



# Synthesizing the customer experience concept: A multimodularity approach

Dongmei Zha<sup>a</sup>, Reza Marvi<sup>b</sup>, Pantea Foroudi<sup>a</sup>

<sup>a</sup> Brunel Business School, UK

<sup>b</sup> Aston Business School, UK

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## ABSTRACT

The purpose of this paper is to review and analyse the customer experience (CX) literature by applying a modularity approach. To understand in greater depth the roots of modularity in the CX literature and its implications for future research going forward, we adopt co-citation analysis to track the transformation of the CX literature from 1984 to 2021 with 546 articles published in business and management journals in four intellectual time periods (1984–2005, 2006–2010, 2011–2015, and 2016–2021). The results show evidence of a vibrant multivocal CX literature landscape, with a dynamic and evolving intellectual structure staffed by a coalition of intellectual inputs from the three major marketing systems and their corresponding logics – service marketing logic, experiential marketing logic, and branding logic. Based on this finding, a new modular CX framework is presented, one that weds a firm's multi-logic response to a modular view of consumption. It then concludes with relevant opportunities for future research directions and provides novel applications for managers.

## 1. Introduction

Customer experience (CX) is now widely recognised as an overarching schema to explain and measure the effectiveness of a product or brand offering. In today's research and practice arenas, sub-concepts such as customer journey and touchpoints are now the buzzwords in academic and managerial literature (Zha, Marvi & Foroudi, 2023; Holmlund et al., 2020). In spite of the achievements at the managerial level, many agree that CX research at the metatheoretical level still requires further conceptualisation to articulate with greater nuance an intellectual structure that can underpin the advances made at the practice level.

A search of the CX literature shows that, by and large, CX researchers in different domains such as service marketing (Bueno, Weber, Bomfim, & Kato, 2019), tourism management (Ponsignon et al., 2021), and retailing (Roggeveen and Rosengren, 2022) still maintain a generalised unimodular approach. Typical definitions of CX depict the customer as a general-purpose actor respondent to a firm's offering in the purchasing cycle (Lemon and Verhoef, 2016). The unimodular consumer conceived as such is assumed to be residing and functioning within a single, coherent bodily system where everything is fully integrated, fully regulated, and fully explainable. Yet anyone who has experienced consumption knows that this description has no phenomenological validity. Our subjective experience of consumption is one fraught with tension

and noise (Kahneman et al., 2021). Each waking moment, human consumption decisions continue to be riddled with inconsistencies, mangled with paradoxes, and taut with the pull of conflicting priorities. This conflicting aspect of CX underlies the complexities surrounding the conceptualization of the CX concept. To arrive at a more granular perspective of the human cognitive architecture, we draw on modularity theory as a conceptual basis to conduct a systematic literature review. Since the seminal publication of Fodor's (1983) *The Modularity of Mind*, acknowledged to be one of the most lucid accounts of the modular cognitive architecture. Eschewing the view of a general-purpose mind, modularity theory asserts that the human cognitive architecture should instead be visualized as "a large and heterogeneous network of functionally specialized computational devices" (Cosmides and Tooby, 1994, p. 329).

According to Tooby and Cosmides (2015), the human brain is not a "blank slate". Rather, it is pre-packed "with programs that pre-empt the way we process information. These include functionally specialized learning systems, domain-specialized rules of inference, default preferences that organize our experiences and databases of knowledge" (p.16). In the last four decades, the concept of modularity has evolved rapidly and has since gained credence as an underlying *meta*-theoretical precept for many disciplines, including management (e.g., Brusoni et al., 2007), behavioural economics (Kahneman et al., 2021), biology (e.g., Callbaut and Rasskin-Gutman, 2005), and cognitive sciences (e.g.,

E-mail addresses: [Dongmei.Zha@brunel.ac.uk](mailto:Dongmei.Zha@brunel.ac.uk) (D. Zha), [r.marvi@aston.ac.uk](mailto:r.marvi@aston.ac.uk) (R. Marvi), [Pantea.Foroudi@brunel.ac.uk](mailto:Pantea.Foroudi@brunel.ac.uk) (P. Foroudi).

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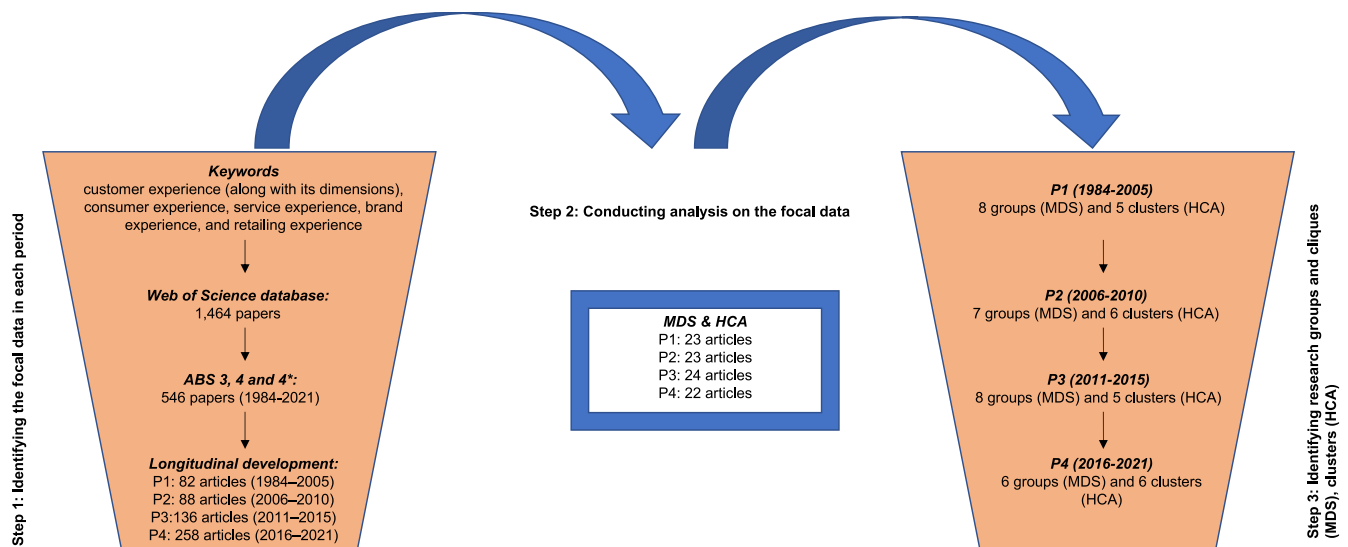


Fig. 1. Overview of co-citation approach.

Pietraszewski and Wertz, 2022). In recent years, exciting new developments in neuroscientific studies—particularly advances in neural network theory—have shown that many of the primary features of the modular architecture can be detected with a reasonable degree of robustness and high reliability (Combo et al., 2013; Luppi et al., 2022). In management literature, this idea has also been skillfully adapted into management theory by Baldwin and Clark (2006) as they show with great finesse how the modularity principle of the mind can be observed in complex organisational structures where independent modules are held together and function at near-decomposability (Campagnolo and Camuffo, 2010). In consumer behavior studies, however, the implications of a modular approach have yet to be fully examined and digested in the mainstream CX literature.

While scholars like Schmitt (1999) have widely acknowledged the multidimensionality of the CX concept, modularity per se remains a largely taken-for-granted concept; one that many contributors implicitly assume but, to date, remains little explored and understood. Without a modular view, aspects of the CX phenomenon – “subjective, hedonic, symbolic and aesthetic in nature” remain “unpredictable” and “beyond the firm’s control” and unaccounted for (Kranzbühler et al. (2018), p.434). Similarly, without unpacking modularity, multidimensionality has no conceptual basis as reflected in the mind-boggling array of dimensions in CX literature today – aesthetic, educational, entertaining and escapist (Pine and Gilmore, 1998); sensory, affective, creative, physical, behaviors and social experiences (Schmitt, 1999); cognitive, emotional, physical, sensorial, social and the spiritual (De Keyser et al., 2015) – “all the raw data contained in all direct or indirect interactions with a company” (Meyer and Schwager, 2007, p. 2). Therefore, in our view, the need for a modular view of CX represents a significant research gap in CX literature.

In the past decade, various CX review articles have been published, each offering valuable insights into the CX research phenomenon (see Appendix 1). To gain a deeper understanding of the CX literature, earlier researchers (e.g., Grewal et al., 2009; Verhoef et al., 2009) reviewed CX-related literature in retailing, examining the influence of key factors on the buying process via CX. Other researchers (Jain et al., 2017; Arici et al., 2022) reviewed the role of CX in service management and design. While Waqas et al. (2021) and Schmitt and Zarantonello (2013) reviewed CX from a culture theory-based and experiential marketing view. In a review tracing the evolution of the customer journey idea, Lemon and Verhoef (2016) and Følstad and Kvale (2018) observe how the customer journey concept has its roots in the service management traditions. In a recent review, Becker and Jaakkola (2020), proposed

fundamental premises for future research. Recently, three bibliometric papers (Arici et al., 2022; Kim and So, 2022; Stead et al., 2022) reviewed CX research in service, hospitality and tourism literature. However, among these studies, to the best of our knowledge, this study is the first to focus on a modularity perspective of CX in the business and management literature.

To review, recover and reinstate a modular perspective of CX is the goal of this research. To do so, we adopt a co-citation analysis spanning four intellectual periods of CX literature (1984–2005, 2006–2010, 2011–2015, and 2016–2021). For this purpose, longitudinal lens afford the research an enormous advantage because they offer a zoom-out view of the literary landscape enabling researchers to track with greater precision the systemic changes along with the intellectual history of CX literature. The changing relationship between clusters and research groups from one period to another allows researchers to track how the different cohorts of contributors grow their theories in response to their modularized views of the consumer (Samiee and Chabowski, 2020). In doing so, we not only uncover content but, more importantly, we uncover the logics driving the growth of these knowledge fields. Based on the theoretical architecture adapted from the modularity approach (Tooby and Cosmides, 2015), each stage of the bibliometric era is carefully examined under the purview of the following overarching research questions: “Is the nature of customer experience as reflected in citation behavior of CX literature modular in character? If so, what are the key modularised systems of thoughts shaping the citation behavior of CX literature researchers at different periods in CX literature history?”.

This study contributes to the CX literature in business and management literature in three ways. *First*, we provide the most up-to-date review of CX from a modularity approach, deconstructing CX and bridging the understanding of modularity in evolutionary psychology, innovation, and management literature to articulate a modular view of CX. *Second*, to the best of our knowledge, this paper is the first to undertake a bibliometric analysis of CX literature’s intellectual structure using co-citation behavior as a metric and independent analysis of each of the four periods in CX literature history. In doing so, it is able to offer a longitudinal perspective of CX literature and track the modular development of the three dominant logics in CX literature’s intellectual structure. *Third*, this paper extends CX studies by offering a new analytical tool based on a triadic paradigmatic framework underpinned by the concept of modularity. By using logic as a conceptual interlocutor to bridge the consumer/firm-based divide, it offers a new marketing tool for both research-oriented and practitioner-oriented projects.

## 2. Methodology

To understand how CX emerged, developed, and matured as a research domain in the field of business and management, the bibliometric approach is a useful tool that has been successfully employed in business and management studies for many years (McCain, 1990; Kosch and Szarucki, 2021). Among the various methods of the bibliometric approach, we selected the co-citation approach as it provides two key advantages. *First*, it has the empirical capability to define the knowledge foundations of a specific field or concept (Zha et al., 2022; Chabowski et al., 2022; Zha et al., 2023). *Second*, we can gain a deeper and broader systemic view of CX literature, that can help to define the research gaps to propose future research opportunities. This research followed several steps: (1) identifying the focal data in each period, (2) conducting an analysis of the focal data, and (3) identifying the research groups and cliques (MDS) and research clusters (HCA). Fig. 1 shows an overview of the co-citation approach.

### Step 1: Identifying the focal data in each period

Adhering to the established co-citation protocol (Samiee and Chabowski, 2012; Chabowski et al., 2018; Stead et al., 2022), the identification of articles was initiated with a search for keywords. The following keywords were shortlisted: customer experience (along with its dimensions), consumer experience, service experience, brand experience, and retailing experience. Two broad terms — “customer experience” and “consumer experience”—were selected to ensure the articles to be inclusive as possible, so articles with similar affiliations were included in the final results, such as “online customer experience”, “metaverse customer experience”, “consumer experience tourism”, “smart customer experience”, “virtual reality consumer experience”, and so on. We also followed existing CX review articles (Jain et al., 2017; Kranzbühler et al.’s (2018); Becker and Jaakkola, 2020) to include “service experience OR brand experience OR retailing experience” as these are key domains in the CX literature that have been well-acknowledged in the field. Accordingly, the keywords were searched for in the Web of Science database, which yielded 1,464 scholarly works related to CX. Following suggestions by previous scholars (McCain, 1990; Ramos-Rodríguez and Ruiz-Navarro, 2004; Zha et al., 2020), articles were selected based on a keyword being found in one of the four fields in the Web of Science database: author keywords, abstract, title, and reference-based article identifiers. To increase the validity and accuracy of the results, all the papers were reviewed, and only top-tier journals (journals rated as 3, 4 and 4\*) were selected. Following previous studies (e.g., Vrontis et al., 2022; Leonidou et al., 2020), the choice of these journals was based on the Association of Business Schools’ Academic Journal Quality Guide (ABS, 2018) list of management, marketing, and international business journals.

The rationale for limiting our analysis to focus on 4\*, 4, and 3 journals was based on three reasons. *First*, the articles in these journals would raise the quality level of our focal articles to the highest level (Baldacchino et al., 2015), which could help us in identifying articles that had undergone a rigorous and appropriate process. *Second*, choosing articles from these journals is a common method among researchers (e.g., Chabowski et al., 2011; Chabowski and Samiee, 2020; Akbari et al., 2022), which helps researchers to capture the most reliable scholarly works and research trends in a research domain. *Finally*, it is commonplace for scholars to be more pressurized to publish in top-tier journals; furthermore, editors pay significant attention to conceptual and managerial contributions when they make the decision to accept or reject manuscripts for publication (Koseoglu et al., 2022).

The initial sample of potentially related academic articles in the business and management domain generated 1,464 articles. Afterwards, we only selected published papers in business and management journals, and non-academic scholarly works that had not undergone a peer-review process, such as book chapters and editorial notes, were excluded. Then, all the non-ranked ABS journals along with journals below a ranking of 3 were removed. Then any articles that were not

related, or were duplicated, were removed from our focal data. This process yielded 546 articles relevant to the research topic.

In our approach, which has not previously been applied in the CX domain, we use 546 articles across four periods (1984–2005, 2006–2010, 2006–2010, and 2016–2021). These were selected as follows. In determining the span of the four eras, the development of key intellectual eras to CX was applied as a guide. This means that we categorized our study duration (1984–2021) into different periods. These were an origination period, one period of 20 years (1984–2005), and three periods of five years each (2006–2010; 2011–2015; 2016–2021).

Initially, our intention was to divide our data into 10-year periods to cover an integrated longitudinal development of the CX domain. However, since there was a need to be more focused and to show recent emerging trends in the CX domain, aligned with previous studies (e.g., Chabowski et al., 2018), we divided our focal articles into five-year periods as mentioned above. Importantly, due to considerably fewer citations and articles per year, and for chronological manageability, the first two decades of articles were grouped together (1984–2005). Thus, the 546 articles used as our focal articles included 82 articles in 1984–2005 (P1), 88 articles in 2006–2010 (P2), 136 articles in 2011–2015, (P3) and 258 articles in 2016–2021 (P4). Taken together, such a categorization can provide a detailed overview of the CX literature since its emergence.

### Step 2: Conducting analysis of the focal data

Afterwards, by using the frequency count in BibExcel, we were able to compile a list of highly cited articles from the sample.<sup>1</sup> Based on the highly cited articles in each period, the co-citation matrix was created where each value in the matrix demonstrates the number of times two papers were co-cited in a third document. As a common rule followed by previous scholars (e.g., Ramos-Rodríguez and Ruiz-Navarro, 2004; Chabowski et al., 2018), 25 publications for a co-citation model result in a fair or good model. However, being limited to the most influential articles in the CX domain has its own methodological limitations; for example, including more articles in the study for conducting the analysis can result in the configurations being less meaningful and more ambiguous, and can increase the stress value (Samiee and Chabowski, 2012). The stress value is commonly used as a goodness of fit measure to interpret the results. A stress value of 0.1 or below reflects a good model fit, whereas a value between 0.10 and 0.2 suggests a fair model fit (Akarsu, Marvi, & Foroudi, 2023). With this in mind, we adopted 23 publications for P1, 23 publications for P2, 24 publications for P3, and 22 publications for P4, to conduct our analysis.

To analyze the co-citation data, a multi-method was employed: multidimensional scaling (MDS) and hierarchical cluster analysis (HCA) were used to investigate the knowledge structure of CX. MDS is the method used mostly by researchers to identify influential works and explore how their relationship shaped a research domain (Marsden, 1990; McCain, 1990), whereas HCA analysis is an excellent tool for providing a general theme over a research domain (Samiee and Chabowski, 2012). Then, on the basis of this assumption, we identified cliques and research groups. It should be noted that ‘research clique’ refers to three or more significant studies grouped together, and research groups can be defined as groups containing a minimum of two articles (Chabowski et al., 2018). HCA, on the other hand, by using the bottom-up approach, builds layers of agglomerated data through the merging of clusters until they form a pyramidal hierarchy (Wasserman and Faust, 1994). In the current study, a good stress value of 0.022 was obtained in P1; 0.012 in P2; 0.03351 in P3; and 0.04398 in P4. To control which research groups were lucid and explicable, a maximum standardized distance of 0.25 or less was employed (Hair et al., 1998).

### Step 3: Identifying the research groups and cliques (MDS), research

<sup>1</sup> The most highly referenced CX articles can be perceived as the most influential in the CX literature (cf. Kuhn, 1996).

**Table 1**  
CX knowledge structure: 1984–2005.

Variables	Publication	Source	Methodologies assumption	Theoretical assumption	Implications
V1	Batra and Ray (1986)	<i>Journal of Consumer Research</i>	Empirical (experimental study)	NA	- Demonstrates affect responses have a significant impact on brand attitudes- Identifies that affective responses represent the moods and feelings evoked by the ad.
V2	Bitner, 1990	<i>Journal of Marketing</i>	Empirical (experimental study)	Attribution theory	- Finds the effects of both physical environment and employee responses in these service encounters- Proposes a conceptual framework of service encounter evaluation- Confirm the attribution-affect-behavior sequence
V3	Bitner (1992)	<i>Journal of Marketing</i>	Conceptual	Environmentalpsychology	- Presents a conceptual framework of servicescapes- Explores the impact of physical surrounding on both customers and employees
V4	Boulding et al. (1993)	<i>Journal of Marketing Research</i>	Empirical (experimental study)	NA	- Develops a behavioral process model of service quality- Tests the relationships between expectation, perceptions and intended behavior
V5	Donovan et al. (1994)	<i>Journal of Retailing</i>	Empirical (experimental study)	Mehrabian andRussel (1974) modelof environmentalpsychology	- Introduces the Mehrabian-Russell Stimulus-Organ-ism-Response (S-O-R) paradigminto atmospheric literature
V6	Edell and Burke (1987)	<i>Journal of Consumer Research</i>	Empirical (experimental study)	NA	- Identifies the feelings that co-occur of negative and positive- Offers the importance of feelings and consumer judgment such as customer attitudetoward ads and beliefs about the attributes of a brand, and brand attitude
V7	Havlena and Holbrook (1986)	<i>Journal of Consumer Research</i>	Empirical(content analysis)	NA	- Assesses the comparative reliabilities and validities of Mehrabian and Russell's (1974)PAD dimensions- Identifies three useful emotional characteristics of consumption experience:pleasure, arousal and dominance
V8	Hirschman and Holbrook (1982)	<i>Journal of Marketing</i>	Conceptual	NA	- Defines the concept of hedonic consumption- Provides a new view of consumption experience as hedonic view, methods,propositions relevant to the hedonic consumption- Extends the marketing research on consumer behavior from a hedonic perspective
V9	Hoch and Ha (1986)	<i>Journal of Consumer Research</i>	Empirical (experimentalstudy)	NA	- Identifies advertising had significant effects on quality judgment when consumers seeambiguity evidence- Demonstrates advertising affect quality judgment
V10	Holbrook et al. (1984)	<i>Journal of Consumer Research</i>	Empirical (experimentalstudy)	NA	- Identifies the effect of performance, perceived complexity, and personality-gamecongruity on emotional responses and performance- Offers an important role for the competence motive in the enjoyment of games
V11	Holbrook and Batra (1987)	<i>Journal of Consumer Research</i>	Empirical(content analysis)	NA	- Assesses the mediator role of emotions of consumer responses to advertising- Establishes three plausible and familiar dimensions of emotional responses- Measures ad attitude and brand attitude independently- Links ad content and emotional responses
V12	Hui and Bateson (1991)	<i>Journal of Consumer Research</i>	Empirical (experimentalstudy)	Environmentalpsychology	- Identifies perceived control as key variable that influences consumer emotion andbehavioral responses in the physical environment- Identifies two key antecedents of perceived control as consumer density (numbers ofconsumer) and consumer choose in a service setting
V13	Mano and Oliver (1993)	<i>Journal of Consumer Research</i>	Empirical(survey)	NA	- Extend the notion of product evaluation into two dimensions both hedonic andutilitarian judgment- Identifies three aspect of post-consumption experience and its relationships, productionevaluation (hedonic and utilitarian judgment as key antecedents of feeling (negativeand positive affect), and consequently, to the satisfaction
V14	Oliver (1980)	<i>Journal of Marketing Research</i>	Empirical (experimentalstudy)	Expectationconfirmation theory	- Provides a conceptual framework of consumer satisfaction- Identifies the effect of satisfaction on attitude and purchase intention
V15	Oliver and DeSarbo (1988)	<i>Journal of Consumer Research</i>	Empirical (experimentalstudy)	Dissonance theoryEquity TheoryAttribution Theory	- Shows that the effects of five determinants of satisfaction: disconfirmation, performance,expectation, equity, and attribution- Conceptualizes satisfaction theory
V16	Oliver (1993)	<i>Journal of Consumer Research</i>	Empirical (experimentalstudy)	Affect-balancetheory	- Extends customer satisfaction research by providing a multidimensional (cognitive,Affective, and attribute) of the overall satisfaction response
V17	Parasuraman et al. (1988)	<i>Journal of Retailing</i>	Empirical(survey)	NA	- Provides a multiple-item scale to measure consumer perception of service quality inservice and retailing contexts
V18	Zeithaml et al. (1993)	<i>Journal of the Academy of Marketing Science</i>	Conceptual	Expectations theory	- Provides a conceptual model of customer expectations of service with its key potentialantecedents- Identifies three different types of customer expectations that are desired, adequate and predicted- Provides 17 propositions for empirical testing

(continued on next page)

Table 1 (continued)

Variables	Publication	Source	Methodologies assumption	Theoretical assumption	Implications
V19	Richins (1997)	Journal of Consumer Research	Empirical(survey)	NA	- Provides a set of descriptors to measure emotions in the consumer experience
V20	Russell (1980)	Journal of personality and social psychology	Empirical (experimentalstudy)	NA	- Develops a reliable verbal scale for eight affective quality variables: pleasant,exciting, arousing, distressing, unpleasant, gloomy, sleepy, and relaxing
V21	Watson and Tellegen (1985)	Psychological Bulletin,	Empirical (experimentalstudy)	NA	- Identifies positive and negative affect in self-report
V22	Westbrook (1987)	Journal of Marketing Research	Empirical (experimentalstudy)	NA	- Identifies two affective responses that are positive and negative affect related to the level offavorability of consumer satisfaction
V23	Westbrook and Oliver (1991)	Journal of Consumer Research	Empirical(field survey)	NA	- Extends the existing satisfaction research by the interrelationship between thedimensionally of consumption emotions and satisfaction

### clusters (HCA)

As specified in our results, the significant correspondence between the MDS and HCA methods is perceptible. The MDS and HCA findings are discussed in this section, as they relate to the co-citation analysis for P1-P4 (1984–2005, 2006–2010; 2011–2015; 2016–2021) aiming to assess the longitudinal foundations of CX research. Tables 1, 2, 3 and 4 provide a brief review of each of the focal articles in each period. The results visualized on the two-dimension map demonstrate eight research groups in MDS and five clusters in HCA in period 1 (1984–2005), seven research groups in MDS, and six clusters in HCA in period 2 (2006–2010), eight research groups in MDS and five clusters in HCA in period 3 (2011–2015), and six research groups in MDS and six clusters in HCA in period 4 (2016–2021).

## 3. Results

To track domain-level changes, co-citation behavior expressed through the changing constitution of clusters and research groups is the key performance indicator. Additionally, we follow Zhao and Strotmann's (2015) observation that the 'locations of individual objects within groups and on the entire map may also be meaningful' (p. 51). Therefore, the distribution of clusters and research groups in the HCA/MDS map and the proximity of these events to the core, are used as indicators to weigh the influence of the knowledge fields that populate CX's intellectual structure.

### 3.1. Knowledge structure of CX research, 1984–2005

An evaluation of the CX between 1984 and 2005 (P1) shows eight research groups and five clusters (Fig. 2). On the map, we noted the presence of one dominant research chain represented as Cluster 1 (Groups 1–4 and 6) contains eight empirical publications (Holbrook et al., 1984; Watson and Tellegen, 1985; Havlena and Holbrook, 1986; Edell and Burke, 1987; Westbrook, 1987; Mano and Oliver, 1993; Oliver, 1993; Westbrook and Oliver, 1991). Overall, the topographic view of the map shows a distribution pattern that is dispersed and scattered. This diffusive state is indicative of the fundamental shifts taking place in the CX literature landscape.

Cluster 1 processes the most influential articles that focus on the satisfaction domain. For example, Oliver's two seminal articles introduce the concept of satisfaction and the nature of the multidimensionality of the satisfaction construct (Oliver, 1980,1993), while Oliver and DeSarbo (1988) and Mano and Oliver (1993) look at how hedonic and utilitarian judgment influence satisfaction and assess the effects of the five determinants of satisfaction. Similarly, Westbrook's (1987) articles study the role of the affective aspect of CX, and Westbrook and Oliver's (1991) collaboration looks at the relationship between consumption emotion and satisfaction.

At the same time, we note how the three research groups (Groups 1–3) are all anchored on a connecting event – Havlena and Holbrook

(1986). This connectional event is indicative of the *zeitgeist* of this research era. In the paper, the authors noted the increasing attention given to understanding the imaginative, emotional, and evaluative attributes of CX, such as play (Holbrook et al., 1984), feeling (Edell and Burke, 1987), fun, and fantasy (Holbrook and Hirschman, 1982). Cluster 1 is bounded by the presence of three sub-clusters (Clusters 2–4) representing the emerging areas influenced by this new affectively-oriented research outlook.

Cluster 2 containing two articles (Batra and Ray, 1986 & Holbrook and Batra, 1987) is linked thematically to two isolated events (Richins, 1997; Hoch and Ha, 1986) to the left of the map. Together these papers form an invisible arc of influence focused on examining feeling as an assessment tool in the consumption experience. Furthermore, The HCA and MDS findings (Cluster 3 and Group 7) contain two experimental publications during the P1 that examined the service experience (Hui and Bateson, 1991) and identified three components of emotional experience which are pleasure, arousal, and dominance (Russell, 1980). For example, by applying environmental psychology theory, Hui and Bateson (1991) identified perceived control and consumer choice as key antecedents of emotional and behavioural experience in a service setting. Overall, Cluster 3 represents the importance of understanding CX from an ecological perspective. This orientation would in time coalesce into consumer environment studies.

Finally, Cluster 4 (Group 8) and Cluster 5 represent the intellectual inputs emerging from another source - service marketing literature. In a service marketing historical account, the period in a discussion represents a watershed moment in service marketing history. Having overcome the initial resistance to the legitimization of service marketing as an independent domain of study, service marketing contributors in P1 were *scurrying about* (Fisk, Brown, & Bitner, 1993), busy linking core aspects of service marketing theory with prevailing consumer research models and themes. They include service and satisfaction (Zeithaml et al., 1993), service and consumer environment (Bitner, 1990; Bitner, 1992) and service and retailing (Bitner, 1990b; Bitner, 1992), service and consumer behaviour (Boulding et al., 1993). In the meantime, Parasuraman and Zeithaml (1988) and Zeithaml et al. (1993) offer a multiple-item scale to measure consumer perception of service quality. This cluster sets the stage for the eventual emergence of service marketing literature as a dominant logic in CX literature.

### 3.2. Knowledge structure of CX research, 2006–2010

An evaluation of Fig. 3 shows six clusters in the HCA and eight groups in the MDS. The knowledge fields that make up the CX literature began to differentiate as the researchers moved from focusing on consumer-centric utilitarian shopping value to both utilitarian and hedonic shopping value dimensions (e.g. Arnould and Price, 1993; Babin et al., 1994; Baker et al., 2002). The three interrelated research groups as a research chain in this cluster focus on the consumption-based affective response (Group 1), affective response and store atmosphere (Group 2),

**Table 2**  
CX Knowledge structure: 2006–2010.

Variables	Publication	Source	Methodologies	Key theories	Implications
V1	Arnould and Price (1993)	<i>Journal of Consumer Research</i>	Empirical(Mixed method, qualitative – longitudinal ethnography then quantitative)	Hedonic consumptionexperience	- Provides a good example of how to deliver an extraordinary experience – white waterriver rafting with complex features- Employs multi-methods to articulate the lived meaning of extraordinary experience from both the guides' and the consumers' perspectives- Develops a set of dimensions of extraordinary experience- Identifies three themes to explain overall satisfaction significantly- Draws attention to the temporal moment of a consumption experience, and culturalscripts on consumption experiences and satisfaction research
V2	Babin et al. (1994)	<i>Journal of Consumer Research</i>	Qualitative(focus group then interview)	Theory of utility	- Develops a two-dimensional scale for both utilitarian and hedonic shopping value- Identifies 15 items for hedonic and utilitarian shopping value dimensions
V3	Bagozzi et al. (1999)	<i>Journal of the Academy of Marketing Science</i>	Conceptual	Appraisal theory ofemotions	- Differentiates the concept of emotions from affect, moods, and attitude- Outlines an appraisal theory of emotions- Describes the measurement issues of emotions in marketing
V4	Baker et al. (2002)	<i>Journal of Marketing</i>	Empirical(experimental study – videotapes)	Inference theorySchema theoryTheory of affordances	- Develops a conceptual framework of store choice model: (1) social, design andambient as three sets of store environment cues; (2) various store choice criteria;(3) store patronage intentions- First empirical examination of a comprehensive store patronage model- First to empirically test the effects of shopping experience cost on merchandise valueand patronage intentions
V5	Bitner, 1990	<i>Journal of Marketing</i>	Empirical(experimental study)	Attribution theory	- Finds the effects of both physical environment and employee responses in theservice encounters- Proposes a conceptual framework of service encounter evaluation- Confirms the attribution-affect-behavior sequence
V6	Bitner (1992)	<i>Journal of Marketing</i>	Conceptual	Environmentalpsychology	- Presents a conceptual framework of servicescapes- Explores the impact of physical surroundings on both customers and employees
V7	Cronin et al. (2000)	<i>Journal of Retailing</i>	Empirical(survey)	Convergent theoryDivergent theory	- Identifies the model of consumer decision-making process for service products- Demonstrates the importance of measure quality, value, and satisfaction as these threevariables directly influence behavioral intentions
V8	Donovan and Rossiter (1982)	<i>Journal of Retailing</i>	Empirical(experimental study)	Mehrabian andRussel (1974) modelof environmentalpsychology	- Introduces the Mehrabian-Russell Stimulus-Organism-Response (S-O-R) paradigminto atmospheric literature
V9	Havlena and Holbrook (1986)	<i>Journal of Consumer Research</i>	Empirical(content analysis)	NA	- Assesses the comparative reliabilities and validities of Mehrabian and Russell's (1974)PAD dimensions- Identifies three useful emotional characteristics of consumption experience: pleasure, arousal, and dominance
V10	Hirschman and Holbrook (1982)	<i>Journal of Marketing</i>	Conceptual	NA	- Defines the concept of hedonic consumption- Provides a new view of consumption experience as hedonic view, methods,propositions relevant to the hedonic consumption- Extends the marketing research on consumer behavior by concerning a hedonic perspective
V11	Holbrook and Hirschman (1982)	<i>Journal of Consumer Research</i>	Conceptual	NA	- Introduces the experiential aspects of consumption that focuses on the hedonic, symbolicand aesthetic nature of consumption- Defines consumption experience as consumer fantasies, feelings, and fun fromAn experiential perspective
V12	Holbrook et al. (1984)	<i>Journal of Consumer Research</i>	Empirical(experimentalstudy)	NA	- Identifies the effect of performance, perceived complexity, and personality-gamecongruity on emotional responses and performance- Offers an important role for the competence motive in the enjoyment of games
V13	Mano and Oliver (1993)	<i>Journal of Consumer Research</i>	Empirical(survey)	NA	- Extends the notion of product evaluation into two dimensions - both hedonic and utilitarianjudgment- Identifies three aspect of post-consumption experience and its relationships, production evaluation (hedonic and utilitarian judgment as key antecedents of feeling(negative and positive affect), and consequently, to the satisfaction

(continued on next page)

Table 2 (continued)

Variables	Publication	Source	Methodologies	Key theories	Implications
V14	Oliver (1993)	Journal of Consumer Research	Empirical(experimentalstudy)	Affect-balancetheory	- Extends customer satisfaction research by providing a multidimensional (cognitive, affective, and attribute) of the overall satisfaction response
V15	Parasuraman et al. (1985)	Journal of Marketing	Conceptual(qualitative: focus group and in-depth interviews)	NA	- Proposes a conceptual model of service quality with eight propositions- Reveals 10 dimensions of service quality
V16	Parasuraman et al. (1988)	Journal of Retailing	Empirical(survey)	NA	- Provides a multiple-item scale to measure consumer perceptions of service quality in service and retailing contexts
V17	Richins (1997)	Journal of Consumer Research	Empirical(survey)	NA	- Provides a set of descriptors to measuring emotions in the consumer experience
V18	Vargo and Lusch (2004)	Journal of Marketing	Conceptual	NA	- Introduces a new service-centered dominant logic as service-dominant (S-D logic)- Proposes eight foundational premises of S-D logic
V19	Wakefield and Baker (1998)	Journal of Retailing	Empirical(experimentalstudy)	Retail location theoryMehrabian andRussel (1974) modelof environmentalpsychology	- Identifies the determinants (tenant variety, mall environment and shoppinginvolvement) and outcomes (desire to stay, outshopping, repatronage intention) of excitement at the mall- Addresses the nature of the impact of the mall environment- First to find model involvement as organism factor with shopping
V20	Westbrook (1987)	Journal of Marketing Research	Empirical(experimentalstudy)	NA	- Identifies two affective responses as positive and negative affect related to the levelof favorability of consumer satisfaction
V21	Westbrook and Oliver (1991)	Journal of Consumer Research	Empirical(field survey)	NA	- Extends the existing satisfaction research by the interrelationship between the dimensionally of consumption emotions and satisfaction
V22	Zeithaml (1988)	Journal of Marketing	Conceptual(focus group interviewand in-depthinterview)	NA	- Develops a conceptual model regarding price, perceived quality, and perceived values

and consumption experience (Group 3).

First of all, we note there is one research chain (Cluster 1 and Groups 1–3) that contains five articles (Holbrook et al., 1984; Westbrook, 1987; Mano and Oliver, 1993; Oliver, 1993; Richins, 1997). Cluster 1 in this period consists of articles that focus on the satisfaction literature, which continues to be the dominant source of intellectual structure. These articles are grounded in consumption-based affective response based on environmental psychology, and affect-balance theory as period 1 (P1). However, we noted that as research into the affective dimensions of consumption experience proceeds apace, research into conceptualizing feeling as a critical processing mechanism was gaining significant co-citation frequency evident by the increase in the share of events at the core from only 30% in P1 to 50% in period 2 (P2). Radiating from Cluster 1, three sub-clusters (Clusters 2–4) spreading out from the core expand on this emerging research theme.

For example, Holbrook et al. (1984) identified the effect of performance, perceived complexity, and personality-game congruity on hedonic experiences such as enjoyment. Later on, as research into the affective dimensions of consumption experience gathers pace, researchers are having to account for the role of affective processes, resulting in the conceptualizing of satisfaction into the two dimensions of satisfaction – *cognitive* and *affective* satisfaction. This represents the co-optation model; that is, researchers are trying to incorporate new affective inputs using existing cognition frameworks. For instance, Westbrook (1987) examines how affective inputs can be integrated into existing cognitive frameworks, while Mano and Oliver (1993) extend the notion of product evaluation into two dimensions – both *hedonic* and *utilitarian* judgment – as key antecedents of affective and cognitive satisfaction.

Furthermore, Cluster 2 contains two research groups (Group 4 and Group 5) and is anchored on Arnould and Price (1993) as the connecting event. Connected in Group 4 to Babin et al. (1994), the conflation of the two papers demonstrates how consumption experience concepts and categories have now found traction in retailing studies. Connected in Group 5 to Zaichkowsky (1985), the conflation of the two papers demonstrates the link between consumption experience and involvement.

Cluster 4 (Group 6) highlights the growing attention that researchers in P2 give to the intellectual input to CX from the ecological perspective literature centered around the consumer environment and the service-scape. From this perspective, Donovan and Rossiter (1982) applied the environmental psychology model to the CX in the retailing environment and Baker et al. (2002) focused on the influence of multiple store environments in CX. Furthermore, Cluster 5 (Group 7 in MDS) explains the link between consumption experience and emotion by classifying three basic emotional individual responses. Finally, cluster 6 argues that CX is the result of customer interaction with multiple service cues and can be measured through service quality, and value (Group 8). However, there is one cluster in the HCA results which do not exist in the MDS (Cluster 3), two articles – Holbrook and Hirschman (1982) and Hirschman and Holbrook (1982) – introduce the important role of multisensory experience. What is worth noting in P2 is that the segregation of the map into two core intellectual structures of CX in P1 shows no sign of ameliorating. In fact, the division is becoming more visible with Cluster 1 and the satellite of sub-clusters on one side of the divide and Cluster 6 representing service marketing events on the other on the fringe are all *essential papers* from service marketing literature. It seems that the fault line is not going away.

### 3.3. Knowledge structure of CX research, 2011–2016

Period 3 (P3) can be hailed as CX literature's *golden era*. From a topographic perspective, the undisputed centrality of Cluster 1 includes articles that emphasize the need to investigate the CX and different contexts, with MDS results highlighting the experiential consumption and value (Group 1), multidimensionality (Group 2), CX creation (Group 3), and experiential consumption and brand experience (Group 8). This cluster located in the middle of the map disambiguates any lingering doubts about where the core of the intellectual structure lies. CX literature from this perspective has become domain-specific in that there is broad agreement and consensus regarding the primary strands of intellectual inputs constitutive of the CX literature's intellectual structure. In contrast to the previous periods such as P1 and P2, the core cluster

**Table 3**  
CX knowledge structure: 2011–2015.

Variables	Publication	Source	Methodologies	Key theories	Implications
V1	Arnould and Price (1993)	<i>Journal of Consumer Research</i>	Empirical(Mixed method, qualitative - longitudinal ethnography then quantitative)	Hedonic consumptionexperience	- Provides a good example of how to deliver an extraordinary experience – white water river rafting with complex features- Employs multi-method articulated the live meaning of extraordinary experience from both the guides and the consumers' perspective- Develops a set of dimensions of extraordinary experience- Identifies three themes to explain overall satisfaction significantly- Draws attention to the temporal moment of a consumption experience, and cultural scripts on consumption experiences and satisfaction research
V2	Bagozzi et al. (1999)	<i>Journal of the academy of Marketing Science</i>	Conceptual	Appraisal theory of emotions	- Differentiates the concept of emotions from affect, moods, and attitude- Outlines an appraisal theory of emotions- Describes the measurement issues of emotions in marketing
V3	Bitner, 1990	<i>Journal of Marketing</i>	Empirical(experimental study)	Attribution theory	- Finds the effects of both physical environment and employee responses in this service encounters- Proposes a conceptual framework of service encounter evaluation- Confirms the attribution-affect-behavior sequence
V4	Bitner et al. (1990)	<i>Journal of Marketing</i>	Conceptual(critical incident Method – interview)	NA	- Identifies specific events and behavior that result in dis/satisfaction- Introduces the critical incident method for marketing applications
V5	Bitner (1992)	<i>Journal of Marketing</i>	Conceptual	Environmental psychology	- Presents a conceptual framework of servicescapes- Explores the impact of physical surrounding on both customers and employees
V6	Bougie et al. (2003)	<i>Journal of the Academy of Marketing Science</i>	Empirical (retrospective experiencesampling and autobiographical episodes)	Appraisal theory	- Explores the experience of anger and dissatisfaction and their impacts on consumer behavior in response to failed service encounters- Identifies anger and dissatisfaction as two different types of emotion, that also have different effects on consumer behavior
V7	Brakus et al. (2009)	<i>Journal of Marketing</i>	Conceptual(quantitative -survey)	Experiential marketing	- Defines and conceptualises the construct of brand experience- Develops a set of scales to measure the construct of brand experience- Identifies four dimensions of brand experience
V8	Fournier (1998)	<i>Journal of Consumer Research</i>	Conceptual(Qualitative –interviews)	Brand relationshiptheoryTheories of animism	- Defines and conceptualizes the consumer-brand relationship in consumer research- Provides a framework to characterize the types of consumer-brand relationship- Introduces a six-faceted model of brand relationship quality
V9	Hirschman and Holbrook (1982)	<i>Journal of Marketing</i>	Conceptual	NA	- Defines the concept of hedonic consumption- Provides a new view of consumption experience as hedonic view, methods, propositions relevant to the hedonic consumption- Extends the marketing research on consumer behavior concerning a hedonic perspective
V10	Holbrook and Hirschman (1982)	<i>Journal of Consumer Research</i>	Conceptual	NA	- Introduces the experiential aspects of consumption that focuses on hedonic, symbolic, and aesthetic nature of consumption- Defines consumption experience as consumer fantasies, feelings, and fun from experiential perspective
V11	Kozinets et al. (2004)	<i>Journal of Consumer Research</i>	Qualitative(Ethnographicstudy)	Consumer culturetheory	- Identifies the importance of technology and screens in the spectacular and themed Environment, to build limonoid elements that can affect consumer fantasy of play
V12	Meyer and Schwager (2007)	<i>Harvard Business Review</i>	Literature review	NA	- Describes three kinds of customer monitoring as past patterns, present patterns, and potential patterns- Differentiates CX management and customer relationship management
V13	Muniz and O'guinn (2001)	<i>Journal of Consumer Research</i>	Conceptual(Qualitative -Ethnographicstudy)	Consumer culturetheory	- Introduces and defines the brand community in the relationship marketing and branding literature- It moves from the traditional consumer-brand dyad to the consumer-brand-consumer triad- Shows the impact of brand community on four components of brand equity
V14	Oliver (1980)	<i>Journal of Marketing Research</i>	Empirical(experimentalstudy)	Expectationconfirmation theory	- Provides a conceptual framework of consumer satisfaction- Identifies the effect of satisfaction on attitude and purchase intention

(continued on next page)



Table 3 (continued)

Variables	Publication	Source	Methodologies	Key theories	Implications
V15	Parasuraman et al. (1988)	Journal of Retailing	Empirical(survey)	NA	- Provides a multiple-item scale to measure consumer perception of service quality inservice and retailing contexts
V16	Pine and Gilmore (1998)	Harvard Business Review	Conceptual	NA	- Introduces the idea of experience economy- Proposes four realms to design memorable CX from the firm's view:entertainment, educational, aesthetic and escapist
V17	Smith et al. (1999)	Journal of Marketing Research	Empirical(experimentalstudy)	Resource exchangeProspect theoryMental accounting	- Develops a framework of customer satisfaction and service failure/recovery encounter- Identifies the impact of service recovery on customer judgment and their perceivedjustice influences on satisfaction- Provides guidelines to managers for the recovery efforts that fit a service failure
V18	Vargo and Lusch (2004)	Journal of Marketing	Conceptual	NA	- Introduces a new service-centered dominant logic as service-dominant (S-D logic)- Proposes eight foundational premises of S-D logic
V19	Vargo and Lusch (2008)	Journal of the Academy of Marketing Science	Conceptual	NA	- Clarifies the issues associated with S-D logic (2004) publication- Revises the original foundational premise
V20	Verhoef et al. (2009)	Journal of Retailing	Conceptual	Customer valuecreation	- Proposes a conceptual framework of CX creation- Expands the existing CX literature by examining CXcreation from a holistic view- Focus on the importance of environmental factors (social features, design, and ambience) that enhance consumers' emotions (pleasure and arousal)- Identifies the importance of how past experience influences present experience
V21	Westbrook (1987)	Journal of Marketing Research	Empirical(experimentalstudy)	NA	- Identifies two affective responses are positive and negative affect related to the level ofoffavorability of consumer satisfaction
V22	Westbrook and Oliver (1991)	Journal of Consumer Research	Empirical(field survey)	NA	- Extends the existing satisfaction research by the interrelationship between thedimensionally of consumption emotions and satisfaction
V23	Zeithaml (1988)	Journal of Marketing	(focus group interviewand in-depthinterview)	NA	- Develops a conceptual model regarding price, perceived quality, and perceived values
V24	Zeithaml et al. (1996)	Journal of Marketing	Empirical(survey)	NA	- Develops a conceptual model of the impact of service quality on consumer remain anddefect behavior

(Cluster 1) is now firmly multimodular in representation, staffed by representatives from the marketing systems that define CX literature's historical development so far.

For example, in Group 1, [Arnould and Price \(1993\)](#) from experiential marketing literature paired up with [Zeithaml \(1988\)](#) from service marketing literature. In Group 2, [Brakus et al. \(2009\)](#) from branding literature paired up with [Verhoef et al. \(2009\)](#) from the customer experience domain literature. In Group 3, [Verhoef et al. \(2009\)](#) from the customer experience domain literature paired up with [Vargo and Lusch \(2004\)](#) from the service marketing literature. In Group 8, [Brakus et al. \(2009\)](#) from the brand experience literature paired up with [Holbrook and Hirschman \(1982\)](#) from consumption experience literature.

Of special mention is the high visibility of two connecting events anchoring the research chain – [Verhoef et al. \(2009\)](#) and [Brakus et al. \(2009\)](#). The emergence of [Brakus et al. \(2009\)](#) at the core as the *new face* of branding literature marks an important turn of events in CX literature where branding inputs are, for the first time, conceptualized through the experiential paradigm. The emergence of [Verhoef et al. \(2009\)](#) on the other hand, is an indication that CX literature is maturing at the core since the paper represents one of the first in the literature to provide a broad-view CX framework incorporating factors from multiple intellectual sources.

Another significant development in P3 is the emergence of Cluster 2 containing two research groups (Groups 4–5). Cluster 2 includes articles that focus on a satisfactory service encounter and consumption-based affective responses, where two research groups in this cluster highlight the satisfactory service encounter (Group 4) and service quality (Group 5) as its essential sub-dimensions ([Fig. 4](#)) aligned to the left of the

core. Most of the events representing satisfaction literature which in the previous two periods were all located at the core are now relegated to this satellite cluster. This change of circumstances, in our view, represents a major systemic shift which has profound implications for explaining the role and contribution of the satisfaction domain to CX literature.

Encircling the core are three sub-clusters (Clusters 3–4 and 6) that expand different aspects of the CX management theme. For example, [Meyer and Schwager \(2007\)](#) with [Arnould and Price \(1993\)](#) in Cluster 3 explain how elements in the environment can be conscripted to create a memorable CX. Similar to Cluster 3, Clusters 4 and 6 comprise articles that signify hedonic consumption, the unsatisfactory service encounter, and the servicescape. In this cluster, Group 7 investigates the unsatisfactory service encounter. However, there is one cluster in the HCA results which does not exist in the MDS (Cluster 5): two articles – [Bougie et al. \(2003\)](#) explored two types of negative experiences such as anger and dissatisfaction and their impacts on consumer response to failed service encounters, while [Pine and Gilmore \(1998\)](#) focused on how to design entrainment, educational, aesthetic, and escapist factors to contribute to a memorable customer experience from a managerial point of view. These two papers enumerate on how researchers use metaphors like interpersonal relationship and the stage to explain the nature of CX.

#### 3.4. Knowledge structure of CX research, 2016–2021

In Period 4 (P4), we noted further consolidation as key knowledge fields broaden the scope and depth of their influence on CXL's intellectual structure, as researchers focus on value creation and service-

**Table 4**  
CX Knowledge structure: 2016–2021.

Variables	Publication	Source	Methodologies	Key theories	Implications
V1	Arnould and Price (1993)	<i>Journal of Consumer Research</i>	Empirical(Mixed method, qualitative - longitudinal ethnography then quantitative)	Hedonic consumptionExperience	- Provides a good example of how to deliver an extraordinary experience – white water river rafting with complex features- Employs multi-method articulated the live meaning of extraordinary experience from both the guides and the consumers' perspective- Develops a set of dimensions of extraordinary experience- Identifies three themes to explain overall satisfaction significantly- Drawing attention to the temporal moment of a consumption experience, and cultural scripts on consumption experiences and satisfaction research
V2	Berry et al. (2002)	<i>MIT Sloan management review</i>	Literature review	NA	- Suggests firms must orchestrate all the “clues” that they are sending to customers in order to managing the total CX, including the functioning of the good and bad service and emotions- Suggests that firms must understand the customer’s journey in the buying processes
V3	Bitner (1992)	<i>Journal of Marketing</i>	Conceptual	EnvironmentalPsychology	- Presents a conceptual framework of service escapes- Explores the impact of physical surrounding on both customers and employees
V4	Brakus et al. (2009)	<i>Journal of Marketing</i>	Conceptual(quantitative –survey)	Experiential marketing	- Defines and conceptualize the construct of brand experience- Develops a set of scale to measure the construct of brand experience- Identifies four dimensions of brand experience
V5	Carù and Cova (2003)	<i>Marketing Theory</i>	Literature review	NA	- Review the different meaning of the word “experience”- Move from extraordinary experiences to everyday services as experiences
V6	Fournier (1998)	<i>Journal of Consumer Research</i>	Conceptual(Qualitative -interviews)	Brand relationshiptheoryTheories of animism	- Defines and conceptualize the consumer-brand relationship research in consumer research- Provides a framework to characterize the types of consumer-brand relationship- Introduces six-faceted of brand relationship quality
V7	Grewal et al. (2009)	<i>Journal of Retailing</i>	Conceptual	NA	- Provides a framework of retail CX- Highlights the importance role of macro factors (promotion, price, merchandise, Supply chain and location) on CX in retail environment
V8	Hirschman and Holbrook (1982)	<i>Journal of Marketing</i>	Conceptual	NA	- Defines the concept of hedonic consumption- Provides a new view of consumption experience as hedonic view, methods, propositions relevant to the hedonic consumption- Extend the marketing research on consumer behaviour by concern a hedonic perspective
V9	Holbrook and Hirschman (1982)	<i>Journal of Consumer Research</i>	Conceptual	NA	- Introduces the experiential aspects of consumption that focuses on hedonic, symbolic and aesthetic nature of consumption- Defines consumption experience as consumer fantasies, feeling and fun from experiential perspective
V10	Lemke et al. (2011)	<i>Journal of the Academy of Marketing Science</i>	Conceptual(qualitative-interview)	Service-dominant logic	- Develops a conceptual model of CX quality- Identifies the moderating role of value in-use between 3 encounters (communication, service and usage) and relationship outcomes- Defines the CX quality
V11	Lemon and Verhoef (2016)	<i>Journal of Marketing</i>	Conceptual	NA	- Develops a customer journey model from different aspects of marketing literature(customer satisfaction, customer management, service quality and relationship marketing)
V12	Meyer and Schwager (2007)	<i>Harvard Business Review</i>	Literature review	NA	- Describes three kinds of customer monitoring are past patterns, present patterns and Potential patterns- Differentiates CX management and customer relationship management
V13	Ostrom et al. (2015)	<i>Journal of Service Research</i>	Mixed-method(qualitative then quantitative)	Customer service theory	- Proposes a framework of service research with 12 research priorities and subtopics
V14	Parasuraman et al. (1988)	<i>Journal of Retailing</i>	Empirical(survey)	NA	- Provides a multiple-item scale to measure consumers' perceptions of service quality in service and retailing contexts
V15	Payne et al. (2008)	<i>Journal of the Academy of Marketing Science</i>	Conceptual	Customer value creation	- Develops a conceptual framework of value co-creation, considering value, CX, consumer behavior, business processes and relationship marketing- Proposes three key processes (customer, encounters and supplier) in managing value co-creation
V16	Pine and Gilmore (1998)	<i>Harvard Business Review</i>	Literature review	NA	- Introduces the idea of experience economy- Proposes four realms to design memorable CX from the firm's view: entertainment, educational, aesthetic and escapist

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Table 4 (continued)

Variables	Publication	Source	Methodologies	Key theories	Implications
V17	Vargo and Lusch (2004)	Journal of Marketing	Conceptual	NA	- Introduces a new service-centered dominant logic as service-dominant (S-D logic)- Proposed 8 foundational premises of S-D logic
V18	Vargo and Lusch (2008)	Journal of the academy of Marketing Science	Literature review	NA	- Clarifies the issues associated with S-D logic (2004) publication- Revises the original foundational premise
V19	Vargo and Lusch (2016)	Journal of the academy of Marketing Science	Conceptual	Service-dominant logic	- Updates the existing foundational premises of S-D logic: a set of axioms, the adjustthe language, need for consistency- Highlights the service ecosystem concept- Explores the role of institutions in value creation
V20	Verhoef et al. (2009)	Journal of Retailing	Conceptual	Customer valuecreation	- Proposes a conceptual framework of CX creation- Expands the existing CX literature by examining CXcreation from a holistic view- Focuses on the importance of environmental factors (social features, design, and Ambience) that enhance consumers' emotions (pleasure and arousal)- Identifies the importance of past experience influences present experience
V21	Zeithaml (1988)	Journal of Marketing	Conceptual(focus group interviewand in-depthinterview)	NA	- Develops a conceptual model regarding price, perceived quality, and perceived values
V22	Zeithaml et al. (1996)	Journal of Marketing	Empirical(survey)	NA	- Develops a conceptual model of the impact of service quality on consumer remain anddefect behavior

dominant logic (Fig. 5). Cluster 1 as the core knowledge in CX's knowledge foundation contains four research groups that show an emphasis on CX and the customer journey (Group 1), CX and firm-controlled cues (Group 2), consumption experience (Group 3), and emergent cues and CX (Group 4). Next, two linked research groups appeared in this research period with one focusing on value co-creation (Group 5) and the other on service-dominant logic (Group 6) (Fig. 5). Together, these two groups form a cluster focusing on value co-creation in the CX domain (Cluster 2). The other clusters focus on enhancing the service experience (Cluster 3), total CX management (Cluster 4), the value in context (Cluster 5), and the quality of CX (Cluster 6).

In this period, two connecting articles (Brakus et al., 2009; Verhoef et al., 2009) in Cluster 1 are carry-overs from P3. Brakus et al.'s (2009) high co-citation profile (three out of four research groups) re-enforces the view that brand experience inputs are gaining traction among CX literature contributors. Of special note is Lemon and Verhoef's (2016) article in Group 1. The paper's extensive conceptual-historical narrative of the customer journey construct highlighted the need to recognize the contribution of intellectual inputs from both inside and outside the service marketing domain including non-service domain inputs, such as buying behavior process models and customer satisfaction and brand loyalty studies as important sources of knowledge.

Next, Clusters 2 represent the broadening of the service marketing literature as service-dominant logic themes gain sufficient co-citation mileage to occupy two separate clusters on the map. Dominant logic has extended the frontiers of literature to link service marketing with the experiential paradigm and, therefore, has entrenched service as a distinct but fundamental component of CX. Increasingly, and inevitably, Rust and Huang (2014) commented, "all of marketing will come to resemble to a greater degree the formerly specialized area of service marketing" (p. 206). From the map it is significant that, from a proximity perspective, Cluster 5 with its emphasis on *older* service marketing concepts has, in comparison to Cluster 2, now grown distal from the core.

Radiating from the core, Clusters 6 and 4 as extensions of the core as contributors become more adept at finding convergence between key knowledge fields. For example, in Cluster 6, the conflation of Caru and Cova (2003) and Pine and Gilmore (1998) represents the convergence of consumption experience and experiential marketing ideas. In Cluster 4, a diversity of intellectual inputs is represented here including Zeithaml et al. (1996) who focused on CX from the service marketing literature, Fournier (1998) who focused on CX from the branding literature, and

Hirschman and Holbrook (1982) who focused on CX from the consumption experience literature.

Finally, Cluster 3, located to the far right of the map, the conflation of Muniz and O'guinn (2001) and Vargo and Lusch (2008) represents the convergence of research into the social dimensions of branding and service-dominant logic. Accordingly, a brand is viewed as a continuous social process (e.g., Muniz et al. 2001) whereby brand value is being co-created through stakeholder-based negotiations (e.g., Brodie 2009; Brodie et al., 2009). Thus, the focus of brand value creation is on the stakeholders. In support of this view, Ballantyne and Aitken (2007) argued that any brand is dynamically constructed through social interactions and thus its value is located in the minds of its customers and the wider group of opinion makers and stakeholders.

#### 4. Discussion

An overview of CX's foundational knowledge over the four periods shows a multivocal and energetic intellectual structure defined by the interplay of competing representations from both established and emerging domains. In this section, we first compare the HCA and MDS results to identify the longitudinal development of CX. Next, based on the findings of co-citation analysis, observations of proximate and distal relationships between clusters and research groups have yielded some very useful insights into the modular nature of CX literature.

##### 4.1. Customer experience longitudinal development—A comparative perspective of HCA and MDS

To identify the longitudinal development of CX, we followed the existing bibliometric scholars to compare the findings from MDS and HCA (Akbari et al., 2022; Zha et al., 2022; Chaboskwi and Samiee, 2023). The finding shows that the modular nature of CX literature includes three key logics: (1) Experiential Marketing Logic; (2) Service Marketing Logic; and (3) Branding Logic. Table 5 summarizes the key findings. In P1, three general topics have been confirmed based on both the findings of HCA and MDS; these are *emotional consumption experience, service experience and model of affect, and service encounters and satisfaction*. In addition, two methods confirmed the modular nature of service marketing logic and experiential marketing logic in the CX literature. In P2, five general topics can be identified across two methods. Similar to P1, scholars emphasized experiential marketing logic and service marketing logic but added insights on the topic *value*



2011-2015

2016-2021

P3

P4

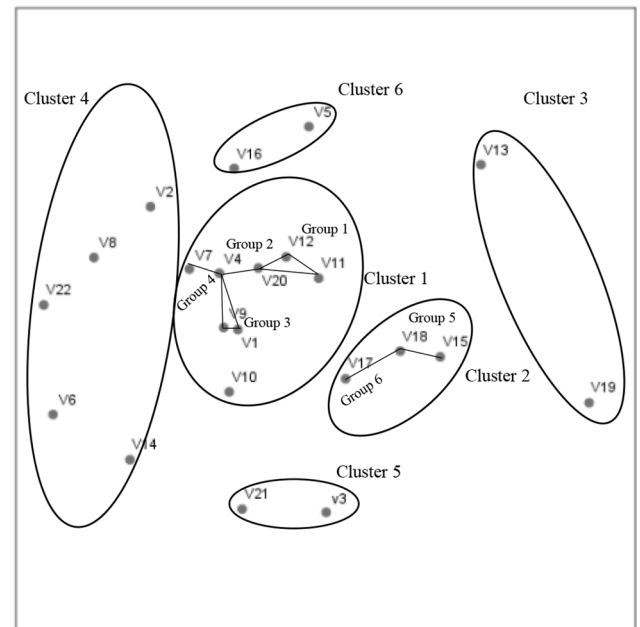
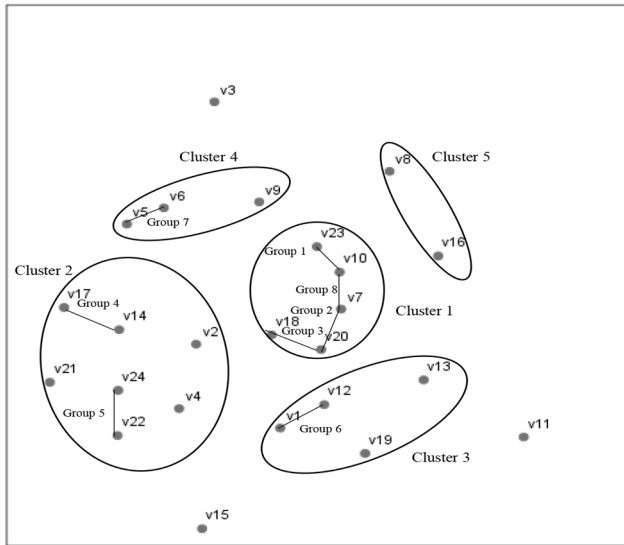


Fig. 4. CX knowledge structure. Notes: Stress value = 0.04398; standardized Euclidean distance 0.25. V1 = Arnould and Price 1993; V2 = Bagozzi et al., 1999; V3 = Bitner M, 1990; V4 = Bitner, 1990; V5 = Bitner 1992; V6 = Bougie et al., 2003; V7 = Brakus et al., 2009; V8 = Fournier 1998; V9 = Hirschman and Holbrook 1982; V10 = Holbrook and Hirschman 1982; V11 = Kozinets 2004; V12 = Meyer and Schwager 2007; V13 = Muniz and O’guinn 2001; V14 = Oliver 1980; V15 = Parasuraman et al., 1988; V16 = Pine and Gilmore 1998; V17 = Smith et al., 1999; V18 = Vargo and Lusch 2004; V19 = Vargo and Lusch 2008; V20 and relationship marketing theory; Cluster 5 (V3, V21): quality, value, and service escape;; Cluster 6 (V5, 16): experience economy.

Fig. 5. CX knowledge structure. Notes: Stress value = 0.04398; standardized Euclidean distance 0.25 V1 = Arnould and Price 1993; V2 = Berry et al., 2002; V3 = Bitner 1992; V4 = Brakus et al., 2009; V5 = Carù, and Cova 2003; V6 = Fournier 1998; V7 = Grewal et al., 2009; V8 = Hirschman and Holbrook 1982; V9 = Holbrook and Hirschman 1982; V10 = Lemke et al., 2011; V11 = Lemon and Verhoef 2016; V12 = Meyer and Schwager 2007; V13 = Ostrom et al., 2015; V14 = Parasuraman et al., 1988; V15 = Payne et al., 2008; V16 = Pine and Gilmore 1998; V17 = Vargo and Lusch 2004; V18 = Vargo and Lusch 2008; V19 = Vargo and Lusch 2016; V20 = Verhoef et al., 2009; V21 = Zeithaml 1988; V22 = Zeithaml et al.1996 Group 1 (V11, V12, V20): CX creation and customer journey; Group 2 (V4, V20): multidimensionality; Group 3 (V1, V9, V4): brand experience and experiential consumption experience; Group 4 (V4, V7): Improving CX through technology; Group 5 (V15, V18): value co-creation; Group 6 (V17, V18): service-dominant logic (evolved) Cluster 1 (V7, V4, V1, V9, V20, V12, V11): brand experience, extraordinary CX, CX creation and customer journey; Cluster 2 (V15, V18, V17): service dominant logics and value co-creation;; Cluster 3 (V13, V19): service research and service dominant logics; Cluster 4 (V2, V8, V22, V6, V14): service quality, CX management, hedonic consumption, and relationship marketing theory; Cluster 5 (V3, V21): quality, value, and service escape;; Cluster 6 (V5, 16): experience economy.

multimodular mind.

In P1, contributors anchored on this modular view of the consumer examine this hedonic system by looking at some of its defining characteristics: its play mechanism (Holbrook et al., 1984), its automatic mechanism (Holbrook and Barta, 1987) and its multimodal properties (Hirschman and Holbrook, 1982) activated in response to sensory cues in the environment (Donovan and Rossiter, 1982; Hui and Bateson, 1991). In P2, as this strand of research gathers pace, researchers become increasingly aware that the search for hedonic gratification is not simply an instrument for pleasure, but it is an assessment tool that consumers acquire to interact with, ascribe value to, and relate to a product or a brand. Apart from assessing the suitability of content, the body also appraises the pleasurability of the consumption experience (Berridge and Kringlebach, 2015). In P3 and P4, researchers began looking at how firms can develop tools to create and manage hedonic experiences (e.g., Pine and Gilmore, 1998, Verhoef et al., 2009). Overall, over the over periods of the history of CX literature, this view of the hedonic consumer – how we view what the customer needs and the corresponding response of the firm – why we do what we are doing is a narrative of experiential marketing logic as an indispensable component of the CX literature’s intellectual structure.

In P1, we note another group of researchers focused on another modular view of the consumer, service marketing domain. This cohort of closely knitted scholars are also feeling the winds of change, a period described in service marketing historical account as an era of *scurrying about* (Fisk et al., 1993). Whereas the conversation in the previous era centered around the goods versus services marketing debate, contributors in this period spent time working on the parameters of service marketing revolving around the concept of *service quality*.

In Parasuraman et al.’s (1988) multiple-item scale for measuring consumer perceptions of service quality (Servqual), widely considered the standard-bearer for service marketing literature, optimization of a

service-based CX can be realized through five types of service qualities - tangibility, responsive, assurance, reliability and empathy. For example, tangibility refers to a set of complementary tools – physical or virtual – that customers can readily access to facilitate their journey to the desired customer experience. These tools include, for example, a user-friendly mobile phone that ensure quick access to telephonic experiences, and built-in reversing cameras that ensure a safe parking experience. Or when an offering is backed up by assurance, it means the customer is shielded from exposure to unnecessary risk on their pathway to the desired customer experience. Service quality shortens the pathway to the acquisition of the desired CX.

In P3 and P4, this view of the consumer’s need for service quality is further expanded through service-dominant logic’s reconceptualization of the macro-marketing structure so that the service aspect of consumption is now an indispensable component of all marketing behavior. This logic (1) considers service to be the common denominator of exchange; (2) embraces a process-orientation (“service”), rather than an output orientation (“goods and services”), Grounded in the convergence of these theoretical developments, Vargo and Lusch (2004a; 2008) suggested that marketing is evolving toward a service-based model of all

**Table 5**  
HCA and MDS alignment of knowledge structure within the CX literature and multiple logics.

Time Periods	HCA (Clusters)	MDS (Groups)	Comparison of HCA and MDS	Experiential Marketing Logic	Branding Logic	Service Marketing Logic
P11984–2005	<ul style="list-style-type: none"> <li>• Consumption experience emotion (1)</li> <li>• Affective response (2)</li> <li>• Service experience and model of affect (3)</li> <li>• Satisfaction and service encounter (4)</li> <li>• Service quality and customer expectation (5)</li> </ul>	<ul style="list-style-type: none"> <li>• Consumption experience and emotions (1)</li> <li>• Consumption experience and emotions dimensionality (2)</li> <li>• Consumption experience and affective response (3)</li> <li>• Affective response and satisfaction (4)</li> <li>• Emotions and satisfaction (5)</li> <li>• Emotions (6)</li> <li>• Service experience and model of affect (7)</li> <li>• Service encounters and satisfaction (8)</li> </ul>	Emotional Consumption Experience(Cluster 1, Groups 1–6)Service Experience and Model of Affect(Cluster 3, Group 7)Service Encounters and Satisfaction(Cluster 4, Group 8)	✓ Hedonic experience: Play mechanism, automatic mechanism, and multimodal properties activated in response to sensory cues in the environment	N/A	✓ Service experience:Service encounters and satisfaction
P22006–2010	<ul style="list-style-type: none"> <li>• Consumption-based affective response and environmental psychology (1)</li> <li>• Extraordinary CX, hedonic and utilitarian value, and involvement (2)</li> <li>• Hedonic consumption and experiential consumption (3)</li> <li>• Service encounter and customer response (4)</li> <li>• Consumption experience and emotion (5)</li> <li>• Quality and value (6)</li> </ul>	<ul style="list-style-type: none"> <li>• Consumption-based affective response (1)</li> <li>• Affective response and store atmosphere (2)</li> <li>• Consumption experience (3)</li> <li>• Extraordinary CX and hedonic and utilitarian value (4)</li> <li>• Extraordinary CX and involvement (5)</li> <li>• Service encounter response (6)</li> <li>• Consumption experience and emotion (7)</li> <li>• Value, price, and quality from customer perspective (8)</li> </ul>	Consumption-based Affective Response and Environmental Psychology(Cluster 1, Groups 1–3) Consumption Experience and Emotion(Cluster 5, Groups 7)Service Encounter and Customer Response (Cluster 4, Group 6) Extraordinary CX, Hedonic and Utilitarian Value, and Involvement(Cluster 2, Groups 4–5)	✓ Hedonic gratification: an assessment tool that consumers acquire to interact with, ascribe value to, and relate to a product or a brand	N/A	✓ Service quality: service-based CX can be realized through five types of service qualities—tangibility, responsive, assurance, reliability and empathy
P32011–2015	<ul style="list-style-type: none"> <li>• Consumer experience and different contexts (1)</li> <li>• Satisfactory service encounter and Consumption-based affective responses (2)</li> <li>• Service ecosystem and extraordinary experience (3)</li> <li>• Hedonic consumption, dissatisfactory service encounter, and servicescape (4)</li> <li>• Experience economy and relationship marketing theory (5)</li> </ul>	<ul style="list-style-type: none"> <li>• Experiential consumption and value (1)</li> <li>• Multidimensionality (2)</li> <li>• Satisfactory service encounter (3)</li> <li>• Service quality (4)</li> <li>• Extraordinary CX (5)</li> <li>• Unsatisfactory service encounter (6)</li> <li>• Service experience and model of affect (7)</li> <li>• Experiential consumption and brand experience (8)</li> </ul>	Customer Experience and Different Contexts (Cluster 1, Groups 1–3, 8)Service Ecosystem and Extraordinary Experience(Cluster 3, Group 6)Satisfactory Service Encounter and Consumption-based Affective Responses (Cluster 2, Groups 4–5) Hedonic Consumption, Dissatisfactory Service Encounter, and Servicescape(Cluster 4, Group 7)	✓ Hedonic experience: How firms can develop tools to create and manage hedonic experiences	✓ Brand meaning:A brand can acquire different meaning in many ways	✓ Service-dominant logic and satisfaction:service-dominant logic’s reconceptualization of the macro-marketing structure so that the service aspect of consumption is now an indispensable component of all marketing behavior
P42016–2020	<ul style="list-style-type: none"> <li>• Brand experience, extraordinary CX, CX creation and customer journey (1)</li> <li>• Service dominant logics and value co-creation (2)</li> <li>• Service research and service-dominant logics (3)</li> <li>• Service quality, CX management, hedonic consumption, and relationship marketing theory (4)</li> </ul>	<ul style="list-style-type: none"> <li>• CX creation and customer journey (1)</li> <li>• Multidimensionality (2)</li> <li>• Brand experience and experiential consumption experience (3)</li> <li>• Improving CX through technology (4)</li> <li>• Value co-creation (5)</li> <li>• Service-dominant logic (6)</li> </ul>	Brand Experience, Extraordinary CX, CX creation and Customer Journey(Cluster 1, Groups 1–4)Service Dominant Logics and Value Co-creation (Cluster 2, Groups 5–6)	✓ Hedonic experience: How firms can develop tools to create and manage hedonic experiences	✓ Brand experience: customer sensorial, affective, cognitive and behavioral response to a brand’s touchpoints when they have interacted with a brand’s product or service	✓ Service-dominant logic:This logic (1) considers service to be the common denominator of exchange; (2) embraces a process-orientation (“service”), rather than an output orientation (“goods and services”)

(continued on next page)

Table 5 (continued)

Time Periods	HCA (Clusters)	MDS (Groups)	Comparison of HCA and MDS	Experiential Marketing Logic	Branding Logic	Service Marketing Logic
	<ul style="list-style-type: none"> <li>• Quality, value, and service escape (5)</li> <li>• Experience economy (6)</li> </ul>					

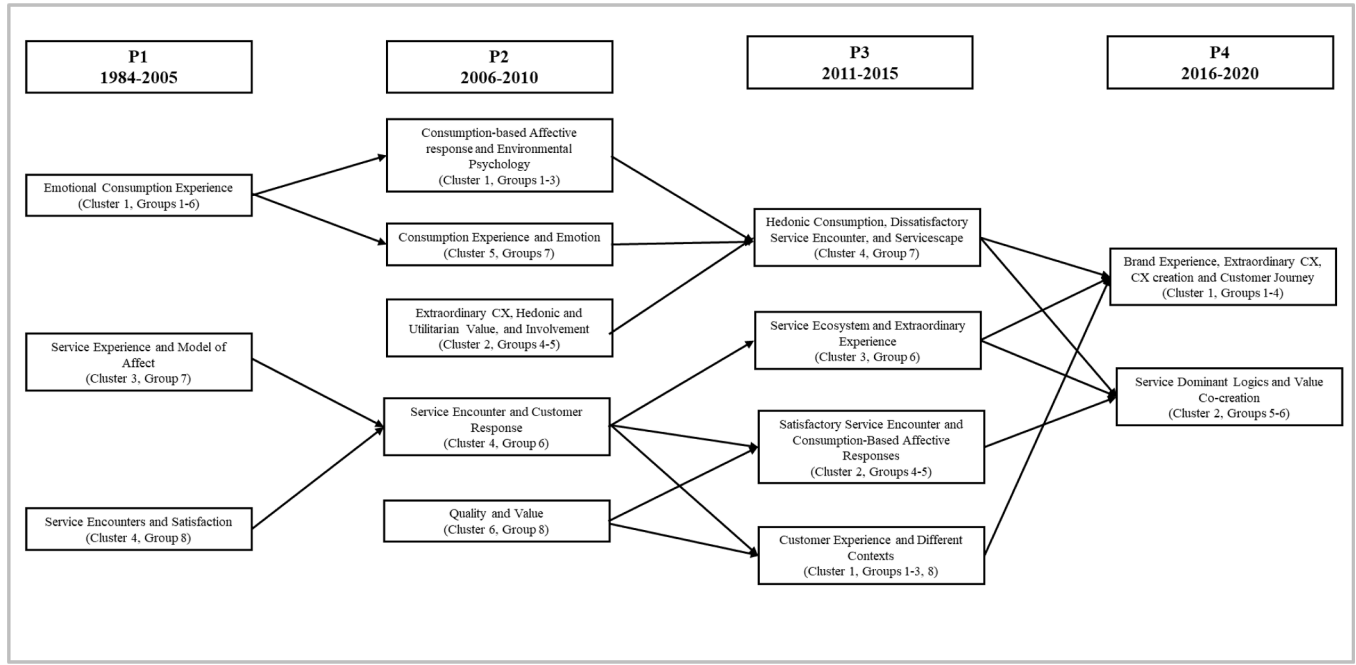


Fig. 6. CX knowledge structure development.

exchange, which has now become known as “service-dominant (S-D) logic”; and (3) makes the customer endogenous to value creation by arguing that value is always co-created with customers (and others), rather than unilaterally created by the firm and then distributed. From this perspective, goods remain important but are identified as vehicles for service provision.

In the four periods, we also note how CX literature contributors draw a great deal of intellectual input from satisfaction literature, which may seem counter-intuitive to some because the satisfaction variable has always been viewed as cognitive-heavy, a legacy from the information processing tradition. Such a stereotypical view is unjustifiable when we note how contributors in the period also devoted a great effort to study the affective dimensions of the satisfaction construct. For example, Mano and Oliver’s (1993) work looked at how hedonic and utilitarian judgment influence satisfaction and Westbrook’s (1987) study focused on the role of the affective on the favorability variable in consumer satisfaction.

A closer scrutiny of this knowledge field shows that the satisfaction variable as a composite of two constructs – the expectation construct, which is a predictive device based on the computation of data available to the consumer prior to the consumption event and the bipolar disconfirmation construct, which is the matching of expected values with the actual experiential values. If values match, the event is satisfactory, if it falls below the expected value, it is unsatisfactory. According to Oliver (1981), the expectation which is a form of prediction modelling based on the processing of “consumer-defined probabilities of the occurrence of positive and negative events” is the foundation of the customer satisfaction/dissatisfaction model (p. 33).

Satisfaction is an assessment tool favored by the organism because it optimizes energy used for decision making by storing a list of priors so

that no unnecessary energy is required to re-enact the expectation/disconfirmation cycle. Once an event has been registered as satisfactory, it is swiftly deposited into memory so that, in a future event, the brain uses the learned parameters as heuristics for decision making. In P3, although we note the decline of co-citation frequency of satisfaction literature, the influence of branding logic is now replaced by brand experience literature (Brakus et al., 2009). This shows the resilience of branding logic as a major marketing system in CX literature. The brand experience framework considerably broadens the bandwidth of data extraction. The extraction of meaning is different from the extraction of data. Meaning relates to what is extracted with the embodied which includes bodily and subjective selves.

#### 4.3. Modularity approach

Throughout the analysis on the longitudinal development of CX’s intellectual structure, three questions guided our evaluation: (1) the persistency question—*Is the marketing system/logic driving the co-citation behaviour a persistent co-citation characteristic throughout the 4 periods?*, (2) the consistency question—*Is the marketing system/logic driving co-citation behaviour consistent in explaining the thematic variations in the family of constructs?* (3) the modularity question—*Is the marketing system/logic that has been identified sufficiently circumscribed and functionally well-defined to qualify as a consumption module?* Based on these criteria, three sets of marketing systems/logics are identified in the longitudinal analysis of CX’s intellectual structure: service marketing system/logic, experiential marketing system/logic, and branding system/logic. In our view, these three types of marketing systems/logics are reflective of how researchers respond to the cognitive architecture of the consumer, and thus allude to an internal consumption architecture that is modularized

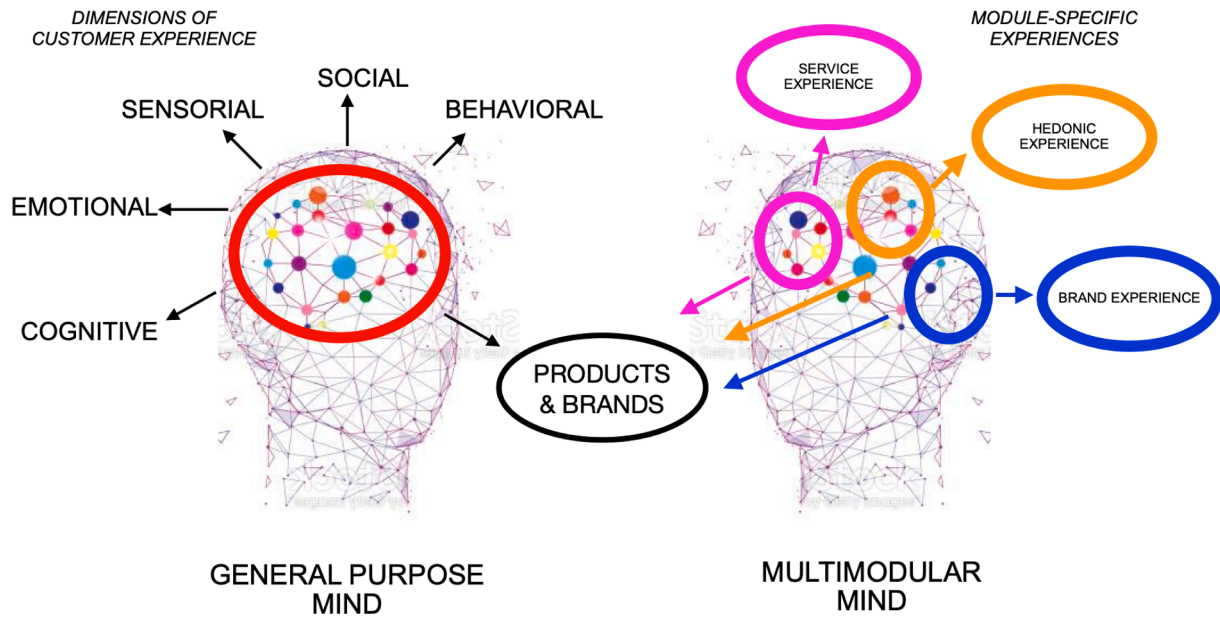


Fig. 7. Modular consumption experience.

and functionally specialized; one that is also highly encapsulated and restricted in the processing of consumption data.

At the systemic level, three sets of primary mechanisms or instincts drive our consumption behavior (Barrett and Kurzban, 2012). These three systems work independently, function differently, have their origins in different motivations, are propelled by different drivers and goals, and are governed by different values and parameters. They sometimes work in parallel, sometimes work at odds with one another, and oftentimes are locked in contradictory and competing representations. Much of our consumption behavior observed at the phenomenal level can be traced to these three primary systems deeply engrained in our cognitive makeup.

In this sense, our analysis corresponds with the modularity view expounded in the evolutionary psychology literature, network theory literature, and organizational behavior literature that views the mind as

a population of discreet systems, composed of highly specialized psychological mechanisms rather than domain-general ones (Chiappe and Gardner, 2012). Also called modules, these systems are functionally efficient in processing information in specific content domains (domain specificity) restricted to the exploitation of a bounded database; a feature known as *information encapsulation*. Through localization, the organism optimizes energy output by ensuring that extraction of data is confined to those which are pertinent to the domain by encapsulation. At the same time, the mind optimizes energy output by ensuring that only relevant data are onboarded for processing. By automaticity, the mind optimizes energy output by ensuring that response mechanisms are *pre-programmed* for automatic activation. Modules are, therefore, the organism’s optimization tools.

From this perspective, the underlying mechanisms observed in a consumption cycle, evident in our longitudinal analysis, can be

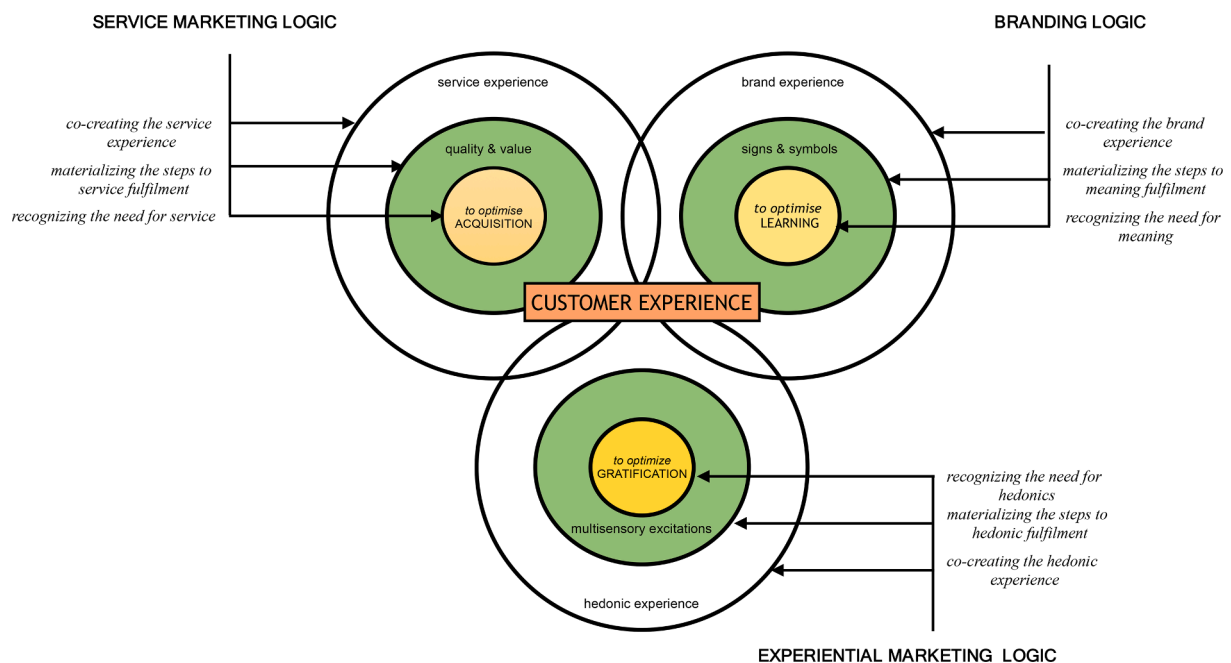


Fig. 8. CX modularity framework.



**Table 6**  
Theoretical definitions of the modularity approach with three logics.

Modularity approach	Definitions	Implications to CX	Suggested Reference
	<i>Evolutionary psychology perspective</i> The evolutionary psychology modularity approach views the brain as a heterogeneous network populated by modules which are evolved mechanisms designed to process information in particular content domains (domain specificity) by exploiting a restricted database (information encapsulation). These modules are innate, associated with localized brain circuitry, automatic in their operation.	The consumer mind is composed of a heterogenous mix of functionally specialized consumption modules which are designed to address specific types of problems in a consumption cycle and extract specific sets of data from the consumption environment.	Chiappe and Gardner (2012). Tooby and Cosmides (2015); Barrett and Kurzban (2012); Cohen and Bernard (2013); Kenrick et al. (2013)
	<i>Management and Product Innovation Perspective</i> The management modularity approach views modularity as an attribute of a complex system. It advocates designing structures based on minimizing interdependence between modules and maximizing interdependence within them that can be mixed and matched in order to obtain new configurations without loss of the system's functionality or performance (Langlois, 1992; Baldwin and Clark, 1997).	Customer experience as a multifaceted concept composed of a variety of intellectual inputs from multiple literary sources is a complex entity. As such it should be viewed and conceptualised as a multimodular perspective requires theoretical tools and skillsets capable of decomposing multimodular nature and character.	Campagnolo and Camuffo (2010); Elia et al. (2019); Leo (2020); Lau et al. (2011); Xiao and Zhang (2021)
	<i>Customer experience perspective</i> The CX modularity approach views the consumer mind as functionally governed by three types of innate neuropsychological mechanisms including the need to optimize acquisition (service experience), the need to optimize gratification (hedonic experience), and the need to optimize learning (brand experience).		
<b>Multi-logics framework</b>	The Multi-logics Framework is based on the premise that, in response to a modular view of the consumer mind, firms need to use multiple types of logic to address multimodular needs. To address the need for service experience, firms need to understand and apply service marketing logic; to address the need for hedonic experience, firms need to understand and apply experiential marketing logic; to address the need for branding experience, firms need to understand and apply brand logic.	The acknowledging a modular view of the consumer requires the concomitant application of multiple logics in response to the need for multiple types of experiences.	Ratneshwar et al., (2000); Prahalad and Ramaswamy (2004)
<b>Service marketing logic</b>	A view of the consumption process that sees value as co-created within a system of service exchange where all stakeholders participate through the exchange of service know-how, service tools, and service resources to offer the customer efficient acquisition of consumption targets.	Recognizing the need to optimize acquisition. Materializing the steps to service experience. Co-creating the service experience.	Grönroos (2006); Grönroos and Gummerus (2014); Vargo and Lusch (2017)
<b>Experiential marketing logic</b>	A view of consumption process that focuses on the creation of a memorable customer experience based on the assumption that customers come into the marketplace canvassing for offerings that are not only economically viable but also sensorially stimulating, aesthetically gratifying, and emotionally satisfying.	Recognizing the need to optimize gratification. Materializing the steps to hedonic fulfilment. Co-creating the hedonic experience.	Schmitt (2011); Lanier and Hampton (2016); Lindgreen et al. (2009).

conceived as consumption skillsets, adapted to solve particular types of problems specific to the consumption cycle to improve the chances of survival in a resource-scarce and highly competitive environment. In this regard, it is important to consider these cognitive adaptations as functionally specialized traits or *programs* (Cosmides and Tooby, 2013) whose primary role it is to modulate, coordinate, and maximize the means to consumption. The goal, optimization, is therefore to maximise gain with the limited resources that an organism possesses.

We also note evolutionary psychology's characterization of modularity as a kind of functional specialization (Barrett and Kurzban, 2012). To optimize, a psychological mechanism is functionally specialized to the extent that it carries out "a restricted range of processes" to deal with a "restricted range of subject matter", so that the organism is efficient at delivering a familiar range of optimized solutions (Fodor, 1983, p.103). In consumption theory, consumer behavioral mechanisms have restrictive quality, in that they limit the range of search and acquisition behavior (e.g., brand attachment behavior), the range of stable and trusted brand choices (e.g., brand loyalty behaviour), and the range of product assessment (e.g., brand satisfaction) to help the consumer save time and resources and optimize consumption.

However, since each mechanism is purpose-built to deliver a particular type of solution to a particular type of problem, they each offer an assessment of the CX event based on what they are *pre-trained* to do. The service marketing module will assess whether the acquisition has been productive and efficient, the experiential marketing module

will assess whether the event has been pleasurable and gratifying, the branding module will assess whether the extraction of meaningful data has been optimised. So, the motivation to optimize the acquisition of consumption resources results in acquisition-optimized experience or service experience. The motivation to optimize gratification results in the gratification-optimized experience of hedonic experience. The motivation to optimize data extraction results in a brand experience since a *brand* is really a *bundle of information* created to help consumers search and identify products and offerings they want. In this sense, when data extracted from a consumption event turns out to be *meaningful*, the event generates a brand experience (see Fig. 7).

Finally, a modular view of the consumer implies that, for a firm to respond adequately, its marketing logic needs to be modularised, to explain how marketers perceive the customer motivation such as concepts, motives, goals, and desires via experience. Scholars such as Morrin and Ratneshwar (2000) argue that it is important to determine the logic to measure marketing behavior. Prahalad and Ramaswamy (2004) described marketing logics as lenses through which the firm appraises the needs and desires of the customer in order to fashion an offering tailored to meet the needs of the customer. Therefore, a modular view of the consumer requires a modular CX framework that allows the functioning of multiple sets of marketing logic.

## 5. Modular CX framework

The discussion provides the building blocks on which a modular CX framework (MCX) is envisaged. Fig. 8 offers a visualisation of the framework where a set of modularised marketing logics are superimposed onto a modular view of the consumer visualised as three concentric circles. The three concentric circles represent the three types of consumption modules extrapolated from the findings. The inner circles represent the customer's need to optimise acquisition, need to optimise gratification and need to optimise learning in a purchasing cycle. The middle circles represent the types of tools (software or hardware, physical or virtual) customers look to acquire in the marketplace to realise the desired consumption experiences. Finally, the outer circles represent the three types of modular experiences, namely service experience, hedonic experience, and brand experience co-created through the use of firm offerings consumers acquired in the marketplace. In the MCX scheme of things, the modules sit in separate circles of representation because the psychological mechanisms that underwrite the modular experiences are by necessity narrow and insular. That is, "they do not take as inputs any of the outputs" coming from other modular psychological mechanisms (Pietraszewski and Wertz 2022; P471). That means at the modular level, the view from each module remains largely encapsulated, that is, they allow customers to see what they are mandated to see. Table 6 provides the definition of the modularity approach and three key logics.

The optimization of acquisition generates service values: an offering delights you when its prescribed pathway to a consumption experience is energy-efficient—in fact, greater than anticipated (e.g., when food is delivered to your table faster than expected or when the taxi fare to a destination cost less than you anticipated). The optimization of gratification generates hedonic values—the excitement you feel when the level of gratification is greater than anticipated (e.g., when a new brand of shampoo brings a surprisingly refreshing sensation). The optimization of learning generates brand values—the sense of competence that emboldens you when you identify a new consumption tool (e.g., when you discover a particular type of pen that fits your handgrip). In the MCX framework, the CX is the prism through which these values interact resulting in a summarial "subjective feeling state" (e.g., I feel good/I don't feel so good), as described by Westbrook (1997, p. 259). In this context, we, therefore, define CX as a *customer's summarial feeling state moderated by the values emerging from the optimization of service experience, hedonic experience, and brand experience*.

At the firm level, three types of marketing logics are envisaged - service marketing logic, experiential marketing logic and branding logic. In the framework, each marketing logic starts with a recognition of what the customer needs. With a view of the modular consumer, firms create tools, technology and solutions to materialise the steps for the customer to realise the desired experience. At the third level, through the customers' embrace of a firm offering, firms participate in the co-creation of three types of modular experiences - a service experience, a hedonic experience and a brand experience. From a firm perspective, the MCX can be viewed as a firm's internal modelling of a modular CX process. In our view, a general-purpose approach to CX no longer suffices. A modular view necessitates the use of multiple marketing logics to address different modular needs of the consumer. A modular view also means firms have to develop different types of sub-offerings within an offering to address the need for different types of tools to optimise different aspects of consumption based on different marketing logics.

### 5.1. Service marketing logic

From a service marketing logic perspective, customers are looking for offerings to optimise the acquisition of desired consumption experiences. Therefore, firms should see themselves as service providers perennially preoccupied with the service question: "how can the offering shorten the customer's pathway to the desired consumption

experience?". As in Lemon and Verhoef's (2016) customer journey framework, service quality is considered an antecedent to the creation of the CX state. In the same vein, Gentile et al. (2007) concluded that whatever new overlays we add to the firm-consumer relationship, utilitarian and economic value is still one of the main drivers of customers' evaluation and perception of an offering, particularly when those functionalities act as enabling factors for service experiences triggering of memorable service experiences. Werner Vogels, Amazon's company's chief technology officer pinpointed with great finesse what makes Amazon so successful. According to him, it is the ability to offer a frictionless service experience – *making it easier, cheaper and faster to buy a product or use the cloud than most other providers* (BBC, 2019) – that is the company's recipe to success. That is why, Tadashi Yanai, founder and chief executive of Fast Retailing, which owns Uniqlo, has always insisted that *Uniqlo is not a fashion company, it's a technology company*. By that he meant the optimising of acquisition through technology know-how lies at the core of the company's mission. Whether it is the use of tech-enabled kiosks or the use of in-store tech like UMood to provide useful hints to customers to acquire garments according to their frame of mind, the company remains committed to shortening the pathway to the acquisition of the desired consumption experience. A service provider fulfils a modular need by delivering the service/s consumers' need, at an economic value correlating with what they are willing to forego in exchange (price) and crucially, at level of fulfilment that transforms the mere act of procurement into an experience for the customer.

### 5.2. Experiential marketing logic

From an experiential marketing logic perspective, *hedonics* is the optimisation of the gratification process. Customers come into the marketplace canvassing for offerings that are not only economically viable but also sensorially stimulating, aesthetically gratifying and emotionally satisfying (Schmitt 2011). A firm is not just a service provider offering tools to optimise the acquisition process but also a moderator of embodied, hedonic and multisensory sensations, affects and psychological states in the cycle of exchange (Russell 2017).

First, the organism uses multisensory stimulation to optimise gratification. In a hedonic feeling state, the pleasure of consumption is reinforced via the enhancement that comes through multiple sensory inputs (e.g., auditory, visual, olfactory, somatosensory, and taste). That is why for many consumers, when Coke is consumed with ice, it *taste* better. Although the stimulation from the thermo sensations is extraneous to the taste faculty, it somehow adds on and enhances the overall consumption experience. That is why a property with a *view*, an extraneous aesthetic cue, somehow commands a higher premium. The elicitation of these companion valence affects sweetens the consumption experience (the original meaning of the word "hedonic" is sweet), and keeps the organism focused and motivated. This multisensory function, Alcaro and Panksepp (2011) suggest, is an evolved mechanism cultivated over evolutionary time to ensure that organisms stay highly motivated in their foraging activities which is crucial for a resource-scarce environment.

Optimising gratification from a firm perspective involves the use of preemptive measures to help the customer avoid the impact of unnecessary stimulation to distract them from experiencing a desired experience (Zha et al., 2022). For example, very few of us are fully aware of the many pre-emptive gratification tools firms deploy to create a gratifying car-riding experience. In a car ride, the use of shock absorbers mitigates the discomfort of jolt sensations to optimise your sensorimotor experience. The use of air-conditioning system induces feelings of coolness and pleasantness to mitigate negative somatosensory sensations that come from heat and humidity. Within the enclosed space of your car, the consumer is kept away from the ambient noise outside, auditory cues from sound systems optimise the auditory experience. By preempting these negative stimulants, it ensures the provision of a positive feeling state and its positive association with the brand.

In extending their concept of experiential marketing logic (Lanier and Hampton, 2016), Lanier and Rader (2015) suggested that CX research should also take into account optimising gratification that comes from managing the anti-functional and anti-structural aspects of consumption in a purchasing cycle. Customers find liberatory experiences gratifying. As such firms offer tools such as computer games and metaverse for customers to transcend, albeit momentarily, the mundaneness of their day-to-day existence inducing, as a result, liberatory excitations (Belk and Costa, 1998; Belk, 2022). Customers find performance experiences gratifying. As such, firms use experiential tools such as unexpected acts of thoughtfulness, lucky draws, and other features to inject elements of randomness and unpredictability into the customer journey (Goulding, Shankar, Elliott, & Canniford, 2009) inducing as a result, stochastic excitations. Customers find adventure experiences gratifying. Firms use experiential tools such as competence tests and rewards to inject a sense of challenge into the customer journey inducing as a result, adventure excitations. Denegri-Knott and Molesworth's (2010) detailed analysis of eBay reveals how consumers use the success or failure of bids for prized items as narratives of personal conquest and achievement.

### 5.3. Branding logic

From a branding logic perspective, *meaning* is the optimisation of the learning process. Evolutionary psychology has already informed us that to survive in a resource-scarce and competitive environment, organisms need to constantly mine and process data about the consumption landscape that is meaningful to its survival: *Where are the reliable sources of water supply? Where are the best hunting grounds? Which habitat offers the best protection from predators?* In the same way, consumers hardwired through evolutionary time, are constantly looking to mine and extract data on all aspects of consumption in a purchasing cycle. Consumption is a tricky affair. We take the wrong bus, visit the wrong restaurant or subscribe to the wrong mobile phone package! Greater access to accurate and meaningful information improves our capacity to discriminate with greater predictability, how and what to consume, reducing wasteful energy due to misinformed and misplaced consumption choices and behaviour. By organizing, differentiating, categorizing, and storing meaningful data about consumption events, these data become *meaningful* brand information relevant to the optimization of consumption know-how.

Mining of brand data includes the extraction of two types of meanings—denotative meanings and connotative meanings (Batra et al., 2010). Denotative meanings are data extracted from brand experiences to help consumers organize their purchasing routine into familiar schemas, choice sets, and preferences. Over evolutionary time, the human species has developed a dazzling array of information-gathering tools to improve all aspects of consumption, fully aware that survival in a resource-scarce environment is highly dependent on the efficient acquisition of consumption data. Today, the use of learning tools in the form of brand information, signs and symbols enables a consumer to optimize their search for the right economic offering in the marketplace to realise the desired consumption experience.

Crucially, brands also possess rich connotative meanings. A brand's implicit sub-textual meanings, beyond their explicit literal ones, often provide the greatest value (Oswald and Oswald, 2012; Conejo and Wooliscroft, 2015). In anticipation of the customer's need for meanings, firms harness external symbolic resources from the socio-cultural milieu, attaching them to the brand, to establish intersubjective connectivity with the consumer (McCracken, 1989; Fournier and Alvarez, 2019; Zha et al., 2022). So Whole Food taps into the wider concern for the environment via the mission statement – *our purpose is to nourish the people and the planet* – to connect with targeted environmentally conscious consumers. In a customer journey, brands function as harbingers of signs, symbols, and networks of information (Berthon et al., 2003) that customers pick and choose to create their own identities and self-

projects. An offering, rich with socio-cultural undertones and cues, becomes a complex bundle of multidimensional meaning (Gardner and Levy, 1999). The customer journey, therefore, becomes a fertile arena of mythic and symbolic resources for customers to acquire signs and symbols to construct narratives of self and identity and to tap into the wider cultural body of collective meanings (Belk et al., 1988; Sundararajan, 2019).

## 6. Future research agenda

### 6.1. MCX framework & offerings

By grounding CX in its modular roots, the MCX framework offers a prism through which firms can identify and anticipate with greater cogency the modular needs of the customer. Research into service experience, the most well-documented and well-examined construct in CX research, represents only one member of the coalition of experiences. By individuating hedonic experience and brand experience as separate modules, each defined by its own set of motivations, parameters, processes, and outcomes, MCX provides the firm with a *deconstructed* view of CX instead of an undifferentiated *mangled* whole. This view of three independent systems, each with its own functional specialization, drivers, and working principles, transforms our approach to CX conceptualization from one of synthesis to one of deconstruction. Firms today excel because they are able to operate and optimize their capability and resources within a *modularized* consumption ecosystem. A striking example in modern times is the ubiquitous use of APPs on mobile phone. Through the use of APPs or software that can be downloaded from the internet, users can transit seamlessly from one type of experience to another at a click—from a hedonic experience (e.g., browsing through social media) to a service experience (e.g., shopping on the internet) to a brand experience (e.g., optimizing competence through a mobile game).

Another important item on the research agenda is understanding how the three systems interact and intersect in a CX process. For example, researchers have been examining with great interest the role of eudaimonic motivation (Knobloch et al., 2017). While hedonic well-being is generally equated with pleasure, eudaimonic well-being is related to the feeling that one's leisure activities are also meaningful and valuable. Engagement in these leisure activities also increase a sense of being inspired, enriched, and elevated to a higher or broader level of functioning (Huta, 2013). From a MCX perspective, eudaemonia sits on the intersect between two modules—the need to optimize gratification through hedonic-based activities and the need to optimize learning through a learning and wellness experience. For example, the wellness industry, which has traditionally been viewed as a hedonic activity, is now largely driven by firms that promote physical fitness by incentivizing movement. Sweatcoin, a move-to-earn cryptocurrency application that converts its users' daily steps into tokens to spend on products, reportedly attracted 110 million users in more than 60 countries by September 2022.

### 6.2. MCX and CX frameworks

By wedding a firm's multi-logic response to a modular view of customers, this new framework resolves many of the difficulties associated with CX conceptualization today. For example, while Verhoef et al.'s (2009) Customer Experience Creation Model offers one of the most comprehensive typologies of factors to date, the MCX framework takes this typology one step further by examining the underlying logic driving these factors. While Kranzbühler et al.'s (2018) *bilateral view* framework is designed to reconcile the organizational and the customer perspectives, the MCX overcomes this split vision with the use of marketing logics as an analytical interlocutor to link what the customer needs with what the firm can offer to meet the needs. In the same way, the MCX resolves the complications that Becker and Jakkola's (2020) CX

**Table A1**  
Customer experience reviews.

Author, Journal, Published year, Title	Years covered	No of Publications	Objective	Topic Covered	Method	Contributions and Limitations
Grewal, Levy and Kumar <i>Journal of Retailing</i> (2009) <b>Customer Experience Management in Retailing: An Organizing Framework</b>	2008 publications in <i>Journal of Retailing</i>	26	To develop an organization framework on customer experience management in retailing	. macro factors. firm-controlled factors: promotion, price merchandisesupply chain location. retail customer experience. marketing and financial metrics	Systematic review/ Retailing perspective	. Focuses on macro-factors affecting CX in a specific context as retailing environment. Provides an organizing framework for CX management in the retail sector
Verhoef et al. <i>Journal of Retailing</i> (2009) <b>Customer Experience Creation: Determinants, Dynamics and Management Strategies</b>	/	/	To build a conceptual model of antecedents to and moderators of customer experience	. social environment,. self-service technologies. store brand. retail atmosphere. the assortment, the price and promotions (including loyalty programs)	Thematic review/ Firm and consumer perspective	. Identifies seven antecedents of CX. A conceptual model of customer experience creation. Multi-channel environment customers' experiences in one channel (e.g., a store) affected by experiences. Integrates internal and external factors of CX. Limited in retail sector and pure literature review paper
Puccinelli et al. <i>Journal of Retailing</i> (2009) <b>Customer Experience Management in Retailing: Understanding the Buying Process</b>	/	/	To propose an organizing framework for each stage of the consumer decision process	. goals. schema. information processing,memory. involvement, attitudes, affective processing, atmospherics, and consumer attributions and choices	Thematic review/ Consumer perspective	. Summarizes goals, schemas, and information processing; memory; involvement, attitudes; affective processing; atmospherics and consumer attribution and choice. Affirms the rational consumer perspective. Description of the buying process based on a cognitive-inclined information processing model. Pure literature review paper and limited in retail sector
Palmer <i>Journal of Service Marketing</i> (2010) <b>Customer experience management: a critical review of an emerging idea</b>	/	/	To assess the conceptual validity of customer experience as a construct and propose a model	. the key components of brands, relationships, quality, emotions and perceptions	Review (Conceptual paper)/ Macro marketing perspective	. Incorporating emotions and perceptual distortion over time, customer experience overcomes many problems associated with static, partial measures of service quality. Integration of three higher-order constructs: interpersonal relationship, service quality and branding. Limited in service sector and macro points of view
Rose et al., <i>International Journal of Management Reviews</i> (2012) <b>Online Customer Experience: A Review of the Business-to-Consumer Online Purchase Context</b>	/	/	To understanding of the antecedents and consequences of online customer experience in the purchase context	. antecedents (Information processing, perceived Ease-of-use, perceived, usefulness, perceived benefits, perceived control, Skill, Trust Propensity, perceived risk, enjoyment). Experience (Cognitive state, Affective state). Consequences (customer satisfaction, Re-purchase intentions)	Thematic Review/ Online setting	. Antecedents (Information Processing Perceived ease-of-use, Perceived Usefulness, Perceived benefits, Perceived control, Skill, trust propensity, perceived Risk, enjoyment). Experience (Cognitive state, Affective state). Consequences (customer satisfaction, re-purchase intentions). Provides a review of the online consumer literature focusing on the antecedences and consequences of online customer experience in the purchase context. Pure literature review and limited in online setting
Schmitt and Zarantonello <i>Review of Marketing Research</i> (2013) <b>Consumer Experience and</b>	/	/	To review literature on customer experience and experiential marketing	. definitions,. perspectives,. key research areas on the topics of consumer experience,. product and service experiences. off-line and online	Systematic review/ Experiential focus	. A typology of consumer experience. Provides an integrative perspective of consumer Research- and firm-based perspectives. Provides an integrated

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Table A1 (continued)

Author, Journal, Published year, Title	Years covered	No of Publications	Objective	Topic Covered	Method	Contributions and Limitations
<b>Experiential Marketing: A Critical Review</b>				experiences. consumption and brand experiences.		CE management. Pure literature review and understanding CX from experiential marketing perspective
Lemon and Verhoef <i>Journal of Marketing</i> (2016) <b>Understanding Customer Experience Throughout the Customer Journey</b>	/	/	To examine the roots and origins of research on customer experience and customer journeys	. existing definitions. theories. existing customer experience, customer journey research areas	Systematic review	. Provides a historical narrative of development of the CX concept. Operationalizes the CX concept. Focuses on definitions of CX and journey perspective
Jain et al. <i>Journal of Service Theory and Practice</i> (2017) <b>Customer experience -a review and research agenda</b>	1990–2015	. 69 articles, 12 books, 1 dissertation	To review literature on customer experience	. Service experience; (SDL). Customer experience management. Experience. Customer value (Value in use)	Systematic review	. A holistic interactive process. Cognitive and emotional clues. Moderate (customer and contextual characteristics). Result (unique and pleasurable/un-pleasurable memories. Compendium of CX definitions. Focuses on CX definition and its antecedence, moderator and consequences
Homburg et al., <i>Journal of Academic Marketing Science</i> (2017) <b>Customer experience management toward implementing and evolving marketing concept</b>	/	. 52 In-depth interviews (see research procedure). Exploratory research	To address research gaps on customer experience management concept	. In-targeting field-based insights of 52 managers engaging in CEM with supplementary literature. Provides an empirically and theoretically solid conceptualization. Research Gap: Literature on CX, Customer experience management, marketing (management) concept. Applied a discovery-oriented, ground theory procedure	Critical Review/ Marketing Management perspective	. Provides a link between CX and marketing management theory. Recognizes the theoretical inputs from experiential marketing. Does not include the logic perspective
Kranzbühler et al. <i>International Journal of Management Reviews</i> (2018) <b>The Multilevel Nature of Customer Experience Research: An Integrative Review and Research Agenda</b>	1982–2015	115 articles	To classify and examine customer experience research from the organizational and customer perspectives	. Organizational perspective on CE. Consumer perspective on CE	Systematic reviews/ Service marketing perspective	. Provides a systematic review of overall CX literature. The integration of organizational and consumer research perspectives. Integration of static and dynamic CX models. Suggests that management should have a dual focus on both the organizational and the consumer perspectives, but further elaboration on how this dual approach can be achieved was not forthcoming
Følstad and Kvale <i>Journal of Service Theory and Practice</i> (2018) <b>Customer Journeys: A Systematic Literature Review</b>	2013–2018	45 papers	To review customer journey terminology and approaches from the fields of design, management, and marketing	. Customer journey terminology. Approaches the relation to customer experience. The referenced background. The use of visualizations	Systematic reviews/ Service marketing perspective	. Provides conceptual and theoretical foundations for customer journey concept. Assessment of the strength of the link between customer journey and CX. There is tacit agreement that the customer journey perspective should move beyond service marketing to embrace inputs from other strands of CX research, there is still no consensus on the scope and the content of this enlargement
Becker and Jaakkola <i>Journal of the Academic Marketing Science</i> (2020) <b>Customer experience: fundamental premises and implications for research</b>	1982–2016	136 articles	To develop a set of fundamental premises of customer experience	. services marketing. consumer research. retailing. service-dominant logic. service design. online marketing. branding. experiential marketing	Systematic literature review and metatheoretical analysis	. Defines customer experience. Conceptual framework for customer experience. Identifies four fundamental premises for future customer experience research. Does not capture articles that may address

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Table A1 (continued)

Author, Journal, Published year, Title	Years covered	No of Publications	Objective	Topic Covered	Method	Contributions and Limitations
Waqas et al. <i>Management Review Quarterly</i> (2021) <b>Customer experience: a systematic literature review and consumer culture theory-based conceptualisation</b>	1998–2019	99 empirical and conceptual articles	To summarize and classify the extant CX literature and identifying the different theoretical perspectives that conceptualize the CX to re-conceptualize CX from consumer culture point of view	. country of origin. consumption experience. dimensionality and conceptualizations of CX. antecedents (self-identify, social bonding, humour and aesthetics). cognitive and affective experience. outcome – customer engagement	Systematic review	customer experience-related phenomena . Proposes a consumer-cultural theory-based CX model for future research. Mainly focuses on the consumer-cultural perspective of CX
Kim and So <i>International Journal of Hospitality Management</i> (2022) <b>Two decades of customer experience research in hospitality and tourism: A bibliometric analysis and thematic content analysis</b>	1998–2021	1248 articles published in 13 leading hospitality and tourism journals	To investigate customer experience literature in hospitality and tourism	. motivational, cognitive.value, technological divers. cognitive, affective and behavioural outcomes. contexts in the hospitality and tourism literature	Bibliometric and content analysis	. Identifies the CX streams in hospitality and tourism. But focused on a single research setting – hospitality and tourism
Arici et al. <i>The Service Industries Journal</i> (2022) <b>The intellectual structure of customer experience research in service scholarship: a bibliometric analysis</b>	Up to December 2020	386 articles	To presents a model and perspective on the foundational knowledge and development of customer experience research in service literature	. tourist experience. customer co-creation of value. service quality and customer satisfaction. customer perception in service environment. information technology	Bibliometric (citation and co-citation) and content analysis	. Identifies five foundational knowledge strands of CX literature. Presents a holistic viewpoint of CX in service sector. But focuses just on service sector and service journal
Stead et al. <i>Journal of Service Research</i> (2022) <b>Toward Multisensory Customer Experiences: A Cross-Disciplinary Bibliometric Review and Future Research Directions. Journal of Service Research</b>	2016–2020	133 articles in service marketing and 277 articles in multidisciplinary literature	To identify the research areas, concepts and knowledge foundations of multisensory customer experience in service and sensory marketing and other disciplines, to guide service research and advance multisensory customer research	. multisensory stimuli integration and perception- the relationship between multisensory customer experience and emotions- designing multisensory omnichannel experience- the important role of multisensory stimuli for transformative service research	Text mining and co-citation analysis	. Suggests that researchers apply diverse theories and methods to examine the relationship among multisensory stimuli, perception, emotions, that can contribute to designing multisensory omnichannel service experiences. But focuses on the multisensory aspect of customer experience just in the service context

framework presents, that is, CX should be classified according to the source of stimulation – whether it is an external managerial stimulus or internally generated consumption stimuli. In the MCX framework, however, no such division is required since CX is viewed not as a customer's response to a firm's offering but is viewed as the firm's modular response to the modular needs of the customer. Finally, MCX also provides a much-needed modular theoretical framework on which the construction of an ever-expanding CX conceptual artifice such as the customer journey model (Lemon and Verhoef, 2016) or the stakeholder journey model (Hollebeek et al., 2022) can be built upon.

### 6.3. MCX framework and customer journey

Whereas Lemon and Verhoef's (2016) typology of touchpoints is based on the stakeholder's context—brand-owned, partner-owned, customer-owned, and social/external/independent—MCX differentiates each touchpoint based on the perceived dominant logic at play—whether they are service-dominant touchpoints, hedonic-dominant touchpoints, or meaning-dominant touchpoints. A hotel website is a hedonic-dominant touchpoint, where the focus of CX is to stimulate the desire to travel. On the other hand, an offering posted in a vendor website is a service-dominant touchpoint because, here, the customer's focus is on price and features. A hotel lobby should be a brand-dominant touchpoint in that it is an informational space allowing the new customer to gather information about the hotel and what it can offer (e.g., reception, concierge, types of services available, etc.) as quickly as possible. A check-out counter is a service-dominant touchpoint where the focus is on bills, charges, payment, and a speedy departure.

## 7. Conclusion and implications

This study made various theoretical implications to advance the body of knowledge about CX. *First*, our review articulates the modular nature of the CX concept exemplified in the longitudinal view of CX's intellectual structure. Underpinned by a rigorous bibliometric analysis of CX literature, we trace the historical development of service marketing system/logic, experiential marketing system/logic and branding system/logic in CX's literary development. In this respect, our results correspond with the theoretical principles underpinning both evolutionary psychology (Tooby and Cosmides, 2015) and organisational theory where the modularity approach has been widely used in the analysis and design of complex systems (Burton and Galvin, 2022; Campagnolo and Camuffo, 2010).

*Second*, this review also yielded the identity of three underlying processing mechanisms we view as primary drivers of consumption behavior. Originating from discreet sources of consumption purpose and motivation, these mechanisms or modules in modularity theory, work independently and are governed by different sets of values and parameters. Each independent module is programmed to only respond and extract a specific category of data relevant to the completion of a pre-determined sub-task - whether it is information to optimise acquisition, information to optimise gratification or information to optimise learning. In this respect, this study represents one of the first attempt at constructing a theoretical structure to bridge modularity theory as developed in evolutionary psychology and organisational theory with the understanding of CX in consumer behaviour literature.

This study also offers relevant managerial implications. this study has introduced a new and modular view of CX from which firms can utilise as a tool to better shape their CX strategy and CX model. A modularity view of CX implies parallel processing and also parallel experiencing (Cowan and Jonard, 2023). Whether it is the optimising of acquisition, or optimising of gratification or the optimising of learning, in the context of a CX journey, all three modules generates specific experiences, perspectives and feeling states skewed towards its own processing mandate. The brain, it would seem, is not just capable of multi-tasking, it is also capable of multi-emoting and

multi-experiencing. In this vein, early research on concurrent experience evaluation which looks at the “concurrent assessment of the person's goal progress/regression” within during-the-experience context have already observed the simultaneous instantiations of discreet experiences (Simonson and Rahman, 2020, PP 688–711). That is perhaps why we can be simultaneously affected by two seemingly contradictory sets of experience - a dining experience that is at once delightful because the food is delicious (hedonic experience) and dissatisfying (service experience) when the bill shows how much it costs to acquire this hedonic experience! Within this modular consumption mindset, modules jostle and compete incessantly for attention and representation. The CX journey is one littered with varied and contrasting viewpoints, a multiplicity of concurrent experiences and a clash of competing and contrasting values. How a practitioner can creatively help the customer navigate this multi-vocal consumption landscape, plant and position a set of pre-emptive touchpoints to address and respond to the three types of modular concerns, determines whether an offering can ultimately succeed or fail in the marketplace.

Finally, this review also offers methodological implications. By examining the CX literature to identify the longitudinal characteristics of CX from the comparative perspective of two co-citation analyses—HCA and MDS—we enhanced the robustness of the findings by examining the consistency of the obtained findings. In this way, our work gives credence to the knowledge structure, an analysis underpinning the development of a new conceptual framework. More importantly, we analyzed the intellectual structure of CX literature via the modularity assumption, by examining the modular character of co-citation patterns and behavior as expressed through the network relationships between clusters and research groups. In doing so, we are able to observe a literary reflection of the modular mind to pinpoint for practitioners a roadmap to a set of corresponding marketing logics to address the modular needs of the consumer.

### CRedit authorship contribution statement

**Dongmei Zha:** Conceptualization, Writing - original draft. **Reza Marvi:** Writing – original draft, Methodology, Formal analysis, Data curation. **Pantea Foroudi:** Project administration, Data curation.

### Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

### Appendix 1

See the [Table A1](#).

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### Further reading

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DONGMEI ZHA, is lecturer in Brunel Business School. Her prime research interests include experience consumption, sensory branding, and consumer behaviour.

REZA MARVI is lecturer at Aston Business School. His prime research interests include customer engagement, customer experience, and service dominant logics.

PANTEA FOROUDI is associate professor at Brunel Business School. Her prime research interests include customer experience, brand identity, and consumer behaviour.