



Influence of innovation capability and customer experience on reputation and loyalty☆



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ABSTRACT

This research applies complexity theory to understand the effect of innovation capability and customer experience on reputation and loyalty. This study investigates the contribution of consumer demographics to such relationships. To this end, this article recognizes effective and intellectual experiences as the key elements of customer experience and proposes a conceptual framework with research propositions. To examine the research propositions, this study employs confirmatory factor analysis (CFA) and fuzzy set qualitative comparative analysis (fsQCA), using a sample of 606 consumers of international retail brands. The findings contribute to the literature on innovation, customer, and brand management. In addition, the results also provide guidelines for managers to create customer value in the retail environment through technical innovation capability (new services, service operations, and technology) and non-technical innovation capability (management, sales, and marketing). Furthermore, this article reflects on the link between the consumer shopping experience and firm reputation and loyalty.

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1. Introduction

Some studies present innovation and marketing as the two aspects central to the organizations' ability to gain capital in a competitive market (Ngo & O'Cass, 2013; Nguyen, Yu, Melewar, & Gupta, 2016). Incidentally, retailers around the globe, including Europe, are aware of the new possibilities that innovation (e.g., Smart Labels and Unique Identifiers, and NFC payments) can offer in a retail environment. However, the change goes beyond simply introducing or making use of innovation, as this phenomenon creates both challenges and marketing opportunities for corporations. Marketers get favorable reputations to allow stakeholders to form positive perceptions about the corporation and thus, to retain customer loyalty (Chun, 2005). In this sense, the academic literature reports the capability of innovation to drive company reputation and customer loyalty (Gupta & Malhotra, 2013) and reflects on reputation as collective judgments that observers make according to their evaluation of the corporation's ability to be innovative (Foroudi, Melewar, & Gupta, 2014). Balmer, Powell, and Greyser (2011) add that corporate

reputation is the result of beliefs, images, facts, and experiences that an individual may encounter over time. Consumers perceive a company as trustworthy and respectful because of their experience with the company, its products and services, and their corporate reputation (Bhattacharya & Sen, 2003). These behaviors can affect the likelihood of customers' identification with different demographic features and with the organization.

Socio-technical system theory classifies the innovation capability of companies into two categories: (1) technical innovation capability (development of new services, service operations, and technology) and (2) non-technical innovation capability (managerial, market, and marketing) (Ngo & O'Cass, 2013). According to Ngo and O'Cass (2013), the literature pays much attention to technical innovation whereas non-technical innovation, such as management, sales, and marketing, has received little attention to date. Few studies focus on the specific experiences that favorably affect consumers' affective and cognitive reactions (Dennis, Brakus, Gupta, & Alamanos, 2014). To fill this gap and using theory of complexity, this study pushes the existing boundaries of the link between innovation capability as a management concept, connecting innovation capability with customer experience, reputation, and loyalty as marketing concepts. The arguments defend that the ability of a company offering a product or a service to create a strong position in a high-potential market depends upon the level to which the company is able to influence the experiences of its consumers, according to their demographic features and with or without using technology.

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The theory of complexity provides a clear reflection of non-linearity between the links under investigation in a competitive market and under a situation of uncertainty. In addition, the study also investigates the influence of the consumers' demographics (age, gender, occupation, and education) on the linearity of such links. Therefore, the main aim of this study is to identify configurations that can describe customer experience for retailers operating in retail settings. The key findings enable managers to understand how the deployment of the technical innovation capability (developing new services, service operations, and technology) and the non-technical innovation capability (managerial, market, and marketing) in the retail environment can link consumer's shopping experience with reputation of the firm and customers' loyalty. This research achieves its objective using confirmatory factor analysis (CFA) and fuzzy set qualitative comparative analysis (fsQCA) (Ragin, 2006, 2008). Both analyses provide a deeper and richer perspective on the data when they work together with complexity theory (Mikalef, Pateli, Batenburg, & Wetering, 2015; Ordanini, Parasuraman, & Rubera, 2013; Woodside, 2014; Wu, Yeh & Woodside, 2014).

The following section draws upon research on innovation capability, customer experience, and loyalty to address two main research questions: (1) what configurations of marketing capabilities can modify the consumers' demographic effect on loyalty and reputation, and (2) what configurations of customer experience can modify the consumers' demographic effect on loyalty and reputation. Section 2 also includes a conceptual framework that offers propositions on the key determinants and, through a systematic review of the literature, the article presents their consequences. Sections 3 and 4 describe the research method and present the results of the data analysis. Finally, Sections 5 and 6 discuss the results, their managerial and theoretical significance, the limitations of the study, and indicate paths for future research.

2. Theoretical background and conceptual model

Practitioners consider innovation as a tool to improve the avenues of growth available to their company, and use branding to survive the competition they face in the marketplace (Gupta & Malhotra, 2013). Innovation as a process goes through various stages, starting with the discovery of an idea, the creation of its blueprint, and the production of beta versions for its application, and concluding with the implementation of the idea (Kyffin & Gardien, 2009). The academic literature explains innovation as an approach to creating an appropriate, simple, and flexible business model, which can serve the interests of managers or consumers in a competitive market (Abernathy & Utterback, 1978; Darroch & McNaughton, 2002; Han, Kim, & Srivastava, 1998). Previous marketing studies reflect on the confidence that branding can provide to consumers in the innovation, and highlight collaborations as an innovative route that managers use to access the market (Gupta & Malhotra, 2013). The scope and size of the innovation value in each consumer segment or manager depends upon the use of technology as the base of innovation (Gupta & Malhotra, 2013). The success of an innovative product depends on the managers' ability to match the value that consumers seek from the service with the incentives that the company receives from offering an innovation (Lengnick-Hall, 1992). The non-availability of consumer or market-related information to managers and of brand-related information to consumers makes companies commit and invest in resources (Hunt, 1999). Simultaneously, the returns of such investments depend upon the freedom that the company gives customers to use the technology, or the customers' experience according to their demographic features (Dennis et al., 2014).

Technology plays an important role in facilitating the commercialization of innovations, which have the potential of transforming underdeveloped markets into high-potential business markets (Gupta & Malhotra, 2013). When technology is the driver of both internal and external innovation, brand-based marketing leads the way to the commercialization of innovation (Gupta & Malhotra, 2013). This phenomenon can appear in the introduction of technology-based

innovative services—like Google's search engines or Facebook's social networking—into global markets (Adner & Kapoor, 2010). Brands offering innovative services are able to take up activities like the identification of the target market, thus matching customers' needs with the product, facilitating the creation of product knowledge in the consumer segment, and connecting with the larger set of stakeholders to address their social issues (Gupta & Malhotra, 2013). Technology enhances the capability of a firm to gain insights into the experiences of its consumers, and supports the efficient fulfillment of stakeholders' expectations (Gupta & Malhotra, 2013). A fresh approach to the incorporation of technology-based changes in the communication processes can lead managers to design services that are innovative for consumers and simultaneously appropriate for a brand. These communications tools, such as mobile telephones, the Internet, and social media, can be useful for managers, contributing to the creation of unique marketing plans and innovatively combining consumers' tastes, cultural values, and societal pressures.

Customers' experiences in the current market scenario depend upon the company's capability to use technology (Foroudi et al., 2014). Simultaneously, customer experience has the capability to affect the reputation of the company (Frow & Payne, 2007). Foroudi et al. (2014) explain the connection between reputation—the collective judgments of observers—and the holistic evaluation of a corporation over time. In turn, Chun (2005) discusses the positive effect of reputation on customer's loyalty and stakeholder's perceptions.

This research underpins the social and technical aspects of socio-technical system theory: (1) technical innovation capability (developing new services, service operations, and technology), and (2) non-technical innovation capability (managerial, market, and marketing) (Ngo & O'Cass, 2013). This article aims to recognize the value these capabilities can create for different features of customer's demographics, like the paying capacity of customers to buy branded products. This recognition is necessary because the literature does not often consider branding from the viewpoint of the customer who is less well off but still wants to buy branded products or services. Researchers find that brand managers serve this segment with similar quality but with lower quantity and different packaging (Gupta & Malhotra, 2013). However, the literature does not examine the use of innovative business ideas and marketing practices to address the influence on the company's reputation and customer loyalty of the demographically complex customer segments, like those with high or low education, and according to their age, gender, or occupation. Fig. 1 shows the conceptual framework of this research.

2.1. Research propositions

Various customer segments with different demographic configurations rely on corporate reputation when making investment decisions and product choices (Dowling, 2001). The demographic configurations of customers that lead to high customer loyalty derive from the customers' experience, classifiable as: (1) effective experience and (2) intellectual experience. Reputation is a perceptual, symmetrical illustration of a company's past actions in the form of trust, admiration, respect, and confidence. Accordingly, a company's future prospects also derive from the complexity of consumer demographics, thus describing the overall appeal of the company (Dowling, 2001; Fombrun & Shanley, 1990). Complexity theory suggests the occurrence of causal asymmetry (Leischnig & Kasper-Brauer, 2015; Woodside, 2014), which implies the presence and absence of causal condition between constructs. For instance, a high level of customer experience might be the source of loyalty and reputation. Prior studies like Adner and Kapoor (2010) reveal how demographic features, like habits, social ties, and economic features, affect customer loyalty in contractual service settings. Dennis et al. (2014) similar research reviews the effect of age as a moderator of customer-based corporate reputation and customer loyalty, using data from the retail setting and fast food restaurants in France, The United Kingdom, and The United States of America, and basing their

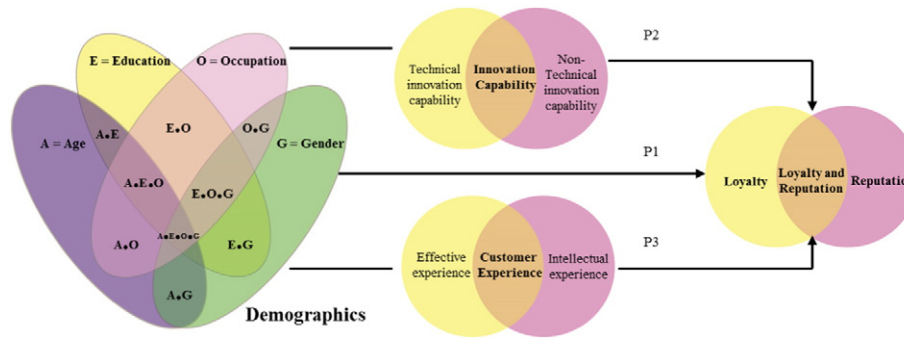


Fig. 1. Foundational complex configurational model.

research in cultural differences between countries. Dennis et al. (2014) study investigates the influence of factors like consumers' gender and age on the customers' experiences in service encounters. Nguyen et al. (2016) findings emphasize that consumer demographics are important in the fine dining company's retail setting.

Although these studies analyze the influence of demographics' complexity of consumer's attributes—like age, gender, education, and occupation—in different ways, they have not been able to explain their effects on customer loyalty and reputation. Hence, this research proposes that:

P1. Complex demographics configurations affect customer loyalty and reputation.

In general, technological innovation is the employment of a product with enhanced performance appearances to provide new or developed services and positively affect the customers' experiences (Oh & Teo, 2010). Technology can enhance learning through critical elements of design innovation, which focus on new product development and market segment creation. To influence loyalty and reputation, this process of change uses marketing outputs such as interactions with customers for information exchange or feedback, or monitoring market trends and seeking market opportunities (Sherman, Souder, & Jenssen, 2000). Companies with superior technology-management capabilities are equipped to innovate, whereas firms with less internal and external capability tend to influence consumer loyalty and trust while consumers make purchase decisions. These firms' reputation grows when shareholders make investment decisions or product choices (Fombrun & Shanley, 1990).

Adner and Kapoor's (2010) study finds that successful innovations are strategic, highly context-specific, and facilitate the smooth functioning of different actors participating in the management of a brand. As Hunt (1999) argues, innovation is an antecedent of customer loyalty. Studies like Ngo and O'Cass (2013), which uses data from 259 firms, have empirically established the linkages between innovation capabilities (both technical and non-technical) and the quality of a firm's services. Camisón and Villar-López (2014) also investigate the influence of innovation capability, using empirical data from 144 Spanish firms and the resource-based view. Although these studies have examined the benefits of innovation capability, they have not considered the heterogeneity of consumer markets' characteristics and the industries in the target markets. To fill this gap in the academic literature, this article proposes:

P2. Presence of technical innovation capability or non-technical innovation capability modifies the effect of complex demographics on loyalty and reputation.

Research in the retailing area emphasizes the significance of affective and intellectual perceptions, in addition to numerous subjective measures that have proven their value for examining customers' experience (Kamis, Koufaris, & Stern, 2008; Nguyen et al., 2016). Dennis et al.'s (2014) study reveals how, in retail environments, consumers with compelling experiences can positively affect consumer shopping behavior, as the time and money they spend in the store reflect. The literature includes limited information about the type of consumers'

experiences according to the store's environment, or about how the main elements can affect consumers' intellectual and affective reactions. In addition, previous research does not conceptualize the causality between the two different types of customer experiences— affective customer experience and intellectual customer experience—or the relationship between customer demographic details and customer loyalty and firm reputation. Therefore, this article proposes that:

P3. Presence of affective customer experience or intellectual customer experience modifies the effect of complex demographics on loyalty and reputation.

3. Research method

3.1. Data collection

This study conducted a consumer survey to collect data from retailers of international brands in London between January 2015 and September 2015. Such high-end retail shops enjoy a favorable reputation due to the retailers' brand names (Dennis et al., 2014; Silva & Alwi, 2006). To increase the sample size and to make sure that the sample included the most knowledgeable informants, the study used non-probability snowballing as a distribution method to access a representative sample within an interconnected network of people (Bryman & Bell, 2015). The study conducted 120 face-to-face questionnaires. Churchill (1999) declared that the face-to-face questionnaire collection is the most used sampling method in large-scale surveys. Additionally, some shop managers agreed to help to collect the data from their customers and employees.

The study collected a total of 652 questionnaires, but excluded 46 due to large amounts of missing data. After making every possible effort to increase the response rate, the study obtained and analyzed a total of 606 usable, completed questionnaires. Table 1 illustrates the respondent characteristics in more detail.

3.2. Survey instrument

The study got all measurement items for the questionnaire from the literature (see Table 2). In addition, 5 faculty members in the department of marketing, who are familiar with the topic of research, discussed the first version of the questionnaire and used judging procedures to assess its content and validity (Bearden, Netemeyer, & Mobley, 1993). After making amendments, 4 lecturers examined the questionnaire for face validity and to check whether the items measured what they sought to measure. The lecturers had to fill the questionnaire and comment on the following: whether the questionnaire appeared to measure the intended construct; questionnaire's wording and layout; and ease of completion. When they confirmed that the inter-judge reliability was high, a comprehensive process of questionnaire testing and piloting followed (Bearden et al., 1993). The study measured all responses using a seven-point Likert-type scale, ranging from 1 (strongly disagree) to 7 (strongly agree).

Table 1
Demographic profile respondents (N = 606).

	N	%
Age		
18–23	57	9.4
24–30	382	63.0
31–39	138	22.8
40–59	24	4.0
60-above	5	.8
Gender		
Male	407	67.2
Female	199	32.8
Level of education		
Diploma	154	25.4
Undergraduate	92	15.2
Postgraduate or above	360	59.4
Occupation		
Top executive or manager	19	3.1
Owner of a company	17	2.8
Lawyer, dentist or architect etc.	28	4.6
Office/clerical staffs	24	4.0
Worker	22	3.6
Civil servant	13	2.1
Craftsman	33	5.4
Student	441	72.8
Retired	9	1.5

4. Data analysis and results

4.1. Contrarian case analysis

According to Woodside (2014), researchers usually ignore contrarian cases when formulating theory, examining data, and predicting fit

validity, even though examining such cases is highly informative. This study uses contrarian case analysis, creating quintiles on all constructs and performing cross-tabulations employing the quintiles among the constructs. The Appendix of this article includes an example of this process between the technical innovation capability construct and outcome variable reputation. The correlation coefficients between the two constructs are 0.47 ($p < .001$) (see Table 3). Against this positive significant relationship, the Appendix reveals eight cells in the top right and bottom left of the cross tabulation table, resulting in a total of 120 cases, accounting for the 20% of the sample. In other words, the analysis indicates a substantive asymmetric relationship between technical innovation capability and reputation. Therefore, fsQCA is more suitable in this case than conventional regression analysis (Woodside, 2014).

This research employs fsQCA and fuzzy set, in combination with complexity theory, to gain a richer perspective of the data (Leischnig & Kasper-Brauer, 2015; Mikalef et al., 2015; Ordanini et al., 2013; Pappas, Kourouthanassis, Giannakos, & Chrissikopoulos, 2016; Woodside, 2014; Wu, Yeh, & Woodside, 2014). FsQCA is a set-theoretic approach that recognizes causal configurations of elements that lead to a consequence, and takes a further step from a set of empirical cases among independent and dependent constructs (Gunawan & Huarng, 2015; Woodside, Oriakhi, Lucas, & Beasley, 2011).

5. Findings

5.1. Construct validity

Table 2 presents the results of the confirmative factor analysis. The measurement model indicates a satisfactory fit: root mean square

Table 2
Reliability, validity, and CFA scores.

Construct	Sub-constructs	Cronbach's alpha	CFA loading	Mean	STD	AVE	Construct reliability
Innovation capability (Ngo & O'Cass, 2013)							
Technical innovation capability (TIC)		.95				.76	.92
Use knowledge to engage in technical innovations		.89	5.62	1.25			
Use skills to engage in technical innovations		.89	5.66	1.25			
Services innovations		.82	5.67	1.24			
Service operations and technology		.88	5.68	1.19			
Non-technical innovation capability (NTIC)		.92				.73	.81
Use knowledge to engage in non-technical innovation		.83	5.57	1.27			
Use skills to engage in non-technical innovation		.88	5.57	1.29			
Managerial innovations		.87	5.33	1.52			
Market innovations		.89	5.35	1.47			
Marketing innovations		.78	5.89	1.20			
Customer experience (Dennis et al., 2014)							
Intellectual experience (IE)		.97				.83	.82
Find what looking for		.89	5.64	1.23			
Helpful in buying holiday		.89	5.70	1.22			
Better Decision		.91	5.68	1.22			
Information about the products		.93	5.66	1.23			
Problem Solving		.94	5.66	1.23			
Affective experience (AE)		.94				.80	.81
Emotional (and Emotional with Cognitive)		.88	5.10	1.49			
Feelings and sentiments		.89	5.14	1.42			
Entertainment		.87	5.19	1.35			
Emotional		.92	5.16	1.40			
Pleasurable		.91	5.23	1.35			
Reputation (REP) (Foroudi et al., 2014)		.96				.75	.81
Admire and respect		.87	5.72	1.33			
Trust		.85	5.67	1.34			
Offers products and services that are good value for money		.86	5.65	1.31			
Environmentally responsible retailer		.88	5.71	1.32			
Offers high quality services and products		.85	5.74	1.27			
Loyalty (LT) (Aydin & Özer, 2005)		.95				.76	.81
Encourage relatives and friends to buy in this retailer		.85	5.68	1.37			
Going to use this retailer in the future		.88	5.74	1.31			
Always buy from the same store because I really like this retailer		.88	5.67	1.38			
Going to purchase in this retailer in the future		.88	5.72	1.30			
If the other retailer were cheaper, I would go to this same store		.86	5.67	1.40			

Table 3
Descriptive statistics and correlations (N = 606).

	Mean	SD	1	2	3	4	5	6	7	8	9
1. Occupation	.72	.45									
2. Gender	.67	.47	.01								
3. Education	59	.49	.18**	-.11**							
4. Age	2.24	.71	.01	-.06	.06						
5. Technical capability	5.66	1.16	.05	.00	-.03	-.01					
6. Non-technical capability	5.55	1.20	.11**	.00	.02	-.11**	.30**				
7. Affective customer experience	5.17	1.27	-.01	-.07	.01	.04	.15**	.09*			
8. Intellectual customer experience	5.67	1.16	.08	-.09*	.05	-.12**	.30**	.33**	.23**		
9. Loyalty	5.70	1.26	.13**	-.03	.00	-.03**	.41**	.28**	.09**	.22**	
10. Reputation	5.69	1.22	.20**	.04	.05	-.02*	.47**	.30**	.19**	.30**	.52**

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

error of approximation (RMSEA) = 0.07 < 0.08; normed fit index (NFI) = .90 > .90; comparative fit index (CFI) = 0.92 > .90; incremental fit index (IFI) = 0.92 > .90; and Tucker-Lewis index (TLI) = 0.92 > .90 (Byrne, 2001; Hair, Tatham, Anderson, & Black, 2010; Tabachnick & Fidell, 2007).

In Table 2, the average variance extracted (AVE) for each construct, ranging from 0.75 to 0.93, indicate adequate construct convergent validity (Hair et al., 2010). The study compares each construct's AVE with the squared correlation estimates (Hair et al., 2010). The results show good discriminant validity for each construct. The Cronbach's alpha of all measures is higher than 0.70, thus demonstrating adequate internal consistency. According to the literature, these results are highly suitable for most research purposes (De Vaus, 2002; Hair et al., 2010).

5.2. Results from the fsQCA

To analyze the data, fsQCA requires transforming the conventional variables into fuzzy set membership scores (i.e., the process of calibration). This research follows the principle of calibration that Wu et al. (2014) recommend, adjusting the respondents' ignored extreme scores. In this case, only a few cases out of the 606 respondents score less than 3 for a 7-point Likert-scale. The study therefore sets 7 as the threshold for full membership (fuzzy score = 0.95), and 5 as the cross-over point (fuzzy score = 0.50), 3 as the threshold for full non-membership (fuzzy score = .05), and 1 as the minimum score (fuzzy score = 0.00). The current study then applies fsQCA 2.5 software to identify which configurations show high scores in the outcome (Ragin, 2008). Table 3 presents descriptive statistics and correlation coefficients of all variables. Following Ragin (2008), the study set up 1 as the minimum for frequency and .80 as the cut-off point for consistency for identifying sufficiency solutions using the truth table algorithm. The study further selects the intermediate solutions following recommendations from

Wu et al. (2014). Table 4 to Table 6 present the results of the fsQCA analysis, corresponding to the examination of propositions 1 to 3, respectively. Solutions in Table 4 to Table 5 manifest that no single variable provides sufficient conditions to predict the outcomes, either for customer loyalty or for reputation.

The results in Table 4 support Proposition 1: Complex demographics configurations affect customer loyalty and reputation. For customer loyalty, Table 4 includes four solutions, which have a total solution coverage of .19. and a consistency of .83, indicating that the four demographics configurations explain a substantive proportion of customer loyalty. In Table 4, the first model, Solution A1, ~female * student * ~pg ≤ customer loyalty, has a unique coverage of .09, with a consistency of .84, indicating that male non-postgraduate students are sufficient conditions for high scores of customer loyalty. However, Solution A4, ~young * female * student * pg ≤ customer loyalty, has a unique coverage of .07, and a consistency of .83, indicating that older female postgraduate students are sufficient conditions for high scores of customer loyalty. For the reputation outcome, Table 4 presents three solutions with overall solution coverage of .26 and a solution consistency of .85. Solution B1, for example, ~young * student ≤ reputation, has a unique coverage of .11, and a consistency of .89, indicating that older students predict higher scores of reputation.

Results from Table 5 support Proposition 2: the presence of both technical innovation capability and non-technical innovation capability modifies the effect of complex demographics on loyalty and reputation. Table 5 suggests that for customer loyalty, the modification effect of innovation capabilities on the influences of complex configurations of demographics is substantial. In total, Table 5 presents 9 solutions with an overall solution coverage of 86% (much higher than the 19% in Table 4) and an overall consistency of .79. The first solution, C1, for example, indicates that young females with non-technical innovation capability predict high scores of customer loyalty, whereas Solution C9

Table 4
Demographics configurations predicting loyalty and reputation.

Model/Solutions	Raw coverage	Unique coverage	Consistency
Model/Solutions			
A1	0.087	0.087	0.842
A2	0.022	0.022	0.816
A3	0.013	0.013	0.808
A4	0.070	0.070	0.825
	Solution coverage: 0.193432		
	Solution consistency: 0.830633		
Model/Solutions			
B1	0.185	0.113	0.889
B2	0.084	0.064	0.806
B3	0.065	0.013	0.903
	Solution coverage: 0.263		
	Solution consistency: 0.854		

Table 5
Configurations of demographics via innovation capacities predicting loyalty and reputation.

Model/Solutions		Raw coverage	Unique Coverage	Consistency
	Loyalty as an outcome			
C1	nticap * young * female	0.466	0.050	0.827
C2	ticap * young * student	0.560	0.008	0.894
C3	young * female * student	0.443	0.024	0.753
C4	ticap * young * pg	0.445	0.039	0.878
C5	~nticap * ticap * female * ~pg	0.124	0.025	0.885
C6	nticap * ticap * ~female * student	0.184	0.011	0.908
C7	nticap * young * *student * ~pg	0.181	0.006	0.834
C8	ticap * ~female * student * pg	0.140	0.004	0.855
C9	nticap * ticap * student * pg	0.340	0.021	0.903
	Solution coverage: 0.868			
	Solution consistency: 0.794			
	Reputation as an outcome			
D1	~nticap * ticap * young	0.345	0.014	0.889
D2	ticap * young * female	0.504	0.041	0.858
D3	nticap * young * student	0.543	0.017	0.861
D4	young * female * student	0.452	0.009	0.759
D5	ticap * young * pg	0.438	0.018	0.856
D6	young * female * pg	0.348	0.008	0.781
D7	~nticap * ticap * female * ~pg	0.125	0.010	0.875
D8	nticap * ticap * ~female * student	0.183	0.010	0.890
D9	nticap * ticap * student * pg	0.337	0.017	0.886
D10	~nticap * ~young * ~female * student * pg	0.032	0.009	0.917
	Solution coverage: 0.899			
	Solution consistency: 0.784			

indicates that postgraduate students with both non-technical innovation capabilities and technical innovation capabilities predict high scores in customer loyalty.

For reputation as outcome, Table 5 suggests 10 solutions with an overall coverage of .90, and a consistency of .79. The table includes five solutions that are the same as the customer loyalty outcome: C3 = D4, C4 = D5, C5 = D7, C6 = D8, C9 = D9. However, these results allow noticing the differences in solutions between C1 and D2. Solution C1 indicates that younger females with high scores in non-technical

innovation capabilities score high in customer loyalty, whereas D2 indicates that younger females with high scores in technical innovation capabilities score high in reputation. Also noticeable is that in Table 5, solution C2 indicates that younger students with high scores in technical innovation capabilities score high in customer loyalty, whereas solution D3 indicates that younger students with higher scores in non-technical innovation capabilities score high in reputation.

The results in Table 6 support Proposition 3: the presence of both affective customer experience and intellectual customer experience

Table 6
Configurations of demographics via customer experiences predicting loyalty and reputation.

Model/Solutions		Raw coverage	Unique Coverage	Consistency
	Loyalty as an outcome			
E1	intexp * young * female	0.500	0.064	0.820
E2	intexp * ~effexp * young * ~pg	0.165	0.013	0.887
E3	intexp * ~female * student * ~pg	0.064	0.008	0.923
E4	~intexp * ~effexp * young * pg	0.159	0.022	0.858
E5	~intexp * ~effexp * student * pg	0.132	0.002	0.876
E6	effexp * young * female * ~pg	0.175	0.015	0.809
E7	intexp * effexp * ~female * student	0.140	0.014	0.876
E8	~effexp * female * student * pg	0.181	0.013	0.841
E9	intexp * effexp * female * ~student * ~pg	0.066	0.006	0.844
E10	~effexp * young * student * ~pg	0.127	0.002	0.857
E11	~intexp * ~effexp * young * student	0.192	0.000	0.868
E12	~intexp * young * student * pg	0.159	0.003	0.855
E13	effexp * young * student * pg	0.279	0.011	0.853
	Solution coverage: 0.809			
	Solution consistency: 0.802			
	Reputation as an outcome			
F1	intexp * ~effexp * young	0.422	0.031	0.872
F2	~effexp * young * student	0.366	0.012	0.829
F3	intexp * young * female	0.513	0.037	0.832
F4	young * student * pg	0.431	0.049	0.771
F5	intexp * ~female * student * ~pg	0.065	0.007	0.927
F6	~intexp * ~effexp * student * pg	0.131	0.002	0.854
F7	effexp * young * female * ~pg	0.181	0.017	0.827
F8	intexp * effexp * ~female * student	0.147	0.015	0.907
F9	~effexp * young * female * pg	0.196	0.004	0.842
F10	~effexp * female * student * pg	0.180	0.004	0.828
F11	intexp * effexp * female * ~student * ~pg	0.065	0.005	0.832
	Solution coverage: 0.869			
	Solution consistency: 0.781			

modifies the effect of complex demographics on loyalty and reputation. Table 6 presents 13 solutions predicting customer loyalty as outcome (Solution coverage = .81; solution consistency = .80), 11 solutions predicting reputation as outcome (Solution coverage = .87; consistency = .78). Both outcomes present 7 common solutions: E1 = F3, E3 = F5, E5 = F6, E6 = F7, E7 = F8, E8 = F10, and E9 = F11.

6. Discussion, implications, and conclusion

This study aims to contribute to the marketing literature by untangling the associations among customer demographics, customer experience, innovation capability, reputation, and loyalty. Drawing from complexity theory, this study proposes three propositions. First, in retail environments, not the individual customer factor, but complex demographics configurations influence the prediction of customer loyalty and reputation. The findings support such a proposition and provide a number of recipes with different combinations of age, education, occupation, and gender that predict high scores on customer loyalty and reputation. Second, this study suggests that both technical innovation capability and non-technical innovation capability modifies the effect of complex demographics on loyalty and reputation. The evident role of innovation capability is of particular interest, as the results illustrate in nine solutions to predict high scores in customer loyalty and reputation. The third interesting result of this study is that both affective customer experience and intellectual customer experience in a retail setting modifies the effect of complex demographics on loyalty (13 solutions) and reputation (11 solutions). The results confirm the significance of affective and intellectual customer experience in the shopping setting, which the literature has previously identified (e.g., Dennis et al., 2014). Consequently, this study develops a conceptual model that serves as the basis to recognize the aforementioned configurations.

This study contributes to the academic and managerial literature in different ways. First, this article pushes the current boundaries of innovation capability and marketing research, consolidating and integrating previous research on these two important topics. Second, this study demonstrates how strategic marketing influences firm performance, testing both direct and indirect relationships between constructs that the literature has not tested before. Previous research studies that link the innovation capability of a firm with marketing have focused on the firm's viewpoint and have ignored its implications from the consumers' perspective.

Concerning the methodology of this study, this research is one of the first to examine the configural analysis drawing from individual-level data. According to scholars (Leischnig & Kasper-Brauer, 2015; Pappas et al., 2016), the application of complexity theory in individual level phenomena may be suitable for theory building. This article reports predictive validity as well as fit validity. Following other authors' recommendations (Gunawan & Huang, 2015; Leischnig & Kasper-Brauer, 2015; Ordanini et al., 2013; Pappas et al., 2016; Woodside, 2014; Wu et al., 2014), this research also employs CFA and fsQCA analysis to stress interdependencies and interconnected causal structures between the research constructs (Woodside, 2014).

In the future, researchers may use different marketing assets and market-based resources, and review the mentioned linkages from different theoretical viewpoints, such as game theory. Managers can also use this study's findings to identify the strengths and weaknesses of their current innovation capability. The current article also highlights the importance of innovation as a tool for achieving customer loyalty and firm reputation, both critical objectives for every company. However, this study also suffers from certain limitations. For example, although the data comes from high-end retail stores in a developed market, the focus of international brands today is on developing markets. Future researchers may conduct the same study in developing markets, but the findings may be different and they may require the introduction of new constructs.

Appendix A. Cross-tabulations employing the quintiles among the constructs.

Percentile Group of TIC * Percentile Group of REP Crosstabulation							
Percentile Group of TIC	Percentile Group of REP						
		1	2	3	4	5	Total
1	Count	42	29	17	8	15	111
	% within Percentile Group of TIC	37.8%	26.1%	15.3%	7.2%	13.5%	100.0%
2	Count	24	33	35	13	14	119
	% within Percentile Group of TIC	20.2%	27.7%	29.4%	10.9%	11.8%	100.0%
3	Count	17	17	22	3	14	73
	% within Percentile Group of TIC	23.3%	23.3%	30.1%	4.1%	19.2%	100.0%
4	Count	19	22	34	37	43	155
	% within Percentile Group of TIC	12.3%	14.2%	21.9%	23.9%	27.7%	100.0%
5	Count	11	18	9	39	71	148
	% within Percentile Group of TIC	7.4%	12.2%	6.1%	26.4%	48.0%	100.0%
Total	Count	113	119	117	100	157	606
	% within Percentile Group of TIC	18.6%	19.6%	19.3%	16.5%	25.9%	100.0%

References

- Abernathy, W. J., & Utterback, J. M. (1978). Patterns of industrial innovation. *Technology Review*, 64, 228–254.
- Adner, R., & Kapoor, R. (2010). Value creation in innovation ecosystems: How the structure of technological interdependence affects firm performance in new technology generations. *Strategic Management Journal*, 31(3), 306–333.
- Aydin, S., & Özer, G. (2005). The analysis of antecedents of customer loyalty in the Turkish mobile telecommunication market. *European Journal of Marketing*, 39(7/8), 910–925.
- Balmer, J. M. T., Powell, S. M., & Greyser, S. A. (2011). Explicating ethical corporate marketing. Insights from the BP Deepwater Horizon catastrophe: The ethical brand that exploded and then imploded. *Journal of Business Ethics*, 102(1), 1–14.
- Bearden, W. O., Netemeyer, R., & Mobley, M. F. (1993). *Handbook of marketing scales*. Newburg Park, CA: Sage Publication.
- Bhattacharya, C. B., & Sen, S. (2003). Consumer-company identification: A framework for understanding consumers' relationships with companies. *Journal of Marketing*, 67(2), 76–88.
- Bryman, A., & Bell, E. (2015). *Business research methods*. Oxford, UK: Oxford University Press.
- Byrne, B. M. (2001). *Structural equation modeling with AMOS*. New Jersey, US: Lawrence Erlbaum Associates.
- Camisón, C., & Villar-López, A. (2014). Organizational innovation as an enabler of technological innovation capabilities and firm performance. *Journal of Business Research*, 67(1), 2891–2902.
- Chun, R. (2005). Corporate reputation: Meaning and measurement. *International Journal of Management Reviews*, 7(2), 91–109.
- Churchill, G. A. (1999). *Marketing research: Methodological foundations*. Oak Brook, IL: The Dryden Press.
- Darroch, J., & McNaughton, R. (2002). Examining the link between knowledge management practices and types of innovation. *Journal of Intellectual Capital*, 3(3), 210–222.
- De Vaus, D. (2002). *Surveys in social research*. London: Routledge.
- Dennis, C., Brakus, J. J., Gupta, S., & Alamanos, E. (2014). The effect of digital signage on shoppers' behavior: The role of the evoked experience. *Journal of Business Research*, 67(11), 2250–2257.
- Dowling, G. R. (2001). *Creating corporate reputations*. Oxford, UK: Oxford University Press.
- Fombrun, C., & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. *Academy of Management Journal*, 33(2), 233–258.
- Foroudi, P., Melewar, T. C., & Gupta, S. (2014). Linking corporate logo, corporate image, and reputation: An examination of consumer perceptions in the financial setting. *Journal of Business Research*, 67(11), 2269–2281.
- Frow, P., & Payne, A. (2007). Towards the 'perfect' customer experience. *Journal of Brand Management*, 15(2), 89–101.
- Gunawan, D. D., & Huarng, K. H. (2015). Viral effects of social network and media on consumers' purchase intention. *Journal of Business Research*, 68(11), 2237–2241.
- Gupta, S., & Malhotra, N. (2013). Marketing innovation: A resource-based view of international and local firms. *Marketing Intelligence & Planning*, 31(2), 111–126.
- Hair, J. F., Tatham, R. L., Anderson, R. E., & Black, W. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Pearson Prentice Hall.
- Han, J. K., Kim, N., & Srivastava, R. K. (1998). Market orientation and organizational performance: Is innovation a missing link? *The Journal of Marketing*, 30–45.
- Hunt, S. D. (1999). *A general theory of competition: Resources, competences, productivity, economic growth*. Thousand Oaks, CA: Sage Publications.
- Kamis, A., Koufaris, M., & Stern, T. (2008). Using an attribute-based decision support system for user-customized products online: An experimental investigation. *MIS Quarterly*, 159–177.
- Kyffin, S., & Gardien, P. (2009). Navigating the innovation matrix: An approach to design-led innovation. *International Journal of Design*, 3(1), 57–69.
- Leischnig, A., & Kasper-Brauer, K. (2015). Employee adaptive behavior in service enactments. *Journal of Business Research*, 68(2), 273–280.
- Lengnick-Hall, C. A. (1992). Innovation and competitive advantage: What we know and what we need to learn. *Journal of Management*, 18(2), 399–429.
- Mikalef, P., Pateli, A., Batenburg, R. S., & Wetering, R. V. D. (2015). Purchasing alignment under multiple contingencies: A configuration theory approach. *Industrial Management and Data Systems*, 115(4), 625–645.
- Ngo, L. V., & O'Cass, A. (2013). Innovation and business success: The mediating role of customer participation. *Journal of Business Research*, 66(8), 1134–1142.
- Nguyen, B., Yu, X., Melewar, T. C., & Gupta, S. (2016). Critical brand innovation factors (CBIF): Understanding innovation and market performance in the Chinese high-tech service industry. *Journal of Business Research*, 69(7), 2471–2479.
- Oh, L. B., & Teo, H. H. (2010). Consumer value co-creation in a hybrid commerce service-delivery system. *International Journal of Electronic Commerce*, 14(3), 35–62.
- Ordanini, A., Parasuraman, A., & Rubera, G. (2013). When the recipe is more important than the ingredients: A qualitative comparative analysis (QCA) of service innovation configurations. *Journal of Service Research*, 17(2), 134–149. <http://dx.doi.org/10.1177/1094670513513337>.
- Pappas, I. O., Kourouthanassis, P. E., Giannakos, M. N., & Chrissikopoulos, V. (2016). Explaining online shopping behavior with fsQCA: The role of cognitive and affective perceptions. *Journal of Business Research*, 69(2), 794–803.
- Ragin, C. C. (2006). Set relations in social research: Evaluating their consistency and coverage. *Political Analysis*, 14(3), 291–310.
- Ragin, C. C. (2008). *Redesigning social inquiry: Fuzzy sets and beyond*. Chicago: University of Chicago Press.
- Sherman, J. D., Souder, W. E., & Jensen, S. A. (2000). Differential effects of the primary forms of cross functional integration on product development cycle time. *Journal of Product Innovation Management*, 17(4), 257–267.
- Silva, R. V. D., & Alwi, F. S. (2006). Cognitive, affective attributes and conative, behavioural responses in retail corporate branding. *Journal of Product and Brand Management*, 15(5), 293–305.
- Tabachnick, B. G., & Fidell, L. S. (2007). *Experimental designs using ANOVA*. Thomson/Brooks/Cole.
- Woodside, A. G. (2014). Embrace perform model: Complexity theory, contrarian case analysis, and multiple realities. *Journal of Business Research*, 67(12), 2495–2503.
- Woodside, A. G., Oriakhi, M., Lucas, C., & Beasley, J. E. (2011). Heuristic algorithms for the cardinality constrained efficient frontier. *European Journal of Operational Research*, 213(3), 538–550.
- Wu, P. L., Yeh, S. S., & Woodside, A. G. (2014). Applying complexity theory to deepen service dominant logic: Configurational analysis of customer experience-and-outcome assessments of professional services for personal transformations. *Journal of Business Research*, 67(8), 1647–1670.