New insights into e-loyalty of internet banking users in an emerging market context: A multilevel analysis

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Abstract

Although internet banking is considered a mature technology, digital failures and breakdowns have resulted in widespread customer dissatisfaction. However, recent examples in developed countries show that customer dissatisfaction with internet banking platforms does not necessarily erode customer loyalty. While this could be due to the strong assurance provided by institutional structures that govern the internet usage, it is not known if similar results can be found in emerging markets where internet banking technology has still not reached its saturation stage and coexists with traditional brick and mortar banking services. Thus, this study aims to develop a better understanding of the e-satisfaction-e-loyalty link in the Indian internet banking context. The moderating effects of structural assurance at the individual level and market share at the firm level are analysed on the e-satisfaction – e-loyalty link applying a multilevel modeling framework. Data collected from customers along with archival data across 21 banks in India demonstrate that structural assurance significantly moderates the e-satisfaction-e-loyalty link at the consumer level and market share regulates the link at the bank level. Also, market share is found to moderate the relationships among e-satisfaction, structural assurance, and e-loyalty. Three-way interaction results suggest that the interaction effect between e-satisfaction and structural assurance is less pronounced when market share is high rather than low. This study advances our understanding of the conditional effects of e-satisfaction on e-loyalty and elucidates how different share banks may optimize customer loyalty in an emerging market context.

Keywords: e-satisfaction, e-loyalty, structural assurance, market share, internet banking

1. Introduction

World over, the uptake of internet banking has been increasing rapidly (Karimi, 2019; Mansingh et al. 2015). While this trend is gathering pace, there are also recurring instances of meltdowns in the internet services of banks. For example, The Guardian (2015) lists several instances of significant internet-based banking crises that affected millions of account holders in the UK. The latest one involving the TSB bank affected about 1.9 million accounts and lasted for more than eight weeks (Read, 2018). Despite such massive disruptions that have affected customers significantly, it is interesting to note that large banks have not witnessed any major erosion in their customer base. For instance, TSB, a bank with a significant market share in the UK retail market (about 4.2%), faced a net loss of only about 6000 customers after the crisis (Parsons, 2018). This is quite surprising considering the level of anger and anguish expressed by dissatisfied customers on the social media during this crisis (The Guardian, 2018). While satisfaction is suggested to be a proximal precursor to loyalty (Anderson and Srinivasan 2003; Chen et al. 2015), it seems that the link between satisfaction and loyalty is not straightforward, especially in the online banking context where assurances provided by institutional structures and market share of banks may significantly influence customer decision making (also see Gu, Lee and Suh 2009; Kim and Prabhakar 2004; Saini and Lynch, 2016).

Unlike traditional brick and mortar settings, the distance between the customer and the e-service provider in online settings implies that loyalty is created in an environment of uncertainty. Online financial transactions are characterised by anonymity, low transaction costs and difficulties in fraud detection that intensify the problem of 'information asymmetry' (i.e. customers do not possess full information required for judging the quality of an offering) as the products are essentially intangible and complex (López-Miguens and Vázquez 2017; Wells,

Valacich, and Hess 2011). Under such conditions of incomplete information, customers look for information cues to reduce uncertainty (Kirmani and Rao 2000; Liu et al. 2015) and simplify their decision making (Kardes et al. 2004). As 'institutional' mode of trust building is important online (see Zucker 1986), characteristic of the transaction environment such as structural assurance (SA) provides customers with vital cues (Kim, Xu and Koh 2004; Zhou, 2012), and may influence the way e-satisfaction translates into e-loyalty especially in markets characterized by information asymmetry (Erdem and Swait, 1998) such as e-banking. However, given the impact of firm market share as suggested by double jeopardy phenomenon (Ehrenberg et al. 1990), especially in the online context (Saini and Lynch 2016), it is quite plausible that the moderating influence of SA may not manifest equally across all organizations. Similarly, the effect of e-satisfaction on e-loyalty may also vary as a function of market share with some firms gaining more from strategic initiatives targeted at enhancing customer satisfaction than others. In this respect, a meta-analysis on e-loyalty has also called for more research to understand the effects of the characteristics of both the firm and transaction environment in the online context (Toufaily, Ricard and Perrien 2013).

Given the centrality of SA and market share in online environments, our study contributes to the online literature by theoretically identifying and empirically demonstrating the unexplored moderating influence of market share and SA to gain a better understanding of the mechanisms that may influence the translation of satisfaction into loyalty in the Indian e-banking context. Although a few studies have found customer and relational characteristics to moderate the link online (e.g. Anderson and Srinivasan, 2003; Castan˜eda, 2011), little is known about how the mechanisms of SA and market share influence crystallization of e-satisfaction into e-loyalty (see Tuu and Olsen 2016 for a review). To address these gaps, this study develops and tests a

multilevel framework (see figure 1) utilising multi-source data in twenty one banks in India and makes three significant contributions to the online literature.

First, by examining the moderating role of SA this study sheds light on a neglected but vital mechanism that may regulate how satisfaction translates into loyalty in the e-banking context where security concerns are paramount due to virtual nature of interactions and complexity of financial products (Agarwal Rastogi and Mehrotra, 2009; Gu et al., 2009; López-Miguens and Vázquez 2017). This also allows us to address calls for exploring the moderating role of institutional mechanisms in the online environment (Fang et al., 2014; Gefen and Pavlou, 2012; Malhotra, Sahadev and Purani, 2017).

Second, this study represents the first attempt to develop a comprehensive understanding of the multi-level effects of firm market share in the internet banking context as few firm-level moderators have been examined in the customer loyalty literature (Ou et al. 2017) and more research incorporating multi-level research designs is called for to enhance our understanding of interfirm variations (Jha et al. 2013). In this respect, we argue that the influence of both e-satisfaction and SA are likely to vary as a function of firm market share. Understanding such complex interactive processes may lead to a better knowledge of the interplay between market share and SA, and shed light on how context-specific nuances may influence e-loyalty. This may be particularly useful to examine as empirical evidence for the effectiveness of SA in the literature remains largely equivocal (Karimov and Bregnan 2014; Schlosser, White and Lloyd 2006); little is known about the conditions that regulate the effectiveness of SA.

Finally, we address calls in the literature for more research in the emerging market contexts (Kumar et al. 2015) as most studies on internet banking have predominantly focused on customers in developed countries (Nor and Pearson, 2007). For example, a meta-analysis carried

out by Hoehle, Scornavacca and Huff (2012) on electronic banking channels identifying 117 studies confirms this focus. Despite the rise of emerging markets as lucrative destinations for business expansion, research in this area is "largely anecdotal and conceptual" (Kumar et al. 2015; 627). Responding to such calls, we test the study framework in the Indian e-banking context because despite India being home to the largest online user base after China (Verma, 2015), internet banking has not picked up as expected and warrants more research attention (Malhotra and Singh, 2010). According to an Indian Brand Equity Foundation report (ibef.org, 2016), only about 44% of Indian bank customers used internet banking as compared to about 81% in the U.S.A in 2015 (www. staticsbrain.com). Since India's emerging market holds great commercial potential for banks (Agarwal et al. 2009), studying the specific dynamics may shed light on how e-loyalty could be manged in such contexts as extant knowledge in this domain continues to be sparse (Kesharwani and Bisht, 2012; Malhotra and Singh, 2010).

In the next section we present the conceptual framework that provides the basis of our study. Then we specify research hypotheses which are followed by a description of methodology and data. We then discuss empirical results and finally discuss managerial implications, limitations, and specify directions for future research.

2. Theoretical background and Research Hypotheses

2.1 Satisfaction and loyalty

Overall customer satisfaction is an affective attitude that signifies customers' feelings of pleasure or disappointment following a mental comparison of their perception and expectation levels of a product/service performance (Oliver, 1999). Loyalty includes both attitudinal and behavioral aspects (Homburg and Geiring 2001). In the e-commerce context, customer loyalty is defined as

''the customer's favourable attitude toward an electronic business resulting in repeat buying behavior'' (Anderson and Srinivasan 2003, p.125). A review of the online literature reveals that customers who are satisfied are more likely to conduct further online transactions, and thus are more likely to remain loyal to the e-service provider (Anderson and Srinivasan 2003; Chen et al. 2015; Malhotra, Sahadev and Purani 2017).

Customer satisfaction, which results from direct transaction experience with an online firm, is posited to exert a direct positive influence on customer loyalty because according to attitude-behavior consistency theory (Fazio and Zanna 1981), attitudes formed through direct transaction experiences exert a stronger effect on cognition formation and are more predictive of subsequent behavior than those formed from indirect experiences. Nonetheless, second-hand information gained by customers through indirect experiences, which may be obtained through a referrer (such as WOM) or a medium (such as magazine), is also crucial because customers are not perfect information processors (Monroe and Krishnan 1985), and heuristics can aid them in making their decisions (Bettman, 1979; Walsh et al. 2008). Thus, in order to simplify their decision-making processes, consumers tend to rely either consciously or unconsciously on information cues (Kardes et al. 2004), which reduce customers' information costs and perceived risk (Tuu et al. 2011), thereby increasing customer expected utility. Hence, customer loyalty may stem in part from satisfaction and in part from the additional expected utility associated with credible cues (see Erdem and Swait, 1998). Accordingly, in online markets that are characterised by information asymmetry and where many tangible signals indicative of high service used by traditional retailers are unobservable (Pan and Zinkhan 2006), variations in satisfaction alone may not necessarily influence loyalty as the interplay of satisfaction and information cues such as SA seem to better mimic the formation of e-loyalty, which is explained below.

2.2 SA as moderator of the e-satisfaction-e-loyalty relationship

SA is defined as the legal and technological safeguards perceived by individual customers (McKnight et al. 2002a). SA refers to the degree to which consumers believe that institutional structures and mechanisms "like guarantees, regulations, promises, legal recourse, or other procedures" (Mc Knight et al. 2002b, p. 339) exist to enhance the success of e-transactions. Such institutional structures provide internet security guards (Grabner-Kräuter 2010) that protect customers against loss of privacy, identity, or money (McKnight et al. 2002b). Examples include privacy protection, online credit card guarantees, escrow services (like PayPal), TRUSTe for privacy assurance, and seals of approval (Malhotra et al. 2017; Pavlou and Gefen 2005). These third parties are regarded as important institutional mechanisms that safeguard the e-commerce environment (Fang et al. 2014).

Online literature suggests that security and privacy are of serious concern to online customers (Pavlou and Gefen, 2005; Ozturk et al. 2017). Internet medium has a low degree of social presence due to lack of social cues (such as gestures and facial expressions), which reduces the intimacy and immediacy felt between parties (Kim et al. 2004). The low social presence increases risk and uncertainty thereby reducing the safety perception of a transaction in the online environment. Hence, in online environments, SA becomes vital for creating a safe and secure transaction environment, especially for financial transactions (Gu et al. 2009; Kim and Prabhakar 2004). The two-stage approach by McKnight, Kacmar and Choudhury (2004) and Kim and Tadisina (2003) also highlights the importance of SA during different stages of customer's web experience. It is suggested that assurance from the institutional structures enhance customer confidence and trusting beliefs not only in the online system but also in the specific Internet vendor (Kim et al. 2004; Fang et al. 2014). This is because assurance from

institutional structures serves as "the foundation and context" of any online transaction (p.397) and is fundamental to building trust between customers and sellers in online environments (Kim et al. 2004). As SA helps to reduce uncertainty whilst enhancing the safety perception of a transaction, it encourages customers to trust the vendor and influences their decision making (Fang et al. 2014).

Because SA captures each customer's perceived vulnerability and situational uncertainty in the online marketplace, it is suggested that "each buyer's own perception of how effective the marketplace's institutional structures are that shapes her assessment of vulnerability and determines her transaction decision making" (Gefen and Pavlou, 2012; p.2). Consequently, Gefen and Pavlou (2012) argue that perceived effectiveness of institutional structures moderates the effect of trust and risk on buyer's transaction activity. Another study (Fang et al. 2014) posits perceived effectiveness of institutional mechanisms (a construct similar to SA) as a key moderator to the relationships between trust, satisfaction, and repurchase intention, and finds that perceived effectiveness of institutional mechanisms significantly moderates the relationship between satisfaction and trust, and trust and repurchase intention.

Accordingly, we posit that SA is likely to play a critical role in determining how e-satisfaction translates into e-loyalty because in online environments satisfaction may not be a sufficient precondition for loyalty (Jones and Sasser 1995; Oliver 1999), which hinges on the successful resolution of uncertainties (Chandrashekaran et al. 2007). Hence, while online customers mainly rely on their direct experience (e.g. satisfaction) to inform their decisions, it is argued that the level of reliance depends on the certainty of the context (Fang et al. 2014). Prior literature also suggests that customers with high certainty often confirm higher attitude-buying behavior relationships than those with low-certainty (Olsen 1999). To this effect, satisfaction is

believed to greatly influence loyalty of consumers when confidence (Wu and Chang 2007) and certainty feelings (Chandrashekaran et al. 2007) are higher. Since SA reduces customer perceived vulnerability and enhances certainty and stability of the transaction environment, when SA is high, customers tend to rely more on their direct experience with the vendor i.e. e-satisfaction to inform their decision making instead of worrying about the trustworthiness of online transactions (also see Fang et al. 2014), which implies a stronger influence of e-satisfaction on e-loyalty. Conversely, when SA is inadequate/low, consumers may perceive high levels of uncertainty and risk in the transaction environment (Gefen and Pavlou 2012). Under such circumstances, online customers tend to be mindful as they are worried about the security of the transaction environment. As such, they are likely to look for more new information to determine trustworthiness of the transaction environment in order to inform their decision making rather than relying on their direct experience with the vendor i.e. satisfaction (Fang et al. 2014). This is because without effective institutional trust, it will be difficult for customers to be loyal to an online firm even though they are generally satisfied with it (also see Anderson and Srinivasan 2003). Especially in the e-banking context that is considered to be a highly risky context (López-Miguens and Vázquez 2017), customers cannot simply rely on prior satisfying performance evaluations when SA is inadequate (also see Paulssen, Roulet and Wilke 2014). Consequently under such circumstances, the influence of e-satisfaction on e-loyalty is likely to be diluted. Hence, we propose:

H1: SA moderates the relationship between e-satisfaction and e-loyalty such that the relationship is stronger when SA is high rather than low.

2.3. Moderating effects of Market Share

From our previous discussion on e-loyalty, we assume that e-satisfaction is likely to influence e-loyalty. However, we argue that the effect of e-satisfaction on e-loyalty may not manifest equally in all organisations and that some may gain more from satisfaction enhancing initiatives than others. Such "asymmetric performances across firms are an important market phenomenon" (p.98) that can be at least partially attributed to the different market positions of firms such as their market share (Liu and Yang 2009). Market share is a key indicator of market structure and of a firm's market power (Liu and Yang 2009), which influences customer evaluations of the firm and subsequently their choices (also see Ou et al. 2017).

Customer loyalty literature discusses the relationship between market share and loyalty. Specifically, double jeopardy theory (e.g., Ehrenberg et al. 1990) suggests moderation effects of market share (also see Ou et al. 2017). In particular, prior research empirically demonstrates that high share firms have more buyers who are also more loyal as compared to low share firms - known as the double jeopardy phenomenon. High share brands enjoy more advantages than low share brands primarily due to two key resources: customer assets resources and product resources (Liu and Yang 2009). For instance, in the financial services sector, high market share banks can offer a wide range of financial products and services to its customers. In this context, it is argued that product variety offered on a financial service firm's website may attract more customer attention by enabling multitasking within the site domain without the need to switch to other sites (Ding et al. 2010). High-share firms may also provide customers with greater accessibility such as extensive ATM facilities and widespread compatibility as regards online systems and software processes (Hellofs and Jacobson 1999). Larger firms are more likely to adopt new technologies (Hannan and McDowell 1984), especially in online environments, where it is noted that only the largest firms are willing and/or able to commit vast amount of resources for the development and

implementation of effective web sites with interactive capabilities (Ellinger et al. 2003). Staying at the forefront of technology also enables high share firms to offer better website functionality that provides customers with more perceived control (Novak, Hoffman and Yung, 2000) and convenience benefits, which may especially appeal to the customers of online financial services (Ding, Verma and Iqbal, 2007). Better website functionality and successful e-transactions of high share firms create widespread use of its e-services, thereby enhancing firm's popularity. As such, high share firms also benefit from customer assets resources such as a larger customer base, higher purchase frequency, higher repeat purchases and high publicity. The effect of market share is thus likely to be complemented by positive network externalities created by widespread use or popularity of the high share brand (Hellofs and Jacobson, 1999). Consequently, resources of high share firms are likely to enhance the appeal of the firm to its customers (Liu and Yang 2009) as it may provide assurances to the customers about the firm's ability, integrity and goodwill (Jarvenpaa, Tractinsky and Saarinen 1999) and strengthen their beliefs about the firm's capacity to deliver on its service promises (Yap et al. 2010).

Thus, double jeopardy phenomenon suggests that customer loyalty is likely to be more stable in high share firms. In this respect, prior research demonstrates that the impact of high market share brands is greater online than offline (Degeratu, Rangaswamy and Wu, 2000). Comparing offline and online customers across 165 product categories, Danaher, Wilson, and Davis (2003) conclude that in online environments "brand loyalty for high market share brands exceeds that of a traditional shopping environment, with the reverse effect for low share brands" (p. 474). This implies that for high share firms, the ability of e-satisfaction to influence customers' e-loyalty intentions is not particularly high because their online customers already have strong loyalty intentions and therefore are less likely to translate perceived e-satisfaction

into loyalty intentions. This also implies that any decline in e-satisfaction may not be as deleterious for e-loyalty in high share firms; market share may produce an overpowering halo effect providing insulation from short-term shocks or occasional decrements in satisfaction. Online customers of high share firms may remain loyal even if they are not fully satisfied. Consequently, high share firms experience a weakened effect of e-satisfaction on e-loyalty.

On the other hand, providing superior customer satisfaction is noted to be critical for the success and survival of small share firms (Anderson et al. 1994) as customers of small firms have less confidence in the firm and thus may be less forgiving (also see Chandrashekaran et al. 2007; Ehrenberg et al. 1990). This is because "when brand information is lacking there is no identifiable target for the imposition of marketplace penalties" (Price and Dawar 2002; p.186). In this respect, Saini and Lynch (2016) suggest that brand unfamiliarity is a greater disadvantage online than offline. Moreover, as small firms are bereft of any benefits of positive network externalities created by widespread use or popularity of a brand (Hellofs and Jacobson, 1999), online customers of small share firms are likely to have limited knowledge about the firm, which reduces their information accessibility (Hoeffler and Keller 2003). As a result, they tend to rely more on their direct experience (i.e. e-satisfaction) and less on other information for decision making, which implies that e-satisfaction becomes much more important for enhancing e-loyalty in low share firms than in high share firms. Consequently, it seems plausible to assume that the effect of e-satisfaction on e-loyalty is strengthened for low share firms. Hence, we hypothesize:

H2: Market share moderates the relationship between e-satisfaction and e-loyalty such that the relationship between e-satisfaction and e-loyalty is stronger when the market share of a firm is low rather than high

Given the double jeopardy phenomenon (Ehrenberg et al. 1990) as discussed above, we posit that market share may also influence the moderating role of SA. The basic argument underlying the moderating role of SA is that when SA is high, online customers are likely to rely more on their direct experience with the vendor (i.e. satisfaction) for decision making rather than worrying about the security of the transaction environment, which makes the link between e-satisfaction and e-loyalty stronger. However, firms with different market shares may differ in the extent to which SA is utilised by their online customers to influence their response. Accordingly, we argue that the strength of the moderating effect of SA on the e-satisfaction-e-loyalty link is likely to vary as a function of firm market share.

Since large firms stand more to lose if they were to engage in untrustworthy behavior (Yap et al. 2010), purchases from high share firms are considered less risky than purchases from smaller firms (e.g., Chandy and Tellis 2000) as higher market share is an evidence of the firm's previous success of effectively delivering on its service promises. As high share firms generally enjoy stronger reputation (Ali et al. 2015), it is argued that such firms are less likely to need externally provided e-assurances to influence customers' decision-making behavior (Karimov and Bregnan 2014). Especially in e-banking environments, bank size is found to be significantly related with bank's e-transparency, financial performance, and internet visibility (Serrano-Cinca et al. 2007), which signals firm's trustworthiness and enhances customers' confidence in a firm's competence and ability to deliver service benefits (Liu et al. 2015). Hence, online customers of high share firms are less likely to be concerned about the security and certainty of the transaction environment, which implies that SA becomes a less salient concern among these customers. Consequently, the strengthening effect of SA on the relationship between e-satisfaction and e-loyalty will be less pronounced. In contrast, online customers of low share firms remain highly

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concerned about the security of the transaction environment, and continue to rely on assurances from institutional structures for decision making. As SA is a more salient concern for customers of low share firms, the role of SA intensifies thereby strengthening the moderating effect of SA in the relationship between e-satisfaction and e-loyalty. Thus, the positive joint impact of e-satisfaction and SA on e-loyalty becomes more pronounced. In other words, the moderating effect of SA on the relationship between e-satisfaction and e-loyalty is strengthened for low share firms. This rationale leads to the following hypothesis:

H3: There is a three-way interaction effect of e-satisfaction, SA, and market share on e-loyalty, such that the interaction effect of e-satisfaction and SA on e-loyalty is stronger when market share is low rather than high.

3. Control Variables

Although we focus on investigating the moderating influence of SA and firm market share to understand the satisfaction-loyalty link better in the e-banking environment, previous research suggests that several other variables such as ease of use, trust, perceived usefulness, switching cost, usage and web risk may also influence customer loyalty decisions in online environments (Blut et al. 2015; Davis 1989; López-Miguens and Vázquez 2017; Mc Knight, Choudhary and Kacmar 2002a; Ozturk et al. 2017; Toufaily et al. 2013). Hence, for more rigorous tests of our hypotheses, we control for all such key variables in our analysis.

4. Methodology

4.1. Data collection

A large scale empirical study was conducted in India among users of e-banking services. Participants were drawn from a series of programs run in an elite management institute in South India. The management institute is a highly reputed training facility and attracts trainees from all over India, from all walks of life. The data collection exercise covered a time period of one year in order to seek a representative sample of customers using e-banking services of different banks in India. No significant changes occurred in the Indian banking sector during this period. The respondents were supplied with a paper and pencil version of the questionnaire. In the questionnaire, the respondents were asked to reveal the bank whose internet banking services they used. This resulted in a total of 1014 usable questionnaires. The respondents banked with 21 different online banking service providers. Of the sample, 81% were males and the remaining were females. 61% were in the age group of 20 to 30 years, 28% were in the age group of 31 to 40 years and the remaining 11% were in the 41 to 50 years age group. Data were collected from customers for all variables except market share. For market share, we utilise archival data to obtain an objective measure of firm market share as customer perceptions may not be perfect (Jarvenpaa, Tractinsky and Saarinen 1999).

4.2. Measurement scales

4.2.1 Measurement of focal variables

The constructs used in the study were measured using five point Likert scales adopted from previous studies. Satisfaction was measured using three items from the scale developed by Jin Park and Kim (2008). Customer loyalty was measured using three items based on the scale used by Homburg and Giering (2001). SA was measured using four items developed by McKnight et al. (2002b).

The market share explanatory variable was measured using an objective measure based on deposit market share data for the 21 banks given by the Indian Banker's association (www.iba.org.in) for the year in which data was collected. Deposit Market Share is the monetary value of total deposits a bank has within a defined geographic market – in this case India. As the Indian retail banking sector comprises a large variety of banks of different types and sizes, it was difficult to derive the overall market size with a reasonable level of accuracy, which is essential to calculate the bank market share. Hence, we followed a method similar to the one adopted by Hellofs and Jacobson (1999), whereby the market share was calculated using the market shares of the firms that were included in the study. In this study, the market share was calculated as a normalised index for each bank through data transformation as shown below:

$$BS_i = [DS_i - DS_{small}] \, / \, [DS_{big} - DS_{small}]$$

where BS_i is the market share index for bank i and DS_i is the Deposit market share for bank i; DS_{small} is the deposit market share for the smallest bank in the group and DS_{big} is the deposit market share for the biggest bank in the group. Hence, the values range between 1 – for the biggest bank in the group and 0 – for the smallest bank in the group. Normalisation of the data helps to reduce problems created by the difference in the range of values of the different variables included in the model. The values of DS_i, DS_{small} and DS_{big} were all sourced from the IBA website.

4.2.2 Measurement of control variables

Perceived ease of use and perceived usefulness were measured using items developed by Venkatesh and Davis (1996). Perceived ease of use was measured using three items and perceived usefulness was measured using four items. Perceived web-risk was measured using four items adopted from McKnight Chaudhary and Kacmar (2002b). Trust was measured using

five items adopted from Harris and Goode (2004) and switching cost was measured using three items based on the items used by Sharma and Patterson (2000). Usage of the web was measured using a single item asking the extent to which the respondent used the e-banking service on a five-point scale anchored between 'rarely' to 'always'.

4.3. Measurement model validation

To assess the reliability and validity of the constructs, a confirmatory factor analysis was carried out using AMOS. All the eight constructs viz. satisfaction, loyalty, structural assurance, trust, switching cost, web-risk, ease of use and usefulness were entered in the analysis. The model fit measures are within the acceptable range. (Chi-square /d.f = 2.5; CFI = 0.955; TLI = 0.944; RMSEA = 0.038). All the items load significantly on their respective latent constructs, with almost all of the standardized loading values are above 0.5 (except in the case of one item with usefulness), thus attesting to convergent validity. All the AVE values except for that of trust are above 0.5. In the case of trust all the standardized loadings are above 0.5. Hence, we can conclude that the measurement model has adequate levels of convergent validity. To test the discriminant validity, we used the Fornell and Larcker (1981) method where the inter-construct correlations were compared against the square-root of the AVEs. Table 1 provides details of all the items used in the study and the standardized loadings while Table 2 provides the inter-construct correlations, AVE's, Cronbach's alphas and the means and standard deviation of all the constructs.

Insert Table 1 and Table 2 here

Hypotheses are tested through a multilevel modelling framework where the variables that refer to the individual customer form the first level (*i*) and the 21 banks to which the individual respondents were attached constitute the second level (*j*). We use a restricted maximum

likelihood method for estimation of the models. The multilevel model (A) is represented by the following equation:

$\text{Loyalty}_{ij} = \beta_{0j} + \beta_1 \text{Satisfaction}_{ij} + \beta_2 \text{Structural Assurance}_{ij} + \beta_3 \text{Market Share}_j + \beta_4$

$\text{Structural Assurance}_{ij} * \text{Satisfaction}_{ij} + \beta_5 \text{Market Share}_j * \text{Satisfaction}_{ij} + \beta_6$

$\text{Market Share}_j * \text{Structural Assurance}_{ij} + \beta_7 \text{Market Share}_j * \text{Structural}$

$\text{Assurance}_{ij} * \text{Satisfaction}_{ij} + \beta_8 \text{Ease of Use}_{ij} + \beta_9 \text{Usefulness}_{ij} + \beta_{10} \text{Usage}_{ij} +$

$\beta_{11} \text{Webrisk}_{ij} + \beta_{12} \text{Trust}_{ij} + \beta_{13} \text{Switching Cost}_{ij} + e_{ij}$

$\beta_{0j} = \beta_0 + u_{0j}$

$u_{0j} \sim N(0, \sigma^2_{u0})$

$e_{ij} \sim N(0, \sigma^2_e)$

Where β_{0j} represent the variation in intercepts between banks, which is expressed as a combination of fixed effects -- β_0 and a random effect component – u_{0j} pertaining to each bank. The random terms u_{0j} and e_{ij} are assumed to be normally distributed with zero mean and constant variances σ^2_{u0} and σ^2_e respectively.

5. Results

Based on the recommendations of Heck, Thomas and Tabata (2013), we first tested a null model without any predictors. This model allows us to explore the effects of partitioning the variance in the outcomes into within—and between – groups components. From the null model, the interclass coefficient can be calculated, which basically indicates the proportion of the variance in the outcome that can be ascribed to the between group effects. The interclass correlation was found to be 0.40, i.e. 40% of the variation in the outcome could thus be ascribed

to the between-group variations. This justifies the use of multi-level modeling in exploring the variations in the outcome variables.

Results from the multilevel analysis are provided in Table 3 (Model A). As per standard procedure, the variables were grand mean centered before they were entered in the analysis. Individual level variables, the bank level variable (market share) and the cross products were all entered into the equation simultaneously. As can be seen from the results in Table 3, satisfaction consistently has a positive impact on loyalty ($\beta_1 = 0.178$, $p < 0.01$). The direct partial relationship between SA and loyalty is however not significant ($\beta_2 = -0.024$, $p > 0.05$). Both interaction terms are found to be significant. In order to find out the actual direction of the interaction effect, we constructed graphs based on the procedure developed by Preacher, Curran and Bauer (2006). In this procedure, three regression lines are plotted for the mean, +1SD and -1SD values respectively of the moderator variable. Thus in Fig.2, satisfaction-loyalty regression lines are plotted for the mean,+1SD and -1SD values of structural assurance, while for Fig.3, the regression lines are plotted for the mean, +1SD and -1SD values of market share.

The interaction between satisfaction and SA has a positive coefficient ($\beta_4 = 0.062$, $p < 0.01$), thus supporting H1. Fig. 2 demonstrates that the relative strength of the impact of satisfaction on loyalty is greater for customers with high levels of SA than for low levels of SA. The interaction between satisfaction and market share has a negative coefficient ($\beta_5 = -0.130$, $p < 0.05$). Interpreting Fig. 3, it is evident that the slope of the regression line for low market share banks is much steeper than high share banks. While high share banks have high initial loyalty values, the plot indicates that an increase in satisfaction produces more impact on loyalty for small share banks. Thus, H2 is accepted as the strength of the impact of satisfaction on loyalty is higher in the case of small share banks.

Insert Fig. 2 and Fig. 3 here

The three-way interaction between satisfaction, market share and structural assurance is found to be significant and has a negative coefficient ($\beta_7 = -0.138$, $p < 0.05$), which implies that H3 is also supported. To understand the nature of the three-way interaction effect between market share, SA and satisfaction on loyalty, we plotted the three-way interaction graph (see fig. 4) and conducted the slope difference test using the method suggested by Dawson and Richter (2006). According to Dawson and Richter (2006), the four lines in the three way interaction plot (fig. 4) show the estimated relationship between the dependent variable and the predictor variable across four different conditions: (i) SA (moderator 1) high, market share (moderator 2) high (ii) SA high, market share low (iii) SA low, market share high and (iv) SA low, market share low. Thus, the four slopes that show the relationship between independent and dependent variables are derived for each of the four conditions. According to Dawson and Richter (2006), the difference between any two slopes represent a relationship between the independent and dependent variables for a change in the conditions of either of the moderator1 or moderator 2 variable. Therefore the ratio (slope/standard error[slope]) has a t distribution with (n- k -1) degrees of freedom, where n is the sample size and k is the total number of predictors in the regression equation (including all the interaction terms), under the assumption that the slopes are equal.

Results of the slope difference tests (see Table 4) show that there is a significant difference between the slope of the high SA – low market share regression line (line 2) and the slope of each of the regression lines for all the other three conditions; its slope is also significantly steeper (more positive) than any of the other three slopes. Moreover, none of the slopes of the regression lines for the other three conditions are significantly different from each

other. Thus, results from the slope difference analysis and plot of the three-way interaction effectively support H3.

To validate our main results, we also estimated a model B which included only the control variables. The outcomes in Table 3 indicate that the results of model A are robust as the variables ease of use, usefulness and usage are found to have a significant positive effect on loyalty like in Model B. The -2log likelihood ratio of model B (1482.75) is seen to be much higher than the -2Log likelihood value of model A (1417.97), which goes to show that model A with the predictor variables is a better predictor of loyalty. The differences in the BIC and AIC values also support this. We also compare the level of fit of model A and model B using the likelihood ratio test and the Chi-square value is found to be significant at $p < 0.01$ level. Thus, there is significant improvement in model A's fit to the data compared to model B.

Insert Table 4 here

Insert Fig. 4 here

6. Discussion and Implications

Addressing recent calls in the literature (Chen, 2012; Kumar et al. 2013), this study attempts to provide a deeper understanding of the unexplored processes that influence the crystallization of satisfaction into loyalty in the Indian e-banking context. Our findings reinforce and extend earlier work that supports the role of e-satisfaction in positively influencing e-loyalty (e.g. Chen et al. 2015; Kumar et al. 2013; López-Miguens and Vázquez 2017) by uncovering unique moderating mechanisms that have the potential to regulate this link online. In particular, this study demonstrates that both individual concerns about the transaction environment (SA) as well as the characteristics of the bank (market share) may influence how e-loyalty is formed.

Our study extends and contributes to the literature on understanding the complex role of institutional structures in online markets (e.g. Fang et al. 2014; Gefen and Pavlou, 2012; Malhotra et al. 2017) by demonstrating that SA significantly bolsters the positive effect of e-satisfaction on e-loyalty. This is an important finding especially in the e-banking context, which is noted to be an information-intensive industry (Ding et al. 2010) and where due to information asymmetry, information cues about security of the transaction environment may have the potential to inform customers' decision making (also see Wells et al. 2011). Since online transactions are considered much riskier than traditional brick and mortar transactions (Laroche et al. 2005), high SA perceptions help to alleviate customer risk perceptions about behavioral and environmental uncertainties, especially, in developing country contexts, which suffer from low rates of internet banking adoption primarily due to reasons such as security vulnerability (Kesharwani and Bisht 2012). In line with previous research that does not advocate a direct link between SA and loyalty but has argued for its moderating role (e.g., Fang et al. 2014; Malhotra et al. 2017), our findings suggest that while SA does not influence e-loyalty directly, yet satisfied customers are more likely to stay loyal if they perceive SA to be high (see Table 3 and Fig. 2). SA is critical for customer retention as SA provides the 'safety nets' that help customers to gain control over their online transactions, and build confidence in e-banking. Hence, our findings emphasize the need to take into account institutional mechanisms to better comprehend the formation of e-loyalty.

Although market share has long been acknowledged as an important cue (e.g. Caminal and Vives 1996), our study is perhaps the first to identify market share as a firm-level mechanism for understanding context-specific nuances that underlie the formation of e-loyalty in online environments. Our findings extend and support the double jeopardy phenomenon (Ehrenberg et

al. 1990) in the e-banking context by demonstrating that the effect of e-satisfaction on e-loyalty is much stronger when market share is low rather than high. Online customers of small share banks focus mainly on their direct experience with the bank i.e. e-satisfaction, for decisions pertaining to loyalty. This implies that lower market share banks must 'travel the extra mile' to ensure that their online customers remain satisfied. For instance, Fig.3 demonstrates that as e-satisfaction levels deteriorate, e-loyalty is found to erode at a much faster rate in low share banks as compared to their high share counterparts, which tend to be insulated by their market share resources. Thus, market share clearly provides banks with a source of competitive advantage when it comes to online customer loyalty as e-loyalty seems to be more stable in high share banks. However, this also implies that high share banks are more likely to encounter ceiling effect with respect to improvements in e-satisfaction, as such initiatives are more likely to help low share banks. As shown in Fig.3, when e-satisfaction levels are extremely high, e-loyalty in small share banks is on a par with the high share banks.

While prior online literature largely understands the effects of SA in isolation, little is known about the contextual conditions that may influence the effectiveness of SA. The present study contributes to the online literature by enhancing our understanding of the joint effects of market share and SA as our results show that market share has the potential to regulate the moderating role of SA online. As hypothesized, the interaction effect of SA and e-satisfaction is found to be stronger when market share is low rather than high. Fig. 4 demonstrates that customer satisfaction is most strongly positively related to loyalty when SA is high and market share is low (line 2). This implies that online customers of low share banks heavily rely on cues provided by SA. Understandably, in financial services sector customers tend to be extra cautious and risk averse (Ding et al. 2010), especially in the emerging market contexts such as India

(Kesharwani and Bisht 2012). As such, it may be extremely beneficial for low share banks to enhance perceptions of SA of their online customers as perceptions of a safer transaction environment greatly helps in attaining e-loyalty of their satisfied customers. Conversely, when market share is high (line 1), the strength of the interaction effect of e-satisfaction by SA on e-loyalty weakens. This is because customers of high share banks may experience less anxiety and concerns about using online services than those of small share banks (also see Wolfinbarger and Gilly 2003), which eclipses the regulating effect of SA. Hence, our findings underscore the relevance and importance of market share in the online context.

From a managerial perspective, our study suggests that understanding the regulating roles of market share and SA is imperative for banks operating in online banking environments of emerging markets. In this respect, our study finds high market share to provide online banks with an underlying differential advantage as our findings suggest that online customers of high share banks tend to be more loyal and less sensitive to variations in e-satisfaction. However, this also implies that such banks are more likely to encounter ceiling effect with respect to investments in improving e-satisfaction. Hence, it may be more rewarding for such banks to channel their investments into strengthening their marketing communications programs to persistently remind their online customers of their impressive market share as long as satisfaction is not compromised. As effectiveness of cues can be enhanced by increasing frequency (Connelly et al. 2011), high share banks may want to regularly celebrate market share related milestones in online interfaces using messages like "we now have ten million customers" or "we are now the bank with highest number of deposits" or "you are part of one of the largest bank networks". On the other hand, it is in the best interests of small share banks to keep their online customers highly satisfied as our findings demonstrate that e-loyalty is greatly influenced by e-satisfaction

when market share is low. To this effect, such banks need to look for innovative ways to delight their customers so as to influence their e-loyalty. For instance, such banks could utilize their small size to their advantage by providing 'niche' products and services that are specifically targeted to suit their customers' needs as it may be relatively easier for small share banks to offer special treatment to their online customers. Small share banks may also want to incorporate performance or consumption documentation in their advertising practices (see Mittal 1999), and utilise high rates of customer satisfaction as a viable signaling strategy.

Our findings suggest that SA also plays a crucial role in e-banking, especially in the context of developing countries such as India, where customers constantly grapple with challenges of information asymmetry coupled with cybercrime (Agarwal et al. 2009) as high SA significantly bolsters the effect of e-satisfaction on e-loyalty in such environments. In this respect, our study offers e-banking providers with a deeper understanding of the contextual condition under which the mechanism of SA is likely to be most effective. Our three-way interaction results demonstrate that SA interrelates with market share such that the positive influence of e-satisfaction on e-loyalty is the strongest when SA is high and market share is low. In particular, our findings suggest that small share banks may greatly benefit by strengthening their customers' perceptions of institutional structures that ensure security and integrity of e-banking processes. For instance, seals of approval from the relevant financial regulating authorities or endorsements from third parties such as Verisign or TrustE may be displayed on banking websites to enhance consumer's trust in internet banking. Banking escrow services and credit card guarantees, such as those provided by VISA or MasterCard, may greatly help as they create a legally-supported third party structure that safeguards e-transactions. Investments in feedback technologies that allow e-banking customers to share their experiences may also

provide banks with another way of enhancing customer perceptions of SA. Overall, our findings suggest that low share banks can significantly gain from satisfaction and SA initiatives, which can help such banks to effectively optimize customer loyalty in the e-banking context of emerging markets.

7. Limitations and Future research

Despite its contributions, this study is not devoid of limitations. Although we utilised archival data along with data from customers to reduce common method bias, the results may still have limited external validity. Future studies may utilise longitudinal research designs to improve the generalizability of the results. Moreover, the study was conducted among e-banking customers in India. While it is noted that customers in collectivist cultures such as India are less likely to switch or complain as compared to customers in higher individualism or lower uncertainty-avoidance cultures (Jin, Park and Kim 2008), we suggest to replicate this study in different countries to explore if cultural differences influence the nature and strength of the relationships examined. For instance, while this study finds SA and bank market share to regulate how e-satisfaction translates into e-loyalty, these moderating effects need to be tested further in the context of developed countries where institutional structures are more robust and better implemented, customers are more techno-literate, and even small banks have up-to-date technology and web resources. Future research may also investigate the nature and influence of other sources of information that may add to customer's knowledge about the firm such as brand image, marketing communications, and perceived intrusiveness in the relationship activities.

8. Conclusion

This study empirically demonstrates that structural assurance (SA) at the individual level and market share at the firm level regulate the e-satisfaction – e-loyalty link in the Indian e-banking context. In particular, while SA is found to bolster the effect of e-satisfaction on e-loyalty, the relationship between e-satisfaction and e-loyalty is found to be stronger when market share of a bank is low rather than high. Our results suggest that market share provides banks with a source of competitive advantage as e-loyalty of high share bank customers seems to be more stable and less sensitive to variations in e-satisfaction as compared to low share bank customers. Moreover, our three-way interaction results show that market share regulates the moderating effect of SA on the e-satisfaction-e-loyalty link, which is found to be stronger when market share is low rather than high. In other words, the bolstering effect of SA is more pronounced in small share banks implying that small share banks may greatly benefit by strengthening their customers' perceptions of SA to enhance e-loyalty of their satisfied customers. Overall, this study advances our understanding of the e-satisfaction-e-loyalty link, and elucidates how different share banks may optimize online customer loyalty in an emerging market context.

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Table 1. Scale items

Scale items	Standardized loadings
Satisfaction	
Overall, I am satisfied with the service offered by the bank website	0.767
The service offered through the bank website exceeds my expectations	0.787
The service offered through the bank website is close to the ideal level of service that can be offered through a site like this	0.709
Loyalty	
The probability that I will use the bank website offered by the firm more often is very high	0.778
The likelihood that I will recommend this bank website to a friend is very high	0.883
If I had to do it all over again, I will still choose this bank website	0.723
Structural Assurance	
The internet has enough safeguards to make me feel comfortable using it to transact personal business	0.804
I feel assured that legal and technological structures adequately protect me from problems on the Internet	0.769
I feel confident that encryption and other technological advances on the internet make it safer for me to do business here	0.725
In general the internet is now a robust and safe environment in which to transact business	0.716
Ease of Use	
My interaction with this bank website is clear and understandable	0.798
It is easy for me to become skilful at using this bank website	0.744
I find this bank website user friendly	0.543
Usefulness	
Using this bank website enables me to accomplish tasks more quickly	0.834
Using this bank website improves the performance of my tasks	0.888
Using this bank website saves me money	0.472
Using this bank website improves my task productivity	0.647
Trust	
I feel I know what to expect from this bank website	0.608
There is no limit to the extent that this bank website will go towards solving any service problem that I may have	0.589
This bank website is genuinely committed to my satisfaction	0.728
When this bank website makes a claim or promise about its service, it is probably true	0.725
In my experience this bank Fwebsite is very reliable	0.683
Switching Cost	
If I have to switch to another bank (website), I will have to spend a large amount of time to set up my service needs	0.570
If I have to switch to another bank (website), I will have to spend a large amount of time to understand how to use the new web-site	0.919
If I switch to another bank (website), I will need to spend a large amount of time to understand the new website	0.858
Web-Risk	
Entering credit card information over the web is unsafe	0.711
I hesitate to enter my credit card information on the web	0.886
Entering personal information over the web is unsafe	0.492
I hesitate to enter my personal information on the web	0.795

Table 2. Measurement model diagnostics

	1	2	3	4	5	6	7	8	AVE	Cronbach's alpha	C R	Mean	S. D
Satisfaction	**0.76***								0.57	0.79	0.80	3.53	0.63
Loyalty	0.64	**0.80**							0.64	0.83	0.84	3.74	0.71
Structural Assurance	0.35	.19	**0.75**						0.57	0.84	0.84	3.28	0.78
Ease of Use	0.39	0.48	0.151	**0.70**					0.50	0.72	0.74	3.38	0.53
Usefulness	0.54	.60	0.15	0.45	**0.73**				0.53	0.79	0.81	3.85	0.63
Trust	0.60	0.45	0.33	0.46	-0.04	**0.67**			0.45	0.80	0.80	3.56	0.56
Switching Cost	-0.06	-0.05	-0.06	-0.25	-0.04	-0.04	**0.80**		0.64	0.81	0.83	3.00	0.91
Web-risk	-0.17	-0.12	-0.36	-0.15	-0.11	-0.19	0.16	**0.74**	0.54	0.76	0.82	3.39	0.85

*the diagonal elements are square root of the AVE; the off-diagonal elements are the inter-construct correlations

AVE: Average Variance Extracted; CR: Construct Reliability; S.D: Standard Deviation

Table 3. Effects on e-loyalty: Results from Multilevel modeling

Parameter	Model A	Model B
Intercept	3.592 (0.108)**	3.728 (0.089)**
Satisfaction	0.178 (0.024)**	
Structural Assurance	-0.024 (0.022)	
Market Share	0.717 (0.399)*	
Structural Assurance * Satisfaction	0.062(0.019)**	
Market Share * Satisfaction	-0.130(0.079)*	
Structural Assurance* Market Share	-0.035(0.071)	
Structural Assurance*Market Share*Satisfaction	-0.138(0.076)*	
Ease of use	0.133 (0.036)**	0.151 (0.037)**
Usefulness	0.170 (0.029)**	0.227 (0.029)**
Usage	0.070 (0.016)**	0.082 (0.016)**
Web-risk	-0.007 (0.019)	-0.004 (0.019)
Trust	0.039 (0.033)	0.112 (0.032)**
Switching cost	-0.013 (0.180)	-0.013 (0.018)
Random Component		
Intercept	0.226 (0.010)**	0.243 (0.011)**
Bank level	0.145 (0.049)**	0.161 (0.053)**
-2 Restricted Log Likelihood	1417.970	1482.754
Schwarz's Bayesian Criterion (BIC)	1431.379	1496.497
Akaike's Information Criterion (AIC)	1421.970	1486.754

** p < 0.01; *p<0.05 (one tailed tests)

Table 4. Results from slope difference analysis for three-way interaction

Pair of slopes	T-value for slope difference	p-value for slope difference
(1) and (2)	-2.249	0.025*
(1) and (3)	-1.194	0.233
(1) and (4)	-0.857	0.392
(2) and (3)	2.327	0.020*
(2) and (4)	2.177	0.030*
(3) and (4)	0.079	0.937

*significant at p < 0.05
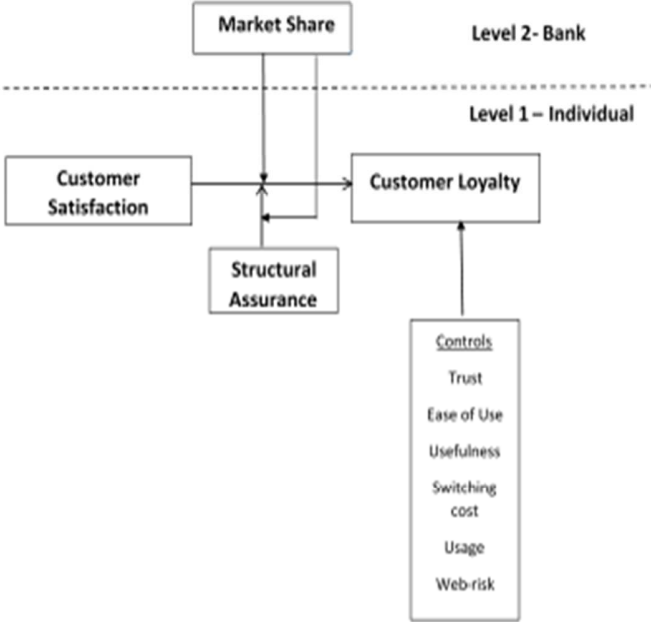
Figure 1. Conceptual framework of the study

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Figure 2. Interaction effect of e-satisfaction and structural assurance on e-loyalty
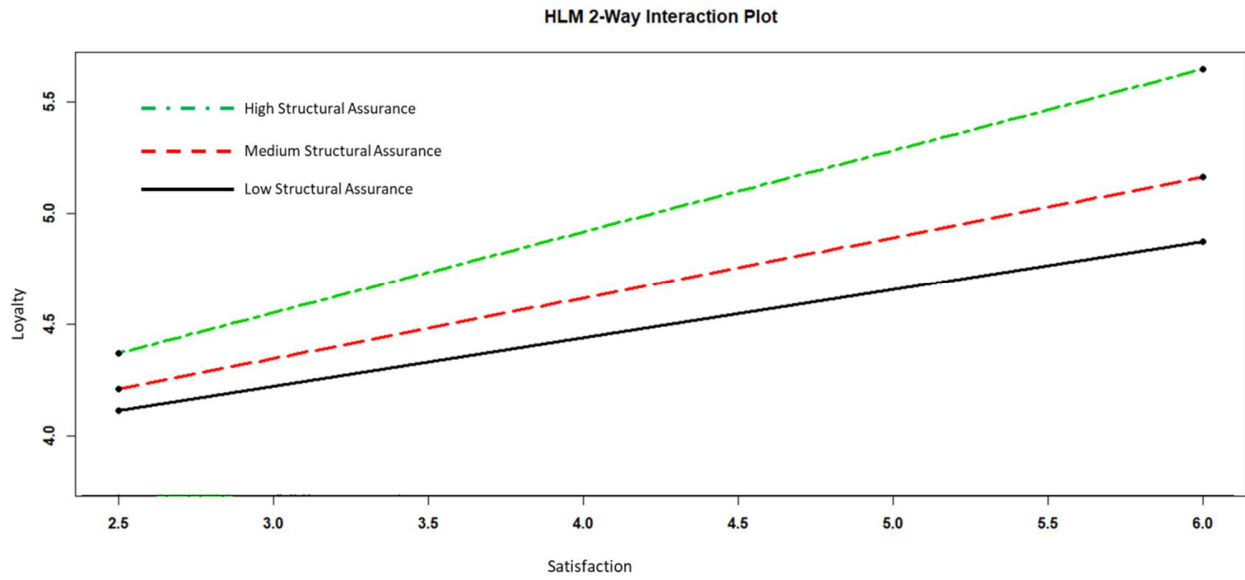
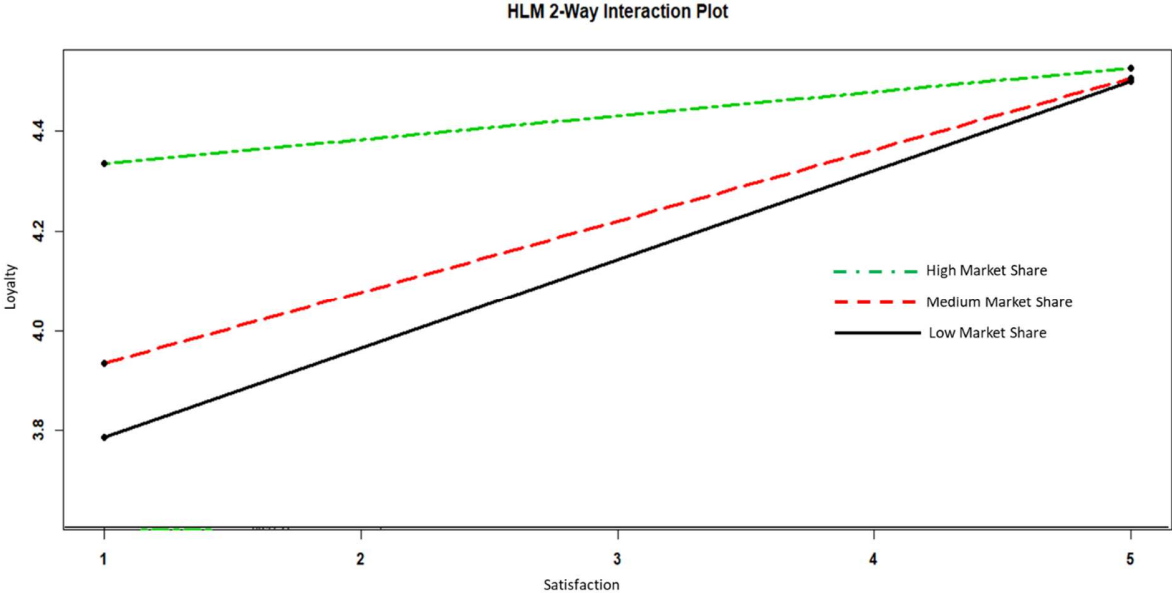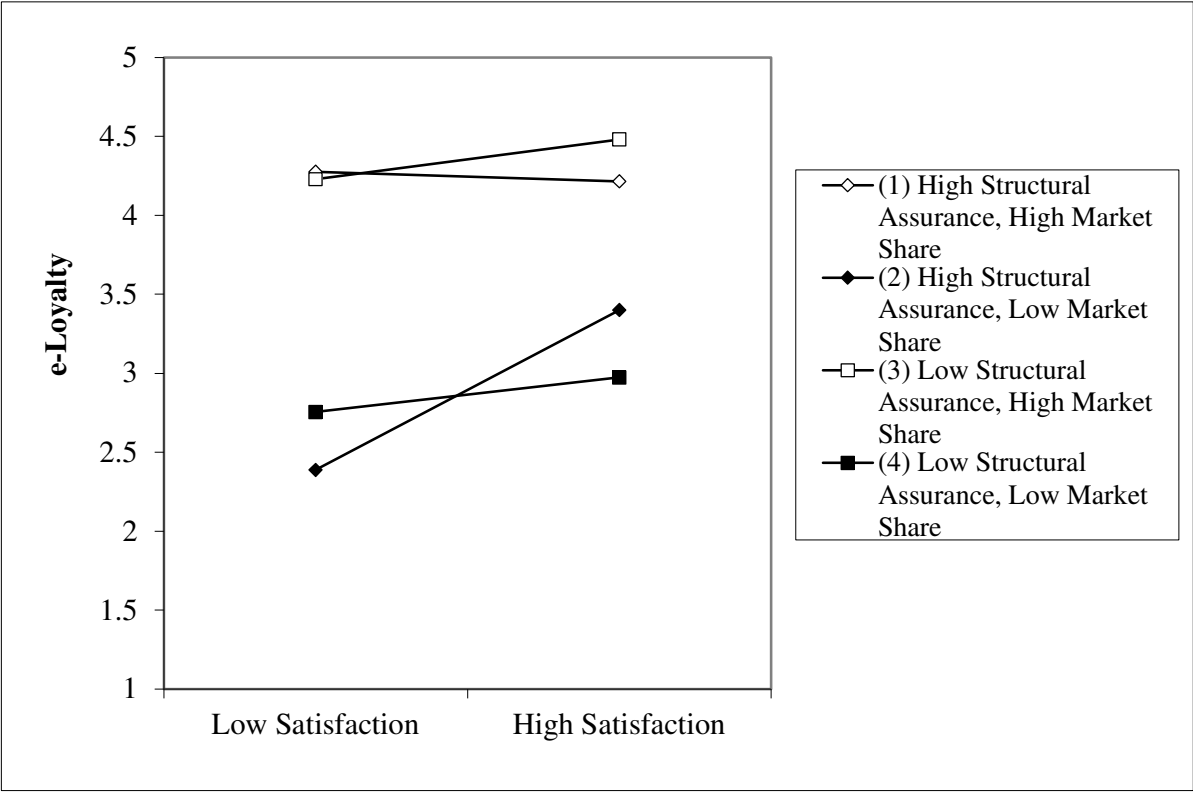Figure 3. Interaction effect of market share and e-satisfaction on e-loyalty

Figure 4. Three-way interaction plot

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