazaheri et al., 2012)	I would purchase a product from a social commerce page based on the advice I am given by the influencers that I follow	PI1
	I would follow social commerce page recommendations from the influencers that I follow	PI2
	In the future, I will purchase the products of brands recommended by the influencers that I follow	PI3
	The likelihood of purchasing this product is high	PI4
	The probability that I would consider buying this product is high	PI5
	My willingness to buy the product is high	PI6
	I intend to purchase this product	PI7

APPENDIX B

Table 7. Responses to review comments by the editor-in-chief

Serial No.	Comments/Suggestions	Response	Remarks
1	The references can be substantially enhanced. The paper should also include the latest literature in the area. It is important for the paper to be state-of-the-art or at least for the authors to be aware of the latest development in the field.	Accepted	Authors have added latest references to the 'Background' and 'Hypothesis and Research Model' sections in order to make the paper state-of-the-art. Incorporating the suggestions, the authors added a total of 10 references from the last 5 years starting from 2018 till 2022. Please refer to: (i) Page number 02, section 'Social Commerce', paragraph 01 and 02, additions are highlighted in blue. (ii) Page number 03, section 'S-Commerce Page Aesthetics (SCPA)', paragraph 02, additions are highlighted in blue. (iii) Page number 04, section 'Digital Influencer's Perceived Influence (DP)', paragraph 01, additions are highlighted in blue.
2	Include a theoretical and practical contributions section before the end of the paper. This section should discuss the theoretical and practical contributions of this work. Comparing this work to other prior works should be discussed as well. This is important for enhancing the quality of the paper and the contributions of the paper.	Accepted	The 'managerial implications' and 'theoretical implications' sections have been modified as 'practical contributions' and 'theoretical contributions' respectively, after adding further points to strengthen the previous arguments. Please refer to: (i) Page number 13, section 'Practical Contributions', paragraph 02 and 03, additions are highlighted in blue. (ii) Page number 13, section 'Theoretical Contributions', paragraph 03, additions are highlighted in blue. (iii) Additional points have been added to compare the results of the current study with previous studies in the 'Discussion' section. Please refer to: (i) Page number 12, section 'Discussion', paragraph 02 and 03, additions are highlighted in blue.
3	If possible, please adhere to the cumulative tradition of JDM. If no published paper in JDM is related to this work, one wonders why this paper is a good fit for JDM and why the authors want to publish their work in JDM. It should be noted that we do not want irrelevant references and we understand that some research works are new. You can look at the prior JDM research at https://www.igi-global.com/journal/journal-database-management/1072	Accepted	The authors accept and thank the editor-in-chief for his suggestion. A latest study published in the Journal of Database Management (JDM) in the year 2021 has been cited for its relevance to the current work. Please refer to: (i) Page number 13, section 'Practical Contributions', paragraph 02, additions are highlighted in blue.

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