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CARLOS EDUARDO LOURENÇO

ESSAYS ON CONSUMER BRAND ENGAGEMENT

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Tese apresentada à Escola de Administração de Empresas de São Paulo da Fundação Getúlio Vargas, como requisito para a obtenção do Título de Doutor em Administração de Empresas

Campo de conhecimento:
Administração Mercadológica

Professor: Prof. Dr. Felipe Zambaldi

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“The fundamental cause of the trouble is that in the modern world the stupid
are cocksure while the intelligent are full of doubt.”
Bertrand Russell

RESUMO

Apesar do crescente interesse no conceito de engajamento da marca ainda existe discordância quanto aos seus conceitos fundamentais. Esta tese de doutorado explora a natureza da construção engajamento da marca do consumidor (EMC). No primeiro artigo, EMC é avaliada no âmbito da Teoria da Expectância para explicar e esclarecer como a antecipação de possíveis resultados de se envolver com uma marca, sendo tais resultados classificados como “primeiro nível” (resultante do esforço pessoal alocado para interagir com uma marca) e “segundo nível” (ou nível final, representando a consequência dos resultados de primeiro nível) e uma nova definição de EMC é formulada. Um arcabouço teórico abrangente é proposto para engajamento da marca, usando o Teoria Organizacional de Marketing para Expansão de Fronteiras (TOMEF) como referência para os pontos de contato entre o consumidor e a marca. A partir dos fundamentos teóricos das dimensões cognitivas, emocionais e comportamentais do EMC, quinze proposições teóricas são desenvolvidas para incorporar uma perspectiva multilateral às doutrinas teóricas do constructo. No segundo artigo, quatro estudos são usados para desenvolver uma escala de engajamento da marca do consumidor. O Estudo 1 (n = 11) utiliza revisão da literatura e entrevistas em profundidade com os consumidores para gerar os itens da escala. No Estudo 2, oito especialistas avaliam 144 itens quanto a validade de face e validade de conteúdo. No Estudo 3 dados coletados com alunos de graduação (n = 172) é submetida à análise fatorial exploratória (AFE) e confirmatória (AFC) para redução adicional de itens. Trezentos e oitenta e nove respostas de um painel de consumidores são usados no Estudo 4 para avaliar o ajuste do modelo, usando a análise fatorial confirmatória (AFC) e Modelagem por Equações Estruturais (MEE). A escala proposta possui excelentes níveis de validade e confiabilidade. Finalmente, no terceiro papel, uma escala de engajamento do consumidor de Vivek et al. (2014) é replicada (n = 598) junto à consumidores em uma feira automotiva, para estender o debate sobre formas de medição do constructo usando a perspectiva da Teoria de Resposta ao Item (TRI). Embora o modelo desenvolvido com base na teoria clássica de teste (TCT) usando AFC, um modelo de resposta gradual (MRG) identifica cinco itens que têm baixos níveis de poder discriminante e com baixos níveis de informação. A abordagem usando TRI indica um possível caminho para melhorias metodológicas futuras para as escalas desenvolvidas na área de marketing em geral, e para a escala engajamento do consumidor, em particular.

Palavras-chave: marca, engajamento da marca do consumidor, Teoria da Expectância, Teoria MOR, Teoria de Resposta ao Item.

ABSTRACT

Despite the growing interest in the brand engagement concept there has been debate about its conceptual foundations. This doctoral thesis explores the nature of the consumer brand engagement (CBE) construct. In the first paper, CBE is assessed within the Expectancy Theory framework to explain and clarify the probable anticipated results of engaging with a brand, and outcomes are categorized into a first level (resulting from personal effort allocated to interact with a brand) and a second level (consequence of first level outcomes) and a novel CBE definition is formulated. A comprehensive brand engagement framework is proposed using the Boundary-Spanning Marketing Organization Theory (MOR) as a consumer-brand touch point framework. From the theoretical foundations of the cognitive, emotional and behavioral dimensions of CBE, fifteen theoretical propositions are developed to incorporate a multilateral perspective on the construct's theoretical tenets. In the second paper, four studies are used to develop a consumer brand engagement scale. Study 1 (n=11) uses literature review and in-depth interviews with consumers to generate scale items. In Study 2, eight experts evaluate 144 items for face and content validity. In Study 3 data collected with undergraduate students (n=172) is submitted to both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) to further item reduction. Three hundred and eighty-nine responses from a consumer panel are used on Study 4 to evaluate model fit, using Confirmatory factor analysis (CFA) and Structural Equation Modeling (SEM). The proposed scale confirms excellent validity and reliability levels. Finally, in the third paper, a consumer engagement scale from Vivek et al. (2014) is replicated (n=598) with customers in an auto show, and extends the construct measurement debate using an Item Response Theory (IRT) perspective. Although the data achieved fit on a Classical Test Theory (CTT) using CFA, a graded response model (GRM) identifies five items that have low levels of discriminating power and provides low levels of information. The IRT approach indicates a possible path to future methodological improvements to marketing scales in general, and to the consumer engagement scale in particular.

Keywords: brand, consumer brand engagement, expectancy theory, MOR theory, item response theory.

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PREFACE

This doctoral thesis follows a “thesis by publication” model. A series of three manuscripts entangled on the main subject of consumer brand engagement. Each paper can be read separately and independently from each another, but together, put forward the theoretical contribution of this work. This option influenced the design of this work, as Figure 1.2 and Figure 2.3 are identical, but they were both kept in the manuscript (with different titles) so if one’s decision is to read only one paper, the entire information is there. Similarly, the length of the paper is also limited by guidelines of the journals they target, 50 pages on the first paper, 10,000 words on the second and 2,000 words on the third. In the references section, each paper has its own reference subdivision. While some redundancy is certain, this makes the search for citations easier for each manuscript and the reading more enjoyable.

In the first paper, a theoretical essay, elements of Expectancy Theory (ET) is used to appraise the consumer brand engagement concept. Initially, the definition of the term brand is discussed to delineate how different definitions could influence the term brand engagement. Then, to respond the call for developing of a more encompassing view of engagement, the Boundary-Spanning Marketing Organization Theory (MOR) is used as a perspective of multiple touch point between customers and enterprises. These touch points work only as references to guide where customers place their attention when interacting with a brand. The proposed framework explores how ET explains the different aspects of CBE. Finally, fifteen theoretical propositions are made to contextualize the impact of the three dimensions of CBE (cognitive, behavioral and emotional) on the interaction with brands.

In the second paper, an empirical one, a measurement instrument was developed

using classical test theory (CTT). Following MOR's touch points perspective, an initial pool of one hundred and forty-four items was assembled. Using both qualitative and quantitative techniques (experts evaluation, face validity, exploratory factor analysis and confirmatory factor analysis), the pool was reduced to a final set of eleven items for CBE. Next, data collected from 389 consumers was submitted to Structural Equation Modeling. Model fit was very good and multigroup methods were used to test for measurement invariance, along with, mediation and moderation among the model variables. The resulting scale shows excellent levels of validity and reliability.

Finally, a short, empirical paper for a "Replication Corner" section of a marketing journal was put together with data collected in Brazil using the Vivek et al. (2014) engagement scale was evaluated using both a CTT and an Item Response Theory (IRT) perspective. Once regarded as a competing perspective, CTT and IRT showed equivalent results, and both techniques should be used as complementary tools to evaluate marketing scales.

These three papers present the theoretical tenets for brand engagement. The sequence of developing a theoretical framework, developing a scale base on this framework and replicate previously developed instrument may become a helpful guide to researcher's effort to extend the understanding of brand related concepts.

CHAPTER 1

1. ARTICLE 1

EXTENDING THE CONSUMER BRAND ENGAGEMENT CONCEPT: AN EXPECTANCY THEORY FRAMEWORK

Abstract

Despite the growing interest in the brand engagement concept there has been debate about its conceptual foundations. This paper explores the nature of the consumer brand engagement (CBE) construct within the Expectancy Theory framework to explain and clarify the anticipated results of engaging with a brand, and outcomes are categorized into a first level (resulting from personal effort allocated to interact with a brand) and a second level (consequence of first level outcomes). A comprehensive brand engagement framework is proposed along with a novel CBE definition. The Boundary-Spanning Marketing Organization Theory (MOR) is incorporated in the framework to evaluate consumer-brand touch point framework. From the theoretical foundations of the cognitive, emotional and behavioral dimensions of CBE, fifteen theoretical propositions are developed to incorporate a multilateral perspective on the construct's theoretical tenets. Finally, theoretical and managerial implications are evaluated, and future research directions are proposed.

Keywords: brand, consumer brand engagement, Boundary-Spanning Organization Theory.

1.1. Introduction

Brands are seen as complex, multi-dimensional and multi-functional entities that are influenced by a variety of actors, including but not limited to, brand managers, consumers, media, marketing researcher and technology (Bastos & Levy, 2012). Likewise, brand related constructs mimic such complexity, and among the gamut of brand related principles, consumer brand engagement (CBE) emerged as an intricate concept of how customers and brands develop close relations (Sprott et al., 2009; Hollebeek, 2011a). Bolton (2011) pointed out that the importance the Marketing Science Institute (MSI) attributed to consumer engagement – categorizing it as a research priority in the biennium 2010/2012 – is based on the extensive collaborative approach between academics and marketing professionals to improve engagement knowledge. Consumer engagement continued to be a research priority in following 2012/2014 as well as 2014/2016 terms (MSI, 2014). Previous research addressed conceptual domains and definitions (Bowden, 2009) and scale development (Hollebeek & Chen, 2014; Vivek et al., 2014). Despite recent research, the fundamental standards of the construct still need improvement, as its nature regarding the theoretical domain, dimensionality and nomological network are “embryonic” (Dwivedi, 2015, p. 100). This study contributes to the understanding of CBE by addressing four gaps in the theoretical foundations of the brand engagement construct: (1) the impact of a more rigorous definition of brand on the concept; (2) the theoretical tenets of the concept’s dimensions; (3) a broader underlying perspective regarding how multiple stakeholders influence brand engagement; and (4) expected outcomes of brand engagement.

Consumer brand engagement intricacies can be initially depicted from brand meanings, as increasing complexity involves change in how brands are represented to consumers. Holt (2004, p. 4) highlights that a brand comes into existence once meanings are attributed to its marks (logo, name and attributes). Attribution of meanings occurs when distinct actors interact while

connecting with a brand through “fragments of experiences, thoughts, feelings, associations, and images provided by the beholder of the brand” (Kim 1990, p. 65). However, defining the concept of brand is equally challenging and systemic failures occur in defining a brand construct, even among recognized branding scholars (Stern, 2006; Avis, 2009; Wymer, 2013). Constructs derived from brand conceptualization (competitive brand salience, brand trust, brand love, to name a few) face potential incongruities if based on a potentially faulty brand definition.

Since a multi-stakeholder brand meaning co-creation process is embedded into our social dynamics (Vallaster & von Wallpach, 2013), a broader theoretical perspective is required to explain the phenomena related to brands. As the importance and complexity of brand management have proven challenging for both academics and marketers, a more stringent brand definition is needed. Building on a review of the brand literature, two linguistic-based conceptual approaches were identified: an *integrative* and a *metaphoric* approach. These approaches provide a clearer delimitation of the nature and function of the term brand (Stern, 2006).

The brand conceptualization proposed in the paper allows new venues to assess the CBE concept, as it specifies a more inclusive, broader and multi-disciplinary approach. Once guidelines are established for brand conceptualization, and grounded on a theoretical review of the engagement of customers with brands literature, a new definition of CBE is proposed. The new definition is supported by an extensive examination of the theoretical domain of each dimension, namely cognitive, behavioral and emotional. Moreover, a new role of the customer anchors the proposed consumer brand engagement (CBE) concept, where individuals are no longer seen as passive recipients of marketing stimuli (Hollebeek, 2013), but respond differently to brand offers (Vivek, 2009). Exploring sophisticated human processes for better understanding brand engagement with cognitive, behavioral and emotional resources, CBE is depicted in two internal processes, a macro engaging process and a micro engaging process (Keller, 2013).

Previous conceptualization of CBE expressed key engagement facets in a dynamic model, where levels of engagement would vary according to different engagement contexts (Hollebeek, 2011a). However, theoretical appraisal of consumer brand engagement has not included an integrative customer perception where such contexts are considered. CBE research is moving toward more complex approaches that can “offer reality-based expansion of consumers’ responses to brand inter-actions” (Villiers, 2015, p. 1). As a more complex and integrative approach for customer perception is consistent with the fragmentation of the meaning of brands (Holt, 2004), this paper proposes a CBE conceptualization using the Boundary-Spanning Marketing Organization Theory (MOR) perspective. Four distinct elements of MOR theory (marketing activities, customer value-creation process, networks and stakeholders) are explored, leading to a theoretical framework that incorporates an integrative marketing process perspective – as opposed to current models’ marketing functions perspective. The integration of several processes where customers and brands interact as described in MOR’s theory leads to fifteen testable theoretical propositions regarding the extent that CBE activates new processing on consumers’ brand perceptions.

Considering both conceptual and empirical CBE research (Dessart et al., 2015), the outcomes of consumer brand engagement are either conceptual (Van Doorn et al., 2010) or behavioral oriented (Mollen & Wilson, 2010; Hollebeek et al., 2014; Vivek et al., 2014). Expectancy Theory (Vroom, 1964) used in a consumers’ context (Lee, 2007; Roberts et al., 2014), predicts that the amount of effort someone will devote to certain tasks is governed by expected results. Drawing from Vroom’s work, CBE outcomes can be defined as the conduct of a customer resulting from the interaction with a brand (first-level outcomes) and the conduct of a customer resulting from the perceived valence of such outcomes (second-level outcomes).

This paper is structured as follows. First, the literature on brand and consumer brand

engagement and Expectancy Theory is reviewed, and a novel CBE definition followed by a conceptual framework are presented. Second, the theoretical approach of the Boundary-Spanning Marketing Organization Theory (MOR) is evaluated to support the assumptions of the theoretical framework for CBE. Third, the theoretical constituents for each of the three dimensions of CBE and the outcomes are analyzed, leading to fifteen theoretical propositions. Finally, the theoretical contributions are discussed, with both academic and managerial implications, along with insights for future research and the limitations of the proposed integrated framework.

1.2. Theoretical Background

Two theoretical perspectives shape the cornerstone of the proposed framework: expectance theory and the boundary-spanning marketing organization theory (MOR). Additionally, literature on brand management, consumer brand engagement (CBE), and the role of cognition, behavior and emotions on the customer landscape support the suggested framing, as detailed in Figure 1.1.

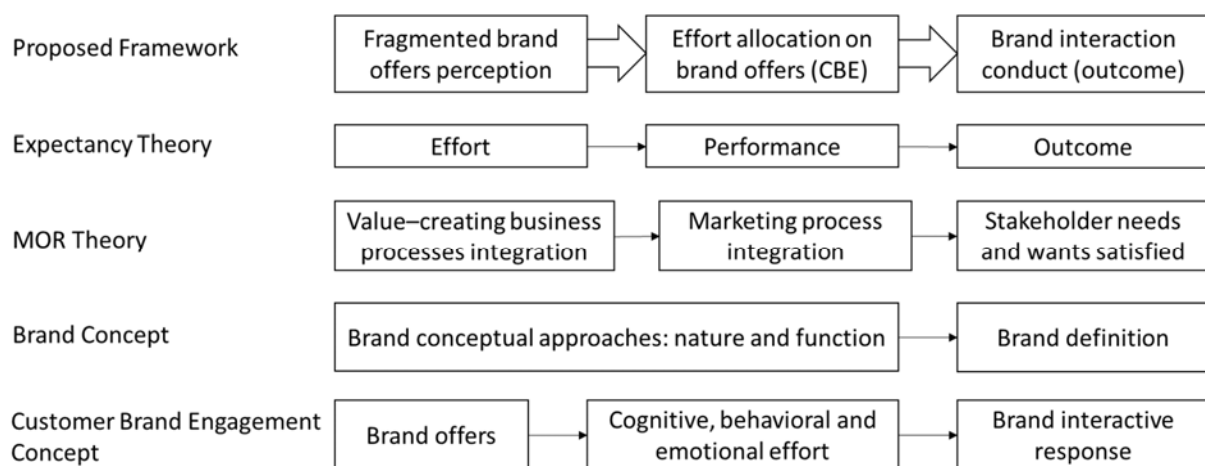


Figure 1.1. Theoretical foundations and concept definition of proposed framework. Adapted from “An integrated framework for design perception and brand equity” by A. Mishra, S. Dash and N. K. Malhotra, 2015, *Academy of Marketing Science Review*. Copyright 2015 Academy of Marketing Science.

While most of the extant CBE research relies on the service-dominant logic (S-D Logic) framework and a service context, the setting of this study incorporated the principles of MOR. Hult (2011) states that boundary-spanning marketing organization are different from traditional organizations as they transpose several internal (e.g. function-focus) and external (e.g. market definition) barriers to deliver value to different stakeholders by integrating marketing processes. In addition, the three-dimensional CBE model (cognitive, behavioral and emotional) is derived from the theoretical underpinnings of each dimension, individually. Finally, expectancy theory in the customer context (Tsiros et al., 2004) is used to explain the outcomes of CBE.

1.2.1. Brand Conceptual Definition

Few topics in the field of applied social sciences have such a wide range of applications as the concept of brand (Tybout & Carpenter, 2001). Previous studies trace the application of symbols, such as a mark or a tag, to a distant past described in anthropological studies. The studies, spanning between 7000 and 3000 BC, refer to prehistoric process of building social value, and show the use of trademarks for commodities during the transition from villages to urban life (Bevan & Wengrow 2010). Similarly, Keller (2008) describes producers' use of trademarks in various civilizations, such as India, Greece and Rome. These examples position brands as a central element in the process of identifying and differentiating objects, an inherent tradition of the human nature (Machado, 2013). Nevertheless, a more rigorous definition is needed for the brand construct, but brands should not be defined in terms of its antecedents or its consequences, becoming falsifiable and therefore empirically testable (Summers, 2001).

In the remainder of this section, six different brand approaches are summarized (symbolic, identity, mental associations, relational, dynamic and linguistic). The comments follow the recommendations of Sutton and Staw (1995) regarding the most prominent contributions toward

explaining and predicting a phenomenon. Moreover, some comments are provided on whether the linguistic approach is the most suitable to relate to engagement.

The American Marketing Association (AMA) defines a brand as a “name, term, design, symbol, or any other feature that identifies one seller's good or service as distinct from those of other sellers” (American Marketing Association, 2014), while Keller (2003, p. 3) notes that brands overlooks social, psychological, cognitive and other brand elements as part of a brand identification and distinguishing process. The disparity of approaches leads to ambiguous competing definitions in which the conceptual perception acts as grouping perspective. AMA’s instrumental influence on brand definition can be traced to the 1950s, when the managerial perspective emerged based on the desire to make the marketing body of thought more consistent by incorporating behavioral and quantitative sciences (Wilkie & Moore, 2003), assessing how brands related to business performance.

(1) *Symbolic approach.* The consumer revolution (Bastos & Levy, 2012) resulted in intense competition, leading to the proliferation of brands in developed markets. Seminal work on an expanded brand approach was introduced, addressing the increase in brand value through its association with emotional and psychological attributes to create distinctiveness (Gardner & Levy, 1955), and on symbolic consumption regarding how brands affect personal self-image by coupling personal and social meaning (Levy, 1959). Nonetheless, it was not until the 1980s that companies better understood the financial impact of brands (De Chernatony, 1999).

(2) *Identity approach.* A competing conceptualization pictured brands as an identity system (D. A. Aaker, 1991, 1996) which is based on core brand identity, that remains steady over time, and on extended brand identity which stimulates complementarity and complexity in the construction of identity. It also incorporated an anthropomorphic dimension to the brand concept, where functional and emotional rewards add to self-expression benefits. Consumer identity

construction is a cardinal element of brand meaning (Elliott & Wattanasuwan, 1998; Escalas & Bettman, 2005), as brands are a connection established between a mixture of symbolic, functional, and experiential benefits of an organization offer to communicate emotional, psychological, aspirational and value positioning (Ghodeswar, 2008). Nevertheless, symbolic artifacts in a brand must be combined with functional and experiential dimensions to build the brand concept (Park et al., 1986). There is both theoretical and empirical evidence about the asymmetry in the structure of human versus brand personality, as they operate in different ways (J. L. Aaker, 1997). The process of collecting and managing an identity and positive signs of distinction comprises two-steps. In a first step, brands are symbols that incorporate a denotative definition (name, logo, design or image). In the second step, brands turn into a connotative interpretation, construing representation of property and reputation (Bastos & Levy, 2012) as in the root of branding activity there are several personal and social identity traits (p. 349).

(3) *Mental associations approach.* The mental association framework states that a customer's mind generate unique, salient and positive perceptions about a brand, which constitute value for a given product or service (Keller, 1998). Franzen and Bouwman (2001) describe mental representations as how consumers encode functional and emotional values, creating a connection between brand name, brand imagery and cognitive processes that converge into a meaning. These mental associations include broader aspects of the brand as outlined by Brown et al. (2006) and lead to the formation of brand identity, image and reputation. Once contrasted with consumers' values, mental representations bestow positive and negative impressions as customers create mental connections with brands that, in turn, absorb content, images and fleeting sensations (Bedbury & Fenichell, 2002). All interactions customers have with products or services brands, whether good or bad, affect such associations. To characterize customers' efforts to relate to brand values, Kapferer (2012) incorporates the concept of engagement in his

definition of the term brand, signifying “a long-term engagement, crusade or commitment to an unique set of values, embedded into products, services and behaviors, which make the organization, person or product stand apart or stand out” (p. 12).

(4) *Relational approach*. In a relational perspective framework, Chevalier and Mazzalovo (2004) define brands as a contract, implicit in nature, which governs the relationship between a particular company and its customers, both in economical and emotional dimensions, with behavioral influence reciprocal to the constituent parts of such covenant. In such context, interactions with a range of stakeholders are crucial (Gregory, 2007) as companies embrace organizational self-disclosure and stakeholder and brand management distance diminishes (Hatch & Schultz, 2010). Ind (2005) indicates that brands surpass object-mediate exchange processes and symbolize the sum of all relationships and interactions among stakeholders. As stakeholder’s salience depends on power, legitimacy and urgency attributes (Mitchell et al., 1997), these dynamics include less salient stakeholders, going beyond the relationship with consumers.

(5) *Dynamic approach*. A dynamic scheme is an alternative to intellectualize brands. De Chernatony (2010) and De Chernatony et al. (2011) describe brands as epitomizing a continuous process, a dynamic interface between organizational actions and customers’ interpretations around a set of functional and emotional values that allow an inimitable and promised desired experience. This suggests that brand-customer interactions foster a multifaceted concept of the nature of brands, where some elements are visible (logo, name, communication) and some other value-added elements are “underneath the surface”, such as the brand’s positioning, its culture and personality.

(6) *Linguistic approach*. Brand conceptualization has also emanated from linguistics. Stern (2006) adopts an historical analysis method to categorize different brand-meaning approaches from thirteen special edition articles on brand image, identity and customer response, thereafter,

defining four dimensions with dichotomous valence. The first dimension refers to the nature of brands, that is, the use of literal or metaphorical meaning. The second refers to the function of brands, either as an entity, which defines a pronoun such as a person, a location, or a product, and as a process, indicating a verb related to business processes and effort to grant meaning to a product or service. The third dimension is locus, meaning either a physical locus when referring to a brand name or logo, or a mental locus when referring to a customer perception. Conclusively, the fourth dimension refers to the valence (positive or negative) of brand awareness, shaped according to quality function, visibility, tangibility, identification and distinction of each brand. The four dimensions result in conceptual brand-research approach classification scheme, namely metamorphic, literal and integrative. Stern's literal facet is not included in this study since it represents brands as assets of a firm, on a non-customer perspective. *Metaphoric* describes the function of brands on non-literal usage, focusing on a mental representation of the customer. *Integrative* relates to literal, denotative usage, where brand denotes a name or mark that is associated with a product.

These six approaches of brand conceptualization summarize the diversity of approaches comprised in the brand literature, including different frameworks and a conceptual definition, along with the antagonistic operationalization of how brands are defined and how the concepts involved relates to the nature of brands. Brand definition multiplicity and diverse frontiers are troublesome, and the prospect of defining brands based on the constituent elements can be criticized, since important components are often excluded and a rigorous methodological approach is lacking (Avis, 2009). Wymer (2013) asserts brand construct validity is fragile due the construct scarce efforts to rigorously define the construct. Following Stern's (2006) approach, brand is defined in two dimensions: brand-as-noun, representing the stakeholders' perceptions and comprehension of a branded object, and brand-as-verb, when placing an identity to a target

object. The dimensions emerge from two customer processes, gathering information and brand interaction. Brand-as-verb is not to be equated with the brand construction process of *branding* (Cohen, 2009) but to how meanings emerge on particular occasions when nouns surface as verbs (Clark & Clark, 1979). Kornberger (2010) used a similar term (“branding as verb”) to make sense of how brands function as a medium of significance, building relationships and defining beliefs, compiling business and sociological perspectives to develop portraits of new structures on the entire society.

The preceding discussion of six brand definition approaches provides evidence regarding the asymmetry in comprehending the term brand that may lead to the erroneous conceptualization of CBE. Nevertheless, Stern’s philological (history of words) assessment of whether a brand refers to a concrete, physical entity or a mental representation facilitates deeper comprehension of brands. Furthermore, the four facets of the linguistic approach that leads to the three aggregated sets of definitions of brands – metaphoric, literal and integrative, can be related to the brand-as-noun and brand-as-verb perspective. The integrative and literal definitions can be associated with the term brand-as-noun (used in the symbolic consumption perspective) while the metaphoric definition can be connected to brand-as-verb (used in the identity systems, mental associations, relational approach and dynamic representation perspectives). The related terms (brand-as-noun and integrative; brand-as-verb and metaphoric) are used interchangeably in this study as they accommodate the previously discussed brand approach. Almost all examples of brands as trademarks refer to the brand-as-noun emphasis, since agents aspire psychologically to construct representation of the origin of a branded object. As the marketing literature has consolidated, the representations of brands have gone beyond transactions, and the communal and relational interaction perspectives have been established. Thus, the brand-as-verb concept related to the Bastos and Levi (2012) two-process approach emerged. The focus on a relational perspective is a

central component to explain value creation, which is the key element evoking engagement (Chandler & Lusch, 2015), and Stern's approach proves suitable to such endeavor.

1.2.2. Consumer Engagement

The development of a global and fragmented communication architecture has expanded the use of the term engagement in Marketing (Brodie et al., 2011). Despite this rapid expansion, the knowledge developed on consumer engagement is still in its initial phase (Franzak et al., 2014). Extant literature indicates high relevance of the concept for both academics and practitioners (Brodie et al., 2011; Mollen & Wilson, 2010), as does the number of premier marketing journals special issues on the topic (Vivek et al., 2012). Established on the political and organizational behavioral sciences literature (Saks, 2006), the term engagement is used in a variety of fields (Bowden, 2009). Brodie et al. (2011) provide an extensive review of the concept, including civic engagement and social engagement in sociology, tasks engagement and occupational engagement in Psychology, student engagement in educational psychology and role engagement in organizational studies and the theoretical approach that transfers the concept dimensionalities to the marketing field. By means of the theoretical foundations of the service-dominant logic (Vargo & Lusch, 2004, 2008a, 2008b), Brodie et al. (2011) delineate consumer engagement as a “psychological state, attained from customers' experiences and interactions with an agent or focal object (such as a brand) with dynamic process features, based on the value generated from a co-creation, multidimensional nature (cognitive, emotional and behavioral) perspective” (p. 260).

Meticulous studies summarize the theoretical frameworks in defining consumer engagement. Authors compare origins of the concept and dimensionality in the social sciences and practitioners' literature (Brodie et al., 2011), research type and construct definition (Hollebeek, 2011a; Hollebeek et al., 2014) and engagement objective and paper types (Dessart et

al., 2015). Early studies in extant consumer engagement literature used the services context due to the intrinsic intangible features and extensive customer interaction in the services environment (Kaltcheva et al., 2014). Kumar et al. (2010) define consumer engagement on a value-based perspective of repeat purchase value, and reference giving value, influence buying and giving feedback. The theoretical foundations underlying these dimensions are network efficiency and the behavioral and attitudinal perspective. Similarly, Bijmolt et al. (2010) points to the behavioral component as evidence of consumer engagement, such as word-of-mouth (WOM) and feedback. Following the behavioral perspective and defining customer-company relationship, Van Doorn et al. (2010, p. 254) points out that consumer engagement goes “beyond transactions, and may be specifically defined as a customer’s behavioral manifestations that have a brand or firm focus, beyond purchase, resulting from motivational drivers” (p. 254).

Likewise, Hollebeek (2011a) examines key engagement process facets such as personal, motivational and contextual variables. The process occurs at different intensity levels over different contexts, leading to a dynamic behavior process of engagement, describing a sinusoidal-like curve over time. There are two aspects of the process: the subject of engagement (a client or consumer) and the object of engagement (a brand). Supported by this subject-to-object relationship, the author conceptualizes CBE as “the level of an individual customer’s motivational, brand-related and context-dependent state of mind characterized by specific levels of cognitive, emotional and behavioral activity in direct brand interactions” (p. 789). Hollebeek’s definition emphasizes activities, drawn from engaging literature, as the observable individual level of attention and/or fixation with the brand (cognitive activities), the energy level exerted when interacting with a particular brand (behavioral) and the level of inspiration and/or pride related to the brand (emotional activities).

Correspondingly, in an effort allocation perspective, Hollebeek (2011b) used inductive and

deductive analysis to provide a conceptual definition of CBE as “the level of a customer’s cognitive, emotional and behavioral investment in specific brand interactions” (p. 565). Three CBE themes (author’s lexicon) arise from this study, explicitly representing customers’ (1) cognitive, (2) emotional, and (3) behavioral resources allocation, explicitly when interacting with a brand. Immersion represents the “level of brand-related concentration” (p. 566), passion symbolizes “the degree of a customer’s positive brand-related affect” (p. 567), and activations represent the “level of energy, effort and/or time spent on a brand” (p. 569). Despite the dichotomous nature of immersion and activation, passion only incorporates a positive stimulus towards a brand. Thus, theoretical support for negative valence expressions against a brand has been extended and incorporated into CBE by Hollebeek and Chen (2014). The three dimensional model based on a cognition, behavior and emotions is prevalent in CBE literature and is the model assumed in this study. The three-dimensional solution has not necessarily been accepted by all brand scholars, but for the sake of objectivity, this discussion is not replicated here. Detailed literature reviews on CBE dimensionality can be found elsewhere (Brodie et al., 2011; Hollebeek, 2011a; Hollebeek, 2011b; Vivek et al., 2012; Hollebeek & Chen 2014; Hollebeek et al., 2014; Vivek et al., 2014; Dessart et al., 2015; Dwivedi, 2015).

Keller (2013) claims, using a definition comparable to Hollebeek (2011b), that active engagement, from a brand resonance model, is the “extent to which consumers are willing to invest their own personal resources [...] on the brand beyond those resources expended during purchase or consumption of the brand” (p. 348). Personal resources are interchangeably articulated with effort allocation and investment. Nevertheless, Keller associates brand engagement with brand momentum – how much progress the brand appears to be making with consumers in the marketplace – and, within this dynamic setting, incorporates two forms of measures for brand engagement: macro and micro level. The author describes the former as

referring to different resources used by customers in a brand relationship – time, energy and money, while the latter refers to particular brand-related activities such as collecting brand information, participating in brand marketing activities, and interacting with others. Bowden (2009) has also proposed two distinct processes of engagement, separating customers based on their knowledge structure, since new customers follow a different path than repeat customers when they engage with brands.

Some customer behavior seems to have a twin-threshold response to companies' propositions, where an *adequate* (acceptable) perceived level relates to the lower threshold, whereas a *desired* (expected) level relates to the higher threshold (Zeithaml et al., 1996). Theoretically, customers responding between adequate and desired levels are in a *zone of tolerance*, but only exceeding desired levels will lead to unwavering superior results. The same rationality is used to theorize about Keller's macro and micro process, since the micro process will take place above a minimum threshold of brand value proposition response (effort allocation), until a second threshold of stimuli (brand offers), when customer would allocate further cognitive, emotional and behavioral resources. CBE's macro process exclusively fulfills outcomes. This also resonates with the context-dependent nature of CBE, as out-of-context, non-interacting condition brands enter into the micro-processing phase, without outcomes, reemerging as macro processing once they are again in context.

The macro and micro process can be associated with the Bastos and Levy (2012) brand acknowledgement process. As a consequence, micro processing of brand engagement is related to the integrative (brand-as-noun) perspective, while processing information, participation and interaction are sense-making of what a brand is. Along the same lines, rare personal resources allocated to a brand's value proposition are perceived as superior, and resonates as a metaphoric (brand-as-verb) perspective. Moreover, contrary to what the nomenclature may suggest, macro

and micro processes are not hierarchical in nature. Instead, macro processes are not connected to more important, esteemed, wanted brands, but relate to the amount of effort allocation a customer is able to devote to a certain brand. This approach concurs with the dependent perspective context of CBE, and the micro process serves as a brand repository for brands that a particular customer does not want – or circumstantially cannot – devote additional personal resources. This view also accommodates Hollebeek and Chen's (2014) negative valence brand engagement, applicable to other real life contexts such as customer's pseudo-engaged brands or customer's temporary and spurious loyalty behaviors.

It is proposed, therefore, that CBE is comprised of two different processes: macro and micro, with the former referring to perennial, intense, profound, emotional brand-centered effort allocation processes, and the latter relating to temporary, subtle, superficial, emotionally self-centered processes. Both processes operate on cognitive, behavioral and emotional dimensionality. Assessing the scope (dimensionality, valence, outputs, customer processes and relational interface to the brand) and theoretical perspectives of consumer brand engagement, CBE is a *continuous* (as opposed to discrete) process that encompasses cognitive, behavioral and emotional dimensions which can independently assume different perceptual levels to customers, volatile through time and dependent on brand touch points. Brand touch points are any interaction or interchange correspondence a customer have with a certain brand that ignite a cognitive, behavioral or emotional effort allocation.

1.2.2.1. Expectancy Theory and the Consequences of CBE

There are few non-empirical studies involving a strictly theoretical brand interaction approach (Knoke, 1986). Because CBE is defined on an effort allocation basis, expectancy theory was chosen to explain the consequences of relating to a brand. Expectancy can be defined

as a belief about a specific outcome, as a reward, defined in terms of valence – positive or negative, or as an instrumentality – a probability of being rewarded (Vroom, 1964). To understand individual behavior selection as a choice to act, expectancy theory proposes that individuals cognitively process distinct motivational elements, since an individual's behavior is a result of the conscious choice of one's own expectancy calculations (Lunenburg, 2011). Among distinct possible outcomes, the motivation to choose one behavior over another is defined by the significance of an expected outcome. Differently stated, it is a personal motivation theory based on the assessment of possible behaviors to optimize outcomes. Such motivation drives one to exert efforts that are believed to generate acceptable levels of performance (*expectancy*), and certain (high) levels of performance are rewarded (*instrumentality*) by outcomes, which are subjected to personal preferences (*valence*). Lee (2007, pp. 790-791) describes library patronage where motivation is the “frequent use of library products”, resulting from the interaction of the “customer's perceived probability of successful accessibility to the library product” (expectancy), “customers' perceived probability they can find the information that they are looking for through their access to the library product” (instrumentality) and the “value of the information to satisfy customers' information needs” (valence). This notion of valence refers to anticipated satisfaction while value refers to experienced satisfaction (Crosby & Taylor, 1981).

Allocation of effort and personal investment represent different levels of CBE, expectancy theory supports customers' appraisal of the probability that their acts will be followed by an initial (first-level) outcome (Figure 1.2). Nadler and Lawler III (1989) assert that successful performance-to-outcome expectancies ($P \rightarrow O$) are valence outcomes because they have direct value or attractiveness. Nevertheless, second-level outcomes are attainable only after first-level outcomes are achieved, and instrumentality is the probability that first-level outcomes will lead to second-level outcomes. An expectancy theory approach to outcomes can be applied in a brand

engagement context since customer's specific goals affect CBE when maximizing consumption and relational benefits and influence how brands are used (Van Doorn et al., 2010).

There are two types of outcomes: first level outcomes are behavior that results from depleted effort, and second level outcomes are tangible and intangible benefits originating from first level outcomes (Nadler & Lawler III, 1989). There are states obtained from the direct relationship (task-oriented) with a branded product or service (e.g., word-of-mouth about a product or service, affective commitment, psychological attachment). These are *intrinsic outcomes*, which can happen regularly because of the positive performance of the brand. However, there are states relating to brands (e.g., social attainment, belonging to a brand community) derived from the customer's perception that other agents are influencing them. These are *extrinsic outcomes*, which may or may not be granted to the customer (indicated by a dashed line in Figure 1.2). Vivek (2009) proposed two-component consequents for CBE using similar terminology, where intrinsic values involve the appreciation of an experience with a brand and extrinsic values "are means to an end" (p. 36). Although the terminology is similar, both the theoretical references (theory of consumption values and consumer value perspective used by Vivek) and the context (value versus first-level outcomes) distinguish the interpretations of the designations in each research.

Nadler and Lawler III (1989) state that individuals attribute to themselves *intrinsic* outcomes, seen as occurring as a result of performing the task itself, while *extrinsic* outcomes are provided or mediated by external factors. Valence is assigned to both first and second level outcomes, but second level outcomes (a benefit) are an instrument for achieving first level outcome (Shapira, 1976). Expectancy theory supports the equifinality characteristic of CBE outcomes (Villiers, 2015) – the extent to which distinct and unique means leads to equivalent outcomes – as an infinite number of customer responses to a brand offer (brand engagement) can

lead to word-of-mouth (first level outcome).

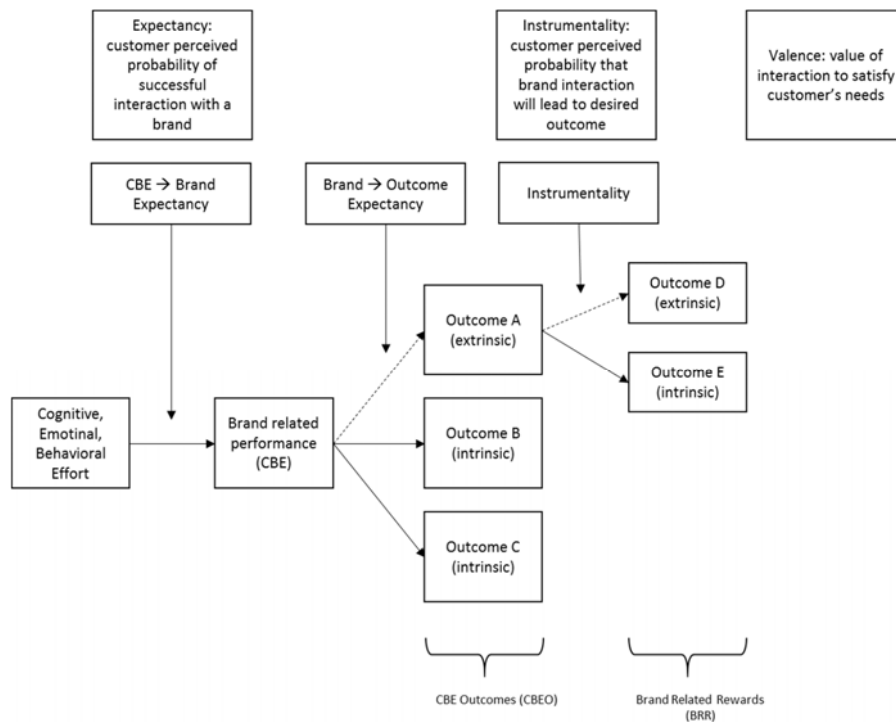


Figure 1.2. Consumer Brand Engagement expectancy-theory model. Note: Adapted from *Motivation: A diagnostic approach* by D. A. Nadler and E. E. Lawler III., 1989, In H. J. Leavitt, L. R. Pondy and D. M. Boje (Eds.), *Readings in managerial psychology* (pp. 3-19). Chicago, IL: University of Chicago Press and “Vroom's expectancy theory and the public library customer motivation model” by S. Lee (2007), *Library Review*, 56, 9, pp. 788 – 796.

This study extends the reasoning of expectancy theory to explain customer outcomes from the brand engagement process. Consumer Brand Engagement Outcomes (CBE-O) refer to customer chosen behaviors (first level outcome) towards a brand based on the likelihood that something better (second level outcome) would be provided. Such claims concurs with the Zhang and Huang (2010, p. 642) assertion that “individuals' decisions in adopting a certain goal at least partially depend on the cognitive assessment of their chances of attaining the goal”. Additionally, it is asserted that consumer brand engagement generates first and second level outcomes as general customer expected rewards, and second level outcomes are label Brand Related Rewards

(BRR). Manifestation of such rewards is subtle or overt, mentally or physically operated, comprised of (a) a state related to a self-centered processes (first level outcomes intrinsically mediated) obtained from the direct interaction to a brand and (b) a state related to a social-centered processes (second level outcomes extrinsically mediated) where customers pursue social accomplishment. Figure 1.2 depicts the expectancy theory model adapted to a CBE context.

1.2.2.2. Consumer Brand Engagement - Definition

Reviewing CBE proposed outcomes in the literature, expectancy theory can provide a comprehensive theoretical framework. For instance, Bowden's (2009) definition of brand loyalty, not as initial repeated purchase but as an enduring brand state mediated by a psychological variable, can be classified as a second level outcome. Conversely, Hollebeek and Chen's (2014) negative electronic Word-of-Mouth (e-WOM) behavior can be classified as a first level outcome, such as an effort (writing a derogatory review) based on the customer capability of disparaging a certain brand (expectancy). Since instrumentality is the perception a customer has about whether he or she will receive what was desired, the model does not account for second level outcomes. No relationship is established between e-WOM behavior and self-benefits, as for instance, from the recovery initiative of the denounced company (extrinsically mediated) or increased self-esteem (intrinsically mediated). In this sense, some of the first level outcomes are: usage and attentiveness, reaction to an ad (Calder et al., 2009), financial benefit, time and money (Van Doorn et al., 2010), commitment and self-brand connections (Brodie et al., 2011), brand attitude and e-WOM (Hollebeek & Chen, 2014), self-brand connection and brand usage intent (Hollebeek et al., 2014), value and WOM (Vivek et al., 2012) and patronage intent (Vivek et al., 2014). Other second level outcomes include: brand loyalty (Bowden 2009; Hollebeek 2011a; Dessart et al., 2015; Dwivedi, 2015), emotional response, identity (Van Doorn et al., 2010), trust, self-brand

connections and loyalty (Brodie et al., 2011), loyalty and satisfaction, empowerment, connection and emotional bond, trust and commitment (Brodie et al., 2013), trust, affective commitment (Vivek et al., 2012) and value perceptions, benevolence perceptions and affective commitment (Vivek et al., 2014).

Few studies of CBE address a comprehensive set of relationships regarding the asymmetry of contexts and dimensionality (Villiers, 2015). Figure 1.3 is a proposed model with supported dyadic relationships, where traditional dimensionality of CBE (cognitive, behavioral and emotional) is based on the organizational theory of the boundary-spanning marketing organization processes (Hult, 2011), relating to brand sense-making, delivering outcomes as reward-like customer processes (Dwivedi, 2015), concomitantly. Furthermore, it considers different levels of customer allocation of resources to each of CBE elements (cognitive, behavioral and emotional), whereas the term brand usage signifies different processing of customers. The implications of these insights are scrutinized subsequently. As stated by Vivek et al. (2014, p. 402) “authors in marketing have difficulty deciding what to call the concept, and hold varying views of its nature”. The definition proposed in this study is:

CBE is a two-component process of allocating independently managed personal resources (cognitive, behavioral and emotional) to define the affiliation with a brand considering valence (positive or negative), intensity (high or low), type (denotative or connotative) and nature (literal or metaphoric) of the relationship. It leads to foreseen and unexpected, self-warranted and third part granted rewards, resulting from customer’s efforts to achieve such outcomes.

1.2.2.3. Consumer Brand Engagement Conceptual Framework

Two theoretical approaches – boundary spanning organization theory and expectancy theory – along with brand management and CBE literature – support the proposed framework, as

represented in Figure 1.3. Even though Vroom's (1964) initial valence, instrumentality and expectancy (VIE) model was focused on motivation in a work environment, an individual's expectations for attaining desired outcomes has been applied on various customers intentions evaluations (McMenemy & Lee, 2007; Roberts et al., 2014; Zhu et al., 2013) and brand management (Knox & Freeman, 2006; Wieseke et al., 2008). Likewise, boundary spanning organization theory is a suitable framework for practical marketing studies (Browne et al., 2012). It is assumed, therefore, that these theories support the proposed CBE framework.

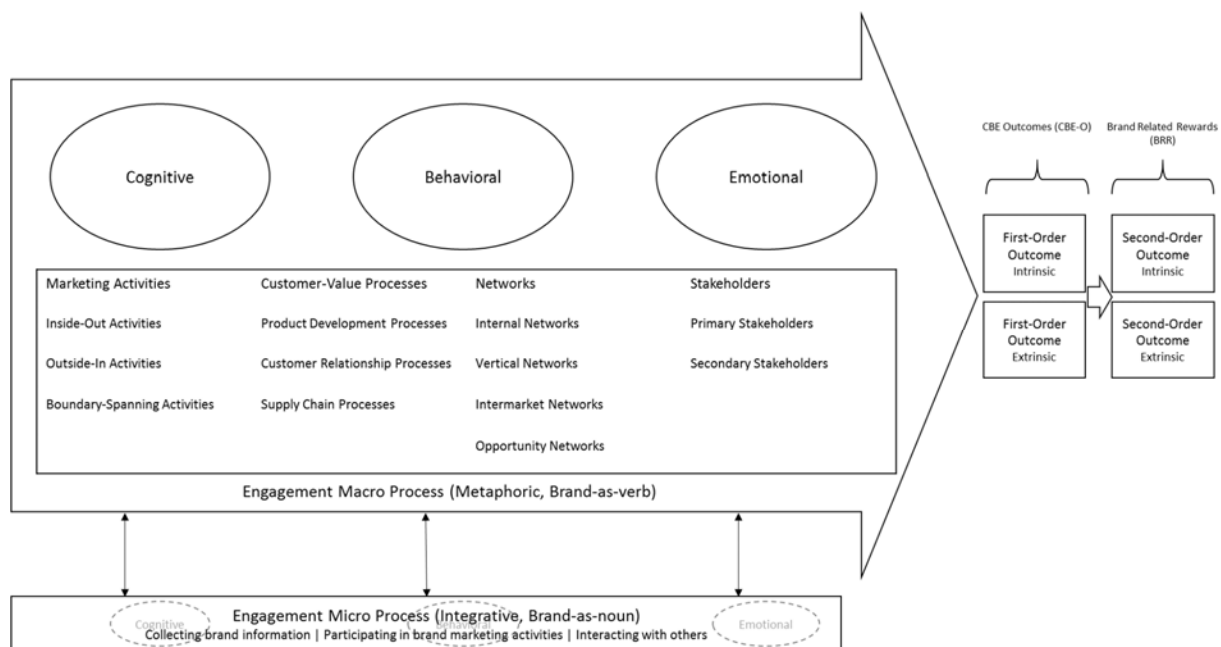


Figure 1.3. Proposed framework for Consumer Brand Engagement.

The framework in Figure 1.3 brings all the theoretical assumptions together while encompassing the three dimensions of CBE (cognitive, behavioral and emotional). The layout of MOR's elements (and sub processes) along CBE's dimensions evidences the theory's diversity both horizontally across multiple functional areas and vertically involving multiple efforts inside the marketing function. CBE is divided into two different processes, the engagement micro

process, when brands have an integrative, brand-as-noun meaning, and the engagement macro process, when brands have a metaphoric brand-as-verb meaning. The engagement micro process does not lead to outcomes (represented by a rectangle), since the engagement macro process (arrow) leads to outcomes foreseen by the expectancy theory. In the engagement macro process a continuous line ellipse represents high effort allocation, while in the engagement micro process the dashed line ellipse represents a low effort allocation. As stated by Hollebeek (2011a), trust and commitment are possibly both antecedents and consequents of consumer brand engagement, being applied to new and existing customers. Both constructs will not be considered in the study. Likewise, individual traits that influence the outcomes (e.g. self-confidence, self-image, locus of control) will not be represented.

1.2.3. The Boundary-Spanning Marketing Organization Theory (MOR)

Defining the marketing scope is paramount to propel both its theoretical foundations (Hunt, 1976; Gronroos, 2006) and its implications to practitioners (De Chernatony et al., 2011; Kotler & Keller, 2012). Extant formalizations customarily align marketing processes with marketing functions, revolving around identifying markets and segments and developing offers to induce value propositions. Such offers are delivered in the form of products, services, experiences, people (celebrities or politicians), organizations, information and ideas. At the same time, monitoring value involves processes for identifying, creating, communicating, delivering and monitoring customers based on such offers (Kotler & Armstrong, 2013).

To convey value organizations commit to designing and performing various processes, integrating activities that go beyond the traditionally attributed practices regarding marketing functions (Srivastava et al., 1999). Designing these processes and extending marketing related concerns to other departments are beneficial to both marketing and management theory (Ketchen

& Hult, 2011). Research on marketing integration focuses either on themes within marketing functions (for channels integration see Coughlan, 1985) – or with other organizational areas such as R&D (Maltz et al., 2001) and manufacturing (O’Leary-Kelly & Flores, 2002). Additionally, researches on marketing’s contacting areas, such as supply chain management, call upon the integrative perspective of the demand and supply side (Esper et al., 2010; Petersen & Autry, 2014). In doing so, companies create relevant value, which “reflects an organizational focus on optimizing the economic value for both the focal organization and for customers of choice by tailoring core organizational competencies toward customers and segments that represent the best exchange opportunity” (Stank et al., 2012, p. 168).

Given the relative paucity of diligent, integrative theoretical perspectives, Hult (2011) conceived the boundary-spanning marketing organization theory (MOR) to describe areas of marketing processes. By doing so, Hult proposes that a boundary-spanning organization integrates holistic processes to create consumer value through business practices and networks, bearing diverse stakeholders. In a marketing process perspective, many departments are accountable for a company’s branding struggle, since it should permeate through all levels and functions (Bedbury & Fenichell, 2002). Accomplishment for an organization depends on integrating four characteristics, effectively infused and assimilated through the enterprise, namely: (a) marketing activities; (b) customer value creating processes; (c) establishment of networks and; (d) integration and attention with stakeholder.

To contextualize the first feature, the author explains that, as the companies change from a rational, closed system to a more open interactive one, marketing activities are no longer confined within the marketing department specific functions, but are based on a set of interdepartmental activities. Depending on the market-oriented organization’s capabilities, whose most valued characteristics are market sensitivity and customer relationship skills, Hult describes

the first quadrant, marketing activities, as containing three sub elements: (i) inside-out activities, (ii) outside-in activities and, (iii) boundary-spanning activities. Day (1994, p. 41) defines to inside-out activity as financial management, cost control, technology development, integrated logistics, manufacturing/transforming processes, human resource management and environmental health and safety. In contrast, inside-in activity involves market sensing, customer linking, channel bonding and technology monitoring activities. Finally, the boundary-spanning processes include customer order fulfillment, pricing, purchasing, customer service delivery, new product and services development and strategy development.

The second quadrant of activities, customer value– creating processes covers: (i) product development processes, (ii) customer relationship processes and, (iii) supply chain processes, using shareholder value creation business integration processes, as proposed by Srivastava et al. (1999). The authors identify twenty-seven sub-processes that represents value-creating activities. Moreover, Hult (2011) asserts that the processes in this quadrant that connects individual marketing activities to the actors that will perform to properly implement them.

Relationship networks established by corporations are the third part of MOR. Achrol and Kotler's (1999) network economy consists of organizational alliances between independent economic enterprises, incorporating a mutual and reciprocal shared values system. It consists of four elements: (i) internal networks, which reduces employees' internal hierarchy; (ii) vertical networks, consisting of partnerships between independent companies, with different expertise; (iii) intermarket networks, sharing synergies between different economy sectors, and (iv) opportunity networks, representing a focus on market dynamics and efficient transaction process.

Finally, to emphasize multiple actors' operating principles, the boundary-spanning organizational theory incorporates a fourth quadrant, stakeholders. Through the discussion of Clarkson's (1995) stakeholder framework, anchored on corporate social responsibilities and

responsiveness, Hult incorporates the perspective of primary and secondary stakeholders into MOR. Primary stakeholders are those essential to the survival of the company such as customers, employees and suppliers, with high level of interdependence, while secondary stakeholders have no control of the fundamental resources of the company. Secondary stakeholders, therefore “influence or affect, or are influenced or affected by, the corporation, but they are not engaged in transactions with the corporation” (Clarkson 1995, p. 107). Nonetheless, secondary stakeholders can mobilize various groups for or against the company, for example the media and non-governmental organizations (NGOs).

In the conceptual framework of Figure 1.3, MOR’s constituent components are shown as contact points to assess CBE in a different theoretical perspective. Its comprehensive view of marketing processes, permeating various subdivisions of an organization, incorporates an integrative, transdisciplinary effort (Tress et al., 2006) to assess, empirically and theoretically the construct. Indeed, Schultz and Hatch (2003, p. 13) describe a new, multilateral nature of brands’ perceptions, which implies that in a corporation, all departments are knowledgeable about their role in positioning a brand, designing processes and performing actions that make the brand unique. MOR theory provides broader parameters for marketing processes, and consumer engagement theory can evolve by incorporating such considerations. Furthermore, MOR can accommodate different levels of interaction that contribute to understanding the allocation of customer effort accordingly. Finally, MOR theory supports the brand understanding process (integrative, brand-as-noun or metaphoric, brand-as-verb), as it portrays activities and contact points that alter customers’ brand perceptions. The theoretical arguments are described in the next section.

1.3. Consumer Brand Engagement Dimensions – Theoretical Foundations

This section covers the theoretical background for the cognitive, behavioral and emotional dimensions of CBE. For each dimension, propositions are developed based on the literature review and discussing how the conceptual principles govern customer-brand interactions. Figure 1.4 summarizes the fifteen resulting propositions.

A consistent theoretical contribution can be evaluated by the extension that it alters existing models, both in scope and magnitude (Whetten, 1989). In light of the discussion in previous sections, this study presents fifteen theoretical propositions, following the suggestions on Kilduff (2006) for structuring ideas and relevance guidelines for new concept submission. The theoretical framework in Figure 1.3 suggests a multidisciplinary model to integrate current theories in explaining constructs that constitute consumer brand engagement (CBE).

Initially, the discussion follows a vertical path, top-down, left to right, analyzing how the cognitive, behavioral and emotional dimensions of brand engagement, consecutively, are affected by MOR's elements and brand perception elements, varying independently, resulting from autonomous effort allocation. Likewise, the macro and the micro engagement process are depicted as how brand perceptions alternates from a brand-as-noun definition (perception of the object) to a brand-as-verb definition (realization of an identity) as a response of the intensity of customers' effort allocation. Finally, an examination of CBE consequences based on expectancy theory (Vroom, 1964), leads to first-level outcomes, labeled consumer brand engagement outcomes (CBE-O), as well as second-level outcomes, labeled Brand Related Reward (BRR). The former refers to outcomes resulting from direct interaction (cognitive, behavioral and emotional effort) with a brand and the latter refers to outcomes as consequences of first-level outcomes. Both first and second level outcomes can be further divided into intrinsic, accounted for as individual accomplishment, or extrinsic, derived from or mediated by external factors (Nadler & Lawler III, 1989).

CBE Dimension	Framework Element	Theoretical Proposition
Cognitive	Marketing Activities	(1) CBE cognitive dimension is an individual, independent response to a brand's marketing activities
	Brand	(2) CBE cognitive dimension builds unique and cumulative knowledge about a brand, defined on an integrative, brand-as-noun (object) micro processes basis.
	Customer Value-Creation Process Network	(3) CBE cognitive dimension is an individual, independent response to a brand's customer value-creating processes (4) Customer intrinsic cognitive structures and abilities defines the rationalization of a brand's network development
Behavioral	Stakeholder	(5) CBE cognitive dimension is susceptible and responsive to a brand's primary and secondary stakeholder interaction.
	Marketing Activities	(6) CBE behavioral dimension represents the customers' actions towards a brand of choice, triggered as a response to a brand's marketing activities.
	Brand	(7) CBE behavioral dimension contributes to brand perception in a trial and reinforcement basis, interchangeably assuming the interactive (brand-as-noun) and the metaphoric (brand-as-verb) perception, fluctuating from macro to micro process in this procedure.
	Customer Value-Creation Process Network	(8) CBE behavioral dimension is an individual, independent response to a brand's customer value-creating processes. (9) CBE behavioral dimension is a response with dissimilar and independent scope and magnitude to each actor within the network of the brand.
Emotional	Stakeholder	(10) CBE behavioral dimension is determinate accounting for the influence of a brand's primary and secondary stakeholder interaction with the customer.
	Marketing Activities	(11) CBE emotional dimension is a dynamic, affective response to a brand's marketing activities
	Brand	(12) CBE emotional dimension builds cumulative knowledge about a brand, which plays a metaphoric, brand-as-verb (identity) role
	Customer Value-Creation Process Network	(13) CBE emotional dimension is a response to confirm or cope with feelings elicited from a brand's customer value-creating processes (14) CBE emotional dimension is based on a complex set of consumer's emotions, hierarchical in nature, arising from the collaborative relationship of the brand with actors of its networks, unique to each player within the network
	Stakeholder	(15) CBE emotional dimension is affected by the nature of the relationship the brand impinge to its primary and secondary stakeholder interactions

Figure 1.4 – Theoretical Propositions for Consumer Brand Engagement Integrated Model.

1.3.1. Cognitive Theory Assessment for CBE and Propositions

One aspect of the consumer brand engagement cognitive component refers to information processing. Customers process stimulus and interconnect them to all three elements of Marketing Activities. First, interacting with inside-out activities – in the form of attention, perception, memory, reasoning and other cognitive process (Piaget, 2003) to a brand's products and services, as a tangible result of inside-out efforts. Likewise, customer interrelates to outside-in activities in the form of conscious awareness to customer linking activities, channel-bonding processes, and other marketing activities, that together represent the strategic intent choices of one brand, derived for its positioning, channels, and customer service, among others. The dynamic nature of customers cognitively processing brands offers is consistent with the De Chernatony (2010) view, where “brands represents a dynamic interface between an organization's actions and customers' interpretations” (p. 12). On the foundation of these remarks, it is propose that:

Proposition 1: CBE cognitive dimension is an individual, independent response to a brand's marketing activities.

The model indicates that dynamic, active and progressive cognitive processes (as opposed to static) represent the different levels of these dimensions and assume an idiosyncratic result. Different levels of cognitive states (thoughts, beliefs, ideas) lead to different levels of cognitive abilities (perception, attention, memory, motor, language, visual and spatial processing) that will be processed as contrasting information, known as equilibration (Piaget, 1977, 1978). *Equilibration* of cognitive structures encompasses assimilation, processing incoming information to fit one's existing reasoning, and accommodation, with intellectual adaptation as incoming information (Dawson, 2009). From such complex information processing, it is inferred that different brands induce different cognitive abilities, reaching *equilibration* with different

processes. Additionally, the same brand, in the form of brand extensions, activate significantly different processes of assimilation and accommodation in the long run, leading to different brand meanings (Veg-Sala, 2014). It is also proposed that:

Proposition 2: CBE cognitive dimension builds unique and cumulative knowledge about a brand, defined as an integrative, brand-as-noun (object) micro processes basis.

Considering customer value-creating processes, one brand's marketing activities lead to consumer's perception over time (Bedbury & Fenichell, 2002). Customers with dissimilar cognitive systems and cognitive abilities perceive such activities and, assimilate such actions disparately and idiosyncratically. Value proposition literature moves away from a bipartite perspective model to a broader, multiple actors and stakeholder vision, leading to an ecosystem perspective (Frow et al., 2014). These systems are important for either responsiveness context (Homburg et al., 2007) or meaning attribution, enabling understanding, reasoning and prediction (Markman & Gentner, 2001). Cognitive ability is inherently individual, and takes place through the processes of attention, perception, memory, reasoning, judgment, imagination, thought and language (Piaget, 2003). Therefore, the following is proposed:

Proposition 3: CBE cognitive dimension is an individual, independent response to a brand's customer value-creating processes.

Assessing Network Economy influence, information revolution altered internal and external networks in which a company operates, creating better information processing, knowledge management and adaptability (Achrol & Kotler, 1999). Specific interactions between consumers and a company can occur within a wider network, suggesting that consumer brand engagement goes beyond dyadic relationships established on a consumer and brand relationship (Brodie et al., 2011). Moreover, a brand's value proposition "can invite engagement not only from customers but also from a constellation of other actors" (Chandler & Lusch, 2015, p. 8). Customer ability to

comprehend these wider networks relates to individual cognitive structure and ability.

Consumer cognitive structures development and mental adaptation is explained by the equilibration process (Piaget, 1977), as new brand elements absorption follow an assimilation process, while accommodation process encompass modifying brand perception in each brand interaction, which generates further change in the cognitive structure. These consumer's cognitive structures, which have undergone equilibration and self-regulations, guides their interaction with the brand, generating and shaping perceptions about values (observed in communication and interaction with employees), brand standards (behavioral guidelines, responsiveness, interaction), artifacts (stories, rituals, language) and action (forms of interaction), all of which dependent on a company's structured network (Homburg & Pflesser, 2000). It is then proposed that

Proposition 4: customer intrinsic cognitive structures and abilities define the rationalization of a brand's network development.

Stakeholder theory managerial contribution is effective and can be used to implement a series of offers associated to marketing activities (Maignan et al., 2005). Idiosyncratic cognitive skills related to information search and storage, knowledge structure and mental models modify customers' response of brand offers (Moreau et al., 2001).

Proposition 5: CBE cognitive dimension is susceptible and responsive to a brand's primary and secondary stakeholder interaction.

1.3.2. Behavior Theory Assessment for CBE and Propositions

Product-proliferation theory (Mainkar et al., 2006) postulates about extensive product launch strategies to increase entry barrier levels, as companies occupy possible positioning discontinuity in a given category. One consequence of this strategy is the wide range of products and services offered in the most relevant product categories, associated with the corresponding

promotional mix. Amongst a multitude of brand offers (Chandler & Lusch, 2015) it is proposed that

Proposition 6: the CBE behavioral dimension represents the customers' actions towards a brand of choice, triggered as a response to a brand's marketing activities.

Customers perceive different intensity levels of brand engagement, as part of a larger engagement process (Bowden, 2009). Consumer choices results from the interaction between situation, product and person (Srivastava et al., 1984), generating dynamic standards for behavioral component. Behavioral Learning Theory (Rothschild & Gaidis, 1981) argues that information strengthening processes generate and change consumer behavior, based on the incentives involved. It implies that customer response (such as purchase behavior) is a transactional process of trial and reinforcement. Customers brand conceptualization undergoes similar process to form brand perceptions. Then, it is proposed that:

Proposition 7: CBE behavioral dimension contributes to brand perception in a trial and reinforcement basis, interchangeably assuming the interactive (brand-as-noun) and the metaphoric (brand-as-verb) perception, fluctuating from macro to micro process in this procedure.

Marketing's renewed interest in the behavioral perspective is associated with the shortcomings of the (isolated) cognitive approaches to 'marketing problems' as in the conceptualization of failures in new product introduction, as customers do not follow extensive information processing (Knouse, 1986).

Proposition 8: CBE behavioral dimension is an individual, independent response to a brand's customer value-creating processes.

Literature relates to the marketing concepts of consumer experience, which is changing relationship parameters in the marketing landscape, moving to a network economy and increasing propinquity to customers (Achrol & Kotler, 2012). Such proximity occurs at different

aggregation levels, being possible to elaborate that customers adopt different magnitude and scope for this integration, such as individual level or contextual level. It is proposed that:

Proposition 9: CBE behavioral dimension is a response with dissimilar and independent scope and magnitude to each actor within the network of the brand.

Social norms promulgate patterns of behaviors based on the consistency of these demeanors, promoting corresponding normative and descriptive behaviors, as a bricolage of mutual believes (Goldstein et al., 2008).

Proposition 10: CBE behavioral dimension is determinately accounting for the influence of a brand's primary and secondary stakeholder interaction with the customer.

In this study, the terms "brand interactions" (Hollebeek, 2011a, p. 790) and "brand experience" (Gambetti et al., 2012, p. 668) are removed from the current definition and replaced by "brand affiliation" as CBE can account for cognitive processes in the same proportion of behavioral processes.

1.3.3. Emotions Theory Assessment for CBE and Propositions

Brand intrinsic characteristics evoke benefits, personalities and emotions (Holt, 2004). Emotional attachment to brands confirms a subjective interactive nature and the propensity of a person to commit and invest on establishing a relationship with a brand (Thomson et al., 2005). Attachment Theory describes the nature of personal interactions with an object as a function of the intensity of emotional attachment developed reciprocally from the object (Bowlby, 1982). Thus, it is proposed:

Proposition 11: that the CBE emotional dimension is a dynamic, affective response to a brand's marketing activities.

Likewise, emotions, in the form of brand affect, are defined as a response of customer to

brand use, which in turn, affects brand personality (Sung & Kim, 2010).

Proposition 12: CBE emotional dimension builds cumulative knowledge about a brand, which plays a metaphoric, brand-as-verb (identity) role.

A given learning process is a potential emotions initiator, and emotions alter consumer processes, such as product choice (Wood & Moreau, 2006). Emotions are a mental state of readiness, ascending from events or thoughts representing cognitive evaluation, resulting in specific actions to confirm or cope with such emotions, depending on its nature and meaning for the person (Bagozzi et al., 1999). Emotions are a *sui generis* part of people's quotidian, and do not occur in isolation, but in a "family of related states" (Ekman, 1994, p. 19). Hollebeek (2011b) presents a dynamic model of brand engagement facets, and engaged subjects experience different levels of engagement with an object. Over time, the bond established between object familiarity and the path to establish the links convey to an "emotional memory", for solutions elaboration (Miranda & Tarapanoff, 2008).

Proposition 13: CBE emotional dimension is a response to confirm or cope with feelings elicited from a brand's customer value-creating processes.

Network structure also generates collaborative consumer relationship and develops a pattern in which resources and brand assets are used for easier consumer integration, in a process of value creation with other participants of the network. What defines customer experience is the approach, within the network, of how products and brands interactions are proposed. As pointed out by Hollebeek and Chen (2014) consumer engagement has positive and negative valence characteristics, resulting in part of such interactions. This dyadic relationship extends to the emotions dimension. However, Laros and Steenkamp (2005) proposes a hierarchical model of consumers' emotions, where emotions are a result of a content component (broad general factor and specific assessments) and a hierarchical structure component (various emotions can occur at

the same level of observation) and consumers make extensive use of this wide emotional structure in consumer environments. Therefore, it is proposed that:

Proposition 14: CBE emotional dimension is based on a complex set of consumer's emotions, hierarchical in nature, arising from the collaborative relationship of the brand with actors of its networks, unique to each player within the network.

Marketing activities toward stakeholders can trigger emotional responses, allowing access to different resources, strategic opportunities and positive valence from certain stakeholders (Rindova et al., 2006). On the other hand, emotions emerging from marketing initiatives range over a multitude of intensity and valence to different stakeholders, from sympathy to anger, or even *schadenfreude* (pleasure from the adversity of others), affecting brand image ambivalently (Coombs & Holladay, 2005). It is then proposed that:

Proposition 15: CBE emotional dimension is affected by the nature of the relationship the brand impinges to its primary and secondary stakeholder interactions.

1.4. Discussion and conclusions

This article provided a conceptual framework of dynamic customer response to brand offers. Dynamic accounts for the dual brand perception that affects the amount of independently allocated personal resources (CBE), divided into two interchangeable, context-dependent processes (macro and micro), embedded in multilateral corporate processes managing the brand (MOR), generating two levels of outcomes (first and second-level), both self-warranted (intrinsic) or third-party granted (extrinsic). Using a cross-disciplinary approach, this study theorizes CBE from two main theoretical approaches, boundary spanning organization theory (MOR) and expectancy theory, including literature from brand management, consumer brand engagement, along with cognitive, behavioral and emotional processing, going beyond the in-context construct dependency. Drawing upon brand definitions, consumer brand engagement, boundary spanning

marketing organization theory (MOR), as well as customers' cognitive, behavioral and emotions processing, this study proposes fifteen fundamental propositions for advancing the concept of consumer brand engagement (CBE).

The contributions are fourfold. First, a new brand engagement definition is proposed, aiming to delineate characteristics of constituent constructs of brand engagement for an extended view of the concept, and researchable propositions are presented. As recommended by Brodie et al. (2011), different theoretical perspectives contribute to a deeper understanding of consumer brand engagement. The main theoretical contributions are related to the nature of the constituent elements of engagement, departing from a dyadic, discrete (engaged or non-engaged) perspective to a continuous, multidimensional one. Assessing the cognitive dimension regarding its nature and processes, it responds to brand offers in a dynamic, integrative perspective, where each contact point of the brand with the customer has an impact. Likewise, the complexity in content and hierarchical in nature characteristics of emotions shed light on important mechanisms that customers use to process their ambivalence feelings towards marketing activities from a brand. Finally, consumer engagement generates dynamic behavioral patterns, performance characteristics in different instances that goes beyond overt actions. CBE's behavioral dimension accounts for how customers response when affiliating to a brand, whether as a long lasting relationship or as an ephemeral response to a brand's offering.

Two distinct theoretical processes emerge, suggested as brand engagement macro process and brand engagement micro process. The first relates to perennial, intense, profound and emotional multi-centered processes that coalesce the integrative view on the conceptual framework proposed. The second relates to an effective perception construction process, experienced in an attenuated, superficial, emotionally self-centered and temporary nature on the relationship of a customer with a brand. Brand engagement thus arises from the various

interactions of these two mental processes, as a customer can increase or decrease affiliation with a brand over time.

Second, the use of the boundary-spanning marketing organization theory (MOR) framework to establish the ample nature of customer interaction with a brand was unique on the Marketing literature and contributed to increase the ecological validity of the CBE concept. More than expected responses to marketing activities, CBE comprehends a multitude of dimensions were a brand operate and establish constant interaction to those dimensions. The use of a boundary-spanning theory adds on the understanding that in order to create desired output regarding consumer brand engagement companies need to articulate successful management of multi-departmental marketing processes. Furthermore, these processes should not only focus on the behavior component of CBE, but equally on the cognitive and emotional dimensions, as each one will interact independently with distinct facets of a brand.

Third, more stringent and rigorous brand concepts that lead to a concomitant process of brand concept formation and brand engagement are suggested. They evolve from a general, sensorial (visual) understanding (generated knowledge) of what a brand is (integrative, brand-as-noun), passing through an intermediate stage of grasping multiple meanings from various encounters (brand-a-noun and brand-as-verb transition) to an ultimate shared meaning (shared interpretations) of what the brand represents and what identities are related to it (metaphoric, brand-as-verb). It is reasonable to suppose, therefore, that CBE when the brand concept is perceived as a noun – and trivial, functional knowledge is experienced by customer (integrative) is different from CBE when the brand concept is perceive as a verb – and imperative, sensorial experiences proceed (metaphoric). Viewing this as two different concepts is consistent with the two processes of engagement proposed in the framework.

Finally, the conceptual framework also proposes theoretical outcomes from the brand

engagement process, comprised of two stages – a first-level outcome labeled Consumer Brand Engagement Output (CBE-O) and a second-level outcome labeled Brand Related Rewards (BRR) – that encompass customers' expected and reciprocal benefits drawn from the relationship with a brand and expected valence. Either outcomes are intrinsic, customer interactions with brands that generate physical and mental, self-propelled states, or extrinsic, a third part mediated, explicit and social oriented connection. Brand Related Rewards accounts for every customer's activities that can lead to a perceived reward to the customer, taking the customer-brand relation as the focal point.

The primary contributions of this work are the generalization of the concept of engaging customer to a brand. That is, the importance people give for brand interaction regarding the cognitive, emotional and behavioral resource allocations. Brand interaction then has a major impact on the brand's ability to generate and propose offers to its consumers. Similarly, different levels of engagement observed in consumers for different brands – given the different marketing stimuli each brand emanate to its customers – have a considerable impact on the relational achievements each brand will be able to develop with its client, as believes, perceptions, emotions, and personality will form in the process. While marketing professionals extol marketing activities to engage customer, as a direct response to successful campaigns, integrated activities that comprises all of MOR's activities should have more attentions as it leads to recurrent brand relations. It is expected that the framework proposed here can stimulate research issues that can be addressed in future empirical work.

1.4.1. Managerial implications

In addition to theoretical contributions, this research offers marketing practitioners and brand managers insights for applied implications. First, by developing a brand-as-noun

(integrative) and brand-as-verb (metaphoric) definition marketers can evaluate to which extend different brand perception relate to different customer profiles (leads, prospects, heavy users). Such appraisal will also influence brand equity perspectives. Second, it provides different reinforcement regarding the CBE constituents; as CBE is largely behavioral oriented in a practitioner environment and jargon, both cognitive and emotional elements must be combined into brands offers that result in thorough customer interactions. Even more important is the realization of a brand-as-noun, engagement micro processing phase to out-of-context brands that do not convey outcomes. The dual threshold perspective is yet to be empirically tested, but asserts the necessity of more than ordinary, multidimensional stimulus to engage customer above the tolerance zone. Finally, the first and second-level outcomes, along with the processing of expectancy upon an effort and upon a previous outcome must be fully understood by marketing professional, as it can dramatically effect traditional marketing functions.

1.5. Future research and limitations

The most important implications rely on empirically demonstrating the theorized relationships. Linguistic assessment of brand depends mostly on the brand naming strategy, not on the brand concept (Chan & Huang, 1997; Francis et al., 2002). The proposed framework – developed in a B2C mindset as a *consumer* responds to brand offers using a multilateral, multidepartment perspective – has to be tested on different brand settings (C2B, B2B, C2C), as information and communication technology (ICT) is changing functions and roles, as in peer-to-peer problem-solving (P3) communities (Bone et al., 2015).

A bibliometric analysis of the brand concept literature using citation and co-citation data could provide empirical support to the classification schemes of brand definition perspectives suggested herein. Consumer brand engagement has scarce empirical evidence on measuring the

concept (Hollebeek & Chen, 2014; Vivek et al., 2014; Dwivedi, 2015; Villiers, 2015), all of which systematically diverge on the construct operationalization. Further development of CBE measurement scales with the theoretical tenets examined in this study could improve the construct validity and reliability. The dual engagement process, on a macro and micro level, increase both the theoretical and operational challenge of the CBE construct.

The fifteen fundamental propositions also represent an opportunity for strong theoretical links regarding how customers articulate a brand offer as cognitive, emotional and behaviorally. In addition, MOR, which comprises S-D Logic, is one among a collection of organization theories that call for marketing processes integration; different perspectives could be conducive to different conclusions. Intriguing questions emerge from what can limit CBE and the breadth of CBE relationship. Is there a maximum number of brands a customer can engage with? Can information overload (Malhotra, 1982) lead to engagement overload? Would the micro process of engagement function as a repository of out-of-context but still engaged brands? Likewise, a conceptual typology to investigate customers' variance regarding effort allocation for each of the dimensions would contribute to explain the heterogeneity of customer based brand-customer relationships. Finally, Vroom's Expectancy Theory, a well-tested performance appraisal sales work force tool, needs further empirical evidence on a customer environment.

The theoretical approach prompts several potential limitations of the framework. The omission of several previously elicited CBE variables from the model is possible. Several of these variables (flow, involvement) were not included in the model. Moreover, no antecedents of CBE or individual heterogeneity are represented. Finally, the model does not address how the current CBE model responds to different level of need for cognition (Kidwell et al., 2008) or emotional intelligence (Cacioppo et al., 1996).

Cross-cultural differences also could be explored in future research, as even global brand

image strategy has to adapt across countries, cultures and competitive landscape (Roth, 1995). By overcoming these gaps, it will be possible to design comprehensive, ever improving marketing processes to motivate customers to respond fully to brand offers. Consumer brand engagement is a complex concept and consist of various intervening relationships with exogenous inputs that can distort its full comprehension. It is hoped that this study has paved a clearer path to explain the customer experience of relating to brands.

CHAPTER 2

2. ARTICLE 2

CONSUMER BRAND ENGAGEMENT ON AN EXPECTANCY THEORY APPROACH: SCALE DEVELOPMENT AND VALIDATION

Abstract

Consumer brand engagement (CBE) has drawn much attention from both practitioners and scholars, since it relates to the intricate nature of consumer interactions with a brand. The contribution of this paper is to develop a CBE scale using Expectancy Theory (ET) to explore consumers' motivations to associate with and connect to preferred brands. Moreover, the boundary spanning marketing organization theory (MOR) is used to contextualize distinct points of contact that shape consumers' perception. The scale displays excellent levels of validity and reliability. Implications for both researchers and practitioners are discussed in light of extended brand perceptions.

Keywords: consumer brand engagement, Expectancy Theory, scale development, structural equation modeling, mediation, moderation

2.1. Introduction

Over the past twenty years, the study of the associations consumers built with brands was highly recognized and research has expanded (Fetscherin and Heinrich, 2014). Rooted in relationship marketing, consumer brand engagement (CBE) has emerged as an appealing concept to further enrich comprehension of consumers and brands (Dessart et al., 2015). Both practitioners and scholars are interested in better understanding consumers' motives that produce durable connections with brands (Gambetti et al., 2015). Brand engagement materializes as emotional associations “accompanied by strong socio-emotional relationships in physical and virtual space [since] relationships are at the core of this engagement model” (Uncles, 2008, p. 230). Fragmentation of meaning, however, leads to additional complexity in the consumer-brand networks and relationships (Jevons et al., 2005) and more integrative consumer engagement measurements are required (Vivek et al., 2014).

Development of enhanced quality measurement instruments is a relentless pursuit in marketing (Mackenzie et al., 2011). Previous studies developed brand engagement scales focusing on attention, memory and preference for product brands (Sprott et al. 2009), cognitive processing, affection and activations to specific social media settings (Hollebeek et al., 2014), motivations to interact with online brand communities (Baldus et al., 2015), brand-use related vigor, dedication and absorption (Dwivedi, 2015) and conscious attention, enthused participation and social connection to a product (Vivek et al., 2014). In addition, the expected outcomes to justify fostering brand engagement are either behavioral (e.g., future patronage, brand usage intent) or attitudinal (e.g., affective commitment, loyalty intentions, brand loyalty). By using Expectancy Theory (ET, Vroom, 1964) to explain CBE, this paper presents an extended model, combining consumers'

perceptions of needed effort to relate to a brand with the possible CBE consequences under the expected probability of being rewarded from such interaction. To ensure brand perceptions are extended beyond transactions or usage time, the boundary spanning marketing organization theory (MOR, Hult, 2011) is used as a reference and a driver of consumer-firm interactions. This combination provides theoretical support to measure brand-consumer relationships in a complexity-enhanced environment.

Assessing previously developed engagement scales, benefits of the consumer-brand relationship are built on factors based on individual differences and “value configurations derived by these individuals and experiences” (Vivek et al., 2012, p. 129). Although gender materializes as an important control variable in consumer behavior (Fischer & Arnold, 1994) and in brand-related constructs (Palan, 2001), little is known about contingent factors and the moderating roles of control variables that influence consumer brand-relationships.

The contribution of this study is twofold. First, the CBE scale is developed based on the motivational framework of ET, where the amount of effort consumers grant towards building a relationship with brands results in an anticipated level of interaction, complemented by the occurring of desired outcomes from such relationships. Different from previous engagement scales when CBE outcomes were action oriented (WOM, loyalty, patronage, etc.), in this study desired outcomes are aggregated as relationship rewards (being recognized, feeling respected, accomplishing, etc.), since ET categorizes CBE’s context specific consequences of consumers managing expected outcomes. Second, the scale was tested for metric invariance so scores on the items can be compared across control variables and meaningful differences observed between items are indicative of differences in the underlying construct. Invariance testing was performed comparing loadings across groups as a diagnostic tool for gender equivalence (Hair et al., 2009; Hair et al., 2013). The evaluation of categorical moderator variables influencing CBE provides

deeper insights into the dimensionality of the measurement structure of the constructs.

The remaining sections of the paper are organized as follows. First, the conceptual framework is presented based on the literature review of consumer brand engagement (CBE), expectancy theory, and boundary-spanning marketing organization theory (MOR), and the concepts are delineated. Second, the scale development procedures are described and exploratory qualitative and quantitative research is applied in a sequence of four studies to generate items (Study 1), purify the measures (Study 2), specify the model (Study 3) and validate the model (Study 4), as the conceptual relationships are explored on a nomological network. Third, the data collected in Study 4 was submitted to *post hoc* measurement invariance to examine gender differences and parameter stability. Finally, theoretical and managerial implications are posited, along with limitations and future research suggestions.

2.2. Conceptual Framework of CBE and Construct Definition

2.2.1. Consumer Brand Engagement (CBE)

Prior research devotes substantial attention to the engagement of consumers with brands (Brodie et al. 2011; Hollebeek et al., 2014; Van Doorn et al. 2010). Engaged consumers demonstrate practical relevance to brand performance, as they are inclined to bestow extra attention and disposition to brand interaction (Dessart et al., 2015). Engagement (or disengagement) materializes within a constellation of actors that unintentionally or subconsciously influence value creation (Chandler & Lusch, 2015). Therefore, CBE is a pivotal construct of the brand-consumer relationship as it represents a co-created effort of a brand to connect unequivocally to consumers,

and consumers responding and retaining special attention to the central role brands play in everyday life (Gambetti et al., 2015). Moreover, CBE encompasses both positively and negatively valenced consumer experiences, enabling deeper insights into the perennial, yet erratic, consumer-brand affairs (Hollebeek & Chen, 2014; Villiers; 2015), including ending the relationship with a brand (Bowden et al., 2015), with extenuating personal consequences to forestall detachment (McAlexander & DuFault, 2015).

Marketing researchers have conceptualized CBE in several different ways in recent years, mostly in terms of the context within which engagement occurs (services landscape, online) or the object, it is focused on (a brand, an organization). One stream of research follows the valuation path of consumer engagement (Kumar et al. 2010; Kaltcheva et al. 2014) segregating consumer's purchasing, referral, influencing and knowledge behaviors to constitute consumer engagement value. Other studies focus on understanding the underlying motivations consumers have to engage in such behaviors (Brodie et al. 2011; Hollebeek 2011; Vivek et al. 2012). However, within the motivational perspective, there is a further partition based on the nature of the construct. Brodie et al., (2011), define CBE based on collaborative, co-created consumer experiences that generate a psychological state. This definition is consistent with the Hollebeek (2011a) "brand-related and context-dependent state of mind characterized by specific levels of cognitive, emotional and behavioral activity in direct brand interactions" (p. 790) and the Dwivedi (2015) "brand-use related state of mind." (p. 100). Keller (2013), on the other hand, emphasizes the investment of personal resources beyond the transaction crusade. Vivek et al. (2012) propose an "effort allocation" perspective and define CBE as the "intensity of an individual's participation in and connection with an organization's offerings or [...] activities" (p. 133). In accordance with extant CBE literature (Hollebeek, 2011b; Hollebeek et al., 2014; Hollebeek & Chen, 2014) the allocation of effort approach is followed in this research to build the construct scale.

Authors	Construct	Context	Perspective	Object used on Data Collection	CBE Dimension			Consequences			CBE Group Definition
					Names	# dim	# items	Outcomes	# dim	# items	
Sprott et al., 2009	Brand engagement in self concept	Product	Consumer	Multiple products	Engagement	1	8	Memory Attention Preference Loyalty	NA	NA	Psychological State
Hollebeek et al., 2014	Consumer Brand Engagement	Online	Consumer	Social Media Brands	Cognitive Processing Affection Activation	3	10	Self-Brand Connection Brand Usage Intent	2	11	Individual Resources/Effort allocation
Vivek et al., 2014	Consumer Engagement	Product / Store	Consumer	Apple iPhone / Macy's	Conscious Attention Enthused Participation Social Connection	3	10	Value Perceptions Benevolence Perceptions Future Patronage Intent Affective Commitment	4	10	Individual Resources/Effort allocation
Dwivedi, 2015	Consumer Brand Engagement	Product	Consumer	Mobile phones	Absorption Dedication Vigor	3	17	Loyalty intentions	1	4	Psychological State
Wong & Merrilees, 2015	Brand engagement	Product / Service	Practitioner	Own Product / Service	Passion Emotion Activation	3	6	Brand Performance Financial Performance	2	9	Psychological State
This study	Consumer Brand Engagement	Product	Consumer	Self-selected brands	Cognition Emotional Behavioral	3	11	Brand Related Rewards Consumer Brand Engagement Outcomes	1	11	Individual Resources/Effort allocation

Figure 2.1. CBE scale development literature.

Note. NA = not available.

Although persistent discrepancies have been found in early studies on transferring and delineating the engagement concept to marketing (Dessart et al., 2015; Vivek et al., 2014), the CBE concept is far less contentious. The underlying convergence on the meaning of brand is a possible reason the lull occurred. Extant literature diverges on the focal object of engagement (a brand, a firm, a service, an online community, and so on), but the object is seldom defined. This study address brands, following the Stern (2006) definition that brands presume literal (integrative) and/or metaphoric approaches. The former takes place when the brand is a tangible asset and the latter occurs on a mental *locus*.

An overview of five recent proposed measurement instruments developed to evaluate how consumers interact with brands is provided in Figure 2.1. The review exemplifies the different contexts within which brand engagement operates. Whilst products were frequently used, Hollebeek et al. (2014) used social media brands (Facebook, Twitter and LinkedIn) as focal brands of engagement and Vivek et al. (2014) included products and service (retail store) brand. In four

studies, the researchers investigated consumers and assessed engagement using a multitude of brands in numerous studies. While self-selected brands were used in some empirical papers (Hollebeek, 2011b), this procedure has not been used thus far in brand engagement scale development.

In terms of construct conceptualization, the current research specifically emphasizes brands as the focal engagement object of consumer relationships. Mediated brand interaction (for an online brand community engagement scale, see Baldus et al., 2015) or other engagement of objects that are not a product or a service (for media engagement see Calder et al., 2009) are not within the context of this research. With reference to dimensionality, four studies present a three-dimensional conceptualization of brand engagement. Influenced by Vivek (2009), Brodie et al. (2011) and Hollebeek (2011a, 2011b), a tripartite perspective is the most widely accepted for the construct. Although previous studies conceptualized the dimensions used in marketing from other scientific fields (Brodie et al., 2011), the exploration of the theoretical tenets of each dimension is scarce. Clore et al. (1987) defines two antecedent circumstances for hypothesizing about psychological constitution, internal conditions (condition of personal experienced states) and mental conditions (as opposed to bodily conditions such as arouse). The cognitive, emotional and behavior dimensions relate to the framework of internal and mental circumstances. Contending that the CBE theory can advance from a deeper comprehension of the cognitive, emotional and behavioral perspective, the next section addresses the foundations of each dimension.

2.2.1.1. CBE Dimensionality

Considering the current consumer-brand relationship environment, developing a comprehensive CBE concept is consistent with the need for “varying conceptualizations to account

more fully for the influence of context and experience on consumer engagement” (Chandler & Lusch, 2015, p. 9). The conceptualization of CBE follows a broader understanding of each of the three-dimensional psychometric process that underlies consumers responding to brands’ offers.

Cognitive. The complex human processes of perceiving, transforming, reducing, elaborating, storing, retrieving, and using stimuli and sensory inputs are combined under the concept of cognition (Neisser, 1967). Since the Patterson et al. (2006) seminal research on engagement ideation in marketing, the concept of these aforementioned processes permeates in the consumer engagement definition. For example, Brodie et al. (2011) explored both academic (social science and management) and business practice literature to contextualize the cognitive processes consumers deploy when engaging with a focal object. Mollen and Wilson (2010) use schema theory¹ to rationalize active and sustained cognitive processing during engagement. Schemas are knowledge arrangements that define how a subject perceives the world and brands provide an array of cues to ignite cognitive processes in consumers.

Although the cognitive dimension is identified discordantly in the literature, the theoretical explanations can be linked to discrete elements of cognition. Hollebeek (2011b) uses social exchange theory² to explain *immersion*, and a consumer’s cognitive investment as a reciprocal benefit interchanged with brands, including mainly attention and concentration (recognized in Neisser’s perspective). *Cognitive processing* is used by Hollebeek et al. (2014) to represent the levels of information processing during a consumer-brand interaction. The extent to which someone is considering the interaction with a brand represents the *conscious attention* for Vivek et al. (2014). Lastly, Dwivedi (2015) builds on educational psychology to define *absorption* as the mental state of being “fully concentrated and happily engrossed in brand interaction” (p. 100). These studies converge in the interpretation of the cognitive dimension in the elements of retrieving and using stimuli (offers) from brands. However, this inclination to define cognition narrowly may

hinder diversified understanding of consumer-brand relationships. Villiers (2015) presents anecdotal engagement stories to illustrate the complexity of consumers and the asymmetry of information shared on both the contexts and channels of interaction and the engagement space, comprised of dyadic personal disposition such as positive and negative valence and active and passive attitudes. In addition, if the essence of cognition is based solely on thoughtful, lucid and conscious processing, it is conceivable to “miss the important situations in which consumers do not seem to be interested in maximizing their self-interest, when they are irrational ... as well as when they are mindlessly undeliberative or outright impulsive” (Coyne, 1982, p. 153).

Building on the extensive research of Jean Piaget on cognition, this study uses the equilibration process (Piaget, 1978) to include the processes of eagerly or passively perceiving, transforming, reducing, elaborating and storing information when consumers process stimuli and inputs from a brand. Disparately from the equilibrium axiom from physics (evolving towards an invariant state), cognitive equilibrium is an endless loop of assimilation and accommodation (Piaget, 1978, pp. 6-14). The former refers to the processing of the external stimulus and adapting it to the current schema as the latter encompass the processes of incorporating these stimuli. On this perspective, consumers not only retrieve and use information, but also perceive, transform, reduce, elaborate and store a multitude of stimuli and inputs from brands. Since the cognitive processes occur even when consumers do not seek information processing, all contact points with a brand can generate stimuli and inputs. For each set of incitement, consumers undergo the equilibration loop to assimilate and accommodate the new information, activating all cognitive processes. Thus, it is expected that the cognitive dimension of CBE is based on Piaget’s equilibration process and mirrors all seven processing elements comprised in Neisser’s cognitive interpretation.

Emotional. According to Richins (1997), in a consumption milieu emotions are defined as “a

valenced affective reaction to perceptions of situations” (p. 127) and exclude nonvalenced processing (e.g. interest), physiological states (e.g. sleepy) or subjective evaluations (e.g. self-confidence). This is the emotional approach adopted in this study. Within the affective lexicon from which emotions belong, different subset of words defines different emotional states that arise in the context of consumption. Additionally, emotions possess a hierarchical nature in which specific emotional states emerge from general underlying basic emotions (Laros & Steenkamp, 2005).

Despite the constancy of an emotional dimension in extant CBE literature, a clear definition of the forms that it emerges is sporadic. Examining the emotional bonds to brand, Bowden (2009) defines affective commitment as “emotional feeling that expresses a consumer’s psychological closeness to a brand”, yet generating perceptions autonomously from functional or instrumental attributes. While Vivek et al. (2014) uses *enthused participation* to define the fervent reactions and emotions when engaging to an object, there is no debate about the mechanisms corresponding emotions surface and how these processes may affect engagement. Hollebeek and Chen (2014) use the valenced affective (both negatively and positively) notion of brand perception as the *passion* dimension of engagement. The authors propose that consumers’ cognitions produce an affective response. Extant literature addresses the interplay between emotion and cognition in cueing human behavior (Clore et al., 1987; Leventhal & Scherer, 1987). Furthermore, this interaction creates comprehensive relationships that amplify consumers’ subjective emotional and cognitive reactions, generating complex dependencies between these two dimensions. Clore et al. (1987) relate to Affective-Cognitive conditions when the interplay of affect and cognition nurture meaning. In this sense, “measures of affect complexity tend to be highly correlated with measures of cognitive functioning and executive control, suggesting that the maintenance of affective complexity requires these cognitive processes.” (Kensinger, Allard & Krendl, 2014, p. 34).

The hierarchical nature of emotions systematizes a content component and a structure component. The former refers to whether emotions are conceived as very specific or very broad general factors, since the latter refers to the instances emotions occur, as specific emotions are a result of underlying basic emotions (Laros & Steenkamp, 2005). The hierarchical model establishes an intertwined complexity of emotions and consumer behavior, being partially dependent on context and established individual configurations (Roos, Friman, & Edvardsson, 2009). These findings also resonate with Clore et al. (1987) characterization of Affective-Cognitive conditions. Based on the foregoing arguments, it is expected that the emotional dimension of CBE is based on valenced affective reaction pertaining to a hierarchical structure in which a complex set of emotions materialize from a subset of basic emotions that are amassed over a series of brand encounters.

Behavioral. Brand-related behavioral responses are an overt reaction to brand value-proposition stimuli. Brodie et al. (2011) categorizes consumer behaviors as a reaction to interactive experiences with organizations and stakeholders for value cocreation. Marketing literature on CBE places a disproportional emphasis on the individualistic (dyadic) dimension (Gambetti et al., 2012) and, as a result, the behavioral component is a recurrent metric among practitioners (Vivek et al., 2012). To illustrate this self-centered disposition, Hollebeek et al. (2014, p. 154) define the dimension called *activation* as “consumer's level of energy, effort and time spent on a brand in a particular consumer/brand interaction”, reflecting this idiosyncratic perspective. Three items used to measure this dimension reflect the allocations of individual resources. In contrast, Vivek et al. (2014, p. 407) present a *social connection* dimension for behavioral intentions, defined as “interaction based on the inclusion of others with the focus of engagement, indicating mutual or reciprocal action”. Interestingly, the items in this dimension use terms such as “love”, “enjoy” and “fun”, resonating to an affective-behavioral condition inside the internal and mental psychological conditions described by Clore et al. (1987). The affective-behavioral condition is further observed

on Dwivedi (2015) *vigor* dimension items – defined as “consumers investing effort in interacting with a brand” –, which use items with terms such as “feel strong”, “feel full of energy” and “passionate”.

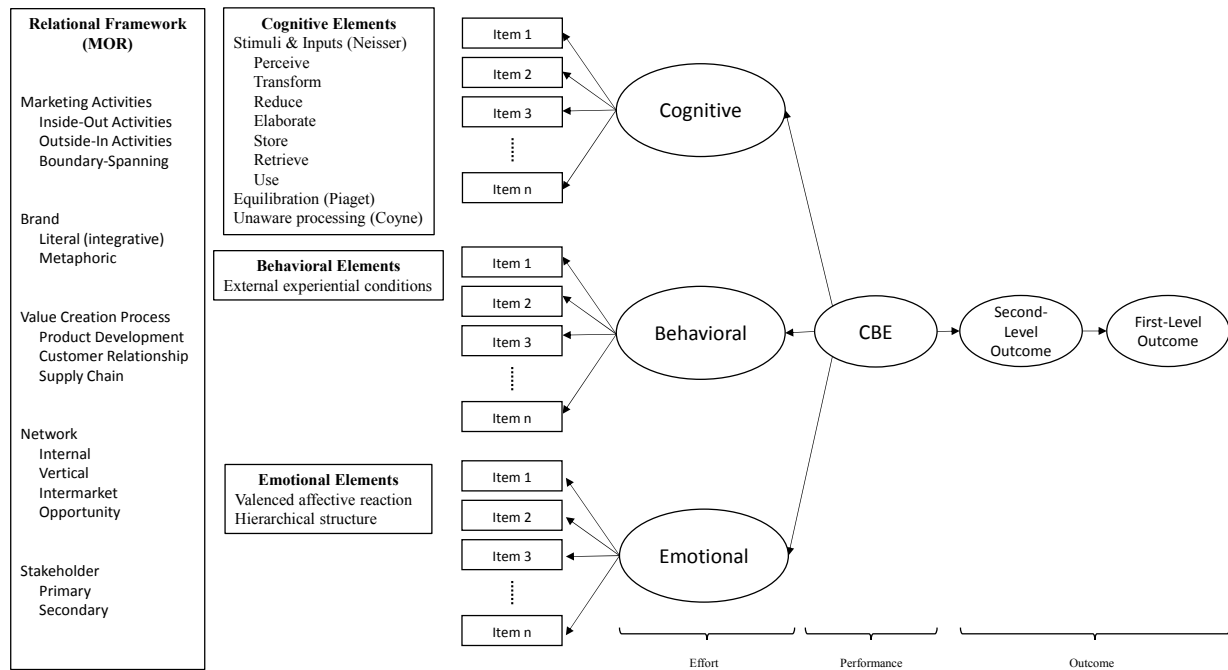


Figure 2.2. Second-Order Consumer Brand Engagement Measurement Model & Theoretical Framework.

Building on the framework from Clore et al. (1987) to segregate behavioral conditions from the precedent cognitive and emotional dimensions, it is suggested that CBE’s behavioral dimension is triggered by psychological conditions arising from the idiosyncratic personal resources effort allocation, and it is explicated as external experiential conditions of which actions are predicated. Based on these premises, CBE is defined as the experienced state of allocating independently managed personal resources (cognitive, behavioral and emotional) to define the affiliation with a brand considering valence (positive or negative), intensity (high or low) and the type and nature (literal or metaphoric) of the relationship. This extensive definition answers the call for more comprehensive exemplifications of CBE, based on the theoretical tenets of its constituents

(Gambetti et al., 2012). It also delineates the multidimensional characteristic (Figure 2.2) of the concept, operationalized as a second-order construct. Thus, it is proposed,

H_{1a}: “Consumer brand engagement is a second-order construct comprised by the first-order cognitive, emotional and behavioral dimensions”.

H_{1b}: “The factor loadings for the cognitive, behavior and emotional dimensions will be significant, indicating that these are sub-dimensions of Consumer Brand Engagement (CBE) construct”.

One previous study (Article 1) articulates CBE as a two-component process, as proposed by Keller (2013). The micro process – superficial, self-centered and based on temporary brand relationship – and the macro process – a profound, multi-centered and based on long lasting brand relationship – fine-grained approach is disregarded in this study as a feasible operationalization for developing the scale. Nevertheless, the further investigation of CBE as a two-component process is left for future research ventures. As the macro process (engaged brands) is responsible for high magnitudes of effort allocation and output generation it will be used as a parsimonious surrogate of CBE for matters of scale development. This research extends the effort of previous researchers building on the perspective of MOR and Expectancy Theory as frameworks for consumers’ perception and CBE’s outcomes, respectively.

2.2.1.2. Boundary Spanning Marketing Organization

Recent studies portray engagement as nested within a broad set of relationships or networks

with many actors (e.g., supplier, manufacturer, retailer, and provider) driving value perceptions (Chandler & Lusch, 2015). The model developed to test the CBE scale employs the boundary spanning marketing organization theory (MOR) proposed by Hult (2011) as a background to appraise consumer's value considerations and experiences. The theory states that companies' accomplishments depend on their ability to gradually spread integrative marketing processes throughout relevant departments, creating awareness of marketing importance on extended contact points with consumers. Marketing integration within these (eventually) included subdivisions is what requires boundary spanning activities, which is possible by managing four elements, namely, marketing activities, value-creating processes, networks and stakeholders. It is assumed that these four elements impart value to consumers' realization of brand engagement, encompassing the "service-dominant (S-D) logic" on the consumer value-creating processes dimension, perspective often cited as consumer engagement construct theoretical tenet (Brodie et al., 2011, Hollebeek et al., 2014, Vivek et al., 2014). These MOR elements constitute solely the lens to draw insights for the CBE item circumstances. As a result, consumer's cognitive, behavioral and emotional effort allocations are assessed regarding a brand's marketing activities, value-creating processes, networks and stakeholder activities. The articulation of these four reinforcing elements is associated with successful marketing enterprises that build a consistent aggregate – the boundary spanning marketing organization.

Hult's theory is used in this study as an urge to evaluate consumer perceptions. There is empirical evidence of the impact of such approaches in business modeling as "supportive marketing activities, spanned and navigated across functions and firms, involving multiple actors often from outside of traditional marketing functions" (Simmons et al. 2013). This study addresses the call for further empirical testing of marketing impact that goes beyond the scope of the marketing department or function (Hult, 2011). The outline of how the element of MOR integrates

with the dimensions of CBE to establish the item generating strategy is depicted in Figure 2.2. Because brand value propositions invite for engagement with a multitude of actors based on the affinities of such actors (Chandler & Lusch, 2015) it is proposed:

H₂: The factor loadings for the cognitive, behavior and emotional items developed based on the MOR framework will be significant.

2.2.2. Expectancy Theory

To explore how the CBE generated consumer experiences elicit outputs, the theoretical framework of Expectancy Theory (ET) is used (Vroom, 1964). ET suggests individual motivation depends on the autonomous capability to perform the necessary tasks to interact with a brand and the perceived value (expectancy), the probability of receiving desired rewards and outcomes (instrumentality), and the value perceived of such interactions to satisfy personal needs (valence, see Figure 2.3). Valence, instrumentality and expectancy (VIE) represent the framework of predictors that detect behavior variability. In particular, the allocation of personal cognitive, behavioral and emotional resources to interact with a brand relates to a self-perception of individual capacity to establish the interaction, which can be based on complex psychosocial perceptions (e.g., belonging) or simple pragmatism (e.g., proximity). This expectancy generates a gamut of possible behaviors (first-level outcome), each of which will have an inherent probability of attaining envisioned goals. The appraisal of each behavior and associated probability of attainment is called instrumentality. In fact, the execution of instrumentality by consumers is based on the ultimate value interest, generating second-level outcomes. Second-level outcomes are only possible once first-level outcomes have occurred, following not a chronological order, but an expectancy order.

Put more simply, consumers perform certain tasks when relating to a brand based on their awareness of what they think will produce a more valuable outcome.

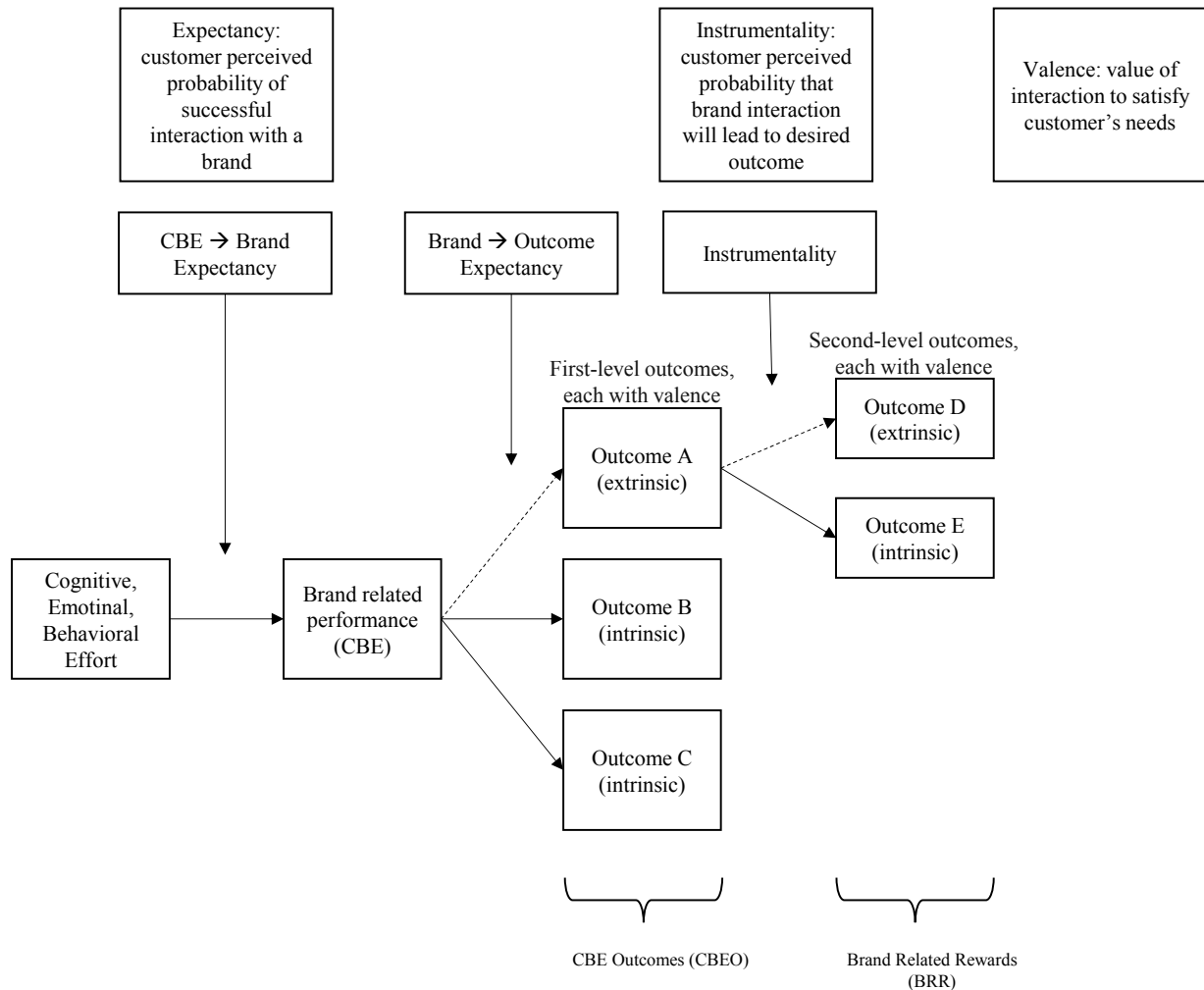


Figure 2.3. Expectancy Theory applied to CBE. Note: Note: Adapted from *Motivation: A diagnostic approach* by D. A. Nadler and E. E. Lawler III., 1989, In H. J. Leavitt, L. R. Pondy and D. M. Boje (Eds.), *Readings in managerial psychology* (pp. 3-19). Chicago, IL: University of Chicago Press and “Vroom's expectancy theory and the public library customer motivation model” by S. Lee (2007), *Library Review*, 56, 9, pp. 788 – 796.

Value is postulated on a personal basis with a broad perspective, as can be displayed in traditional (e.g. purchase) or controversial (e.g. tattoo) forms to relate with a brand (Villiers, 2015). Expectancy theory can accommodate both positively and negatively valenced interactions. To illustrate, demotivated consumers, which in the CBE context represent consumers that have no

interest in allocating personal effort to interact with a brand, are the result of not being capable or able to interact with a brand (expectancy), based on the assumption of low yields from desired outcomes (instrumentality) and little value perceived regarding the satisfaction of needs (valence). Expectancy theory is also adequate to accommodate group relations with mutual and reciprocal outcomes interacting with others to potentially increase or reduce ones perceived probability of relating with a brand (expectancy).

Expectancy theory hypothesizes two disparate sorts of outcomes, which occur consecutively. Anticipating circumstances leads consumers to take action according to the appraisal of expected goals; these actions are called first-level outcomes (Nadler & Lawler III, 1989). In a consumer engagement circumstance, outcomes such as future patronage (Vivek et al., 2014) and brand usage (Hollebeek et al., 2014) are first-level outcomes, and hereafter, designated as consumer brand engagement outcomes (CBE-O, Figure 2.3). Conversely, second-level outcomes occur as a consequence of the instrumentality consumers obtain from first-level outcomes. Brand loyalty (Dwivedi, 2015) and value perceptions (Vivek et al., 2014) are examples of second-level outcomes, designated, henceforth, as brand related rewards (BRR, Figure 2.3). Outcomes can be additionally classified as emanating from self-effort on relationship quality (intrinsic outcomes – solid lines in Figure 2.3) or originating from other agents (extrinsic outcomes – dashed lines in Figure 2.3). Baldus' et al. (2015) *validation* dimension item “I appreciate when others agree with the ideas I express...” exemplifies an extrinsic second-level outcome (BRR).

The objective of this paper is to take a novel approach on CBE's outcomes, not to test the expectancy theory model, and therefore, the predictive elements of motivation (VIE) are not included in the nomological network. Consequently, expectancy theory is used to structure specific CBE previously predicted outcomes (e.g., brand loyalty, purchase intentions, patronage intentions) in more general and holistic first-level outcomes (consumer brand engagement outcomes, CBE-O)

and second-level outcomes (brand related rewards, BRR). Former scale development excluded expectations and outcomes from engagement to increase discriminant validity (Balduš et al., 2015). These comprehensive items, for both CBE-O and BRR, were obtained from Nadler and Lawler III (1988) and adapted to a consumer context. The main contribution of this procedure is a general guidance based on consumer motivations to attain attractive outcomes (rewards). Based on this reasoning, it is proposed:

H_{3a}: Consumer Brand Engagement (CBE) has positive effect on Brand Related Rewards (BRR – Second-Level Outcome).

H_{3b}: Brand Related Rewards (BRR – Second-Level Outcome) has positive effect on Consumer Brand Engagement Outcomes (CBE-O – First-Level Outcome).

2.2.3. Measurement Equivalence and Multiple-group Analysis

Developing robust and comparable scales in marketing is a growing concern (Steenkamp and Baumgartner, 1998; Jong, Steenkamp, Fox and Baumgartner, 2008). Measurement equivalence relates to how the underlying theory of measurement was derived and estimated, and it is an imperative since “measures are comparable if and only if measurement equivalence has been demonstrated” (Salzberger, Holzmueller, & Souchon, 2009, p. 323). Invariance analysis provides for an empirical comparison of eventual underscored importance related to social or demographics and methodological artifacts that could inflate (or mask) significant consumer engagement idiosyncrasies.

Gender bias is often particularly troublesome in marketing research (Palan, 2001),

particularly involving the brand concept (Chung, Yu, & Shin, 2014; Salciuviene et. al., 2010; Tifferet & Herstein, 2012). Although the extant literature indicates gender differences and potential gender bias in survey research, examples of gender bias examination are limited (Salzberger, Newton and Ewing, 2014). Brand engagement potentially includes gender bias since consumer's self-concept is characterized by unchanging and particular self-schemas that lead to differential behaviors and attitudes regarding objects relevant to these schemas (Spratt et al., 2009). Regardless of the theoretical rigor in instrument development involving categorical variables, different conceptualizations of a particular construct can remain disproportionately dissimilar across gender (Eagly, 1993). Even though the measurement invariance test is performed *post hoc*, when considering validity in Step 3 (Figure 2.4) these gender concerns are addressed, since further comparison between male and female consumers is warranted. These procedures increase the likelihood that item interpretations are invariant across gender. It is then proposed,

H₄: The CBE scale has measurement equivalence regarding gender.

2.3. Methodology

This study conceptually defines the Consumer Brand Engagement (CBE) scale along various consumer touch points, as elicited by the Boundary-Spanning Marketing Organization Theory (MOR). The multi-dimensional characteristics Cognitive, Behavioral and Emotional are proposed and validated as three first-order dimensions that jointly are reflected by the second-order construct (CBE), as depicted in Figure 2.2.

2.3.1. CBE Scale Development

2.3.2. CBE Scale Development Procedures

Following Churchill (1979), MacKenzie, Podsakoff and Podsakoff (2011) and Nunnally and Bernstein (1994), a seven-step process involving four studies was proposed to develop and validate the CBE scale. The first step was to specify the domain of the construct (Section 2). As an emerging concept in Marketing, CBE has conflicting conceptualizations (Vivek et al., 2014) and based on prior research a construct definition was proposed (see Section 2.1). The second step was generating items, which emerged from the extensive literature review assessed on a multi-point MOR perspective. A first qualitative study (Study 1) was conducted employing 11 consumers (5 in Brazil and 6 in the USA) to support the item generating process. The third step, refinement of measurement, was conducted by submitting the items to expert's scrutiny, using three marketing professors in the United States, three marketing professors and two doctoral candidates in Brazil (Study 2) for item assessment and reduction. Step number four was to specify the sub-dimensions of the CBE construct and the nature of the indicators relationships with the latent variables. A reflective interpretation was used for all latent variables (see Figure 2.5). In step five, a third study (Study 3) with one hundred and seventy-two students in Brazil provided the data for an exploratory factor analysis (EFA) for further item reduction. A new dataset (Study 4) comprised of 389 consumer from a consumer panel was used to perform a confirmatory factor analysis (CFA) to assess model fit, scale reliability and validity and further scale refinement. For final scale validation and assessment of CBE relations on a nomological network, in step number six the data collected on Study 4 was submitted to Structural Equation Modeling (SEM) to evaluate the full structural model, the measurement equivalence of the instrument due to gender bias and to separate measurement bias from true group differences. Using bootstrapping sampling procedures, final

path coefficients were reported using a 95% confidence interval. Finally, in step seven, the norms for the scale were established. Each phase is described in the following section.

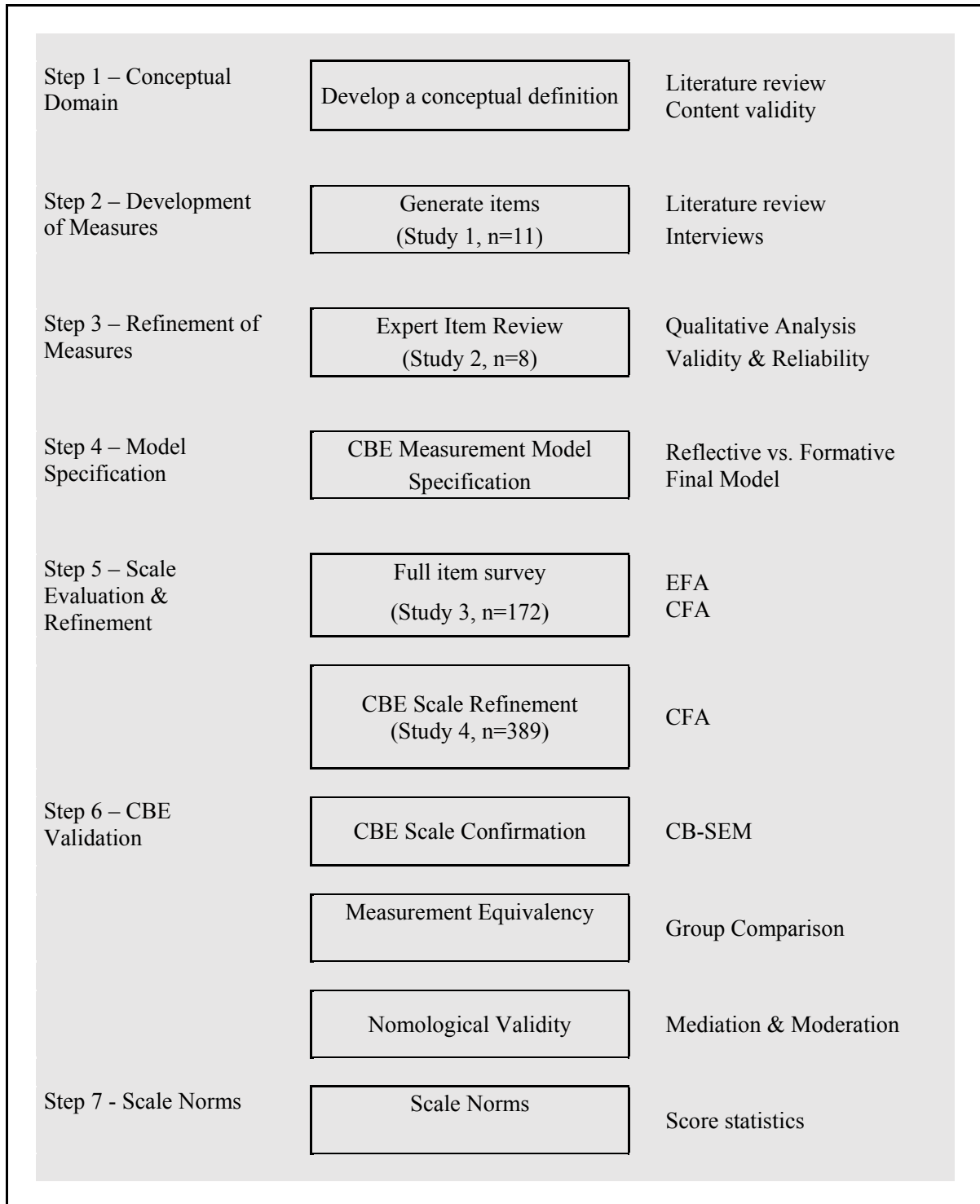


Figure 2.4. Overview of CBE Scale Development Procedure.

2.3.3. Step 2 – Generation of Measures for CBE Scale

2.3.3.1. Literature Based Item Generation

The item generation process was undertaken based on the literature review, examining CBE conceptualization and existing scales (Netemeyer et al. 2003). The starting point was all the constituted brand engagement scales (Dwivedi, 2015; Hollebeek et al. 2014; Sprott, Czellar and Spangenberg, 2009; Vivek et al. 2014). Items were grouped according to both MOR's four elements (marketing activities, value-creating processes, networks and stakeholders) and expectancy theory first-level outcomes (consumer brand engagement outcomes, CBE-O) or second-level outcomes (brand related rewards, BRR). Conceptual studies on brand engagement were also relevant for item generation (e.g., Brodie et al, 2013; Chandler & Lusch, 2015; Franzak, Makarem, Jae, 2014; Gambetti, Graffigna, Biraghi, 2012; Hollebeek, 2011a, 2011b; Hollebeek & Chen, 2014; Villiers, 2015; Vivek et al., 2012). Other consumer engagement studies were included to generate insights on consumer interaction with brands (e.g., Bowden, 2009; Mollen and Wilson, 2010). After performing face validity verification, an initial pool of 97 items for CBE was generated, identifying 39 items related to the cognitive dimension, 37 items related to the emotional dimension and 21 items to the behavioral dimension. Additionally, 11 items representing consumer brand engagement outcomes (CBE-O) and 11 items representing brand related rewards (BRR) were adapted from Nadler and Lawler III (1989).

2.3.3.2. Qualitative Interview Item Generation – Study 1

To extend the understanding of CBE's manifest variables, eleven in-depth interviews were conducted in Study 1. Using a multiple-steps item generation process guarantees strong methodological basis on the scale development process (Churchill, 1979). Sampling by convenience, six consumers in a major southern city in the United States and five consumers on Brazil's financial center were interviewed (6 males and 5 females, ages 25 to 60 years). The objective of the in-depth interviews was to capture the complexities of the topic under investigation (Hair, Wolfinbarger, Ortinau, & Bush, 2008). The interviews averaged thirty-eight minutes, and were conducted by the author, in a one-to-one basis. Initially, the concept of CBE under the 4 elements of MOR was presented to the interviewees. The respondents were asked to self-select four different product brands: a first highly engaged brand, a second brand that respondents intended to have high engagement but could not allocate efforts on the relationship, a third, marginally engagement brand, and a negatively valenced engaged brand. This procedure was used to verify the consistency of responses for different engagement levels. For each brand, respondents were provided with a verbal definition of the constructs of interest (cognitive, emotional, behavioral, CBE-O and BRR), and were requested to provide descriptions of their behavior and to explain the importance of each one.

Following Hollebeek et al. (2014), open-ended questions were used while briefing the subjects with facets of engagement drawn from the literature. Interviews were recorded, transcribed and coded. Illustrative examples of the descriptors of highly engaged brand, high engagement out-of-context brand, low engagement brand and negatively engaged brand were collected. The results of the content analysis conducted on Study 1 reflected both the quality and the quantity of the items generated by the literature review. Twenty-five items were rephrased and an additional 12 items were added to the CBE scale item pool, representing a total of 109 items (44 in the cognitive

dimension, 41 in the emotional dimension, and 24 on the behavioral dimension)³. Another 10 items were added to CBE-O, for a total of 21 items, and three items were added to BRR, for a total of 14 items. The large number of initial items follows the Clark and Watson (1995) suggestion that the item pool should be overinclusive to increase construct validity.

2.3.4. Step 3 – Refinement of Measures for CBE Scale

2.3.4.1. Expert Review of Measures for CBE Scale – Study 2

Scale development procedures broadly suggest the use of subject matter experts acting as reviewer of the items (Nunnally & Bernstein, 1994). Prior to expert judgement, items were translated to Portuguese following Douglas and Craig (2007) collaborative and interactive approach to instrument translation. Two marketing professors parallel translated the items. On the first round, agreement between judges was 85.9%, and 14.1% of the items showed relative coincidence. On a second round of back translations, all items converged, as category equivalence and functional equivalence were reached. Eight independent judges (3 marketing professors in the United States, 3 marketing professors and 2 doctoral candidates in Brazil) examined all 144 items (109 CBE scale, 21 first-level outcome and 14 second-level outcome), exceeding the suggested threshold of five specialists or more (Netemeyer, Bearden and Sharma 2003, p. 103). Using a web-based survey platform the eight experts were asked to rate each of the 144 items on a seven point Likert scale regarding how the item were representative of the CBE construct (1 for “not representative” and 7 for “clearly representative”). Item scores were submitted to a stringent threshold for item selection and whether mean average score for the item were below the scale

median and/or it showed limited variance ($SDs < 1.5$) the item was excluded (Thomson, MacInnis, & Park, 2005).

Experts also evaluated item redundancy, along with face validity and content validity, since these concepts were not used interchangeably. Consumer brand engagement outcomes (CBE-O) items were rewritten into semantic differential scale format to increase item variances and internal consistency (Friborg, Martinussen, & Rosenvinge, 2006), ranging from -3 to +3 between the polarized items. Judges were asked to evaluate face validity as “what respondents from relevant populations infer with respect to what is being measured” (Netemeyer, Bearden, & Sharma, 2003, p. 13) and content validity as the degree to which individual items, response formats, and instructions to respondents of an “assessment instrument are relevant to and representative of the targeted construct” (op. cit., p. 12). Experts used their native language and were instructed to suggest rephrasing or elimination of items to increase clarity. Based on experts’ ratings and judgement, 35 items for CBE were retained (12 in the cognitive dimension, 12 in the emotional dimension and 11 on the behavioral dimension), 10 items for CBE-O and 12 items for BRR. The criteria used was both quantitative (items with average score less than two were eliminated from the pool) and qualitative (redundancy with previous items, lack of either face validity or content validity).

2.3.5. Step 4 – Model Specification: Assessment Item and Construct Measurement

Formally specifying the measurement model assure that the items (indicators) has the expected relationships with the construct and/or its sub-dimensions (MacKenzie, Podsakoff, & Podsakoff, 2011). Examination of the direction nature of the relationships on the model is an effective method to analyze the model (Hair et al., 2010). Assessing direction of causality, correlation of measures, interchangeability of items, identification and the nomological network

(Jarvis, MacKenzie, & Podsakoff, 2003), the first-order constructs (cognitive, emotional and behavioral) and the second-order construct (CBE) should be measured by reflective items. Consumer brand engagement outcomes (CBE-O) and brand related rewards (BRR) should also be measured by reflective items. The conceptual measurement model is presented in Figure 2.5.

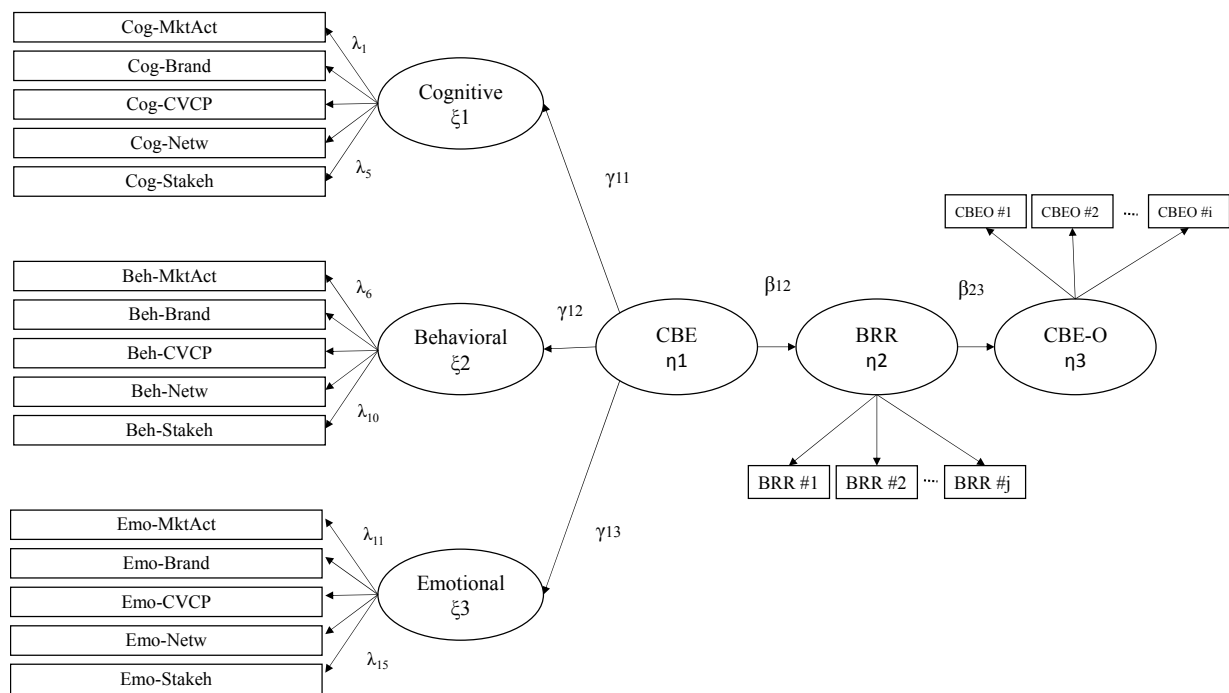


Figure 2.5. CBE Conceptual Reflective Second-Order Measurement Model and Structural Model.

The literature review depicts CBE as both a first-order construct (Hollebeek et al., 2014; Vivek et al., 2014) and a second-order construct (Dwivedi, 2015). This study hypothesis on a CBE as a second-order construct, and changes in the CBE are hypothesized to cause changes in the first-order dimensions, being thus, a reflective construct. Consequently, these changes in the cognitive, emotional and behavioral dimensions mutually cause variations in their respective indicators (Jarvis, MacKenzie, & Podsakoff, 2003).

As delineated in section 2.2, the consequences of allocating resources on the relationship with a brand can be categorized into consumer brand engagement outcomes (CBE-O) or brand related rewards (BRR). CBE is a relational construct, reflecting diligent consumer connection with a brand, enticing rewarding experiences both positive and fulfilling (Dwivedi. 2015). The items representing both concepts were derived from Nadler and Lawler III (1988), adapted according to the consumer engagement literature review. Brand related rewards (BRR), or second-level outcomes, represent the ultimately expected reward for the effort of allocating personal resource in the relationship to the brand. Consumer brand engagement outcomes (CBE-O), or first-level outcomes, are general consumers' attitudes to enable second-level outcomes (brand related rewards, BRR) to happen. According to Expectancy Theory (Vroom. 1964), instrumentality is the probability of a first-level outcomes (consumer brand engagement outcomes, CBE-O) lead to second-level outcomes (brand related rewards, BRR) but it is the expectancy – the perceived probability that effort will lead to expected performance – that drives motivation. All the antecedents should be mediated by second-level outcomes (brand related rewards, BRR) to affect first-level outcomes (consumer brand engagement outcomes, CBE-O). In other words, as a consequence of allocating personal resources (CBE) to a brand relationship that will be fruitful (expectancy) a consumer believes certain attitudes and behaviors will lead to desired outcomes (instrumentality) with expected value to the individual (valance). Individuals with high expectancy presume high probability of second-levels outcomes (brand related rewards, BRR) and thus perform specific first-level outcomes (consumer brand engagement outcomes, CBE-O) that are most likely to generate individual value. This theoretical reasoning guided the nomological network design where brand related rewards (BRR) are a direct consequence of CBE, and consumer brand engagement outcomes (CBE-O) is a direct consequence of these.

2.3.6. Step 5 – Scale Evaluation and Refinement

2.3.6.1. CBE Scale Evaluation – Study 3

To further reduce the set of CBE items a second study was undertaken using a web-based survey platform and items were presented in random format, initially to 25 undergraduate students in a pre-test. Adequacy of the instrument was confirmed and it was sent to 200 undergraduate students from a management university in Brazil. A total of 185 individual responses (48.5% male, 51.5% female) were collected, and 13 were excluded due to erratic response style (e.g.: extreme response, inadequate survey duration, etc.). Final sample size was 172 (49.2% male), meeting guidelines for a sample size of 5 respondents per item (Hair et al., 2010). Respondents had to choose one brand they or she were engaged with and specify the product or service category. All items were randomly allocated and CBE items were rated on seven-point Likert scales ranging from 1 for “strongly disagree” through 7 to “strongly agree”, while second-level outcomes ranged from 1 for “not at all important” through 7 to “extremely important”. For consumer brand engagement outcomes (CBE-O), the semantic differential scale was preserved.

Data was submitted to a principal component exploratory factor-analysis (EFA) with oblique rotation using SPSS 21.0 after examination for kurtosis, skewness, normality and homoscedasticity (Hair et al., 2010; Swain, Weathers, & Niedrich, 2008). There was no missing data as the web-based survey platform required completion of all questions. Factor loadings greater or equal to 0.4 were considered significant (Hair et al., 2010) and 13 from the total of 57 items were eliminated. As expected in the model in Figure 2.5, a 3-factor solution explaining 67.1% of the total variance, each factor featuring eigenvalues greater than one. Cross-loading examination indicated another 8

Table 2.1
Exploratory Factor Analysis (EFA) results.

	Factors					Communality
	Cog	Emo	Beh	BRR	CBEO	
Cog09	.889					.705
Cog01	.787					.685
Cog04	.781					.663
Cog02	.742					.660
Cog03	.740					.627
Cog07	.695					.581
Emo06		.827				.749
Emo07		.812				.667
Emo03		.803				.603
Emo05		.702				.600
Emo09		.636				.548
Emo08		.603				.746
Beh11			.872			.735
Beh04			.836			.688
Beh05			.784			.664
Beh09			.633			.595
Beh01			.550			.578
BRR05				.911		.769
BRR07				.855		.716
BRR11				.854		.703
BRR01				.851		.697
BRR03				.839		.692
BRR09				.812		.674
BRR08				.810		.673
BRR12				.781		.669
BRR02				.731		.666
BRR04				.697		.626
CBEO10					.873	.735
CBEO05					.871	.721
CBEO08					.853	.713
CBEO01					.775	.706
CBEO04					.770	.694
CBEO07					.762	.687
CBEO06					.757	.684
CBEO02					.747	.660
CBEO03					.744	.644
Avg. Loadings	.772	.731	.735	.814	.795	
Cronbach's Alpha	.873	.889	.846	.930	.944	
Total Variance Explained (cumulative)	38.4	48.8	56.9	62.9	67.1	

Note. Cog: Cognitive factor. Emo: Emotional factor. Beh: Behavioral factor. BRR: Brand Related Rewards factor. CBEO: Consumer Brand Engagement Outcomes factor.

items presented significant loadings in all dimensions and were also eliminated. The final set of 36 items was submitted to a second EFA and factor loading is presented in Table 2.1. Data adequacy was confirmed with a KMO = .918 ($p < 0.001$), communalities above .5. Convergent validity (all loadings above .5, all factors average loadings above .7) and discriminant validity (no cross-loadings within .2 and no correlation above .5 between factors) were confirmed. Reliability was confirmed using Cronbach's alpha (Hair et al., 2010) for each factor, all above .7.

2.3.6.2. CBE Scale Refinement

To inspect the psychometric properties of the scale Study 3 data was used on a confirmatory factor analysis (CFA). The objective was to further purify and refine the CBE scale, validating the measurement model and examining the CBE's structural model within a nomological network. Initially, a pre-test was conducted with 20 undergraduate students in Brazil and respondents performed as expected. The model with CBE as a second-order construct (Figure 2.5) showed marginal fit the data ($\chi^2 = 382.707$, $df=203$, $\chi^2/df= 1.89$, $p<.001$, SRMR=.080, NFI=.842, CFI=.918, RMSEA=.072). Although convergent validity and reliability were confirmed, discriminant validity could not be confirmed since the squared root of AVE is lower the absolute value of the relation between CBE and Second-Level Outcomes (Table 2.2). A CBE as a first-order solution was tested and the model could fit the data ($\chi^2 = 361.056$, $df=199$, $\chi^2/df= 1.81$, $p<.001$, NFI=.880, CFI=.926, SRMR= .072, RMSEA=.069) and convergent and discriminant validity and reliability were confirmed.

The twenty-two final items for CBE are listed in Appendix A. Table 2.2 also shows the composite reliability (CR), the average variance extracted and their square roots (AVE, SQRT AVE, Fornell & Larcker, 1981a, 1981b) for CBE as a first-order construct. The average variance

extracted (AVE) and the composite reliability (CR) results confirmed both convergent and discriminant validity.

Table 2.2

CBE as a second-order and a first-order construct (Study 3) – Validity and reliability assessment.

	CBE as 2nd order					CBE as 1st order						
	CR	AVE	\sqrt{AVE}	CBEO	BRR	CR	AVE	\sqrt{AVE}	CBEO	BRR	Emo	Cog
CBEO	.897	.595	.771			.868	.570	.755				
BRR	.905	.657	.811	.370		.905	.657	.811	.369			
CBE2ord	.767	.523	.724	.430	.740							
Emo		.870	.627			.870	.627	.792	.405	.641		
Cog		.828	.614			.829	.618	.786	.206	.472	.506	
Beh		.829	.550			.829	.551	.742	.291	.461	.446	.660

Note. Bold items are above threshold. CBE2ord: Consumer Brand Engagement as a second-order construct

2.3.7. Step 6 – CBE Scale Validation – Study 4

To increase cross validation of the psychometric properties of the construct, another sample was collected (Study 4). Data was gathered via online web survey platform (Appendix B), from a new sample of individuals, to reexamine scale properties and to assess CBE nomological network (MacKenzie, Podsakoff, & Podsakoff, 2011). The CBE survey was sent to 4,000 consumer from an on-line consumer panel, asking consumers to register to respond a survey with the chance of winning gift cards. A total of 589 consumers registered on-line (14.7%) and received the link to the survey. Four hundred and twenty four (72.0%) responses were completed and, after screening for erratic response style, 389 were used. Average age was 35.2 ($\sigma = 9.4$) years of age and 63.0% were female (see Table 2.3). The sample included consumer of ages between 19 and 65, who perceive themselves as engaged consumers to a specific brand. To assess different levels of CBE

items were collected for self-selected engaged brands. Brand engagement and brand related rewards (BRR) items were collected on 7-point Likert-type scales. Consumer brand engagement outcomes (CBE-O) was collected on a semantic differential scale, ranging from -3 to +3, and converted for analysis.

Table 2.3
Study 4 Demographics.

Characteristic	n	%
<i>Gender</i>		
Female	245	63.0%
Male	144	37.0%
	389	100.0%
<i>Age Profile</i>		
Lower than 25 y.o.	55	14.1%
26 - 30	97	24.9%
31 - 35	78	20.1%
36 - 40	68	17.5%
41 - 45	35	9.0%
46 - 50	14	3.6%
51 - 55	29	7.5%
56 - 60	9	2.3%
60 - 65	4	1.0%
	389	100.0%
<i>Ethnicity</i>		
Caucasian	256	65.8%
Afro descendant	126	32.4%
Asian	5	1.3%
Others	2	0.5%
	389	100.0%
<i>Family Income Profile</i>		
< R\$ 1k	19	4.9%
R\$ 1 - 5K	209	53.7%
R\$ 5 - 7.5k	82	21.1%
R\$ 7.5 - 10k	39	10.0%
> R\$ 10k	40	10.3%
	389	100.0%
<i>Education</i>		
HS Degree	34	8.7%
Some College	74	19.0%
College Grad	139	35.7%
Some Graduate	41	10.5%
Graduate Degree	101	26.0%
	389	100.0%

Prior to the covariance-based structural equation modeling (CB-SEM) procedure, a confirmatory factor analyses (CFA) was performed to gauge adequate fit of the data to the proposed model. Using SPSS 21.0, data was examined for kurtosis, skewness, normality and homoscedasticity (Hair et al., 2010; Swain, Weathers, & Niedrich, 2008), and proper treatment was given (Hair et al., 2010). Data was then submitted to confirmatory factor analysis (CFA). Initially, CBE as a second-order construct model was tested. Once again the data fit the model poorly ($\chi^2 = 545.678$, $df=269$, $\chi^2/df= 2.029$, $p<.001$, $NFI=.873$, $CFI=.931$, $SRMR= .092$, $RMSEA=.051$). Correlation between the CBE as second-order construct and brand related rewards (BRR) was .82, and convergent and discriminant validity and reliability could not be confirmed. The model with CBE as a second-order construct was discarded. Supported by theory, an alternative three-factor solution for CBE as a first-order construct model was tested and data fit was good ($\chi^2 = 377.410$, $df=199$, $\chi^2/df= 1.890$, $p<.001$, $NFI=.898$, $CFI=.948$, $SRMR= .049$, $RMSEA=.048$). Table 2.4 depicts the CR, AVE and SQRT AVE (Fornell & Larcker, 1981a, 1981b) for both models. Results confirmed both convergent and discriminant validity and the model with CBE as a first-order construct was adopted. Next, the structural equation modeling was performed.

Table 2.4

CBE as a second-order and a first-order construct (Study 4) – Validity and reliability assessment.

	CBE as 2nd order					CBE as 1st order						
	CR	AVE	\sqrt{AVE}	CBE0	BRR	CR	AVE	\sqrt{AVE}	CBE0	BRR	Emo	Cog
CBE0	.870	.528	.727			.873	.537	.733				
BRR	.846	.480	.692	.349		.834	.502	.709	.310			
CBE2ord	.626	.363	.603	.463	.815							
Emo	0,783	0,596				.829	.549	.741	.380	.502		
Cog	0,745	0,583				.788	.553	.744	.236	.488	.353	
Beh	0,746	0,523				.801	.503	.709	.035	.399	.144	.506

Note. Bold items are above threshold.

2.3.7.1. CBE Conceptual Relationships & Nomological Validity

Covariance based structural equation modeling (CB-SEM) is a well-established, popular approach in marketing research to test theory and concepts (Hair et al., 2012). CB-SEM is suitable to understand the underlying factors covariance in a theoretical relationship model (Hair et al., 2010). Figure 2.6 depict the initial model with both the measurement model and the structural model, based on the theoretical reasoning depicted in the model specification, with the hypothesis-testing configuration.

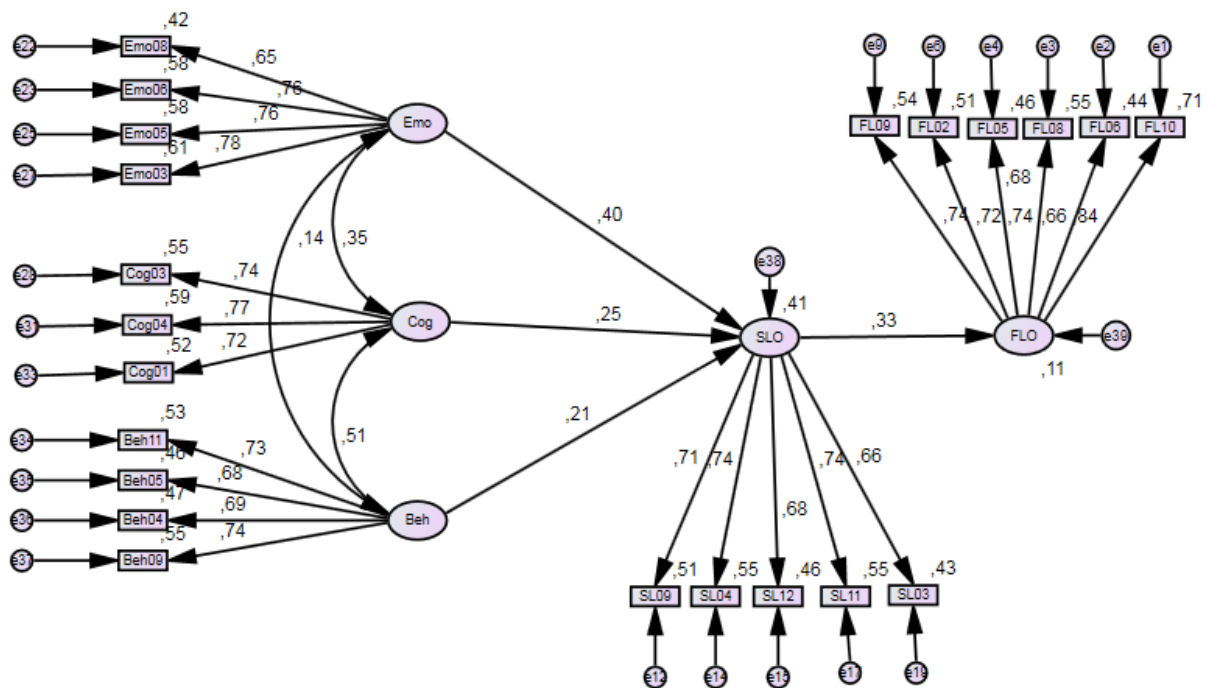


Figure 2.6. CBE Structural and Measurement Model. Note. SLO: Second-Level Outcomes, representing Brand Related Rewards (BRR). FLO: First-Level Outcomes, representing Consumer Brand Engagement Outcomes (CBE-O).

To assess nomological validity of a construct it is necessary to estimate the focal construct

and test if the hypothesized relationships estimates are significantly different from zero (MacKenzie, Podsakoff, & Podsakoff, 2011). To confirm the directional hypothesis, one-tail significance test was performed. Figure 2.6 shows the standardized regression weights, all highly significant ($p < .01$). The cognitive ($\gamma = .245$, $t = 3.394$, $p < .01$), behavioral ($\beta = .212$, $t = 3.204$, $p < .01$) and emotional ($\gamma = .400$, $t = 6.186$, $p < .01$) dimensions together have positive impact and predict Brand Related Rewards (BRR, $R^2 = .411$). BRR ($\gamma = .334$, $t = 5.594$, $p < .01$) significantly predicts consumer brand engagement outcomes (CBE-O, $R^2 = .111$). The data fit the model very well ($\chi^2 = 258.555$, $df = 145$, $\chi^2/df = 1.783$, $p < .01$, SRMR = .063, NFI = .915, CFI = .960, RMSEA = .045, LO90 = .036, HI90 = .054, PCLOSE = .822) with absolute, incremental and parsimony fit indexes above threshold (Hair et al., 2010). The final model was also robust to convergent and discriminant validity and reliability (AVE and CR in Table 2.5). Next, several tests to assess scale validity was performed.

Table 2.5
CBE SEM Model – Validity and reliability assessment.

	CBE				
	CR	AVE	\sqrt{AVE}	CBE O	BRR
Emo	,829	,549	,741		
Cog	,788	,553	,744	,354	
Beh	,802	,503	,709	,145	,506
CBE O	,874	,537			
BRR	,833	,500			

2.3.7.2. Measurement Equivalence

Brand literature shows different level of brand commitment biased by gender (Tifferet & Herstein, 2012). Following Hair et al. (2010), configural invariance was initially test, using gender

to separate the data into different groups. There was no significant difference between models, measure by the levels of model fit and their $\Delta\chi^2$, as well as construct validity parameters on this unconstrained model. Next, metric invariance was tested by comparison of factor loadings and path coefficients. Using multi-group analysis in AMOS 21, the five latent variables were assessed in pairs. The first pair was Emotion \rightarrow BRR, and constraint was set so male and females had equal factor loadings (metric invariance model). A third model (moderation model) was also used to constrain the path coefficients between the two latent variables. The three models showed excellent fit to the data, but $\Delta\chi^2$ between models was non-significant (for the metric invariance model $p=.516$ and for the moderation model $p=.600$). Since Chi-square test assesses the difference between models, we can assert that the models are equivalent and we confirm metric invariance. In other words, establishing a constraint of equal factor loadings did not result in a significant deterioration of model fit. The procedure was repeated for the three remaining relationships in the model, and the models confirmed full metric invariance for Behavior \rightarrow BRR and BRR \rightarrow CBE-O. For Cognitive \rightarrow BRR, the metric invariance model and the moderation model were both non-significant when compared to the basic model, but the moderation model was significant in case the metric invariance test was correct. This result means that the impose constraint on the path coefficient leads to a significant deterioration of the moderation model fit between males and females. In this case, it was necessary to test for partial metric invariance for both Cognitive and BRR. Two loadings with the least difference between males and females were selected for each construct and kept in the model. All other loadings were removed and this model was renamed partial metric invariance. The $\Delta\chi^2$ for the partial metric invariance model was non-significant, confirming partial equivalence of the models. However, the moderation model was significant, and the relationship Cognitive \rightarrow BRR was significantly different for males ($\gamma_{\text{male}} = .542, p < .01, R^2 = .294$) and female ($\gamma_{\text{female}} = .493, p < .01, R^2 = .243$). Results are summarized on Figure 2.7.

Construct Relationship	Invariance Test Result	Moderation Test
Emotional - BRR	Full metric invariance**	No moderation**
Cognitive - BRR	Partial metric invariance**	Moderation significant**
Behavioral – BRR	Full metric invariance**	No moderation**
BRR - CBE-O	Full metric invariance*	No moderation**

Figure 2.7. Measurement invariance analysis.

Notes: Tested for gender. * Significance at $p < .05$ level. ** Significance at $p < .01$ level.

2.3.7.3. Nomological Validity

To further validate the model, mediation effects were tested by following Hair et al. (2010) and Zhao, Lynch, and Chen (2010, p 204) recommendations. To exam for full mediation of the sub-dimension of the focal construct were tested for direct effect significance “over and above the direct effect that the focal construct has on the consequence” (Mackenzie et al., 2011, p. 323). Three models were tested in this condition: Emotion→BRR→CBE-O, Cognitive→BRR→CBE-O and Behavior→BRR→CBE-O. For the full mediation Emotion→BRR→CBE-O model the fit (Table 2.6) was good ($\chi^2 = 236.205$, $df=88$, $\chi^2/df= 2.684$, $p < .001$, $SRMR= .069$, $NFI=.908$, $CFI=.940$, $RMSEA=.066$) and ten standardized residual covariances were above the threshold of 2.5σ . The partial mediation model also showed good fit ($\chi^2 = 216.933$, $df=87$, $\chi^2/df= 2.493$, $p < .001$, $SRMR= .061$, $NFI=.915$, $CFI=.947$, $RMSEA=.062$), all standardized residual covariances were blow 1.3σ . Emotion→BRR standardized path coefficient ($\gamma = .501$) was significant at the $p < .01$ level and BRR/SLO→CBE-O/FLO was significant at $p < .05$ level ($\gamma = .159$, $p=.019$).

Table 2.6
Chi-square differences and model fit on the mediation analysis

Model	Construct Relationship	χ^2	df	p	χ^2/df	SRMR	NFI	CFI	RMSEA
Emo-BRR-CBE-O	Full Mediation Model	236.205	88	.000	2.684	.069	.908	.940	.066
	Partial Mediation Model	216.933	87	.000	2.493	.061	.915	.947	.062
	Difference	19.272	1						
Cog-BRR-CBE-O	Full Mediation Model	203.527	75	.000	2.714	.054	.912	.942	.066
	Partial Mediation Model	201.244	74	.000	2.720	.050	.913	.942	.067
	Difference	2.283	1						
Beh-BRR-CBE-O	Full Mediation Model	228.984	88	.000	2.602	.056	.906	.939	.064
	Partial Mediation Model	226.469	87	.000	2.603	.053	.907	.940	.064
	Difference	2.515	1						

Notes: Bold items are non-significant

An unexpected large and significant direct effect was identified between Emotion and CBE-O/FLO ($\gamma = .300, p < .001$). The significant difference on chi-square ($\Delta\chi^2 = 19.272, df=1$, threshold value of 3.8) supports a partial mediation solution for the model. To further examine parameter stability a bootstrapping procedure (B=500, Maximum Likelihood method, bias corrected 95% C.I.) was adopted (Zhao et al., 2010). Assessment of the standard error bias showed no evidence for biased standardized regression coefficient. The lower and upper bias-corrected confidence intervals for the standardized path coefficients are depict in Table 2.7. The Emotional \rightarrow CBE-O indirect effect is highly significant ($p < .01$) and partial mediation was confirmed. Likewise, all direct effects and total effects were significant, further supporting partial mediation.

For the Cognitive \rightarrow BRR \rightarrow CBE-O model, fit for the full mediation was good ($\chi^2 = 203.527, df=75, \chi^2/df= 2.714, p < .001, SRMR= .054, NFI=.912, CFI=.942, RMSEA=.066$) and standardized residual covariances were blow 2.6σ . The fit for the partially mediated model was also good ($\chi^2 = 201.244, df=74, \chi^2/df= 2.720, p < .001, SRMR= .050, NFI=.913, CFI=.942, RMSEA=.067$). The

path coefficient of Cognitive→BRR ($\gamma=.107$) was non-significant ($p=.126$) and the difference of chi-square ($\Delta\chi^2=2.283$) was also non-significant. There is no difference between the full mediation model and the partial mediation mode, and full mediation was confirmed. Data was submitted to the bootstrapping procedure with the same parameter as the previous model. The standard error (SE) and standard error-bias (SE-bias) were very low. The Cognitive→CBE-O indirect effect was highly significant ($p<.01$) and the direct effect was non-significant (Table 2.7), confirming a full mediation solution, supported by the highly significant ($p<.01$) direct and total effect of Cognitive→BRR and BRR→CBE-O.

Table 2.7
Mediation Analysis

Model	Construct Relationship	β γ	Lower	Upper	SE	SE-Bias	Indirect Effect			Sig. Indirect Effect	Direct Effect	Total Effect
							Std. Indirect Effect	Lower	Upper			
Emo-BRR-CBE-O	Emotional - BRR	.501	.380	.619	.061	.003					.003	.003
	Emotional - CBE-O	.300	.143	.461	.083	.004	.080	.015	.165	.009	.004	.005
	BRR - CBE-O	.159	.023	.294	.065	.003					.017	.017
Cog-BRR-CBE-O	Cognitive - BRR	.484	.363	.601	.061	.003					.006	.006
	Cognitive - CBE-O	.107	-.023	.283	.078	.003	.126	.070	.199	.003	.126	.003
	BRR - CBE-O	.260	.140	.384	.063	.003					.003	.003
Beh-BRR-CBE-O	Behavior - BRR	.399	.258	.506	.062	.003					.007	.070
	Behavior - CBE-O	-.104	-.221	.012	.057	.003	.140	.083	.216	.003	.093	.563
	BRR - CBE-O	.351	.255	.481	.055	.002					.002	.002

Notes: γ and β = standardized regression coefficient. 500 bootstrapping sampling. Maximum Likelihood method. 95% C.I. Significance for total, direct and indirect effect are two tail. Blank spaces represent suppressed zeros. SE = Standard Error. SE-Bias = Standard Error Bias. Bold items are non-significant.

For the Behavior→BRR→CBE-O model, fit for the full mediation was also good ($\chi^2 = 228.984$, $df=88$, $\chi^2/df= 2.602$, $p<.001$, $SRMR= .056$, $NFI=.906$, $CFI=.939$, $RMSEA=.064$) and standardized residual covariances were low (below 2.6σ). The fit for the partially mediated model was good ($\chi^2 = 228.469$, $df=87$, $\chi^2/df= 2.603$, $p<.001$, $SRMR= .053$, $NFI=.907$, $CFI=.940$, $RMSEA=.064$). The standardized path coefficient of Behavior→BRR ($\gamma=-.104$) was non-significant ($p=.114$) and the difference of chi-square ($\Delta\chi^2=2.515$) was also non-significant, confirming full mediation. The bootstrapping procedure led to very low SE and SE-bias. Table 2.7 illustrate the Behavior→CBE-O indirect effect as highly significant ($p<.01$), but the direct effect as significant at the .10 level ($p=.093$) and the total effect as non-significant ($p=.563$).

To investigate a moderated mediation effect, the initial appraisal was to use the categorical variables in the model. A multi-group analysis was conducted, as described in the measurement equivalence section, using education level and income. All models had fit, but Chi-square differences were non-significant. Next, the Cognitive dimension of CBE was tested as a moderator of the Behavior→CBE-O relationship. The dataset was submitted to a two-step cluster analysis and 190 consumer were identified as a high cognition profile, while 199 were clustered on a low cognition profile. All three model had fit and the change in Chi-square was non-significant for all models comparison. Lastly, it was assessed the effect of the Emotion latent variable on the Behavior→CBE-O relationship for metric invariance. The two-step cluster categorized 223 consumers as high in the emotional dimension of CBE and 166 as low. All three models had fit. The $\Delta\chi^2$ between the unconstrained (U) model and both the metric invariance (MI) and the moderation (MO) model was significant at the .1 level ($\Delta\chi^2_{U-MI} = 13.634$, $df=7$, $p=.058$; $\Delta\chi^2_{U-MO} = 14.263$, $df=8$, $p=.075$). The model was tested for partial metric invariance and the both the partial metric invariance model (PMI) and the moderation (MO) model were non-significant ($\Delta\chi^2_{U-PMI} = 4.688$, $df=4$, $p=.321$; $\Delta\chi^2_{U-MO} = 5.718$, $df=5$, $p=.335$), meaning there is no considerable change in

models. Partial metric invariance was established ($\gamma_{\text{EmoHi}} = .391$, $p < .01$, $R^2 = .153$; $\gamma_{\text{EmoLo}} = .265$, $p < .01$, $R^2 = .07$). The moderation model was not significantly different from the partial invariance model ($\Delta\chi^2_{\text{PMI-MO}} = 5.718$, $df=5$, $p=.335$), representing that the Behavior \rightarrow CBE-O relationship is different for consumer which score high on the Emotion dimension of CBE to those that score low, but there is not a moderated mediation effect of the latent variable Emotion.

2.3.8. Step 7 – Scale Norms

Scale norms intend to assign meaning to the scores on the scale by calculating comparing parameters, more specifically, mean and standard deviation (Churchill, 1979). Detailed parameters are presented in Table 2.8.

Table 2.8
Scale Norms.

Measure	Range	Mean	SD
Cog01	1 to 7	5,234	1,340
Cog03	1 to 7	5,787	1,152
Cog04	1 to 7	5,427	1,352
Beh04	1 to 7	5,093	1,482
Beh05	1 to 7	5,108	1,490
Beh09	1 to 7	4,910	1,528
Beh11	1 to 7	5,303	1,434
Emo03	2 to 7	6,057	0,964
Emo05	1 to 7	6,093	0,940
Emo06	1 to 7	6,226	0,894
Emo08	1 to 7	5,517	1,376
CBEO02	1 to 7	5,465	1,519
CBEO05	1 to 7	5,481	1,809
CBEO06	1 to 7	5,257	1,693
CBEO08	1 to 7	5,396	1,706
CBEO09	1 to 7	5,422	1,944
CBEO10	1 to 7	5,913	1,718
BRR03	1 to 7	5,627	1,217
BRR04	1 to 7	5,380	1,264
BRR09	1 to 7	5,388	1,299
BRR11	1 to 7	5,591	1,171
BRR12	1 to 7	5,522	1,376

Note. Cog, Beh, Emo and CBE-O Items scored on a Likert seven-point scale. BRR scored initially on a seven-point semantic differential scale

2.4. Discussion and Conclusions

2.4.1. Theoretical Implications

The development of a new CBE scale is justifiable based on the explanation of the relationship among antecedents, construct and consequences under a unique theoretical framework. In doing so, this study resulted in strong empirical evidence of the Expectancy Theory (ET) framework for explaining consumer brand engagement self-selected brands. Sequence of effort (cognitive, behavior and emotional), performance (consumer brand engagement) and outcomes (BRR & CBE-O) chain of effects was large and significant. Effort-performance (E-P) causal relation was operationalized by the effort based dimensions of CBE, namely Cognitive, Behavioral and Emotional. The performance-outcome (P-O) causal relation was operationalized by the consumer brand engagement concept, and instrumentality was operationalized as the Brand Related Rewards (BRR) to consumer brand engagement outcomes (CBE-O). It was demonstrated that the brand engagement dimensions predict expected Brand Related Rewards (BRR), which in turn predicts consumer brand engagement outcomes (CBE-O). As a result, hypothesis H3a and H3b were supported. Additionally, the measurements of these constructs are mostly invariant (or partially invariant), with adequate parameter stability.

CBE as a second-order construct concept was not confirmed, so H1a was not supported (Figure 2.8). Since engagement literature has competing dimensional reasoning (Hollebeek et al., 2014 and Vivek et al., 2014 for a first-order construct; Dwivedi, 2015 and Calder et al., 2009 for a second-order construct), this study has empirical support to the first-order construct over the second-order construct. This study hypothesized on a second-order solution since the dimensions of Cognitive, Emotional and Behavioral are latent variables *per se*. The CBE first-order evidence

supports Hollebeek et al. (2014) operationalization of the nomological network of the three dimensions of CBE, simultaneously acting to effect consequences. These arguments provide partial support for H1b, as the effects (γ_{Cog} , γ_{Beh} and γ_{Emo}) were large and significant at the .01 level, but not as a second-order construct.

Reference	Hypothesis	Results
H1a	Consumer brand engagement is a second-order construct comprised by the first-order cognitive, emotional and behavioral dimensions	Not Supported
H1b	The factor loadings for the cognitive, behavior and emotional dimensions will be significant, indicating that these are sub-dimensions of Consumer Brand Engagement (CBE) construct	Partially Supported*
H2	The factor loadings for the cognitive, behavior and emotional items developed based on the MOR framework will be significant	Partially Supported**
H3a	Consumer Brand Engagement (CBE) has a positive effect on Brand Related Rewards (BRR – 2nd Level Outcome)	Supported*
H3b	Brand Related Rewards (BRR – 2nd Level Outcome) has positive effect on Consumer Brand Engagement Outcomes (CBE-O – 1st Level Outcome)	Supported
H4	The CBE scale has measurement equivalence regarding gender	Supported***

Figure 2.8. Hypothesis testing results.

Note. * Supported once the CBE as a first-order construct was adopted. ** Items from the elements of Marketing Activities and Consumer Value-Creating Processes were present. Items from the elements Networks and Stakeholders were excluded. ***Partial metric invariance was achieved.

Some interesting findings were the three unexpected relationships in the model. First, the direct effect of the Emotional dimension on CBE-O, not foreseen in ET since the effort to outcomes relationship should be fully mediated by [brand] performance. The fact that a given effort is directly influencing outcome, regardless of brand performance, may reflect the fragmentation of meaning and the complexity in the consumer-brand relationships (Jevons et al., 2005). Brand building conceptual models (Ghodeswar, 2008) follows a sequential order to deliver consumers promised

benefits and delivering brand performance is prior to influence brand equity that supports a full mediation perspective. This effect could be explained from a brand ambidexterity perspective (Beverland, Wilner, & Micheli, 2015; Melewar & Nguyen, 2014), when conflicting and opposing strategies are used to stimulate consumers, generating unexpected responses. The use of the Emotional dimension of CBE to evaluate outcomes could be a result of the erratic consumer responses to premeditated (and unclear) branding strategy. In different aggregated levels of motivation (product level or category level), the consumer emotional disposition would vary and affect perceived brand rewards (outcomes).

Second, partial metric invariance for females and males was supported on the Cognitive→BRR relationship, supporting H4. This finding suggests that the mean values of cognitive effort are higher for men than for women, when engaging with a brand. In addition, average levels of CBE will reflect such difference, and CBE_{male} may be different from CBE_{female} for the same product and same context. Since the literature supports gender differences in consumer research (Salzberger et al., 2014) and on brand perceptions specifically (Salciuviene et al., 2010), this study provides the possible cause of different cognitive efforts between men and women when relating to a brand.

Third, the model supports partial metric invariance on the Behavior→BRR relationship. Although the relationship was stable regarding gender, income, education level and different scores on the Cognitive dimension, consumer with high and low scores on the Emotion dimension will have a significantly different Brand Related Rewards scores. Although the partially constrained model did not confirm a moderating effect of Emotion on the Behavior→BRR relationship metric invariance was confirmed. Since an Emotion-Cognitive and Emotion-Behavior interplay are predicted by theorists (Clore et al., 1987), this empirical result is a support to such claims.

Finally, the MOR based items, which provided a framework to consolidate how multiple

touch points shape consumers' perception of a brand, included items from Marketing Activities, Stakeholders and Customer Value-Creating Processes elements. Items from the elements Networks were excluded in the scale development process, partially supporting H2. The findings support the contention that the coalition of lateral businesses that support a brand was either not perceived as relevant to consumers or consumers had limited (if any) information and information processing about the businesses structures. Likewise, although stakeholder theory effects are well established in the marketing literature (Kornum & Muhlbacher, 2013), the perception or even the awareness of this dimensions were not fully captured by consumers and only items related to the same brand consumers were included in the final scale.

2.4.2. Managerial Implications

A valid and reliable instrument to assess CBE can be of much use in daily marketing executives' demands. The positive and significant causal relationship between CEB dimensions and BRR, and between BRR to CBE-O, indicates that the more incentives a consumer receives from a brand the more he or she will engage with it. Classifying consumers, according to different level of effort allocation of personal resources can establish more proficient communications strategies, either targeting consumers more prone to adopt a cognitive, emotional or behavioral effort allocation or a combination of these dimensions.

Although the term engagement is often related to a behavioral manifestation (Vivek et al., 2012) this dimension had the lowest effect (lowest path coefficient, $\gamma_{Beh} = .212$) on Brand Related Rewards. Similarly, the emotional dimension ($\gamma_{Emo} = .400$) has almost twice the effect size of the behavioral component of CBE, and the cognitive dimension has the same effect size ($\gamma_{Cog} = .245$). These results indicate the relevant role emotions have when relating to brands, and how relevant

cognitive stimuli are relevant to consumers. Marketers should consider, besides an isolated call-to-action communication strategy, a “call-to-emotion” and a “call-to-cognition” strategy where activities based on these former dimensions can balance the behavioral bias of engagement marketing campaigns. Correspondingly, the significant differences found between men and women regarding cognitive stimuli should be considered. When engaging with a brand, men are more inclined to make the cognitive effort than women are, and communication should adapt accordingly.

2.4.3. Limitations and Future research

The main limitation of this study was the self-report survey methodology and the potential for a social desirability effect. In addition, sampling from a consumer panel on-line may be biased to include respondents that are more likely to be highly engaged to specific product categories. Moreover, as previously described by Vivek et al. (2014) and Hollebeek et al. (2014), subjects are highly attached to brands they use, and this may include negative valenced enmeshed engagement (Hollebeek & Chen, 2014, De Villiers, 2015), a challenge yet to be overcome in CBE scale development. Likewise, De Villiers (2015) passive engagement concept could be incorporated in the Expectancy Theory framework for CBE, once brand performance to brand-related outcomes varies “from + 1 (performance sure to lead to outcome) to 0 (performance not related to outcome)” (Nadler & Lawler III, 1989, p. 13). In addition, the theoretical foundations of the Cognitive dimension (based on equilibration processing) and the Emotional dimension (valenced affective reaction amassed over time) underlie a temporal-based perception, thus suggesting CBE time series modeling in future studies, and the process of building brand equity (Ghodeswar, 2008).

Gender bias is a growing topic in consumer research (Salzberger et al., 2014) and brand

researchers should investigate gender bias in the mean scores of CBE, and replicate the cognitive effort differences found in this study. Furthermore, the use of alternative methods to classical test theory (CTT) should be adopted (Salzberger & Koller, 2013) to assess differential item functioning (DIF) – the difference in score of a latent trait – regarding gender differences and gender bias.

As an initial and general assessment of CBE using Expectancy Theory (ET), many aspect of ET was not included in this study. Future studies could submit the current scale to controlled intrinsic and extrinsic outcomes and evaluate its robustness. Instrumentality, as the “perceived probability that [brand] performance will lead to desired outcomes” (Lee, 2007, p. 790), and valence were not manipulated in this study. Future studies could incorporate different brand performance levels leading to different instrumentality perceptions, possibly altering the BRR → CBE-O relationship. In such cases, consumers’ expectancy framework provided by ET can be a fruitful resource to expand the current knowledge of brand-related constructs.

¹ Schema theory referenced as Douglas JY, Hargadon A. The pleasures of immersion and engagement: schemas, scripts and the fifth business. *Digit Creativ* 2001;12(3):153–66

² Social exchange theory referenced as Blau, P. (1964). *Exchange and power in social life*. New York: Wiley.

³ One item had the same wording as of Vivek et al. (2014) – “I am passionate about [brand]” – and was kept for subsequent analysis. This item – Emo08 – became part of the final version of the scale.

CHAPTER 3

3. ARTICLE 3

A CONSUMER ENGAGEMENT SCALE ASSESSMENT ON AN ITEM RESPONSE THEORY FRAMEWORK

Abstract

This study replicates the consumer engagement scale (CUE) (Vivek et al., 2014) and extends the construct measurement debate using an Item Response Theory (IRT) perspective. Although the data achieved fit on a Classical Test Theory (CTT) using confirmatory factor analysis, IRT identified five items that have low levels of discriminating power and provided low levels of information. The IRT approach indicates a possible path to future methodological improvements to the marketing scales in general, and to the consumer engagement scale in particular.

3.1. Introduction

Brand engagement often plays a critical role in consumer brand relationships, influencing how customers interact and connect with firm offerings (Vivek et al., 2014). As the role of engagement increases in importance, the precision of the measurement tool for consumer engagement is essential to assure measurement stability. Current consumer engagement scales developed under a CTT assume that tests are reliable across the complete assortment of test scores (levels of the latent trait), but they have never been adequately validated.

The current paper replicates the Vivek et al. (2014) scale using automobiles as the focal object. The contribution is twofold. First, the CUE scale is replicated and assessed using CTT and IRT, including identifying model fit and the level of brand engagement (latent trait) each scale item is able to predict and the amount of information provided by each item. Second, the reliability and the discriminating power of the CUE scale are evaluated based on an IRT perspective. The combination of both CTT and IRT approaches to assess a marketing scale responds to the call for the integration of these techniques (Raykov & Marcoulides, 2015), which is possible due the similarity of the factor analysis and IRT approaches (Kamata & Bauer, 2008).

To explain IRT concepts Hambleton et al. (1991) provides an overview of the challenges of CTT. They conclude that the most important deficiency is the intertwined characteristics of the examinees (interviewees) and the tests (instrument), as one can only be interpreted in the context of the other. The interviewees' ability is defined exclusively in terms of the test, and a subject latent trait is expressed as a true score. At the same time, the authors proclaim that IRT presupposes (a) each respondent's individual trait or ability explains his/her performance, and (b) different levels of ability have different probabilities of obtaining a particular answer, and as the trait increases so do the probabilities. Although CCT and IRT seem like competing approaches, extant literature calls

for the integration of the techniques (Raykov & Marcoulides, 2015). In this study, both approaches are applied to evaluate the CUE scale with regard to model fit, validity and reliability.

The development of an IRT models presume unidimensionality and local independence, as both assumptions simplify the mathematical and statistical procedures involved in fitting IRT models (Raykov & Calantone, 2014). Unidimensionality means that only a single trait is measured for a particular set of items, and that local independence is the property that at a specified trait level there is no correlation for different item responses. These fundamental assumptions support two concepts, (a) the Item Characteristic Curve (ICC), an s-shaped, logit representation of the probability correct score for an assumed ability level, and (b) the Item Information Function (IIF), which is the level of information each item alternative (on a polytomous graded scale) can provide. The sum of the discrete IIF results in the Total Information Function (TIF) commonly plotted with the standard error of measurement (SEM), which is an indicator of the instrument's preciseness, calculated for each level of the latent trait.

3.2. Method

Data collection took place at an automotive trade show in Sao Paulo, Brazil. The Vivek et al. (2014) scale was converted to Portuguese using a back translation approach. Following the strategy of focusing on a product, 598 respondents were asked to answer the ten items using a 7-point Likert scale, and five demographic items were collected. Results from the EFA and CFA analysis are shown in Appendix C. Overall model fit was good. Since item parameters in CTT are sample dependent and it is assumed that items are equally reliable across different levels of the latent trait, the IRT analysis was also conducted to better understand the instrument functioning.

3.3. Extension

3.3.1. IRT Assumptions, Procedures & Model Fit

The consumer engagement scale was developed using a CTT approach for evaluating it as a reflectively measured construct. The proposed extension of this study is to apply an IRT framework to assess reliability of the instrument using item discriminating power and levels of information. Before performing model-data fit for the polynomial responses on a graded response model (Raykov & Calantone, 2014), data was scrutinized for IRT model assumptions of unidimensionality and local independence. Both assumptions were confirmed based on eigenvalues and standardized residuals analysis, and the IRT was performed.

3.3.2. Graded Response Model (GRM) Analysis

To evaluate the scale using an IRT approach a polytomous, continuous response and multidimensional model called Graded Response Model (Hambleton et al., 1991, p. 26) was used. The parameters for item discriminability (called a) and item difficulty (called b) were used along with the ICC and the IIF to evaluate which items were the most precise in estimating the latent trait. The item difficulty parameter acts as a threshold and the reference value for b is the point where respondents have 50% chance of endorsing an item; the higher the respondent's ability the higher the value for b . The item discrimination parameter represents the item strength in segregating respondents below and above the threshold of difficulty. It is expressed by the slope of the item on the ICC. The higher the value of a , the steeper will be the item curve and the higher

will be the item discrimination power. The ICC in Figure 3.1 provides the graphic visualization of both parameters for all ten items in the consumer engagement scale. The IIF results show how much information (measurement precision) is provided by an item along the entire continuum of consumer engagement levels.

Table 3.1

Graded Response Model for the Vivek et al. (2014) Consumer Engagement scale

Item & Dimension	Item Parameters Estimates							
	a	b ₁	b ₂	b ₃	b ₄	b ₅	b ₆	b ₇
Enthusied Participation								
EP1 (“I spend a lot of my discretionary time ___”)	0.996	-2.978	-2.453	-1.399	-0.325	0.796	1.988	2.606
EP2 (“I am heavily into ___”)	1.061	-2.267	-1.879	-1.058	-0.073	0.966	2.140	2.828
EP3 (“I am passionate about ___”)	1.460	-2.425	-2.113	-1.349	-0.490	0.330	1.067	1.391
EP4 (“My days would not be the same without ___”)	1.321	-2.390	-2.019	-1.311	-0.480	0.457	1.385	1.870
Conscious Attention								
CA1 (“Anything related to ___ grabs my attention”)	1.630	-2.618	-2.212	-1.549	-0.845	-0.046	0.690	1.073
CA2 (“I like to learn more about ___”)	1.147	-2.896	-2.449	-1.592	-0.755	0.125	1.151	1.725
CA3 (“I pay a lot of attention to anything about ___”)	1.610	-2.950	-2.502	-1.726	-0.945	-0.124	0.627	1.010
Social Connection								
SC1 (“I love ___ with my friends”)	2.325	-2.163	-1.904	-1.374	-0.766	-0.063	0.692	1.080
SC2 (“I enjoy ___ more when I am with others”)	2.004	-2.056	-1.787	-1.282	-0.705	0.000	0.750	1.135
SC3 (“___ is more fun when other people around me do it too”)	2.015	-2.264	-1.989	-1.478	-0.837	-0.094	0.557	0.870

Note: Bolded items represent items with higher levels of information. Items list is from Vivek et al. (2014). The Portuguese version of the items can be obtained with the first author.

The IIF indicates that the ten items have very different measurement precision levels and provide uneven information among respondents. Information in Table 3.1 shows that items from Social Connection (SC) rated highest on the discrimination parameter (all above 2.0) and provided the most information, as illustrated by higher function levels on Figure 3.1. In IRT, information corresponds to the notion of reliability on CTT except it is not a constant, but a function of the

latent trait (Singh, 2004). SC items exhibited both the highest discriminating score and the highest levels of information, providing meaningful information on the range of the latent trait, from -2.5 to +2.0 (IFF on Figure 3.1).

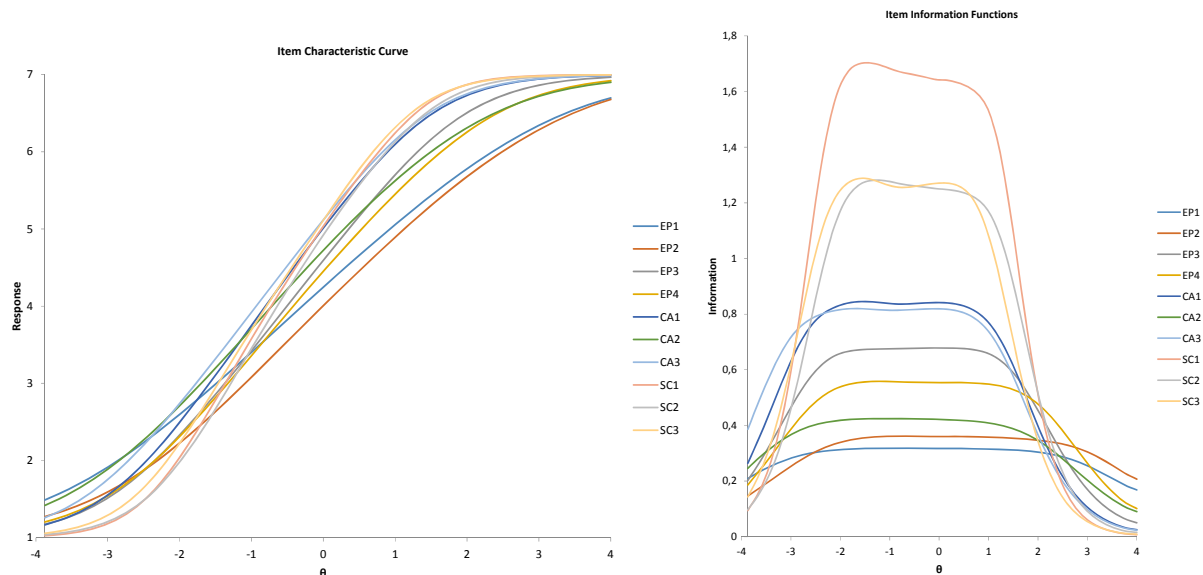


Figure 3.1. – Item Characteristic Curve (ICC) and Item Information Function (IIF) for the Vivek et al. (2014) consumer engagement scale.

The GRM results for the Conscious Attention (CA) dimension showed intermediate levels of both discrimination and information. While CA1 and CA3 performed closely, CA2 was the least effective indicator of the Conscious Attention dimension. As for Enthused Participation (EP), the four items showed the lowest discrimination parameters. Examination of the IIC curve (Figure 3.1) indicates that EP1 and EP2 have the lowest a parameters and the lowest information function of the entire scale. EP4 performed better than CA2 and EP3 was the best-performing item for the Enthused Participation dimension.

Besides the variability on the level of provided information (precision of measurement) among items, five items of the scales (SC1, SC2, SC3, CA1 and CA3) provide information on an extensive range of consumer engagement ($-2.5 < \theta < 2.0$). Nevertheless, the engagement scale

needs to increase its discrimination precision as a 's were below 2.0 for seven items. Similarly, the items on the ICC are condensed, showing that items are set to evaluate average levels of consumer engagement. The Vivek et al. (2015) consumer engagement scale is not adequate to assess either low levels or high levels of engagement, since the levels of information on these extremes are very low.

3.4. Discussion and Future Research

The present study replicates the Vivek et al. (2014) consumer engagement scale and the structural model testing using a CTT framework, and demonstrates good fit. It demonstrates the adequacy of measuring the meaningful connection consumers establish with a brand and a company, confirming the authors' argument of CUE as a scale that is "[...] highly applicable, valid and reliable across several contexts." (p. 416). The low level of discriminant validity of EP was confirmed on the two items that score the least regarding information levels (EP1 and EP2). Both items might be difficult to understand to some audiences, as "discretionary time" and "heavily into" may have different interpretations among different cohorts. Moreover, a possible asymmetrical configuration of the underlying structure of consumer engagement is not yet assessable with the CUE scale (de Villiers, 2015).

The assessment of the CUE scale using IRT as an extension depicted how individual items account for information precision and latent trait levels estimation. Assessing the 10-item ICC, it is clear that all items compute a middle range engagement levels (θ) as the s-shaped curves are not scattered over the latent trait continuum on the x-axis. No items that could evaluate low levels or high levels of consumer engagement are present on the scale. It is relevant that future psychometric instruments assessing consumer engagement could incorporate items on both extremes. Similarly, future items should provide more accurate information since the standard error measurement would decrease considerably. As it is currently presented, low and high levels of engagement score

measured with the CUE scale do not automatically specify consumer engagement levels, since accuracy is low in this range. A possible explanation is that the Enthused Participation items, which have the lowest contribution for psychometric information, cannot retrieve low and high levels of consumer engagement. An immediate managerial implication is that the CUE scale will not measure consumer engagement holistically, as foreseen by Vivek et al., (2014).

Finally, seven CUE items scored below 2.0 on the discrimination parameter (a). Although a cut-off point is arbitrary, this parameter is “indicative of the range on the latent dimension where the j th item is effective in the sense of differentiating between respondents” (Raykov & Calantone, 2014, p. 344). Future consumer engagement scales must also include items that incorporate more discrimination power to the scale. Therefore, it is recommended that the IRT framework represents an effective tool to increase consumer engagement measurement accuracy.

EPILOG

The papers in this doctoral thesis contribute to understanding CBE from three different perspectives. In theoretical terms, the first paper proposes a framework for CBE, based on a well-established motivational theory. Vroom's analytical relationship of effort-performance-outcome, based on the valence-instrumentality-expectancy (VIE) model, proves to be a fruitful analytical base to explain brand-related concepts. The driver of a consumer activity towards a focal object (a brand in these papers) comes from the different expectancy (E) that each of these activities will lead to desirable, initial, short-term outcomes, and how likely these first-level outcomes will fulfill (I) more valuable (V), long-term outcomes. Expectancy (or subjective assessment) acting as the link between efforts and outcomes is the underlying hypothesis.

By introducing a theoretical framework using ET to explain the occurrence of CBE, the first paper contributes as the central tenet of CBE on a more encompassing concept. This broader view was reflected in the initial 144 items generated on Study 1, including activities not only related to brand offers (MOR's Marketing Activities) but how engagement is perceived on all four elements of MOR (customer value-added processes, networks and stakeholders). Such a framework contributed to the development of a CBE scale, developed and tested on the second paper. The excellent fit of the data to the model and the high levels of validity and reliability achieved by the scale shows empirical evidence to the CBE scheme.

Finally, testing the engagement concept on an Item Response Theory (IRT) perspective shows the assessment of the items on an engagement scale. Using this sample independent tool, the items of the Vivek et al. (2014) scale showed very distinct capacities to (i) measure the latent trait along the construct continuum, (ii) to discriminate among respondents and (iii) to generate

information about respondents. This response scale evaluation confirms the difficulty marketing researchers face when scoring their measurement instruments.

Summarizing, there are three main contributions. First, CBE was theorized under an Expectancy Theory perspective, which showed good theoretical adherence to the engagement concept. Second, the proposed framework was used to build a CBE scale using classic test methods, with high levels of validity and reliability. In addition, the significant difference in cognitive processing between men and women when engaging with a brand deserves further investigation. Third, IRT, a well-established psychometric tool often used in areas such as Education and Psychology, is used as a novel tool in the marketing field to assess the items of the CUE engagement scale. Scale items were assessed for effectiveness in discrimination power and information levels, and considerably different levels of performance were found among items. As a unified work, this manuscript contributes to extending the knowledge in brand-related constructs, from a theoretical, empirical and methodological perspective. Hopefully, it will assist the marketing research community, both academics and practitioners, to diminish the limitations in this evolving construct.

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APPENDICES

APPENDIX A – Purified Consumer Brand Engagement Scale Item Pool

Code	CBE Items – English	CBE Items – Portuguese
Cog01	I search for information on [brand]'s achievements	Eu procuro informações sobre as conquistas da(o) [marca]
Cog02	I like to know facts about [brand]	Eu gosto de ter informações sobre a(o) [marca]
Cog03	I often search for more information on [brand]	Eu costumo procurar mais informações sobre a(o) [marca]
Cog04	I actively look for information related to [brand]	Eu procuro ativamente informações relacionadas com a(o) [marca]
Cog05	The more I learn about [brand] the more I feel connected to it	Quanto mais eu aprendo sobre a(o) [marca] mais me sinto conectado(a) à ela
Cog06	The more I learn about [brand] the more I want to use it	Quanto mais eu aprendo sobre a(o) [marca] mais eu quero usá-la(o)
Cog07	I pay attention to information on [brand]	Eu presto atenção em informações da(o) [marca]
Cog08	I am very interested in [brand]	Eu estou muito interessado na(o) [marca]
Cog09	I try to get more details when the media talks about [brand]	Eu tento obter mais detalhes quando os meios de comunicação falam sobre a(o) [marca]
Cog10	I like to tell others what I know about [brand]	Eu gosto de contar aos outros o que sei sobre a(o) [marca]
Cog11	I like to learn from other persons about [brand]	Eu gosto de aprender com outras pessoas sobre a(o) [marca]
Cog12	It feels good to discuss [brand] with other customers	Sinto uma boa sensação em conversar sobre a(o) [marca] com outros clientes
Beh01	If I have to put forth a little more effort to search for more information about [brand] I will	Se eu tivesse que me esforçar um pouco mais para procurar mais informações sobre a(o) [marca], eu me esforçaria
Beh02	If I have to put forth a little more effort to look for new [brand] products I will	Se eu tivesse que me esforçar um pouco mais para procurar novos produtos da [marca], eu me esforçaria
Beh03	If I have to put forth a little more effort to buy [brand] products I will	Se eu tivesse que me esforçar um pouco mais para comprar produtos da [marca], eu me esforçaria
Beh04	I try to look for new products/services with other [brand] customers	Eu procuro por novos produtos/serviços com outros clientes da(o) [marca]
Beh05	I try to find out which products/services other [brand] customers are buying	Eu tento descobrir quais são os produtos/serviços da(o) [marcas] que os outros clientes estão comprando
Beh06	I enjoy using/consuming [brand] products/services	Gosto de usar/consumir a(o) [marca]
Beh07	[Brand] is my first choice when considering [category]	[Marca] é a minha primeira escolha quando considero [categoria]

Beh08	If [brand] launches a product/service in a completely different market I will definitely buy it	Se a(o) [marca] lançasse um produto/serviço em um mercado completamente diferente, com certeza compraria
Beh09	I seek to interact with other [brand] customers	Procuo interagir com outros clientes da(o) [marca]
Beh10	I help other customers who want to know more about [brand]	Eu ajudo outros clientes que querem saber mais sobre a(o) [marca]
Beh11	Looking for new products information with other [brand] customers makes me better understand the brand	Procurar informação de novos produtos com outros clientes da(o) [marca] me faz compreender melhor a marca
Emo01	When I see [brand] communications with customers, I feel happy	Quando vejo a(o) [marca] se comunicando com seus clientes, sinto-me feliz
Emo02	[Brand] really knows how to make me interact with them	A(O) [marca] realmente sabe como me fazer interagir com ela(ele)
Emo03	I like what [brand] represents	Eu gosto do que a(o) [marca] representa
Emo04	I have good feelings when I search for more information about [brand]	Eu tenho uma sensação boa quando eu procuro informações sobre a(o) [marca]
Emo05	I have good feelings when I look for new [brand] products/services	Eu tenho uma sensação boa quando vejo novos produtos/serviços da(o) [marca]
Emo06	I have good feelings when I buy [brand]	Eu tenho uma sensação boa quando compro [marca]
Emo07	If [brand] was taken off the market it would really upset me	Se a(o) [marca] fosse retirada(o) do mercado eu ficaria muito triste
Emo08	I am passionate about [brand]	Sou apaixonado(a) pela/por [marca]
Emo09	I am proud about [brand]	Estou orgulhoso(a) da(o) [marca]
Emo10	[Brand] inspires me	A(O) [marca] me inspira
Emo11	I feel angry if somebody says bad things about [brand]	Sinto raiva se alguém diz coisas ruins sobre a(o) [marca]
Emo12	[Brand] makes me feel more connected to other customers of [brand]	A(O) [marca] me faz sentir mais conectado aos seus outros clientes
FL01	"I always do my best to search for more information about [brand]"	Eu sempre faço de tudo para procurar mais informações sobre a(o) [marca]
FL01	"I never do my best to search for more information about [brand]"	Eu nunca faço de tudo para procurar mais informações sobre a(o) [marca]
FL02	"I always do my best to buy [brand]"	Eu sempre faço de tudo para comprar [marca]
FL02	"I never do my best to buy [brand]"	Eu nunca faço de tudo para comprar [marca]
FL03	"My efforts to relate to [brand] translate into the best experience"	Meus esforços para me relacionar com a(o) [marca] resultam em uma experiência melhor
FL03	"My efforts to relate to [brand] do not translate into the best experience"	Meus esforços para me relacionar com a(o) [marca] não resultam em uma experiência melhor
FL04	"[Brand] gives me enough incentives to search more information about it"	A(O) [marca] me dá incentivos suficientes para procurar mais informações sobre ela(e)
FL04	"[Brand] does not give me enough incentives to search for more information about it"	A(O) [marca] não me dá incentivos suficientes para procurar mais informações sobre ela(e)
FL05	"[Brand] does gives me enough incentives to buy it"	A(O) [marca] me dá estímulos suficientes para comprá-la(o)

FL05	"[Brand] does not give me enough incentives to buy it"	A(O) [marca] não me dá estímulos suficientes para comprá-la(o)
FL06	"I feel motivated to search for more information about [brand]"	Sinto-me motivado para procurar mais informações sobre a(o) [marca]
FL06	"I feel discouraged to search for more information about [brand]"	Sinto-me desencorajado para procurar mais informações sobre a(o) [marca]
FL07	"I benefit from searching for more information about [brand]"	Eu me benefício ao buscar mais informações sobre a(o) [marca]
FL07	"I do not benefit from searching for more information about [brand]"	Eu não me benefício ao buscar mais informações sobre a(o) [marca]
FL08	"I benefit from looking for new [brand] products/services"	Eu me benefício ao procurar novos produtos/serviços da(o) [marca]
FL08	"I do not benefit from looking for new [brand] products/services"	Eu não me benefício ao procurar novos produtos/serviços da(o) [marca]
FL09	"I can say that I defend [brand] publicly"	Posso dizer que defendo a(o) [marca] publicamente
FL09	"I can say that I attack [brand] publicly"	Posso dizer que eu falo mal da(o) [marca] publicamente
FL10	"I repeatedly promote [brand] to others"	Eu sempre falo bem da(o) [marca] para os outros
FL10	"I never promote [brand] to others"	Eu nunca falo bem da(o) [marca] para os outros
SL01	How important is being recognized by others as an [brand] user/customer	Quão importante é ser reconhecido(a) pelos outros como um usuário(a) / cliente da(o) [marca]
SL02	How important is it for people see in me what [brand] represents	Quão importante é que as pessoas vejam em mim o que a(o) [marca] representa
SL03	How important is it to feel better with myself when I interact with [brand]	Quão importante é me sentir melhor comigo mesmo quando eu interajo com a(o) [marca]
SL04	How important is it to have the feeling that I can accomplish something worthwhile relating to [brand]	Quão importante é ter a sensação de que eu posso realizar algo de valor relacionado com a(o) [marca]
SL05	How important is it that I feel respected because I use/consume [brand] products/services	Quão importante é me sentir respeitado(a) porque eu uso/consumo produtos/serviços da(o) [marca]
SL06	How important is it that I feel secure using/consuming [brand] products/services	Quão importante é me sentir seguro(a) usando/consumindo produtos/serviços da(o) [marca]
SL07	How important is it that people praise me because I use [brand] products/services	Quão importante é que as pessoas me elogiem porque eu uso produtos/serviços da(o) [marca]
SL08	How important is it that interacting with [brand] makes me feel good about myself as a person	Quão importante é interagir com a(o) [marca] e me sentir bem comigo mesmo(a)
SL09	How important is it to feel friends with [brand]	Quão importante é sentir-se amigo(a) da(o) [marca]
SL10	How important is it to feel respected by [brand]	Quão importante é sentir-se respeitado(a) pela(o) [marca]
SL11	How important is it to accomplish something worthwhile using [brand]	Quão importante é realizar algo que vale a pena com a(o) [marca]

SL12	How important is it to have the feeling that when I use [brand] I am investing in the future	Quão importante é ter a sensação de que quando eu uso a(o) [marca] eu estou investindo no futuro
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Note. Items remaining after Study 2. Bold items were kept in the final version of the CBE scale.

Q98

	Discordo Totalmente 1 (1)	Discordo 2 (2)	Discordo parcialmente 3 (3)	Nem concordo nem discordo 4 (4)	Concordo parcialmente 5 (5)	Concordo 6 (6)	Concordo totalmente 7 (7)
Sou apaixonado(a) pela/por [marca] (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q99

	Discordo Totalmente 1 (1)	Discordo 2 (2)	Discordo parcialmente 3 (3)	Nem concordo nem discordo 4 (4)	Concordo parcialmente 5 (5)	Concordo 6 (6)	Concordo totalmente 7 (7)
Estou orgulhoso(a) da(o) [marca] (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q79 Para essa questão, por favor, marque a resposta idêntica à pergunta.

	Discordo Totalmente 1 (1)	Discordo 2 (2)	Discordo parcialmente 3 (3)	Nem concordo nem discordo 4 (4)	Concordo parcialmente 5 (5)	Concordo 6 (6)	Concordo totalmente 7 (7)
Discordo 2 (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Discordo parcialmente 3 (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concordo parcialmente 5 (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concordo 6 (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q43 Para as perguntas seguintes, favor escolher uma posição entre as declarações de oposição, sendo que o valor -3 se refere a uma declaração negativa e o valor 3 se refere a uma declaração positiva a respeito de seu engajamento com a marca escolhida.

Q143

	Nada important e 1 (1)	Pouco important e 2 (2)	Ligeiramente importante 3 (3)	Neutro 4 (4)	Moderadamente importante 5 (5)	Muito important e 6 (6)	Extremamente importante 7 (7)
Quão important e é ter a sensação de que quando eu uso a(o) [marca] eu estou investindo no futuro (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q66 Obrigado por participar desta pesquisa. Por favor, dedique um momento para responder às seguintes questões sobre dados demográficas.

Q67 Qual é seu gênero?

- Masculino (1)
- Feminino (2)

Q68 Qual a sua idade?

- 18 ou mais novo
- 19 (2)
- 20 (3)
- 21 (4)
- 22 (5)
- 23 (6)
- 24 (7)
- 25 (8)
- 26 (9)
- 27 (10)
- 28 (11)
- 29 (12)
- 30 (13)
- 31 (14)
- 32 (15)
- 33 (16)
- 34 (17)
- 35 (18)
- 36 (19)
- 37 (20)
- 38 (21)
- 39 (22)
- 40 (23)
- 41 (24)
- 42 (25)
- 43 (26)
- 44 (27)
- 45 (28)

- 46 (29)
- 47 (30)
- 48 (31)
- 49 (32)
- 50 (33)
- 51 (34)
- 52 (35)
- 53 (36)
- 54 (37)
- 55 (38)
- 56 (39)
- 57 (40)
- 58 (41)
- 59 (42)
- 60 (43)
- 61 (44)
- 62 (45)
- 63 (46)
- 64 (47)
- 65 ou mais velho

Q69 Qual é sua renda familiar mensal?

- Abaixo de R\$1.000 (1)
- Entre R\$1.000 to R\$5.000 (2)
- Entre R\$5.000 e R\$7.500 (3)
- Entre R\$7.500 e R\$10.000 (4)
- Acima de R\$10.000 (5)

Q70 Qual é seu nível educacional?

- Ensino Médio Incompleto (1)
- Ensino Médio Completo (2)
- Ensino Superior Incompleto (3)
- Ensino Superior Completo (4)
- Pós-Graduação Incompleto (5)
- Pós-Graduação Completo (6)

Q76 Como você descreveria, de acordo com a definição do IBGE, sua cor, raça ou etnia? (Escolha todas as que se aplicam)

- Branco(a) (1)
- Pardo(a) (2)
- Negro(a) / Afrodescendente (3)
- Amarelo(a) / Asiático(a) (4)
- Indígena (5)
- Prefiro não dizer (6)
- Outro (7)

Q80 Muito obrigado pela participação. Para entrar no sorteio de 4 cartões-presentes da Americanas.com favor preencher seu e-mail abaixo. Participarão do sorteio todos os respondentes que obtiverem 100% de acerto nas questões de verificação.

APPENDIX C – CUE Scale Confirmatory Factor Analysis (CFA)

Six hundred and ten visitors in an auto show in Sao Paulo participated in the survey, in the open area of an OEM booth, for which they received a handbag as a gift. Twelve respondents with straight lining responses were removed from the dataset. Initially, the 598 car owners (48.7% female; 51.3% male) were asked to choose one car brand they considered themselves to be engaged with, after a brief explanation of the concept. Data was submitted to Exploratory Factor Analysis (EFA). The KMO measure of adequacy (KMO = .872) and Bartlett's test of sphericity (2365.812, df = 45, $p < .001$) indicated a suitable dataset. Using principal component analysis, a three-factor solution was able to explain 67.7% of the total variance. Factor loading patterns coincided with the original engagement factors, namely Enthused Participation (.694, .830, .650, .696), Conscious Attention (-.766, -.822, -.758) and Social Connection (-.831, -.868, -.799); the rotation method used was Oblimin (oblique solution) with Kaiser Normalization, due to factor correlations. Both convergent validity (factor loading average of .718 for EP, -.782 for CA and -.833 for SC) and discriminant validity (no cross loading; all factor correlations below -.473) were confirmed. Cronbach's Alphas were .745 for EP, .794 for CA, and .845 for SC, showing data passed the reliability test threshold of .700 (Hair et al., 2009).

The data was next submitted to a Confirmatory Factor Analysis (CFA) to assess model fit, using the full model with three constructs and ten items. There was good fit for the measurement model ($\chi^2(32) = 88.235$, $p < .001$, $\chi^2/df = 2.757$, GFI = 0.973, NFI = 0.963, RFI = 0.948, RMSEA = 0.054). Although composite reliability (CR for EP = .745; for CA = .799; for SC = .847) was adequate, and internal consistency was confirmed for CA (AVE = .573) and for SC (AVE = .768), the EP AVE was .424, above the loose threshold of .40. Discriminant validity was also affected, as the squared root AVE (SQRTAVE for

EP = .651) was lower than the correlation of EP and SC (.685). Direct comparison of the results of this study with the original is on Table C1.

Table C1 - Compared results of the final confirmatory factor analysis results

Item & Dimension	Item Parameters Estimates			
	Vivek et al. (2014) - Study 3		Current study	
	Factor Loading	t-Values	Factor Loading	t-Values
Conscious Attention	AVE = .63	CR = .83	AVE = .57	CR = .80
CA1 (“Anything related to ___ grabs my attention”)	0.76	13.82	0.81	28.02
CA2 (“I like to learn more about ___”)	0.75	13.52	0.64	26.91
CA3 (“I pay a lot of attention to anything about ___”)	0.86	15.41	0.81	50.35
Enthusied Participation	AVE = .61	CR = .86	AVE = .42	CR = .75
EP1 (“I spend a lot of my discretionary time ___”)	0.73	15.10	0.56	17.11
EP2 (“I am heavily into ___”)	0.84	16.25	0.62	32.77
EP3 (“I am passionate about ___”)	0.83	15.40	0.72	33.81
EP4 (“My days would not be the same without ___”)	0.73	11.22	0.69	16.79
Social Connection	AVE = .65	CR = .85	AVE = .77	CR = .85
SC1 (“I love ___ with my friends”)	0.97	18.14	0.84	43.94
SC2 (“I enjoy ___ more when I am with others”)	0.77	13.64	0.82	44.11
SC3 (“___ is more fun when other people around me do it too”)	0.75	12.84	0.75	45.80
Goodness-of-fit Statistics				
Chi-Squared	59.33		88.24	
Degrees of freedom (df)	33		32	
Chi-Squared / df	1.80		2.76	
Comparative fit index (CFI)	0.99		0.97	
Normed fit index (NFI)	0.98		0.96	
Root mean square error of approximation (RMSEA)	0.06		0.05	

Adapted from Vivek et al. (2014). CR = composite reliability. AVE = average variance extracted. The blank spaces in the items were replaced with the consumer’s car brand, the focus of engagement in this study.