Effect of Social Presence on Behavioral Intention to Social Commerce Through Online Social Capital

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ABSTRACT

This research aims to observe how social presence influences online social capital and the behavioral intention of social commerce (s-commerce). The online survey with a structured questionnaire is used to collect data and analyzed by a structural equation model (SEM). The authors found that social presence is directly connected with online social capital (bonding and bridging). Social presence is not meaningfully connected to s-commerce intention (sharing and shopping), but the cluster model argues that social presence has a significant connection with social sharing and shopping intention. Online social capital and s-commerce intention are positively related to social interaction, and the results also confirmed that social capital is a complementary mediator. The paper provides different research instructions and guidelines for consumers and scholars. They offer a user-preferred s-commerce environment that is related to helping enterprise proprietors provide personalized services and supporting clients to acquire precious purchase-related information.

KEYWORDS

1. INTRODUCTION

Internet usage and online purchasing have become a daily part of life and became a major player in sustainable economic development, especially in developing countries (Agarwal and Wu 2018). With the increasing reputation of online shopping and social media, s-commerce has grown to be a promising area of activity for academicians and practitioners. S-commerce is the most essential trait in e-commerce performances that have modified the industrial interactions, the accessibility of information, and the purchasing knowledge (Bugshan et al. 2020; Leung et al. 2019; Hajli and Featherman 2019). The goals of s-commerce are to the use of SNSs to expand the utility of business, as it is tremendous to enlarge various transactions via the exchange of user information. According to current information, the world s-commerce market standard is awaited to increase by 34% rate from 2017 to 2021 and to attain $165.59 billion through 2021 (Wang et al. 2020). Moreover, SNSs have emerged as the best online mission for sharing information and socially interacting with the
complete technical ability that supports the development of interactive conversation and has increased efficiency for creating the company’s usefulness (Hossain and Kim 2020; Sheikh et al. 2019). Many researchers estimated that the financial decrement of the global GDP could be increased by a 2-4% rate (Pollak and Konecny 2021; Luo and Tsang 2020).

The intention of s-commerce research significantly began from e-commerce (Yuan et al. 2020), and from the perspective of information and knowledge management, behavioral intentions to s-commerce can be referred to as the preferred expectations of visitors in the future (Muslim et al. 2020). In this regard, consumer participation is a vital part of s-commerce sustainability, which has identified social interaction as a considerable component (Yeon et al. 2019). Several types of research have proven that the social presence of digital agents included in e-commerce can have an important effect on consumer confidence, shopping intention, and productivity (Tan et al. 2020; Mimoun et al. 2017). Customers can affect the purchase intentions and purchasing selections of different customers through social interactions, experience sharing and replacing information (Nadeem et al. 2020). Additionally, information-related social capital and social support function are described as social interactions that properly help or experience connecting with an individual or group (Mishra 2020). Social capital consists of the social networks connections with person feelings (Šmaguc and Vuković 2020; Putnam 2000), and these connections strongly influence the interpersonal knowledge sharing the intention of s-commerce (Huang et al. 2020). Hossain and Kim (2020) explore a few precious achievements for understanding s-commerce behavior and also highlight the wonderful position of the quality of service dimensions in behavioral perceptions, which throws essential sense on the s-commerce intention and social capital.

The existing literature on s-commerce sites examined the influence of s-commerce intentions (social sharing and shopping intention) on social capital, social presence, social interaction, and consumer engagement (Algharabat et al. 2020; Hossain and Kim 2020; Triantafillidou and Siomkos 2018). For example, Horng and Wu (2020) have emphasized the relationship of social capital (bonding and bridging) and SNS behaviors (participating and browsing) to accommodate the intention of s-commerce, and Leong et al. (2020) also assert the realizations of belief in s-commerce primarily depend on social support and social presence. On the contrary, preceding research have discussed few barriers of s-commerce intention, which includes social presence, social capital, and s-commerce; such as psychosocial elements (e.g., social support and relationship quality) (Chen and Shen 2015), technological elements have an impact on social factors (e.g., social comparison, social presence, and digital experiences) (Zhang et al. 2014), and s-commerce aspects (e.g., like and share button) (Lee et al. 2015). Depended on a systematic literature review, this research, therefore, explores the connection of online social capital, s-commerce intention, and social presence in shaping world business prosperity. Each of the three conceptual models (social presence, social capital, and s-commerce intention) has similarly composed into social presence and social interaction for SNSs, social bonding and bridging for social capital, and social sharing and shopping intention for s-commerce intention. Accordingly, the current paper provides the three research questions (RQs). RQ1: How does social presence influence online social capital and behavioral intention to s-commerce? RQ2: How does online social capital influence behavioral intention to s-commerce? RQ3: How does online social capital mediate the association between social presence and behavioral intention to s-commerce?

The article starts by explaining the central concepts (s-commerce intention, social capital, and social presence) and describes their importance for performing various commercial activities and business interactions. First, the present study saturates the previous research gap connected with s-commerce intention and highlights the dimensions of social capital and s-commerce in behavioral perceptions. Second, the outcomes will subsidize the present literature by imparting an exploration of various service marketing concepts that would enable a better perception of the behavioral and purchasing perceptions of users regarding SNS use and s-commerce intention. Then it proposes the hypotheses with the proposed research model, accompanied by using the research methods in the methodology part. After that, the empirical results addresses the research results, discussion, and
implications. Finally, concludes the conclusion part and findings for encouraging users to conduct s-commerce business which also can be beneficial to other comparable service contexts or different rising markets so that managers can pursue the most advantageous techniques to achieve competitive positions against their competitors.

2. RESEARCH BACKGROUND

2.1. Evolution of Social Commerce (S-Commerce)

S-commerce is a comparatively new subcategory in e-commerce that has been established in current years as ICT and Web 2.0 technologies have extended. First Yahoo founded the perception of e-commerce in 2005 and then expands the s-commerce as a fast-increasing sector of e-commerce to communicate easily by using SNSs (Owusu et al. 2022; Hajli, 2013). The SNSs platforms developing reviews, recommendations, and ratings encourage a fast expansion of sales revenues. Such interactions offer conception to social support and social presence that additionally added to the social capital (Andijani and Kang 2022), which is required to help both consumers and corporations. Moreover, the usefulness of s-commerce asserts the significant usage of the internet to market and promote products and services that increased consumers’ commercial activities and the consumers are satisfied to add such experiences to their decision-making, which is identified to be very effective on the worldwide scale (Al-Omoush et al. 2022; Alsoud et al. 2022; Nadeem et al. 2018). Accordingly, s-commerce research appears as an influential boundary for customer research.

2.2. Social Commerce Intention (S-Commerce Intention)

S-commerce is a modern structure of social media, corporate transactions, and marketing activities (e.g., Facebook, LinkedIn, Instagram, Twitter, and YouTube) that empower consumers to be proactively involved in selling, buying, marketing, and exchanging of products which are resources for knowledge seeking transactions, referrals, communications, and recommendations in online marketplaces (Li 2019; Hu et al. 2019; Grange et al. 2019). On the contrary, the s-commerce intention is the advance and positive outcome of s-commerce (Lee and chen 2020). Therefore, the s-commerce intention generally refers to the consumer’s sharing intention experiences and suggests achieving the products information knowledge along with the shopping intention (Yuan et al. 2020). S-commerce normally discussed two variables like emotional and informational (Hu et al. 2019), however, this research examined social sharing and shopping intention of s-commerce. As social sharing and shopping intention may be affirmed through social media, and various research combined each concept into a single construct (Sheikh et al. 2019). Doha et al. (2019) investigated the impact of social value, apart from financial value, on the behavioral intention towards s-commerce, and Hsiao (2020) also observed that the impact of customer’s personal efficiency in the evaluation of s-commerce behavioral intention. Thus, s-commerce has become an essential focus on purchasing products that assist the companies to associate with their consumers and achieve competitiveness benefits (Abed 2020).

2.3. Social Presence

The idea of presence has been broadly studied in a variety of contexts which includes digital computer-mediated communication, reality, and e-education (Tseng et al. 2019). Social presence from the perspective of s-commerce is described as the content to the s-commerce circumstance that allows the consumer to build individual relations and sociable interaction with other marketers or consumers (Nadeem et al. 2020). The significance of social presence appears in various research areas (e.g., SNSs and s-commerce) due to the increased social interaction with the consumers of individuals and companies (Algharabat et al. 2020; Xiao et al. 2019; Yu and Vahidov 2019). In critical condition, social presence becomes more visible (Fattah and Sujono 2020), and the various research was entreated people to expand online social presence and the public thoughts about epidemic prevention. From an
academic aspect, researching the behavioral intention of s-commerce in a rising market with a focus on social technology and social experience components has not been widely explored. Hence, our study proposes the impact of social presence on behavioral intention to s-commerce via social capital.

2.4. Social Capital

Social capital is a rising terminology in virtual education literature that offers a basis for discussing several connections in social networks (Rice et al. 2020). Hence, social capital can be moderated using the degree of belief and reciprocity seen in society or among peoples, and can be grouped into social bonding and social bridging (Horng and Wu 2020). The significance of social capital is developed by the capability of external resources that extend the individual information and additionally enhances the conceivable for participatory action within the broader community (Šmaguc and Vuković 2020). Social capital was developed based on conventional human capital thinking, mentions the achievable advantage that is embedded and consolidated with the progress of social network relationship (Bian 2020). In difficult conditions (e.g., COVID-19 or other emergencies) people with robust personality features can cope better with challenges (Zheng et al. 2020). In the social capital literature, Zhang et al. (2020) additionally support the concept that social capital permits information transfer and represents the provision of dynamic capabilities of the organization.

Figure 1. Conceptual model

![Figure 1. Conceptual model](image1.png)

Figure 2. Extended model

![Figure 2. Extended model](image2.png)
Figure 1 indicates the conceptual exploration model, and it shows three constructs (social capital, social presence, s-commerce intention) which were later linked with 14 hypotheses (Figure 2). Social presence is linked to the dimension of social capital (bonding and bridging), which in turn is linked to s-commerce sharing and shopping intention (hypotheses 1, 2, 4a, 4b, 4c, and 4d). Then, social capital (bonding and bridging) is related to the s-commerce intention (hypotheses 3, 6a, 6b, 7a, and 7b). Social capital further plays a mediating role in the connection between social presence and s-commerce intention, which is additionally examined (hypotheses 8). The proposed conceptual model is extended in Figure 2, the extended model investigates the relationships between social capital dimensions and social interaction (hypotheses 5a and 5b) along with the intention of s-commerce (hypotheses 5c and 5d).

3. HYPOTHESIS DEVELOPMENT

Johnson and Hong (2020) confirmed that social presence can have an essential impact on e-commerce as a sympathetic text-based subject matter creates interactivity in the social media circumstance. It is clear that SNS is a strong stage to increase social capital. The social presence of SNSs enables customers to improve bridging and bonding social capital and thus increase the enjoyment of SNS consumers (Choi 2019). In addition, Oztok et al. (2015) examined that social capital and social presence are incredibly connected. They also stated, the social presence is vital to examine how social presence is allied with the creation of social bonds in a society. Hence, this research proposed that the social presence perceives an advantageous relationship with social capital, and the subsequent is hypothesized:

**H1. Social presence positively influences social capital.**

Social presence decreases the realized social area among interaction parties, particularly consumers and marketers, to present extra knowledge and social cues (Nadeem et al. 2020; Lu et al. 2016). Consequently, social presence will amplify the customer’s belief in the online marketer’s direction (Lu et al. 2016). In addition, Algharabat and Rana (2020) investigate that evaluations and guidelines enhance the appreciation of online users’ social presence, and Li (2017) also proved the tremendous connection between s-commerce construct and social presence. Various findings suggest that social presence can be one of the essential reasons for online consumer loyalty to the s-commerce platform (Nadeem et al. 2020; Alhulail et al. 2018). Anantharaman et al. (2022) explored several dimensions of social presence and their effect on s-commerce, as well as the role of gender distinctions in the association between trust and purchase intention in the field of s-commerce. Accordingly, subsequent hypothesis is anticipated:

**H2. Social presence positively influences s-commerce intention.**

Different research results have examined that social capital has a beneficial impact on a consumer’s behavioral intentions for s-commerce within a digital community. The effects of social capital embodied in s-commerce intention relationships (Šmaguc and Vuković 2020), and this has happened because social capital has excessive stages of social beliefs that established the norms of reciprocity and shared information of s-commerce. The influence of social capital on s-commerce has to be simplified when a person is firmly recognized as a member of a particular society, and they have to obey group norms and interact in excessive connections among the society (Huang et al. 2020). This paper focuses on the positive affiliation between the social capital dimensions and s-commerce that has many closely interrelated aspects. Thus, the study asserts the following hypothesis:

In cases of bonding social capital, social presence research insignificantly assists in the enrichment of the analysis of bonding social capital to inform the perception at the society level (Oztok et al. 2015). McKneely et al. (2020) investigated that a greater variety of followers had the contributors for bridging the connection with SNSs and the perceived relational social capital was related to social bonding which also improved online bonding. In addition, Oztok et al. (2015) reported that bridging and bonding social capital have key correlations with social presence. Therefore, bonding social capital can additionally assist examine the connection between dynamic social interactions and social presence. Oztok et al. (2015) additionally described that bridging social capital can help explore the link between various social exchanges and social existence, and presently it is crucial to analyze the connection between these, and thus following hypotheses are proposed:

H4. Social presence positively influences bonding social capital (H4a) and bridging social capital (H4b).

Handarkho (2020) and Lu et al. (2016) acquired that social presence means the capability to deliver a community s-commerce experience and sociable interaction perceived through consumer sharing and shopping intention. In s-commerce, consumers who have knowledge of social presence through personal social interactions these people have a greater consciousness and experience of consumer satisfaction (Soleimani 2019). Hyun et al. (2022) study results exposed that the flow experience of SNS usage for shopping and sharing information on s-commerce employs positive and significant impacts on customer intention to prove that experience drives the success of social presence and s-commerce intentions. Moreover, it can be explained that social presence is apparently advantageous on the propensity of consumers to online s-commerce sharing and shopping intention. Therefore, the study suggests the following hypotheses:

H4. Social presence positively influences sharing intention (H4c) and social shopping (H4d).

Bridging and bonding social capital may simplify the customer’s social relations therefore it is assumed that the social capital dimensions impacted the exchange of knowledge and information (Ghahtarani et al. 2019). Based on the theory of social capital (bonding and bridging social capital), people’s willingness to share knowledge and information is impacted by social capital (Nahapiet and Ghoshal 1998). Prior research has found that social interaction is the theoretically crucial purpose of social capital, whilst different research has proven that online social capital can be encouraged through online interaction, thereby growing the efficiency and effectiveness of online community performances (Wang and Chiang 2009). In the context of social capital theories relational dimension; information sharing requires communal ties to inspire integrity (Razzaque 2020), in which the information-sharing behavior answers questions and provides suggestions. Accordingly, this study postulates the following hypotheses:

H5. Social interaction positively influences bonding (H5a) and bridging social capital (H5b).

Social interactions can share the information which facilitated interactions so that knowledge sharing can happen in digital communities, and can deepen the knowledge and information of the members (Razzaque 2020). In accordance with the social interaction theory, social interaction is the motivation of behavior, where the shopping intention of customers is a valid representative for buying behavior, and some scholars have studied that the social interaction elements impact the customer’s shopping intention. Previous research examined s-commerce concepts, attitudes toward information
quality, and collective competencies with increasing online shopping intent (Hussain et al. 2021; Fogel and Zachariah 2017; Hajli, 2015). Customers with high levels of social interaction will have different systematic communication knowledge, product-related information exchange, and shopping experience sharing. Yang (2021) explored these interpersonal interactions can develop shopping and shared intentions, which in turn improve consumers’ purchase intentions. Consequently, s-commerce is an aggregate of shopping, sharing, and social networking activities was developed by the social interaction activities when shopping and exchanging products in online environments (Wang and Zhang 2012). Therefore, the following hypotheses are proposed:

**H5. Social interaction positively influences sharing intention (H5c) and shopping intention (H5d).**

The bonding and bridging social capital focuses on improving relationships with family and friends on sharing beneficial information between people on social networks (Choi 2019). Additionally, SNS always subsidizes to the expansion of the bonding social capital, and it is marked by the mobilization of sharing and shopping intention which is predominantly related to social communities (Šmaguc and Vuković 2020). Choi (2019) confirmed that social capital will enhance information sharing amongst group contributors in digital teaming endeavors. Therefore, we accepted that bonding social capital can enhance sharing, and purchase intention. Moreover, Yen et al. (2020) examined that bridging social capital is effectively connected to the sharing and shopping intention of s-commerce when employees use social media to interact each other’s. Thus, bridging social capital referred to the sources that may impart employees with greater information dissemination and express others in several concepts (Trieu et al. 2019). Sheer and Rice (2017) explored that bridging social capital can provide a broad horizon and modern possibilities that account for a range of information sources. Hence, we accepted that the bonding and bridging social capital is essentially connected to s-commerce intention (shopping and sharing intention) and proposed the following hypotheses:

**H6. Bridging social capital positively influences sharing intention (H6a) and shopping intention (H6b).**

**H7. Bonding social capital positively influences sharing intention (H7a) and shopping intention (H7b).**

Social capital is one of the significant elements of personal and available sources that can act as an intermediary position between the tools of social network technology (Long and Yi 2019). Many research results suggested the impacts of social capital on position identification and support intention (Hsieh et al. 2017) and provided positive relation with social support that is likely to offer social capital (Kuo et al. 2021). Moreover, s-commerce needs to be more enabled so that social presence has been demonstrated to simplify online communications (Lah et al. 2013). Social presence theory proposes, the availability of social presence was a prerequisite for useful instruction and interaction between individuals is mediated by technology (Nadeem et al. 2020). Ofori and Kang (2022) examined the influence of s-commerce purchase intention as well as the mediating effect of online bridging and bonding social capital. From the perspective of mediated communication, social presence is regarded as a catalyzer of interaction with others (Choi 2019). The mediating effect of social capital is thus received notable attention and proposed the following hypotheses:

**H8. Social capital plays a mediating role between social presence and s-commerce intention.**

4. METHODOLOGY

4.1. Data and Questionnaire Design

In this research, the online survey was considered to be the most suitable data collection approach and a structured questionnaire was administered to gather primary data using a Google Form to reach
a wider range of s-commerce customers (Osatuyi et al. 2020). The Google forms were accustomed to creating the questionnaire and the form link was posted to Amazon Mechanical Turk (MTurk), and participants are the US national. The questions were scaled on a seven-point Likert scale ranged from (1) “strongly disagree” to (7) “strongly agree”. A pilot test with 22 respondents was conducted to determine the questionnaire adequacy. Upon completion with acceptable answers, initially 341 samples were collected. After successive cleaning of the data and deletion of unengaged responses, 310 valid samples were used for the final analysis.

To ensure better validity and reliability, we consider established and well-known measurement questions that have been taken from existing literatures. For example, the questionnaire items to measure social capital were taken from Hossain and Kim (2020) and Horng and Wu (2020), and a sample question is “I am willing to share my experiences and offer suggestions when my friends on s-commerce site want my advice on buying something.” The social presence question items were from Leong et al. (2020), Hsiao (2020), and a sample question is “there is a sense of human touch to communicate with sellers via s-commerce”. Furthermore, social commerce question items were drawn from Horng and Wu (2020) and Hajli (2015), and a sample question is “I consider the shopping experiences of my friends on s-commerce site when I want to shop”.

4.2. Tools and Analysis

We used structural equation modeling (SEM) as data analysis technique, because it significantly helps in assessing reliability and explaining theoretical relationships between constructs within the structural model. The Amos-24 software is used as it allows real-time estimation of the measurement and structural model. Using a two-step process (Anderson and Gerbing 1988), we observed the measurement model before assessing structural model. The measurement model examines the relationship between items and constructs, while the structural model explores the causal links with constructs. We assessed the research constructs in the terms of reliability and convergent validities in the measurement model.

5. EMPIRICAL RESULTS

5.1. Demographic Information

The participants were controlled by SNS users as the prime objective of the research is on observing the connection between the use of SNSs, social capital, social presence, social interaction, and s-commerce intention. As Table 1 shows, the largest proportion of the respondents was 26–30 years old (25.8%), 22.9% of respondents were age between 31 to 35 years, and 15.2% of them are between 20 to 25 years. The proportion of males (53.9%) was greater than females (46.1%). Approximately 62.9% of participants use Facebook, 19.4% use Instagram, 11.9% of respondents use Twitter, and 5.4% use other SNSs. Off them 38.4% of respondents have been using SNSs between 30 minutes to 1 hour per day. Overall, 51.0% of the sample have been using s-commerce sites for more than 5 years, 16% for 1 to 3 years, 13.9% for 3 to 5 years and 6 months to 1 year.
5.2. Method Bias Test

As the endogenous and exogenous variables were recorded by a frequent instrument, there may be a presence of Common Method Bias (CMB). We used systematical and statistical procedures (Hew and Kadir 2016) to make sure that CMB is not a severe issue. To examine the non-response bias, we applied an independent t-value for all the main constructs and located that there were no unnecessary inconsistencies amongst respondents. The effects of the study exhibited that the first aspect explained 46% of the variance and that 6 elements are responsible for initial values greater than 1, thereby it is assumed that there are no serious issues of method biases.

5.3. Measurement Model Analysis

The measurement model (see Figure 3) was inspected in accordance with the construct reliability (CR), validity and the model fit indices. Table 2 shows the factor loadings, the squared multiple correlations, t-value and p-value in their respective questions, which are used in inspecting reliability and validity of the study.
**Table 2. Item loadings**

<table>
<thead>
<tr>
<th>Construct</th>
<th>Code</th>
<th>Estimate</th>
<th>Squared multiple correlation</th>
<th>S.E.</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social presence</td>
<td>--&gt;</td>
<td>sp3</td>
<td>0.829</td>
<td>0.688</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Social presence</td>
<td>--&gt;</td>
<td>sp2</td>
<td>0.729</td>
<td>0.825</td>
<td>.064</td>
<td>13.584  ***</td>
</tr>
<tr>
<td>Social presence</td>
<td>--&gt;</td>
<td>sp1</td>
<td>0.860</td>
<td>0.785</td>
<td>.062</td>
<td>16.118  ***</td>
</tr>
<tr>
<td>Social interaction</td>
<td>--&gt;</td>
<td>si3</td>
<td>0.931</td>
<td>0.826</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Social interaction</td>
<td>--&gt;</td>
<td>si2</td>
<td>0.849</td>
<td>0.924</td>
<td>.040</td>
<td>21.662  ***</td>
</tr>
<tr>
<td>Social interaction</td>
<td>--&gt;</td>
<td>si1</td>
<td>0.888</td>
<td>0.744</td>
<td>.039</td>
<td>23.774  ***</td>
</tr>
<tr>
<td>Bridging social capital</td>
<td>--&gt;</td>
<td>brc3</td>
<td>0.857</td>
<td>0.744</td>
<td>Fixed</td>
<td></td>
</tr>
<tr>
<td>Bridging social capital</td>
<td>--&gt;</td>
<td>brc2</td>
<td>0.771</td>
<td>0.573</td>
<td>.058</td>
<td>14.317  ***</td>
</tr>
<tr>
<td>Bridging social capital</td>
<td>--&gt;</td>
<td>brc1</td>
<td>0.688</td>
<td>0.473</td>
<td>.054</td>
<td>12.545  ***</td>
</tr>
<tr>
<td>Bonding social capital</td>
<td>--&gt;</td>
<td>bns3</td>
<td>0.757</td>
<td>0.595</td>
<td>Fixed</td>
<td></td>
</tr>
</tbody>
</table>

*Table 2 continued on next page*
5.3.1. Reliability and Validity Measurements

We assessed the convergent validity and discriminant validity to decide the analogy of the measurement model. Table 3 provides the measurement element targets with the reliability and validity statistics, CR, Average Variance Extracted (AVE), and alpha values. First, the study observed the convergent validity through measuring each factor and the outcomes exhibited that all the elements are loaded properly above 0.70 (see Table 2) for the construct accordingly excessive the essential value (Fornell and Larcker 1981). Second, we investigated the construct reliability for each construction via analyzing CR, AVE, and alpha value. In these analyses, all values are above their critical values, for example, values above 0.70 for CR, above 0.50 for AVE, and above 0.70 for Alpha value. Therefore it is proved that the appropriate internal consistency has existed in the reliability and validity statistics of the measurement model.

In addition, we compare the values of inter-item correlations with the values of square root of AVE of the respective constructs, and found that all the values of square root of AVE are greater than their respective correlations values, representing, there is no issue on discriminant validity.

Table 3. Reliability and validity statistics

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Alpha value</th>
<th>CR</th>
<th>AVE</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Social sharing intention</td>
<td>0.93</td>
<td>0.93</td>
<td>0.87</td>
<td>0.93</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social presence</td>
<td>0.85</td>
<td>0.84</td>
<td>0.65</td>
<td>0.47</td>
<td>0.80</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social interaction</td>
<td>0.92</td>
<td>0.91</td>
<td>0.79</td>
<td>0.59</td>
<td>0.52</td>
<td>0.89</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bridging social capital</td>
<td>0.82</td>
<td>0.81</td>
<td>0.60</td>
<td>0.56</td>
<td>0.64</td>
<td>0.48</td>
<td>0.77</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bonding social capital</td>
<td>0.86</td>
<td>0.86</td>
<td>0.68</td>
<td>0.54</td>
<td>0.63</td>
<td>0.44</td>
<td>0.69</td>
<td>0.82</td>
<td></td>
</tr>
<tr>
<td>Social shopping intention</td>
<td>0.90</td>
<td>0.90</td>
<td>0.76</td>
<td>0.77</td>
<td>0.42</td>
<td>0.45</td>
<td>0.56</td>
<td>0.52</td>
<td>0.87</td>
</tr>
</tbody>
</table>

Notes: Diagonal numbers are the square root of AVE.
5.3.2. Model Fit Test

Some popular model fit indices were considered to assess the overall fit test. To obtain a good model fit, the value of the CMIN/DF should be <3, the GFI, AGFI, NFI, RFI, CFI, IFI, and TLI must be equal to or >0.9 (Bentler 1990). Moreover, the RMSEA should be equal to <0.08 (Hu and Bentler 1998). The findings shows (CMIN / DF=2.161; GFI=0.917; AGFI=0.877; NFI=0.943; RFI=0.926; CFI=0.968; IFI=0.969; TLI=0.959; and RMSEA= 0.061), which reveals a good model fit. Table 4 shows the model fit statistics, which contended respective value standards and introduced an appropriate df for our models.

Table 4. Model fit statistics

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Suggested value</th>
<th>Measurement model</th>
<th>Structural model</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMIN/DF</td>
<td>&lt;3</td>
<td>2.161</td>
<td>4.063</td>
</tr>
<tr>
<td>GFI</td>
<td>&gt;0.90</td>
<td>0.917</td>
<td>0.861</td>
</tr>
<tr>
<td>AGFI</td>
<td>&gt;0.80</td>
<td>0.877</td>
<td>0.801</td>
</tr>
<tr>
<td>NFI</td>
<td>&gt;0.90</td>
<td>0.943</td>
<td>0.890</td>
</tr>
<tr>
<td>RFI</td>
<td>&gt;0.90</td>
<td>0.926</td>
<td>0.860</td>
</tr>
<tr>
<td>CFI</td>
<td>&gt;0.90</td>
<td>0.968</td>
<td>0.914</td>
</tr>
<tr>
<td>IFI</td>
<td>&gt;0.90</td>
<td>0.969</td>
<td>0.915</td>
</tr>
<tr>
<td>TLI</td>
<td>&gt;0.90</td>
<td>0.959</td>
<td>0.891</td>
</tr>
<tr>
<td>RMSEA</td>
<td>£0.08</td>
<td>0.061</td>
<td>0.100</td>
</tr>
<tr>
<td>PCLOSE</td>
<td>&lt;0.05</td>
<td>0.046</td>
<td>0.000</td>
</tr>
</tbody>
</table>

5.4. Structural Model Analysis

In our structural model, the outcomes of the model fit indices, CMIN/DF = 4.063, GFI = 0.861, AGFI=0.801, NFI= 0.890, RFI =0.860, CFI=0.914, IFI= 0.915, TLI= 0.891, and RMSEA = 0.100, which exhibits a moderate model fit (see Table 4). Figure 4 and 5 indicates the structural paths among constructs in our conceptual model. Aggregate model (Figure 4) shows 48% and 31% of the variance explained in s-commerce intention and social capital respectively. While the extended model (Figure 5) shows 38%, 46%, 42% and 41% of the variance explained in social shipping intention, social sharing intention, bridging social capital and bonding social capital, respectively. Overall, the models show sufficient predictive power.

Figure 4. Structural model
We recognized that the usage of the structural model with most probability method, 16 out of 18 hypotheses are considered accepted (see Table 5). In particular, social presence is significantly connected with bonding ($\beta = .603, p < .001$) and bridging ($\beta = .585, p < .001$) social capital, as a result H1, H4a and H4b are supported. However, social presence does not affect social sharing and shopping intention, thus, H2, H4c, and H4d are not supported. In case of social interaction is extensively affect bonding ($\beta = .209, p < .001$) and bridging ($\beta = .272, p < .001$) social capital, that supports H5a and H5b. Although, social interaction reveals a tremendous impact with sharing ($\beta = .384, p < .001$) and shopping ($\beta = .196, p < .001$) intention, which supports H5c and H5d. Moreover, bonding social capital indicates a widespread impact on social sharing ($\beta = .273, p < .001$) and shopping ($\beta = .296, p < .001$) intention that supports H3, H7a, and H7b. Consequently, social sharing ($\beta = .349, p < .001$) and shopping ($\beta = .427, p < .001$) intention additionally indicates a tremendous impact on bridging social capital, therefore supporting H3, H6a and H6b.

Table 5. Hypothesis results

<table>
<thead>
<tr>
<th>Hypothesized paths</th>
<th>Estimate</th>
<th>S.E.</th>
<th>t-value</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4a Social presence --&gt; Bonding social capital</td>
<td>.603</td>
<td>.081</td>
<td>8.916</td>
<td>***</td>
<td>Accept</td>
</tr>
<tr>
<td>H4b Social presence --&gt; Bridging social capital</td>
<td>.585</td>
<td>.078</td>
<td>9.393</td>
<td>***</td>
<td>Accept</td>
</tr>
<tr>
<td>H4c Social presence --&gt; Social sharing intention</td>
<td>-.124</td>
<td>.145</td>
<td>-1.470</td>
<td>.142</td>
<td>Reject</td>
</tr>
<tr>
<td>H4d Social presence --&gt; Social shopping intention</td>
<td>-.148</td>
<td>.143</td>
<td>-1.594</td>
<td>.111</td>
<td>Reject</td>
</tr>
<tr>
<td>H5a Social interaction --&gt; Bonding social capital</td>
<td>.209</td>
<td>.045</td>
<td>3.852</td>
<td>***</td>
<td>Accept</td>
</tr>
<tr>
<td>H5b Social interaction --&gt; Bridging social capital</td>
<td>.272</td>
<td>.048</td>
<td>4.990</td>
<td>***</td>
<td>Accept</td>
</tr>
<tr>
<td>H5c Social interaction --&gt; Social sharing intention</td>
<td>.384</td>
<td>.066</td>
<td>6.919</td>
<td>***</td>
<td>Accept</td>
</tr>
<tr>
<td>H5d Social interaction --&gt; Social shopping intention</td>
<td>.196</td>
<td>.065</td>
<td>3.242</td>
<td>***</td>
<td>Accept</td>
</tr>
</tbody>
</table>

Table 5 continued on next page
5.5. Mediation Analysis

To test the mediation impacts, this research utilized Baron and Kenny’s (1986) approach. A total of 310 valid samples was applied and AMOS-24 was used to the performance of bootstrapping, and the method has been repeated of 5000 times. The results (see Table 6) exhibit that Bias-corrected model with 95% Confidence Interval (CI) and Percentile model with 95% CI associated with the indirect effect does not contain 0, indicating a significant mediating influence of social capital, therefore supporting H8.

<table>
<thead>
<tr>
<th>Hypothesized paths</th>
<th>Estimate</th>
<th>S.E.</th>
<th>t-value</th>
<th>p-value</th>
<th>Decision</th>
</tr>
</thead>
<tbody>
<tr>
<td>H6b Bridging social capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social shopping intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H7a Bonding social capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social sharing intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H7b Bonding social capital</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social shopping intention</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Squared multiple correlations : R squared value
Bonding social capital : 0.408
Bridging social capital : 0.416
Social sharing intention : 0.462
Social shopping intention : 0.377

Note: *** p<0.001, ** p<0.01.

6. DISCUSSION

In this paper, the s-commerce context is developed as a research model by bringing together the ideas of social presence and social capital on behavioral intention of s-commerce. In addition, the hypothetical model is tested with a large number of field survey data of s-commerce consumers and the results satisfactorily address the research questions we have proposed in this study.
The study results proved that social presence has an essential influence on bridging and bonding social capital. This result exposes the complications of physical absence in the online marketplace, instigating risk realization and lack of trust, can be developed through the implementation of social presence tools (Rahman et al. 2020). In addition, this research confirmed that social interactions are essentially influenced by bonding and bridging social capital. Surprisingly, two hypotheses of the paper do not support the results of social sharing and shopping intention to social presence and these does not support the findings of Nadeem et al. (2020) Johnson and Hong (2020). In this paper, the social presence is not proved a strong relationship and is statistically not significant with the social sharing and shopping intention. But the extended research model (see Figure 6b) supports that social presence has a significant connection with social sharing and shopping intention. Furthermore, a significant relationship between social interaction, social sharing, and shopping intention is revealed, which is compatible with prior researches by Handarkho (2020), Ghahtarani et al. (2020), and Wang and Zhang (2012). Consequently, collaborative activities of bridging and bonding social capital influence...
social sharing and shopping intention, for this reason, customers can think about their interactions and engagements with the marketplace, and also customers can experience their purchasing perception when they purchase from s-commerce platforms (Rahman et al. 2020).

In case of mediating impact, the link between social presence and s-commerce intention is amplified by social capital, which is similar to the findings of Nadeem et al. (2020) and Goraya et al. (2019). It contributes to the current literature by theoretically determining the mediating function of social capital between the connections of social presence and s-commerce intention. All results exhibit that the value of the proposed dimension is widespread and recommend that the dimensions capture a special distinguished relationship of social presence, social interaction, social capital, and s-commerce intention.

6.1. Theoretical Implications

In the first endeavor, this research creates various contributions and meaningful extensions of the scientific literature and provides numerous new theoretical grounds on social presence, s-commerce intention, social capital, and social interaction, which identified the importance of s-commerce and also examines the influencing factors through various studies (e.g., Bugshan et al. 2020; Leung et al. 2019). S-commerce realizes the potentially huge purchasing capacity of online groups and thus web-based organizations are to introduce and launch s-commerce functions to increase social interaction and association among consumers. In this regard, the current study subsidizes to the present literature on the s-commerce intention by comprising and exploring the theoretical model which is an essential determinant for the simultaneous impacts.

Second, the research also divide each of the four constructs, involving social presence, social interaction, social capital, and s-commerce intention, into two sub-constructs: the bonding and bridging for social capital, and the sharing and shopping of s-commerce intention. Rather than taking the connectional standpoint, this research seeks to uncover the complex dealings of social exchanges in s-commerce platforms and contributes an empirical study of their influence on the customer’s social sharing and shopping intention. In order to further develop our insights in this field, a compatible part is the research of social shopping and sharing intention from an information systems perspective. This has additionally provided a greater generalizability and reliability degree of the research results. Thus, this study shows a sufficient level of external validity, which researchers are often concerned with in the area of customer research.

Third, these results have provided some new theoretical contributions to researchers and empirically proved that the natures of social presence and social capital theory play a role in behavioral intention for s-commerce. Theoretically, we have established that all comprise of social presence and s-commerce intention have not an essential influence on the development of behavioral intentions. On the contrary, several studies investigated that social presence is significant in the building of consumer-brand connections in social media marketing and indicated positive impacts of social presence on behavioral intentions. In this study, the cluster model path analysis results reveal both social presence and social capital impacted on the s-commerce intention, whilst social capital has a mediation power on the connection of social presence and behavioral intention to s-commerce. With such an obtainment, it becomes simpler for marketers to ascertain an essential and relevant factor of s-commerce.

6.2. Practical Implications

Practically, the current research results have contributed various important insights on building trust in s-commerce managers, technicians, s-commerce service providers, marketers and s-commerce stakeholders. This research also focuses more on the significant informational role and communication processes in the shopping and sharing of the behavioral intention of online customers. From the view of the s-commerce practitioner, our paper has the following practical implications. Firstly, the practical implications of social presence are the main essential predictor of s-commerce sellers, marketers,
promoters, and advertisers are enabled for efficient interactions and information sharing through SNSs. For example, the social presence can show positive influences towards consumers by making a feeling of the human contact in their interactions and assuring that cordial communication occurs at all times. The availability of an expanded social presence always helps to increase trustworthiness during interactions on the s-commerce site.

Furthermore, s-commerce service companies can also include additional information help functions on the site. By sharing information on the important points of the exceptional offers or deals, users can build their trust with the company. Moreover, when many corporations are conscious of the possibilities of social shopping and use different SNSs to help keep intimate connections with their consumers, then they can share appropriate and adequate product information to assist customers to select products. With regard to the social implications, s-commerce practitioners can contribute emotional support as a strategic choice and with the help of s-commerce constructs, consumers understand improved equalities of social presence and social support that support perceived closeness with the other consumers.

Moreover, in regards to social capital, customers can explore two kinds of social capital, for example, bridging (weak ties) and bonding (strong ties). The key determinants of consumer satisfaction are important for progressing the proper usage and continuance intention of s-commerce, and the customers should communicate with others on SNSs aimed at receiving social capital. Furthermore, building social capital is a crucial factor to enhance the behavioral intentions of s-commerce and customer satisfaction. Lastly, this research expresses that social capital and interaction is a potential alternative on behavioral intention to s-commerce. Some research has an essential impact on marketing and management, additionally acknowledged that social interaction and social capital influence information sharing. Marketing practitioners need to highlight interpersonal interaction, belief and realized advantages in order to increase social interaction, which then enhances sharing intention, and also marketers can enhance information sharing intention by enhancing social capital. Therefore, entrepreneurs should regard social interaction and social capital regulation in their s-commerce sites.

7. CONCLUSION

The achievements of the present research were highlighted in the existing body of literature and particularly the results address three RQs: RQ1: How does social presence influence online social capital and behavioral intention to s-commerce? RQ2: How does online social capital influence behavioral intention to s-commerce? RQ3: How does social capital mediate the connection between social presence and behavioral intention to s-commerce? Our study successfully answers all the research questions accordingly. Social presence as aggregate has a substantial influence on social capital and s-commerce. Social capital positively impacts on s-commerce intention. In addition, social capital is proved to be a vital mediator between social presence and s-commerce intention. Therefore, this study reinforces that social presence and social capital are the leading variables in examining s-commerce intention.

Despite the significant achievements of this research, few limitations stay as in other identical research that paving the future study systems. First, the implicit limitation of survey-based research is that respondents may not answer accurately what they want to convey. Second, the current research provides the importance of the mediating influence that social capital plays in the connection between social presence and social interaction and the intent of s-commerce intention (e.g., social shopping and sharing). However, this study’s results did not accept social presence, social shopping, and sharing intention relationships in the structural model analysis, on the other hand, this relationship proved the positive results in the path analysis. Therefore, this problem should be deliberated in future studies. Third, the sample dimension was small and limited although it’s fixed with different research to an individual service enterprise, even the observation of the outcomes may be questionable; hence consciousness should be adopted in mobilizing the sample effects besides a comparable context.
In the future, this research will be capable to examine the sample with a larger population and achieve generalizable outcomes. Since many countries’ s-commerce systems are still in the early periods of improvement, consumer behaviors and attitudes primarily depend on the future experiences and expectations of the consumer as s-commerce has not yet spread to the entire market. In future researches, individual elements or dimensions should be performed into deliberation to produce more suitable outcomes and also enrich the theoretical information by increasing the present research with data on comparable stipulations in other nations or multinational studies. Moreover, a longitudinal study may be wished in future studies to alleviate the inherent limitations of survey-based studies. It is recommended that future researchers are advised to extend the current model to study consumer behavior intention in relation to online social capital, which will help s-commerce practitioners make strategic decisions to enhance customers’ engagement, social interaction, manage digitalization, and post-pandemic issues.

CONFLICT OF INTEREST

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