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Abstract

The purpose of this research is to investigate the effects of online digital customer experience quality (OCXQ) on customer equity drivers (CEDs) of digital platforms and the respective effect of CEDs on repurchase intentions (RI). Most importantly, we unveil the indirect effects of store infection threat (SIT) on the relationship between CEDs and RI as a basic consequence of the ongoing COVID-19 pandemic. The methodology utilized was the positivism approach using an online survey in which 283 adults participated. OCXQ indicated a strong direct effect on the digital brand's CEDs, whereas CEDs highly impact RI. This research stresses the importance of OCXQ in strengthening CEDs, which are important for online decision-making. In addition, SIT is proven to be a basic moderator of the effectiveness of CEDs in terms of RI. Thus, firms need to carefully design customized digital marketing practices.

Keywords: online customer experience quality, customer equity drivers, repurchase intentions
Track: Digital Marketing & Social Media

1. Introduction

The ongoing COVID-19 pandemic made several economies to temporarily shut down, forcing businesses to mostly operate digitally and consumers applying social distancing (Szymkowiak *et al.*, 2021). This situation has led to the application of digital marketing strategies and practices, providing consumers with the chance to communicate with others and make purchases through low-touch points (Jiang and Stylos, 2021; Sheth, 2020).

The afore-mentioned status has resulted in major shifts in consumer behavior, making fast migration to digital sales channels an utmost need (Sheth, 2020). Based on this observation, the current research study proposes an integrated model of e-customer behaviour by incorporating customer equity drivers (CEDs), repurchase intentions (RI), and online customer experience quality (OCXQ) under the prism of perceived instore infection threat (SIT). Loyalty strategies that work efficiently in digital environments are proposed, based on different levels of perceived infection threat among consumers. In specific, this research contributes to research academia as it illustrates the impact of OCXQ on CEDs. The direct effects of CEDs of digital sales channels on RI are also investigated, enhancing the study's value and originality. Finally, and most importantly, we examine the interaction effects of consumer SIT on the positive relationship between CEDs and RI.

2. Literature review and hypotheses development

2.1 Online customer experience quality and customer equity drivers

In the pandemic era, companies that act immediately and innovatively by altering their business models to provide touchless experiences, will gain a competitive advantage (Jiang and Stylos, 2021). Measuring the levels of OCXQ and SIT would provide insight about customers willingness to purchase in the safety of their home and thus help businesses apply sensitive marketing and loyalty strategies in digital environments. Such strategies may involve decisions about brand image, perceived quality, brand associations, customer relationships and perceived value (Rust *et al.*, 2004; Vogel *et al.*, 2008). These are also referred as CEDs and consist of value equity (VE), brand equity (BEQ) and relationship equity (RE) (Kim *et al.*, 2020).

VE is defined as a customer's objective assessment of a brand or a retailer's utility based on customer perceptions (Lemon *et al.*, 2001; Vogel *et al.*, 2008). Even though, VE is driven by perceptions of objective aspects of a firm's offerings, such as price, quality, and convenience, BEQ is built through image and meaning (Lemon *et al.*, 2001). Based on cognitive psychology,

Keller (1993, p. 8) determined BEQ as the "*differential effect of brand knowledge on consumer response to the marketing of the brand*". In general, BEQ shapes consumers' awareness of brand name, which most of the time leads to strong and favorable brand associations and easy recall in consumers' memory (Vogel *et al.,* 2008).

On the other hand, RE explains consumers' willingness to stay close to a brand despite their objective and/or subjective evaluations (Rust *et al.*, 2004; Vogel *et al.*, 2008). Additionally, it is believed to be a successful marketing strategy that discourage customers from switching among brands and thus strengthen customer loyalty. Strong consumer-brand relationships are formed by loyalty programs, community-building strategies, as well as knowledge-building techniques (Rust *et al.*, 2004). Conceptually, the building of relationships between two parties is important, adding significant quality to marketing transactions and customer retention (Vogel et al., 2008). Truly, real human exchange is much deeper than market exchange. When people deal with people, they exchange feelings, ideas, opinions, information, and insight. Most of the time, relationships reflect means of bonding, ties of loyalty and feelings of obligation. According to Lemon *et al.* (2001) RE is essential to strengthen the relationship between business and customer, because BEQ and VE alone are not sufficient to attract and retain loyal customers.

CEDs affect customer attitudes and behavior, acting as key precursor of customer experience quality (CXQ) and hence customer RI (Cambra-Fierro *et al.*, 2019; Gao *et al.*, 2020). In the competitive business environment, especially during and following the pandemic of COVID-19, where e-commerce or mobile commerce are dominant, customer engagement and experience have become a norm in marketing processes (Ho and Chung, 2020). Not only are these two factors essential but also customer equity, because it determines the survival of a firm (Kim *et al.*, 2020). In digital settings, OCXQ is the product of effective digital marketing practices that deliver and communicate value to customers. Moreover, memorable online experiences consist of antecedent rather than effect of CEDs (Yu and Yuan, 2019). To be in line with these findings, OCXQ is considered as the basic precedent of brand related evaluations or CEDs. This becomes significant and for the sake of this study, to examine the positive effect of OCXQ upon the three CEDs in contemplating the quality of on-line customer experience with a direct effect on RI. Therefore, the following research hypotheses can be developed:

H₁: OCXQ is positively associated with BEQ

H₂: OCXQ is positively associated with VE

H₃: OCXQ is positively associated with RE

2.2 customer equity drivers and repurchase intentions

CEDs as strategic levers exert considerable influence on customer equity driving future revenues, customer lifetime value and consequently business profitability (Vogel *et al.*, 2008). On a marketing perspective, loyalty strategies are critical in terms of favorable consumer behaviour such as customer loyalty, positive word of mouth and RI (Rust *et al.*, 2004).

As far as the significance and direction of the CEDs - loyalty link is concerned, several empirical studies exhibit variation in their findings. On the one hand, it is established that VE, RE and BEQ are not always positively related to brand loyalty and RI (Dwivedi *et al.,* 2012). These conflicting effects indicate that there might be potentially more complicated relationships among CEDs and RI (Keller, 1993). Conversely, some confirm the positive effects of the CEDs in fostering loyalty intention and further RI (Ou and Verhoef*,* 2017; Vogel *et al.,* 2008). Therefore, the following research hypotheses can be concluded:

H₄: BEQ is positively related to RI.

H₅: VE is positively related to RI

H₆: RE is positively related to RI.

2.3 The interaction effect of perceived instore infection threat

Szymkowiak *et al.,* (2021) assumed that the emotion of fear is crucial in people's perception of becoming infected with COVID-19 and that perceived risk of infection has direct influence on the belief that a person can get infected during shopping. When danger is available in one's mindset, she/he will perceive such an event as more likely to occur (Fischhoff *et al.,* 2005). Moreover, events associated with strong affective consequences (i.e., danger to life) may lead to overreaction and high sensitivity of the actual likelihood of a threat (Slovic and Peters, 2006). Sunstein (2003) further claimed that when such events are present, people focus their thinking on negative outcomes (Slovic and Peters, 2006). Trying to link SIT with the effectiveness of RE on RI, Social Identity Theory is applicable. According to this theory, individuals try to link themselves with a certain group, representing a club, firm or brand (Stets&Burke, 2000). Categorization and identification lead to favorable attitudes related to the in-group category and less favorable attitudes towards out-group categories (Stets&Burke, 2000). Lack of belonging to a group because of the pandemic-related social distancing, is expected to weaken the positive affect of RE on RI. Alternatively, it is expected that consumers with high SIT may develop lower

levels of RI, comparing to those individuals with low SIT. This is explained by the fact that, during the coronavirus crisis, social distancing and isolation are prominent social behaviors to limit infection risk (Szymkowiak *et al.*, 2021). On the other hand, consumers with high SIT adopt and migrate to digital platforms, a fact that itself brings uncertainty and high perceived risks (i.e. safety of transactions, psychological risks etc.) (Jiang and Stylos, 2021). In order to countermeasure such threats, consumers rely more on utilitarian characteristics of a brand based on his/her perception of benefit-cost ratio, brand awareness, perceived quality, and brand associations (Rust *et al.*, 2004). Thus, SIT is assumed that it will strengthen the positive effects of online VE and BEQ on RI. Summarizing, the following hypotheses can be concluded on a Conceptual Framework (see Figure 1 below):

H7: SIT strengthens the positive association between BEQ and RI.

H8: SIT strengthens the positive relation between VE and RI.

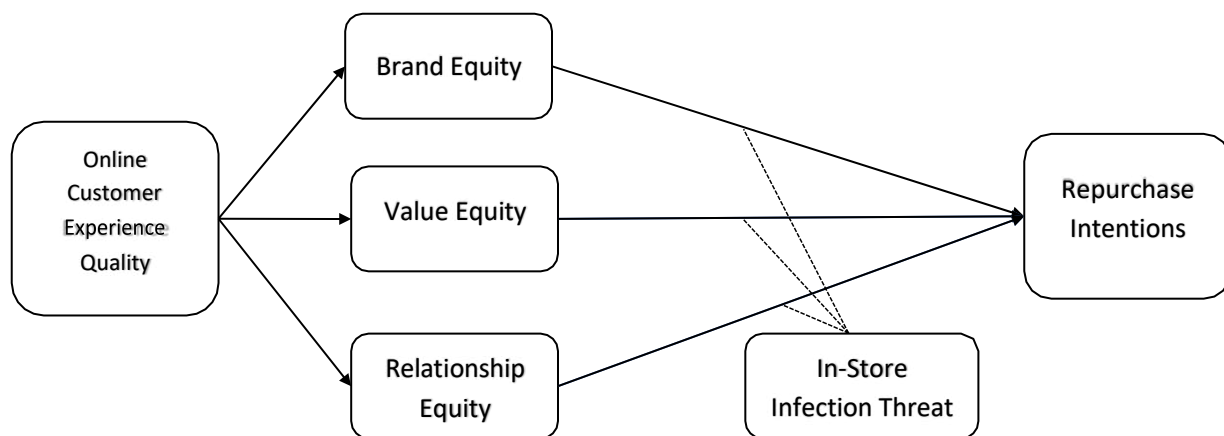*H9*: SIT weakens the positive relation between RE and RI.

Figure 1. Conceptual Framework

3. Research methodology

Quantitate research was conducted employing online survey technique. A digital form of structed questionnaire was designed via Google Forms based on well-established scales. Data was collected from A cluster set population of 325 adults, alumni, graduate and undergraduate students of Hellenic American Union and Hellenic American University based in Athens, Greece. A non-probability sample of 283 native English-speaking students was collected. Generally, a good spread of respondents in terms of demographic characteristics was found. The

distribution of gender was 52.3% males and 47.7% females. As far as age groups were concerned, 26.9% and 26.1% of respondents fell between 26 and 35 years of age and 36 to 45 years of age, respectively. Finally, the research instrument included several digital channels like applications, web/search engine, social media, SEO, e-shops and websites.

As for measures, OCXQ was measured based on 7 items on the Likert type construct of Gao *et al.* (2020). With respect to fit in the scope of this research paper, the construct was adapted to measure the latest transactional experience of a digital platform. CEDs were based on constructs initially developed by Rust *et al.* (2004) and Vogel *et al.* (2008). They were further adjusted by Ho and Chung (2020) in digital environments and Gao *et al.* (2020) in services. VE consisted of 5 items measured on a Likert type scale (Ho and Chung, 2020). RE (Gao *et al.*, 2020) and BEQ (Vogel *et al.*, 2008) were assessed by 4 items each. SIT was based on the 5-item scale of Szymkowiak *et al.* (2021). This construct analyzes the perception of getting infected by coronavirus while visiting a physical store. RI was examined via 4 items developed by Ho and Chung (2020). 5-point Likert scales were used whereas, reliability and accuracy was initially tested through a pretesting process, distributing the questionnaire to 20 students.

4. Results and discussion

In favor of further examining reliability and validity of constructs exploratory factor analysis (EFA) was conducted. Maximum likelihood and promax rotation method indicated that six factors were extracted based on the threshold of eigen value ($\lambda > 1$). The six-factor model retained 25 out of the 29 items and accounted for 61.77% of the cumulative variance. Each item displayed satisfactory standardized factor loading (mostly above 0.70) and every component exhibited excellent reliability scores (from 0.78 to 0.94) based on Cronbach's Alpha (α) test.

Confirmatory factor analysis was also carried out with aim to further assist scale validation. Its findings confirmed the presence of six factors and the overall measurement model yielded excellent fit (Byrne, 2016): $\chi2$/d.f. = 1.62; CFI = 0.97; TLI = 0.96; RMSEA = 0.05; SRMR = 0.04. Standardized factor loadings were significant, confirming the existence of convergent validity. In addition, average variance extracted (AVE) and composite reliability (CR) exceeded the threshold values of 0.50 and 0.70 respectively, providing further evidence for convergent validity. Moreover, variance extracted for every construct was greater than the squared correlation estimate, proving that criterions of discriminant validity were met (Hair *et al.*, 2010). In addition, the common latent factor (CLF) method was employed with aim to account for

common method bias. This technique compares an unconstrained common method factor (CMF) model to a zero constrained one (Hair *et al.*, 2010). In this research, CMF was retained during factor imputation, because significant shared variance among constructs was found. The results yielded excellent VIFs and tolerance indices for every factor. Therefore, no alarming multicollinearity issues emerged.

As for hypotheses' testing, Structural equation modeling (SEM) was employed. The causal model explored the interaction effect of SIT on the relationships between CEDs and RI. The statistics indicated excellent model fit: χ^2/d.f. = 2.39; CFI = 0.99; TLI = 0.97; GFI = 0.98; RMSEA = 0.05; SRMR = 0.02 (Byrne, 2016). Additionally, R^2 estimate of RI was 0.66, which means that 66% of the RI variance is explained by BEQ, VE, RE and the interaction effects of SIT. Standardized regression weights indicated that OCXQ positively predicts BEQ ($\beta = 0.57$; p < 0.001), VE ($\beta = 0.61$; p < 0.001) and RE ($\beta = 0.29$; p < 0.001). More specifically, memorable digital experiences determine digital marketing practices that deliver and communicate value to customers. In other words, OCXQ help customers to shape brand, value, and relationship evaluations in digital channels. These findings are in line with the research studies of Cambra-Fierro *et al.* (2019) and Gao *et al.* (2020), who concluded that customer experience quality provided in either digital or physical retail environments is positively associated with CEDs. Research findings of Yu and Yuan (2019) are also validated, as it was found that online experience positively predicts CEDs employed by digital platforms, like social media. Consequently, hypotheses *H₁-H₃* are supported.

In addition, CEDs were found to have a positive and significant effect on RI via digital platforms. Analytically, BEQ ($\beta = 0.14$; p = 0.02 < 0.05), VE ($\beta = 0.15$; p < 0.001) and RE ($\beta = 0.52$; p < 0.001) positively predict RI. These findings are in line with Rust *et al.* (2004), Ou and Verhoef (2017) and Vogel *et al.* (2008), who confirmed the presence of a direct positive link between CEDs and loyalty intentions. Therefore, hypotheses *H₄-H₆* are accepted.
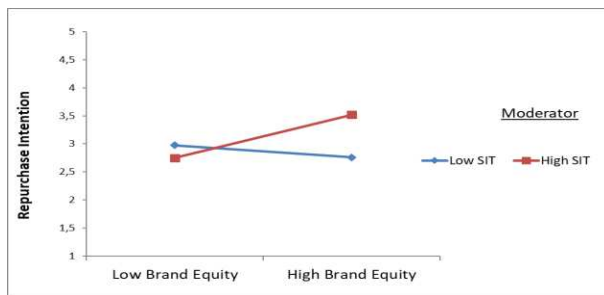
Figure 2. Interaction effect of SIT on the relationship between BEQ, RE and RI

Regarding the interaction effects of SIT on the relationship between CEDs and RI, mixed results were found. First and foremost, it was supported that SIT ($\beta = 0.25$; $p < 0.001$) strengthens the positive association between BEQ and RI through digital platforms (Figure 1). In specific, customers with higher levels of SIT sticked to brand awareness and image associations of the digital retailer or platform to repurchase in the near future. In other words, BEQ was more successful as a digital loyalty strategy for customers with high levels of SIT than those with lower ones. Therefore, hypothesis H_7 is accepted. Such statements were also supported by Jiang & Stylos (2021), who proved that consumers with concerns about getting infected with coronavirus, exhibited high preference and engagement to digital platforms to reduce uncertainty. Such situation was also validated by Rust et $al.$ (2004), as he proved that customers base their decision-making on brand awareness, perceived quality, and brand associations to mitigate these risks. In other words, BEQ yields greater RI to customers with high levels of SIT.

Nevertheless, no significant interaction effect was found when it comes to SIT ($p = 0,10 >$ 0.05) on the relationship between VE and RI. Therefore, hypothesis H_8 is rejected. The research findings of Rust et $al.$ (2004) are partially rejected, because they further stated that consumers rely on utilitarian characteristics of a brand based on his/her perception of benefit-cost ratio (aka VE) to countermeasure any perceived threat. Last but not least, it was indicated that SIT ($\beta = -$ 0.22; $p = 0.002 < 0.05$) dampens the positive relationship between RE and RI (Figure 1). This means that RE is more successful as a loyalty strategy, as it results to higher RI, when customers with low SIT are concerned and vice versa. These findings are in line with Szymkowiak et $al.$ (2021), who proved that during the pandemic consumers tend to isolate themselves from any social contact to limit infection threat. Therefore, RE is not the best strategy to increase RI as it is for customers with low SIT. Consequently, hypothesis H_9 is accepted (Table 1).

	Structural paths	Standardized coefficient	t-value	Hypothesis support
H_1	OCXQ ---> BEQ	0.566***	10.539	Accepted
H_2	OCXQ ---> VE	0.611***	13.143	Accepted
H_3	OCXQ ---> RE	0.292***	5.892	Accepted
H_4	BEQ ---> RI	0.139**	2.382	Accepted
H_5	VE ---> RI	0.151***	3.343	Accepted
H_6	RE---> RI	0.523***	8.615	Accepted
H_7	SIT x BEQ ---> RI	0.247***	3.605	Accepted
H_8	SIT x VE ---> RI	-0.090	-1.628	Rejected
H_9	SIT x RE ---> RI	-0.223**	-3.072	Accepted
Notes: **p < 0.05; ***p < 0.001				

Table 1. Results of hypotheses testing

5. Implications

This research stressed that digital marketing practices should focus on customer experience quality, since it improves online CEDs, which in turn lead to favorable consumer behaviour. RE was proven to be the most important driver of RI, which indicates that digital retailers and providers need to implement CRM campaigns to improve customer relationship. Such initiatives include digital tools such as newsletters, personalized content, promotion, direct communication with Artificial Intelligence and other practices. Finally, SIT was examined as an important altering parameter to e-customer behavior, as an outcome of coronavirus pandemic. Users with high levels of perceived threat, value brand-related signals the most. On the other hand, customers with low levels of infection threat show more appreciation on the relationship with the seller. Thus, firms need to segment their users to better satisfy them via customization and personalization. The basic limitations of this research lay on the sample. Consequently, generalization of research results to other cultures and nations should be made with caution.

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