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Online Customer Experience at China’s Double 11 Online Shopping Festival: An Empirical Model of Antecedents and Consequences

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Abstract: The Double 11 shopping festival has become the largest and most prevalent national shopping festival in China. However, research empirically exploring consumer experience based on the interaction between merchants and online customers in the context of Double 11 is limited. Therefore, this study attempts to empirically test a comprehensive model of the relationship between antecedents and consequents of online customer experience (OCE). Data from 451 valid samples were obtained using an online survey. The research model is assessed using partial least squares analysis. Results suggest that perceived information credibility and familiarity as antecedents of OCE positively influence two dimensions of OCE, that is, cognitive and affective experiences. As the consequence of the OCE model, customers’ behavioral intention is positively affected by cognitive and affective experiences. The study makes contributions toward new knowledge and understanding of how e-retailers can provide effective online experiences for customers.

Keywords: Online customer experience, Double 11 online shopping festival, Behavioral Intention

1. INTRODUCTION

Founded on November 11, 2009, Double 11 is one of the largest online shopping carnivals established by the Tmall B2C shopping platform under the Alibaba Group. In 2020, the number of Double 11 transactions reached 498.2 billion RMB, and the total logistics order reached 2.321 billion. Evidently, the Double 11 online shopping carnival becomes increasingly influential on consumers. Therefore, we suppose that studying the determinants of consumers’ purchase intentions in the context of Double 11 is of great significance.

Previous studies have demonstrated that the relationship between a retailer and its customers is affected by the results of interactive experience. Then, online shopping experience proved that effective sales strategies can create an online customer experience (OCE) and further influence customers’ shopping behavior¹². Consumer experience is considered the accumulated feelings during interaction². In the Double 11 shopping carnival, diversified interactions exist between consumers and businesses. Therefore, this research explores the OCE in the context of the Double 11 shopping carnival to expand and deepen the understanding of OCE, particularly the antecedents and consequences of OCE. The main objectives of this research are threefold. The first objective is to identify the components of OCE. Second, the study aims to develop a comprehensive theoretical model of OCE that incorporates direct and indirect antecedent variables, OCE component variables and outcome variables are based on pre-existing theory of customer purchase intention. Finally, this study aims to test the OCE model empirically to find support for the proposed causal relationships.

This study starts by reviewing current definitions and dimensions of OCE. Then, the study proposes an explanatory model of OCE and provides support to the literature for the antecedent and consequent variables and the relationships between them. Moreover, the study explains the research methods adopted and then analyzes the research results. Finally, the study discusses the findings, implications, limitations of the study, and indications for future research.

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2. CONCEPTUAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1 OCE

Customer experience is driven by the interactions between consumers and retailers, generates value, and shapes satisfaction and purchase intention. Molinillo et al. perceived that cognitive experience is the conceptualization of cognitive experience based on the concept of flow. Cognitive experience is defined as a cognitive state experienced during navigation, whereas affective experience is a set of mental processes that includes emotions, moods, and attitudes. Many previous studies described OCE from two dimensions, namely, cognitive and affective, cognitive and affective experiences could affect customers’ purchase intention. Double 11 is the largest shopping carnival in China, with the number of consumer transactions and participating rate reaching the peak. Therefore, exploring the relationship between cognitive and affective experiences becomes pivotal. Double 11 is favored by consumers due to the colorful preferential interactive activities and largescale discount promotions, which allow consumers to enjoy the joy and excitement of shopping spree while getting the most favorable experience. In other words, consumers have received cognitive and emotional satisfaction from participating in Double 11. Therefore, we elaborate on consumer experience from two dimensions of cognition and affection and analyze the impact on consumers.

2.2 Antecedents of OCE

2.2.1 Perceived information credibility

Perceived information credibility refers to the degree to which people perceive that a recommendation/review information is believable, true, or factual. Rose et al. took information processing as antecedents of consumer experience and explained the casual relationships between them. Then, Fan discussed the impacts of perceived information credibility on cognition and affection. Double 11 is the shopping carnival with the most discount, full reduction, and other preferential information. OCE is the cumulative effect of repeated exposure to the Double 11 platform, this study chooses the perceived information credibility as the antecedent of OCE for discussion. When customers think that the information on the Double 11 platform is of high authenticity, then they will interact with retailers actively, thereby generating a positive customer experience.

On the cognitive dimension, Bleier believed that informativeness is the main cognitive state of OCE. Informativeness based on factual information objectively affects customer’s cognitive experience and then attitude. Kang considered that the perceived service quality is objective evaluation and cognitive attitude of the website, illustrating a reasonable evaluation of the customer experience in the process of interaction between consumers and retailers. In the context of Double 11, when customers believe that information on the Double 11 platform is important, necessary, and meaningful to themselves, they will gain a good sense of experience.

On the affective dimension, according to the literature of the technology acceptance model, customers value entertainment when using information systems. Several studies confirmed the importance of information to arouse customers to feel happy, contented, relaxed, and others. Kang indicated that the information load created by the cognitive and emotional stimulation in the web service environment evokes a powerful user experience. In the process of interaction between customers and retailers, if customers perceive that the information provided by the Double 11 platform is true, then they will gain a sense of satisfaction and pleasure. Then, this real sense may facilitate the formation of a more positive affective experience. Based on these arguments, the following hypothesis is proposed:

H1: The perceived information credibility will positively contribute to the cognitive experience.

H2: The perceived information credibility will positively contribute to the affective experience.

2.2.2 Familiarity

Familiarity refers to the consumer’s degree of acquaintance with the selling entity, which includes
knowledge of the vendor and understanding its relevant procedures, such as searching for products and information and ordering through the Website’s purchasing interface\(^5,10\). Familiarity has brought good experiences with vendors in the past, which will bring more positive emotions and behaviors to consumers in the future\(^6\). Familiarity is considered a subjective experience generated by the repeated interaction between consumers and businesses\(^11\). Over time, interactions will increase familiarity and can lead to a deeper familiarity, which will facilitate creating much more customer experience in Double 11.

On the cognitive level, several studies pointed out that familiarity has a positive effect on cognitive experience\(^5,7\). On the affective level, in Fan’s view, familiarity is a necessary foundation for establishing and maintaining an emotion, positively influenced by interaction. In the process of interacting, deep feelings are generated, and customer experience is increased\(^8\). Kang stressed that interactivity has an emotional or hedonic effect, which contains diverse emotions, such as happiness, content, and excitement\(^8\). The Double 11 shopping carnival has been continuously held for more than 10 years. With the increase in interaction between consumers and the Double 11 platform, consumers have become more familiar with Double 11. Simultaneously, the consumer experience has been formed in this interactive process. Thus, the following two hypotheses are proposed:

H3: A consumer’s familiarity with a selling party positively affects the consumer’s cognitive experience during the Double 11 shopping festival.

H4: A consumer’s familiarity with a selling party positively affects the consumer’s affective experience during the Double 11 shopping festival.

2.3 Consequence of OCE

Cognitive experience refers to the concept of flow that captures the effect of cognitive aspects, such as cognitive curiosity and concentration, utilitarian features, informativeness, effectiveness, perceived ease of use, and perceived usefulness\(^4\). Lemon attempted to combine customer experience and customer behavior in terms of customer satisfaction and service quality and found a positive impact of customer experience on behavioral intention\(^12\). Affective experience refers to the subjective feelings experienced, including affects, emotions, and attitudes\(^4\). Zhao suggested that when customers’ experience matches their expectations, they will take a positive attitude toward the vendor’s activities and encourage them to participate\(^13\). In the Double 11 shopping carnival, when consumers participate in the carnival at a preferential price, they will obtain a cognitive experience, which stimulates their intention to buy. Meanwhile, in the period of Double 11, factors such as the interactive games provided by the platform and the carnival atmosphere attract and encourage consumers to obtain a sense of satisfaction and pleasure. Then, such factors enhance consumers’ purchasing intention.

Although the relationship between the affective and cognitive dimensions of experience is not consistent across the literature, in the present study, following Bagozzi\(^14\), we consider that a person’s emotional experience may influence cognition experience. Kang showed that affective experience influences the consumer’s cognitive experience\(^4,8\). In addition, Laumer et al. demonstrated that affective experience has positive impacts on the cognitive dimension of the experience\(^15\). Based on these arguments, the following hypotheses are therefore proposed:

H5: Cognitive experience can significantly affect purchase intention. As the degree of cognitive experience increases, the purchase intention of consumers becomes stronger.

H6: Affective experience can significantly affect purchase intention. As the degree of affective experience increases, the purchase intention of consumers becomes stronger.

H7: The affective experience of customers has a positive effect on their cognitive experience.
3. METHODOLOGY

3.1 Measuring Instrument

To ensure the reliability and validity of the research model, all measurement items are adopted from extant literature and adapted according to the Double 11 shopping festival. To achieve the research objectives and evaluate the proposed model, an empirical study was conducted through an online survey. Table 2 shows the questionnaire items used in the data collection for the evaluation of the research model. Prior to the data collection, a pilot test was conducted to ensure the validity of the questionnaire. The constructs were measured on a seven-point Likert-type scale.

3.2 Sample

The data were collected from November 4, 2020, to December 18, 2020, through an online questionnaire survey. A total of 583 samples were collected, and of them, 451 were valid questionnaires. Of these 451 participants, 152 were men (33.7%), and 299 were women (66.3%). The majority of respondents were aged between 21 and 35 (78.7%), which is consistent with the age distribution of Double 11 users. Table 1 shows the respondent demographics.

Table 1. Sample characteristics

<table>
<thead>
<tr>
<th>Demographic variable</th>
<th>Classification</th>
<th>No.</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Male</td>
<td>152</td>
<td>33.70%</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>299</td>
<td>66.30%</td>
</tr>
<tr>
<td>Age</td>
<td>20 and below</td>
<td>29</td>
<td>6.43%</td>
</tr>
<tr>
<td></td>
<td>21-25</td>
<td>237</td>
<td>52.55%</td>
</tr>
<tr>
<td></td>
<td>26-30</td>
<td>62</td>
<td>13.75%</td>
</tr>
<tr>
<td></td>
<td>31-35</td>
<td>56</td>
<td>12.42%</td>
</tr>
<tr>
<td></td>
<td>36-40</td>
<td>33</td>
<td>7.32%</td>
</tr>
<tr>
<td></td>
<td>41-45</td>
<td>21</td>
<td>4.66%</td>
</tr>
<tr>
<td></td>
<td>46-50</td>
<td>6</td>
<td>1.33%</td>
</tr>
<tr>
<td></td>
<td>51 and above</td>
<td>7</td>
<td>1.55%</td>
</tr>
<tr>
<td>Double 11 shopping expense</td>
<td>Below 200</td>
<td>50</td>
<td>11.09%</td>
</tr>
<tr>
<td></td>
<td>200-499</td>
<td>94</td>
<td>20.84%</td>
</tr>
<tr>
<td></td>
<td>500-999</td>
<td>148</td>
<td>32.82%</td>
</tr>
<tr>
<td></td>
<td>1000-2999</td>
<td>124</td>
<td>27.49%</td>
</tr>
<tr>
<td></td>
<td>Above 3000</td>
<td>35</td>
<td>7.76%</td>
</tr>
</tbody>
</table>
4. RESULTS

4.1 Measurement model analysis

This study employs the structural equation modeling tool Smart partial least squares (PLS) for confirmatory factor analysis to estimate the measurement model using PLS analysis to test construct reliability and validity. The individual reliability of each item was evaluated by factor loadings. Values above 0.7 indicate that the shared variance between the item and its construct is greater than the error variance. Table 2 shows that all item loadings exceeded the recommended minimum value. The internal consistency of each construct was evaluated by the factor’s composite reliability. The constructs presented values above the recommended minimum of 0.7. Convergent validity was also guaranteed as all the latent variables had an average variance extracted (AVE) higher than the recommended minimum value of 0.5.

To assess discriminant validity, the Fornell-Larcker criterion and the heterotrait-monotrait (HTMT) ratio were used. First, the square root of the AVE of each construct must be greater than the interconstruct correlations of the model. Then, the HTMT ratio of correlations between two constructs should be below 0.9. Both criteria were met, so the discriminant validity of the measurement model is confirmed (Table 3).

Table 2. Descriptive statistics and measurement scales

<table>
<thead>
<tr>
<th>No.</th>
<th>Measurement item</th>
<th>Factor loading</th>
<th>Mean</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>PIC1</td>
<td>I think the information is credible.</td>
<td>0.782</td>
<td>5.266</td>
<td>1.454</td>
</tr>
<tr>
<td>PIC2</td>
<td>I think the information is believable.</td>
<td>0.886</td>
<td>5.259</td>
<td>1.426</td>
</tr>
<tr>
<td>PIC3</td>
<td>I think the information is trustworthy.</td>
<td>0.829</td>
<td>5.002</td>
<td>1.232</td>
</tr>
<tr>
<td>PIC4</td>
<td>I think the message is truthful.</td>
<td>0.811</td>
<td>4.951</td>
<td>1.256</td>
</tr>
<tr>
<td>PIC5</td>
<td>I think the message is reliable.</td>
<td>0.866</td>
<td>4.993</td>
<td>1.254</td>
</tr>
<tr>
<td>FAM1</td>
<td>I am familiar with “Double 11 shopping festival”</td>
<td>0.785</td>
<td>5.242</td>
<td>1.354</td>
</tr>
<tr>
<td>FAM2</td>
<td>I am familiar with searching for products on the website during “Double 11 shopping festival”</td>
<td>0.855</td>
<td>5.386</td>
<td>1.336</td>
</tr>
<tr>
<td>FAM3</td>
<td>I am familiar with buying products on the website during “Double 11 shopping festival”</td>
<td>0.863</td>
<td>5.388</td>
<td>1.316</td>
</tr>
<tr>
<td>FAM4</td>
<td>I am familiar with the processes of purchasing products from the website during “Double 11 shopping festival”</td>
<td>0.854</td>
<td>5.501</td>
<td>1.214</td>
</tr>
<tr>
<td>CE1</td>
<td>I have ever felt strongly immersed in an application.</td>
<td>0.866</td>
<td>4.741</td>
<td>1.571</td>
</tr>
<tr>
<td>CE2</td>
<td>I felt strongly immersed when using an application.</td>
<td>0.889</td>
<td>4.849</td>
<td>1.520</td>
</tr>
<tr>
<td>CE3</td>
<td>Most times I use an application I feel strongly immersed.</td>
<td>0.868</td>
<td>4.654</td>
<td>1.491</td>
</tr>
<tr>
<td>CE4</td>
<td>Every time I use an application I feel strongly immersed.</td>
<td>0.877</td>
<td>4.670</td>
<td>1.549</td>
</tr>
<tr>
<td>AE1</td>
<td>Double 11 shopping festival is:</td>
<td>0.921</td>
<td>4.951</td>
<td>1.586</td>
</tr>
<tr>
<td>AE2</td>
<td>Very Happy</td>
<td>0.902</td>
<td>4.825</td>
<td>1.522</td>
</tr>
<tr>
<td>AE3</td>
<td>Very Pleased</td>
<td>0.926</td>
<td>4.911</td>
<td>1.529</td>
</tr>
<tr>
<td>AE4</td>
<td>Very Excited</td>
<td>0.924</td>
<td>4.800</td>
<td>1.577</td>
</tr>
<tr>
<td>AE5</td>
<td>Very Stimulated</td>
<td>0.925</td>
<td>4.825</td>
<td>1.632</td>
</tr>
</tbody>
</table>
4.2 Structural model

The bootstrap resampling method (5,000 resamples) was applied to determine the significance of the structural model paths. The path coefficient and significance of each hypothesis were examined. The explained variance ($R^2$) of each dependent construct was calculated.

The model explains 52.6% of variance for behavioral intention, 43.6% of variance for cognitive experience, and 49.1% of variance for affective experience. The results support H1 ($\beta = 0.344, p < 0.001$) and H2 ($\beta = 0.492, p < 0.001$), thereby confirming the positive association between perceived information credibility and cognitive and affective experiences. Then, H4 which indicates that familiarity positively associated with affective experience is also confirmed ($\beta = 0.300, p < 0.001$). However, H3 is not supported, which suggests that familiarity not positively associated with cognitive experience ($\beta = 0.112, p > 0.05$). The findings also provide support for H5 ($\beta = 0.243, p < 0.001$) and H6 ($\beta = 0.555, p < 0.001$), cognitive and affective experience are positively associated with behavioral intention. Finally, the findings confirm H7 ($\beta = 0.301, p < 0.001$). Figure 2 shows the results.

![Figure 2. Results of the structural model](image_url)
5. DISCUSSION AND CONCLUSION

By reviewing several studies, we find the antecedents and consequences of OCE in the context of Double 11 and then build a comprehensive OCE model. In addition, we acquire relevant data from consumers participating in Double 11 to conduct empirical analysis for testing the mechanism of the OCE model in the context of Double 11. The study discusses the findings, implications, limitations and indications for future research.

In antecedents of OCE, perceived information credibility having significant positive effects on cognitive and affective experiences are consistent with those of Lee. It is possible that online shopping lacks exposure to physical products, and consumers understand that only the product information can be presented through the Double 11 platform rather than real products. Thus, the authenticity of the information is crucial. When customers perceive that the information on the Double 11 platform is true, they will have the intention to participate, and affective and cognitive experiences will be generated. From the initial price reduction of products to the rule of spending 300 and getting 40 reductions, in the addition to interactive games, activities related to the Double 11 have been continuously enriched. When consumers are familiar with the novel rules, they interact with friends in the process of participating in the game, feeling happy and pleased. Thus, familiarity have a positive impact on the affective experience. But consumer’s familiarity has no significant effect on the cognitive experience, it is possible that when consumers are not fully familiar with continuous novel shopping rules, they may also believe that participating in Double 11 will bring them appreciable benefits. Therefore, perceived information credibility has significant positive effect both on cognitive and affective experience. Familiarity has positive effect on consumers’ affective experience, while not on cognitive experience.

In consequence of OCE, we find that cognitive and affective experiences positively affect behavioral intention. In other words, when consumers regard Double 11 as a meaningful shopping festival cognitively and emotionally, they will participate in Double 11 and purchase products. These findings are entirely consistent with the results of Rose et al. This study discusses the impact of perceived information credibility and familiarity on cognition and affective experience and analyzes the effects of these factors on consumers’ behavioral intentions. Exploring the antecedents and consequences of OCE contributes to helping merchants understand consumers’ buying psychology and launch more effective strategies to increase sales and market share. Time and resource constraints do not allow iterations of data collection to observe customer intent over time and determine any long-term impact of the factors discussed on user intent and behavior. Future research should consider a longitudinal approach to validate and extend the current research model of OCE behavioral intention.

REFERENCES


