How does past and present customer experience explain the satisfaction with the supplier?
A Fuzzy Set Qualitative Comparative Approach

Abstract

This study applies complexity theory to understand the effect of past and present experience on satisfaction. Drawing from the appraisal of interaction theory, social exchange theory and organizational buying behaviour, we developed and empirically measured customer experience on satisfaction across the customers of the professional service providers in b2b. This study investigates the past and current experiences as key elements of customer satisfaction with suppliers. To examine the research propositions, this study employs confirmatory factor analysis (CFA) and fuzzy set qualitative comparative analysis (fsQCA), using a sample of 450 in the first wave and 260 in the second wave. The findings contribute to advancing the current knowledge of the literature by verifying different components of the construct of customer experience and its relative impact on satisfaction.

Keywords: Customer Experience, B2B, Services, Satisfaction.

1. Introduction

The need to conceptualise customer experience in b2b emerged from the importance of the experience. This plays a key role in the development of relationships and therefore influences the satisfaction and behaviors. Arguably, customer experience accumulates over time (REF) but no empirical evidence exists to demonstrate the process through which past experience combines with the most recent one to explain the customer satisfaction. Moreover, whilst the studying of customer experience is still an emerging stream of research in marketing, it has been limited to the consumer context despite the profound importance customer experience also has for suppliers in the B2B context too. Thus, the present study aims to make a contribution by looking at the impact of past and present experience on the level of B2B customers' satisfaction with their supplier of professional services.

2. Literature review

2.1 The Concept of Customer Experience

It was during the late 1990s when the concept of customer experience started attracting the attention of the academics in Marketing (eg. Pine II and Gilmore, 1999). Soon after, time was quickly realised as a key parameter in the formation of the customer's experience (Gupta and Vajic 2000). The prevalent definition of customer experience is that experience represents "the customer's cognitive and affective assessment of all direct and indirect encounters with the firm relating to their purchasing behaviour" (Klaus and Maklan 2013). This definition reinforces the view that customer experience represents an overall cognitive and emotional assessment of value from the customers' point-of-view that develops over time. This includes both emotional and cognitive responses, driven by both product/service experiential and the contextual (in the wider sense) components of the interaction between the seller and the customer (Shaw 2007).

Perhaps the most relevant related suggestion is that "The customer experience originates from a set of interactions between a customer and a product, a company, or part of its organization, which provoke a reaction. This experience is strictly personal and implies the customer's involvement at different levels (rational, emotional, sensorial, physical, and spiritual)" (Gentile et al., 2007). The second related definition is that "customer experience is the internal and subjective response customers have to any direct or indirect contact with a company. Direct contact generally occurs in the course of purchase, use, and service and is

usually initiated by the customer. Indirect contact most often involves unplanned encounters with representatives of a company's products, service or brands and takes the form of word-of-mouth recommendations or criticisms, advertising, news reports, reviews and so forth." (Meyer and Schwager 2007, p. 118). Linked to this, Verhoef et al. (2009) provide another definition, suggesting that "customer experience construct is holistic in nature and involves the customer's cognitive, affective, emotional, social and physical responses to the retailer.

2.3 The Building Components of Customer Experience and the Role of Past Experience

The extant literature identifies four key components of customer experience, namely 'factual', 'cognitive' 'emotional' and 'social' (REF).

Factual judgments are generally thought to be objective and provable. Factual measures are based on observable facts not involving opinion and their measurement are related to facts such as meeting due date of delivery, meeting budget and achieving objectives. On the other hand, the cognition component is more subjective measures that are based on opinion or estimates such as keeping us regularly informed or how adaptive the supplier is. Cognitive is open to interpretation and tends to be more subjective unlike the factual experience which is based on facts.

The emotional component is a component of the customer experience which involves an affectional reaction by means of generating moods and feelings; an emotional experience can be generated to create an affective relation with the company (Gentile et al., 2007).

Social bonds are defined as 'the degree of mutual personal friendship and liking shared by the buyer and seller' (Wilson, 1995, p. 339). In the professional service context, social bonds refer to the human side of the service, including personal contacts, liking and trust (Thunman, 1992). Social bonds include familiarity, friendship and personal confidence that are built through the exchange process (Rodriguez & Wilson, 2002).

Because experience evolves over time and includes a learning element (Gupta and Vajic 2000), it is important to incorporate past experience in modelling the formation of experience. This is in line with more recent work (cf. Verhoef et al. 2009) that has attempted to conceptualise customer experience over time.

2.4. Complexity Theory & Research proposition

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. From the discussion in the literature review, it is clear that studying the customer experience that emerge during business exchange is not a straightforward task that, for instance, linear modeling can capture. This is because the structure of the relationships between core constructs is complex. For example, past emotional experience can not only affect present emotional experience but it may also affect other experience components such as present social experience and at the end customer will be satisfied. To fill this gap and using theory of complexity, this study pushes the existing boundaries of the link between experiences and satisfaction. For this reason, complexity theory appears to offer a valuable and promising lens through which the interplay of antecedents to satisfaction can be explored. Previous studies have not been able to conceptualize and explain the effects of experience on satisfaction in b2b services. Hence, this research examines the following propositions:

PR1: Sufficient complex configurations of past experiences affect present experience
PR2: Sufficient complex configurations of present experiences affect satisfaction
PR3: Sufficient complex configurations of past experiences affect satisfaction
PR4: Sufficient complex configurations of past and present experiences affect satisfaction
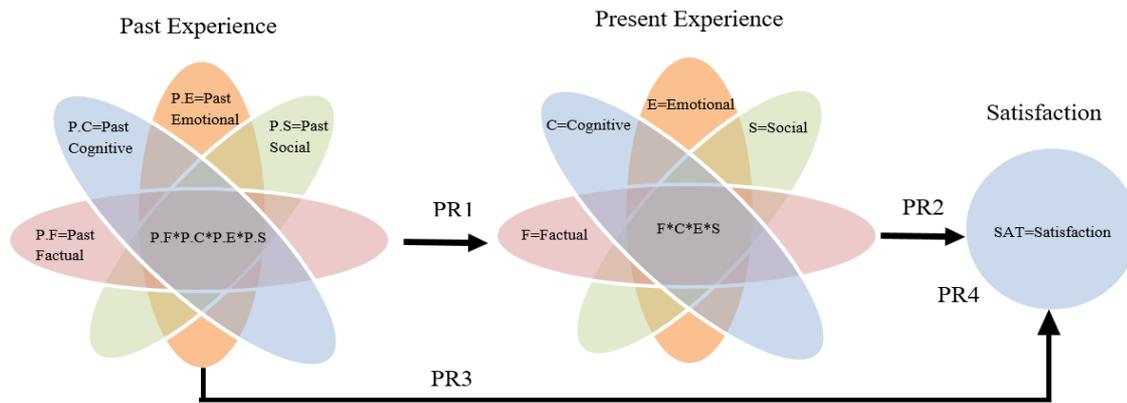
Foundational Complex Configural Model

4. Methodology

The study collected data from the customers of the professional services provides in UK. The study conducted 12 semi structured in-depth interviews to provide an initial insight into the variables to be tested in the quantitative phase. Afterwards, the study collected a total of 450 questionnaires in the first wave. After making every possible effort to increase the response rate in the second wave, the study obtained and analyzed a total of 260 usable, completed questionnaires.

The study got all measurement items for the questionnaire from the past research with slight amendments and in-depth interviews. More specifically, the factual and cognitive experiences were captured by the perceived performance scale by Patterson and Styles (2009) and Gounaris (2005), Lemke (2011), Whittaker et al. (2007), emotional experiences were measured by Richins (1997), Zehetner (2012), while social experiences were measured by Doney and Cannon (1997), Doney et al.(2007). The study measured all responses using a seven-point Likert-type scale, ranging from 1 strongly disagree to 7 strongly agree.

5. Data Analysis and findings

This research employs CFA and fsQCA analysis to stress interdependencies and interconnected causal structures between the research constructs (Woodside, 2014). According to Woodside (2014), using contrarian analysis is highly recommended thus this study uses contrarian case analysis, creating quintiles on all constructs and performing cross-tabulations employing the quintiles among the constructs.

In fsQCA, whilst consistency is similar to a correlation coefficient in regression analysis (Woodside, 2013), coverage is analogous to r of determination (r2) in regression analysis (Ragin, 2008). Therefore, consistency and coverage are key analysis techniques.

5.1 CFA findings

Table 1 presents the results of the confirmative factor analysis	CR	AVE	MSV
Emotional_Experience	0.943	0.703	0.623
Factual_Experience	0.957	0.668	0.526
Cognitive_Experience	0.961	0.692	0.623
Social_Experience	0.894	0.742	0.123
Satisfaction	0.915	0.783	0.605

The measurement model indicates a satisfactory fit. The results of fit would be the chi-square ($\chi2$) = 1060.275, df = 540, P value = .000, CFI = 0.93, TLI = 0.92, GFI=0.80, AGFI= 0.74, NFI= 0.87 and RMSEA=0.065.

In Table 1, composite reliability or construct reliability (CR) is a measure of reliability and internal consistency of the measured variables has been established as scores greater than 0.70, which indicates that the measures represent the same latent construct. Unidimensionality is evident with each item loading onto the underlying construct, results shows that all items had

significant factor loadings at .000. Convergent validity tests whether constructs that should be related, are related. Convergent validity was established because AVE is greater than 0.5 and CR greater than 0.7. Discriminant validity tests whether believed unrelated constructs are, in fact, unrelated. All the average variance extracted estimates are greater than the corresponding inter-construct squared correlation estimates (or maximum shared variance) Fornell and Larcker's (1981). According to the literature, these results are highly suitable for most research purposes (Hair et al., 2010).

5.2 FsQCA findings

First we need to investigate whether the relationships underlying the various constructs of interests were symmetrical or not. We conducted Pearson correlations between customer experience components and satisfaction, as expected, the correlation coefficients are sufficiently high to result in multi-collinearity problems where regression analysis employed. Yet they remain below the .80 threshold, indicating that the relationships between the different constructs are not symmetrical (Woodside, 2013; Wu, Yeh & Woodside, 2014). Then we moved to contrarian analysis to confirm this.

Table 3 Crosstabulation of social experience and satisfaction			Satisfaction					Total
			very low	low	neutral	high	very high	
Social experience	very low	Count	2	2	19	16	8	47
		% within SE	4.3%	4.3%	40.4%	34.0%	17.0%	100.0%
	low	Count	0	2	17	20	7	46
		% within SE	0.0%	4.3%	37.0%	43.5%	15.2%	100.0%
	neutral	Count	1	3	36	28	17	85
		% within SE	1.2%	3.5%	42.4%	32.9%	20.0%	100.0%
	high	Count	2	3	17	19	16	57
		% within SE	3.5%	5.3%	29.8%	33.3%	28.1%	100.0%
	very high	Count	0	1	6	10	8	25
		% within SE	0.0%	4.0%	24.0%	40.0%	32.0%	100.0%
Total		Count	5	11	95	93	56	260
		% within SE	1.9%	4.2%	36.5%	35.8%	21.5%	100.0%

In Table 3 reveals eight cells in the top right and bottom left of the corss tabulation table, resulting in a total of 57 contrarian accounting of %22 of the sample. 51 negative contrarian cases , 6 positive contrarian cases and 53 supportive positive cases. However, correlation cofficeint is .45 positive. In other words, the analysis indicates a substantive asymmetric relationship between social experience and satisfaction. Therefore, fsQCA is more suitable in this case than conventional regression analysis (Woodside, 2014).

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. 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 software to identify which configurations show high scores in the outcome (Ragin, 2008). Following Ragin (2008), the study set up 2 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 solutions following recommendations from Wu et al. (2014).

Table 4, 5, 6 and 7 presents the results of the fsQCA analysis for the four research propositions. Table 4 includes 4 models of solutions for the first research proposition PR1: sufficient complex configurations of past experiences affect present experiences. Model A the total solution coverage of .87 and a consistency of .71, indicating that past factual, past cognitive, past emotional and past social experiences lead to present factual experience. Each raw is a single unique combination of input conditions to explain the factual experience. Similarly, Model B,C and D. The summary of the first proposition analysis indicates that past experiences have an impact on present experiences.

Table 4 Models of past experience predicting high score in present experience PR1

A. Models of past experiences predicting factual experience				B. Models of past experiences predicting cognitive experience			
Solutions	Raw coverage	Unique coverage	Consistency	Solutions	Raw coverage	Unique coverage	Consistency
~p.s*p.c	0.71	0.05	0.76	~p.s*p.c	0.71	0.06	0.81
~p.s*p.f	0.66	0.023	0.78	~p.s*p.f	0.64	0.01	0.80
p.e*p.s	0.47	0.02	0.78	p.e*p.s	0.46	0.02	0.81
p.c*p.f	0.69	0.007	0.81	p.c*p.f	0.67	0.006	0.83
p.s*~p.c*~p.f	0.43	0.007	0.80	p.s*~p.c*~p.f	0.42	0.009	0.82
solution coverage: 0.87 solution consistency: 0.71				solution coverage: 0.86 solution consistency: 0.74			
C. Models of past experiences predicting Emotional experience				D. Models of past experiences predicting social experience			
Solutions	Raw coverage	Unique coverage	Consistency	Solutions	Raw coverage	Unique coverage	Consistency
p.e	0.80	0.08	0.79	p.e*p.s	0.57	0.046	0.79
~p.s*p.c	0.64	0.01	0.82	p.s*~p.c*~p.f	0.52	0.017	0.80
~p.s*p.f	0.60	0.004	0.85	p.s*p.c*p.f	0.46	0.008	0.85
p.c*p.f	0.62	0.006	0.87				
p.s*~p.c*~p.f	0.39	0.01	0.86				
solution coverage: 0.86 solution consistency: 0.76				solution coverage: 0.61 solution consistency: 0.78			

Table 5 includes the solutions of the second proposition PR2: sufficient complex configurations of present experiences affect satisfaction. The total solution coverage of .88 and a consistency of .87, indicating that present experiences have an impact on satisfaction. The highest impact attributes to emotional experience with a raw coverage of .80, and a consistency of .91. This findings support PR2 that present experiences affect satisfaction Similarly, Table 6 includes the solutions of the third proposition PR3: sufficient complex configurations of past experiences affect satisfaction. The total solution coverage of .79 and a consistency of .79, indicating that past experiences have an impact on satisfaction. The highest impact attributes to past emotional experience with a raw coverage of .72, and a consistency of .81.

Table 5 Models of present experience predicting high score in satisfaction PR2				Table 6 Models of past experience predicting high score in satisfaction PR3			
Solutions	Raw coverage	Unique coverage	Consistency	Solutions	Raw coverage	Unique coverage	Consistency
e	0.80	0.09	0.91	p.e	0.72	0.09	0.81
~s*c	0.59	0.01	0.92	~p.s*p.c	0.57	0.01	0.84
~s*f	0.56	0.006	0.94	~p.s*p.f	0.53	0.004	0.85
c*f	0.63	0.006	0.95	p.c*p.f	0.54	0.004	0.86
s*~c*~f	0.40	0.01	0.91	p.s*~p.c*~p.f	0.35	0.012	0.87
solution coverage: 0.88 solution consistency: 0.87				solution coverage: 0.79 solution consistency: 0.79			

In Table 7 the solutions include the examination of the fourth proposition PR4: sufficient complex configurations of past and present experiences affect satisfaction. The total solution coverage of .66 and a consistency of .91, indicating that both past experiences and present experiences have an impact on satisfaction. First Solution, has the highest raw coverage of .51, with a consistency of .96, indicating that present emotional experience, while refraining past emotional, past social, past cognitive, past factual, present social and present factual experience, is sufficient condition for high scores of satisfaction. However, other solutions have also empirical relevant coverage (raw covergage >.25), each of these routes, different combinations of experiences could lead to higher levels satisfaction.

Consequently, the findings reported in Table 7 confirm the research proposition PR4 that sufficient complex configurations of past and present customer experience affect satisfaction.

Table 7 Models of past and present experiences predicting high score in satisfaction PR4

Solutions	Raw coverage	Unique coverage	Consistency
~p.e*~p.s*~p.c*~p.f*e*~s*~f	0.51	0.07	0.94
p.e*~p.s*p.c*e*~s*c*~f	0.41	0.003	0.95
p.e*~p.s*p.c*p.f*e*~s*c	0.39	0.01	0.95
p.e*p.s*p.c*e*s*c*f	0.24	0.03	0.98
~p.e*~p.s*~p.c*~p.f*~e*s*~c*~f	0.35	0.03	0.92
~p.e*~p.s*~p.c*~p.f*e*s*c*f	0.31	0.01	0.98
solution coverage: 0.66			
solution consistency: 0.91			

6. Discussion and Implications

This study aims to contribute to the marketing literature by untangling the associations among past experience, present experience and satisfaction. Drawing from complexity theory, this study proposes four propositions: sufficient complex configurations of past experience affect present experience, sufficient complex configurations of present experience affect satisfaction, sufficient complex configurations of past experiences affect satisfaction and sufficient configurations of past and present experience influence the prediction of satisfaction. The findings support such propositions and provide a number of interesting recipes with different combinations.

This study contributes to the academic and managerial literature in different ways. First, this article pushes the current boundaries of customer experience in b2b, consolidating and integrating previous research on this important topic. Second, this study demonstrates how past experience along with present experience influence the overall satisfaction that the literature has not tested before. Previous research studies focused on experience in b2c, while this study focused on b2b from the customer viewpoint. Concerning the methodology of this study, this research is one of the first to examine the configural analysis drawing from longitudinal data. This study reports predictive validity as well as fit validity. This research also employs CFA and fsQCA analysis. Supplier managers can also use this study's findings to identify the strengths and weaknesses of their offerings that cause experience with their customers and other related business exchange attributes. The current article also highlights the importance of experience as a tool for achieving customer satisfaction.

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