

JYU DISSERTATIONS 94

Janne Hepola

Advancing the Consumer Engagement Concept

**Insights into its Definition,
Measurement, and Relationships**



JYVÄSKYLÄ UNIVERSITY
SCHOOL OF BUSINESS AND ECONOMICS

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ABSTRACT

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Although both managers and academics are becoming increasingly interested in consumer engagement (CE), significant confusion remains regarding its meaning, measurement, and relationships with other constructs. This dissertation aims to contribute to these three domains through an analysis of the results of four individual research papers. Paper I provides the first systematic literature review of customer engagement articles in top journals in marketing and related disciplines. This paper identifies four main customer engagement literature streams: 1) the behavioral stream, 2) the psychological stream, 3) the combined (i.e., behavioral and psychological) stream, and 4) the consumer trait stream. After providing a synopsis of the applied customer engagement measurement scales, the paper analyzes existing quantitative results and finds that customer engagement has a positive association with a variety of favorable customer-based constructs, such as attitude, brand equity, and behavioral intentions. However, a critical evaluation reveals that numerous definitions of engagement are neither explicit, logical, nor truly different from other marketing concepts, and that studies frequently apply alarming measurement practices. These issues make it challenging to interpret customer engagement relationships. The remaining three quantitative survey papers—Papers II, III, and IV—examine interaction- and trait-based antecedents and service- and brand-related consequences of CE. In these papers, the definition of CE is based on that given by Hollebeek et al. (2014), who characterize engagement as a positive cognitive, emotional, and behavioral activity that occurs during interaction with an engagement object. One of the most intriguing findings of these papers is that psychological engagement is a stronger driver of service continuance intention than either attitude or satisfaction when consumption is based on hedonic reasons. In contrast, attitude and satisfaction are stronger drivers when service use is based on utilitarian factors. In summary, this dissertation finds that CE is a theoretically and managerially relevant marketing concept and recognizes that much more research is needed in all three domains of CE.

Keywords: consumer engagement, definition, measurement, relationship, nomological network, literature review

TIIVISTELMÄ (ABSTRACT IN FINNISH)

Hepola, Janne

Kuluttajan sitoutumisen käsitettä edistämässä: ymmärrystä sen määritelmään, mittaamiseen ja suhteisiin

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Vaikka liikkeenjohtajat ja tutkijat ovat yhä kiinnostuneempia kuluttajan sitoutumisesta, sen määritelmään, mittaamiseen ja suhteisiin muihin ilmiöihin liittyy paljon epäselvyyttä. Tämä väitöskirja pyrkii edistämään näitä kolmea sitoutumisen osa-aluetta neljän tutkimusartikkelin avulla. Artikkelit tarjoaa ensimmäisen systemaattisen kirjallisuuskatsauksen asiakkaan sitoutumisen julkaisuihin markkinoinnin ja siihen liittyvien alojen kärkilehdissä. Artikkelit tunnistaa neljä eri sitoutumisen tutkimussuuntausta: 1) käyttäytymiseen perustuva suuntaus, 2) psykologinen suuntaus, 3) suuntaus, joka tarkastelee sitoutumista käyttäytymisenä sekä psykologisena ilmiönä, ja 4) kuluttajan piirteeseen perustuva suuntaus. Tarjottuaan tiivistelmän sitoutumisen mittareista, artikkeli kokoaa yhteen kvantitatiivisia tutkimustuloksia sitoutumiseen liittyen. Niiden mukaan sitoutumisella on positiivinen yhteys moneen kuluttajaan liittyvään suotuisaan ilmiöön, kuten asenteeseen, brändipääomaan ja käyttäytymisaikomukseen. Kriittinen tarkastelu kuitenkin paljastaa, että monet sitoutumisen määritelmät eivät ole täsmällisiä, loogisia tai poikkeaa merkittävästi muista markkinoinnin käsitteistä. Lisäksi tutkimuksissa usein sovelletaan huolestuttavia mittaamenetelmiä. Nämä asiat vaikeuttavat sitoutumisen suhteiden tulkitsemista. Seuraavat kolme kvantitatiivista kyselytutkimusta (Artikkelit II, III ja IV) tutkivat sitoutumisen vuorovaikutus- ja piirrepohjaisia ajureita sekä palveluun ja brändiin liittyviä seurauksia. Kyseisissä tutkimuksissa kuluttajan sitoutumisen määritelmä perustuu Hollebeek et al.:n (2014) näkemykseen, jonka mukaan sitoutuminen voidaan käsittää positiivisena tiedollisena, tunteellisena ja käyttäytymiseen liittyvänä toimintana vuorovaikutuksen aikana. Yksi mielenkiintoisemmista löydöksistä on, että psykologinen sitoutuminen on parempi selittäjä palvelun käyttöaikomukselle kuin asenne ja tyytyväisyys silloin kun palvelun käyttö perustuu hedonistisiin tekijöihin; kun palvelun käyttö pohjautuu utilitaarisiiin syihin, asenne ja tyytyväisyys ovat parempia käyttöaikomuksen selittäjiä kuin psykologinen sitoutuminen. Väitöskirjan mukaan kuluttajan sitoutuminen on teoreettisesti ja liikkeenjohdollisesti relevantti markkinoinnin ilmiö, mutta enemmän tutkimusta tarvitaan kaikilla kolmella sitoutumisen osa-alueella.

Avainsanat: kuluttajan sitoutuminen, määritelmä, mittaaminen, suhde, nomologinen verkosto, kirjallisuuskatsaus

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FOREWORD AND ACKNOWLEDGMENTS

When I started my dissertation project almost four years ago, little did I know what the forthcoming journey would bring. Although I definitely expected a challenging adventure with many sweet and sour tears, the extent of my personal and professional growth astonishes me now that I have finally reached this long-awaited milestone. This journey would have been much more difficult without the numerous people who helped me over these years. Now is the time to thank them for their valuable contributions.

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Kauniainen 19.5.2019

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FIGURES

FIGURE 1	The trend of Google searches for the term “customer engagement” between January 2004–November 2018	12
FIGURE 2	Theoretical framework	30
FIGURE 3	Different types of measurement models	36
FIGURE 4	A hypothetical PLS model (based on Hair et al. 2017)	44

TABLES

TABLE 1	Individual papers in this dissertation	17
TABLE 2	Representative definitions of engagement in different literature streams	19
TABLE 3	Studies exploring the relationships of CE based on Hollebeek et al.’s (2014) conceptualization	27
TABLE 4	Definitions for the constructs in the theoretical framework.....	31
TABLE 5	CE sample measurement scales	38
TABLE 6	A summary of the measurement models	40
TABLE 7	A summary of the results of Paper I	46
TABLE 8	A summary of the results of Paper II	47
TABLE 9	A summary of the results of Paper III.....	49
TABLE 10	A summary of the results of Paper IV.....	50
TABLE 11	A summary of theoretical contributions and managerial implications of this dissertation.....	54

CONTENTS

ABSTRACT

TIIVISTELMÄ (ABSTRACT IN FINNISH)

FOREWORD AND ACKNOWLEDGMENTS

FIGURES AND TABLES

CONTENTS

1	INTRODUCTION	11
1.1	Study background and research questions	11
1.2	Outline of the dissertation	16
2	THEORETICAL BACKGROUND	18
2.1	Literature streams of CE	18
2.2	Cognitive, emotional, and behavioral dimensions of CE	21
2.3	Service-dominant logic as a macro-foundational perspective	24
2.4	The relationships of CE with other constructs	25
2.5	Theoretical framework	29
3	RESEARCH METHODOLOGY	32
3.1	Critical realism as a research paradigm	32
3.2	Measurement	34
3.2.1	Introduction to measurement	34
3.2.2	Adopted measurement practices	37
3.3	Data collection and samples	41
3.4	Data analysis	42
4	SUMMARIES OF THE FINDINGS FOR PAPERS I-IV	45
4.1	Paper I: A systematic review of the customer engagement literature	45
4.2	Paper II: The effect of sensory brand experience and involvement on brand equity directly and indirectly through consumer brand engagement	47
4.3	Paper III: Consumer engagement and behavioral intention toward continuous use of innovative mobile banking applications – A case study of Finland	48
4.4	Paper IV: Is it all about consumer engagement? Explaining continuance intention for utilitarian and hedonic service consumption	49
5	DISCUSSION	52
5.1	Theoretical contributions	52
5.2	Managerial implications	59
5.3	Limitations and future research directions	60

SUMMARY IN FINNISH (YHTEENVETO) 62

REFERENCES..... 65

ORIGINAL PAPERS

1 INTRODUCTION

1.1 Study background and research questions

In modern markets, firms face fierce competition. McKinsey & Company (2015) predicts that this competition will increase in the future. In their report “Playing to win: The new global competition for corporate profits,” they predict that global corporate profits may fall as a share of the gross domestic product by almost 20% during the years 2013–2025. A slowdown in profit growth naturally pressurizes company managers who pursue higher earnings. In such circumstances, a profound understanding of different types of consumer behaviors that can be valuable for firms is more important than ever (see Kumar et al. 2010; Pansari and Kumar 2017). In addition, although both academics and practitioners are inherently aware that providing value and satisfying consumers are essential to stimulating consumer behavior (e.g., Chen and Chen 2010; Yang and Peterson 2004), the drivers of consumer behavior and intention are not fully understood yet. This observation has prompted a search for the fundamental drivers of consumer behavior in marketing literature.

Marketing scholars have introduced several new concepts to facilitate more comprehensive understanding, prediction, and management of consumer behavior. A few examples of these concepts include customer experience (e.g., Gentile et al. 2007; Lemon and Verhoef 2016; Verhoef et al. 2009), brand love (e.g., Batra et al. 2012; Carroll and Ahuvia 2006; Rossiter 2012), and empowerment (e.g., Cova and Pace 2006; Fuchs and Schreier 2011; Ouschan et al. 2006). In this dissertation, the focus is on the concept of consumer engagement (CE) (e.g., Brodie et al. 2011; Hollebeek et al. 2016; van Doorn et al. 2010), which has begun to receive increasing interest during the last few years (FIGURE 1). Although engagement has been discussed in many other disciplines, such as sociology, political science, psychology, and organizational behavior (Brodie et al. 2011), the concept did not have a strong presence in marketing literature until 2009 (e.g., Bowden 2009; Calder et al. 2009; Higgins and Scholer 2009; Sprott et al. 2009). In 2014, the Market-

ing Science Institute specified conceptualizing, defining, and measuring engagement as the highest marketing research priorities. Since then, the number of published engagement articles has skyrocketed (e.g., Baldus et al. 2015; Chandler and Lusch 2015; Hollebeek et al. 2016; Hsieh and Chang 2016; Kumar and Pansari 2016; Pansari and Kumar 2017; So et al. 2016a; Wang and Kim 2017). Notably, the most prestigious marketing-related journals—such as the *Journal of Consumer Psychology*, *Journal of Consumer Research*, *Journal of Marketing*, *Journal of Marketing Research*, *Journal of Service Research*, and *Journal of the Academy of Marketing Science*—have published articles that help advance our understanding of the CE concept.



FIGURE 1 The trend of Google searches for the term “customer engagement” between January 2004–November 2018

Data source: Google Trends (www.google.com/trends).

However, it is important to first consider why managers must be cognizant of CE. Research has shown that customer engagement influences firm performance and has an even stronger influence than that of employee engagement (Kumar and Pansari 2016). Moreover, research has also shown that incorporating CE into empirical models improves the explained variance in consumer loyalty (Dwivedi 2015; Thakur 2016) and that engagement may be an even better driver of consumer behavior than traditional marketing concepts, such as satisfaction (Calder et al. 2016). Brand equity (Schivinski et al. 2016), brand identification (Harrigan et al. 2018; Hollebeek et al. 2014), and non-transactional intentions (Algesheimer et al. 2005; Hsieh and Chang 2016; Stathopoulou et al. 2017) are also currently known consequences of CE. In addition, a study by Gallup¹ found that fully engaged retail banking customers bring 37% more annual revenue; fully engaged consumer electronics shoppers spend 29% more per shopping trip; and fully engaged hotel guests spend 46% more each year than their actively disengaged counterparts. In summary, it can be said that there are convincing reasons for managers to actively engage customers.

Marketing scholars have provided various definitions of engagement (e.g., Pansari and Kumar 2017; van Doorn et al. 2010; Vivek et al. 2012), fundamental propositions (Brodie et al. 2011; Hollebeek et al. 2016), measurement scales (e.g., So et al. 2014; Sprott et al. 2009; Vivek et al. 2014), and insights into the nomological network of engagement (e.g., Brodie et al. 2011; Hollebeek et al. 2014; Leckie et al. 2016). However, despite the invaluable contributions of academics, great

¹ Available at <http://www.gallup.com/services/169331/customer-engagement.aspx>

controversy exists regarding the meaning, measurement, and relationships of CE. Numerous researchers (e.g., Oh et al. 2017; Pansari and Kumar 2017; van Doorn et al. 2010) view engagement as a behavioral phenomenon that captures different types of consumer activities. In contrast, others consider it, for example, a psychological state (e.g., Brodie et al. 2011, 2013; Hsieh and Chang 2016), a total investment in customer-firm interactions (e.g., Hollebeek et al. 2014, 2016; Leckie et al. 2016), or a collection of experiences (e.g., Calder et al. 2009, 2016; Pagani and Mirabello 2011). There are also a plethora of methods to measure CE (e.g., Hollebeek et al. 2014; Hsieh and Chang 2016; Kaptein et al. 2015; Kumar and Pansari 2016; Mathmann et al. 2017; So et al. 2016a) and these inconsistent CE measurement practices also easily cause confusion. Given the wide variety of definitions and measurement practices of CE, the interpretation of CE relationships in relation to other constructs becomes difficult.

With this backdrop, it is evident why practitioners find managing CE challenging (see Venkatesan 2017) – which creates a fruitful opportunity to conduct research that has theoretical and practical impacts. The goal of this dissertation, therefore, is to contribute to the emerging literature by shedding light on the current state of CE research. More specifically, this dissertation is aimed at yielding insights into the definitions, measurement, and relationships of CE and critically evaluating these areas through a systematic literature review. Accordingly, the first research question (RQ) is as follows:

RQ1: *What is the current state of CE research? (Paper I)*

After discussing the literature review, this dissertation aims to add new constructs to the nomological network of CE and re-examine the role of previously studied concepts based on Hollebeek et al.'s (2014) view on CE. They scrutinized the focal phenomenon in a brand context and defined consumer brand engagement as “[a] consumer’s positively valenced brand-related cognitive, emotional and behavioral activity during or related to focal consumer/brand interactions” (p. 154) as well as proposed that engagement comprises the following three dimensions (p. 154):

- **Cognitive processing:** *“A consumer's level of brand-related thought processing and elaboration in a particular consumer/brand interaction.”*
- **Affection:** *“A consumer's degree of positive brand-related affect in a particular consumer/brand interaction.”*
- **Activation:** *“A consumer's level of energy, effort and time spent on a brand in a particular consumer/brand interaction.”*

Despite some empirical evidence for the connections of involvement with cognitive processing, affection, and activation (e.g., Hollebeek et al. 2014; Leckie et al. 2016), the dimension-level theoretical mechanisms explaining these relationships remain largely unaddressed. This absence is surprising because involvement is considered to be a necessary antecedent of CE (Brodie et al. 2011) and thus might

be the primary mechanism for creating engagement among customers. This situation calls for research to explain the relationships of involvement with these three distinct dimensions of engagement.

Customer experience is a top management priority (Accenture 2015), but how it can be leveraged to create engagement remains largely unknown. Indeed, conceptually separating experience (Brakus et al. 2009) from engagement (Hollebeek et al. 2014) might be difficult because they both have cognitive, emotional, and behavioral components and nearly identical measurement items (see Brakus et al. 2009; Hollebeek et al. 2014). These two modern marketing concepts seem to have substantial overlaps. Nevertheless, the sensory dimension is associated with experience (Brakus et al. 2009) but not engagement (Hollebeek et al. 2014); therefore, it is reasonable and worthwhile to focus on the relationship between sensory experience and CE. Ultimately, this exploration can elucidate the connection between these two managerially relevant marketing phenomena.

Academics and practitioners should also be interested in the outcomes of engagement beyond traditionally examined constructs such as usage intent (Hollebeek et al. 2014) and loyalty (Leckie et al. 2016). Specifically, brand equity can be considered to be one of the most valuable brand-related assets (Keller 1993) because it constitutes the additional value a trademark provides for consumers (Yoo and Donthu 2001). Although Schivinski et al. (2016) examined the association between three types of CE behaviors and brand equity, the relationship between brand equity and the CE conceptualization developed by Hollebeek et al. (2014) is not theoretically or empirically scrutinized, which calls for additional quantitative research in this domain. The second RQ thus is as follows:

RQ2: *Are involvement and sensory experience drivers of CE, and is brand equity a consequence of CE? (Paper II)*

Consumers are generally interested in verifying, validating, and sustaining their self-concepts (Swann 1983), which explains why congruence between the self and the image projected by various goods and services has psychological and behavioral consequences for consumers (see Sirgy 1982). Although Leckie et al. (2016) examined the self-expressive brand (i.e., the relationship between the self and the brand) as an antecedent of cognitive processing, affection, and activation, the influence of congruence between the self and the typical consumer of the brand remains unexplored in the CE literature. This dissertation presents new knowledge from an examination of this relationship providing managers with insights into how to create engagement by focusing on brand image.

Previously presented antecedents of CE are interaction related (i.e., variables based on engagement with focal objects). In contrast, trait-related constructs capture phenomena inherent to consumers. The current CE literature primarily focuses on the former type of antecedents, and consequently, very little knowledge exists on how consumers' traits influence engagement. In fact, researchers have only examined the influence of the Big Five personality traits on cognitive processing, affection, and activation (Islam et al. 2017). This dissertation contributes to this discussion by examining the role of personal innovativeness –

an influential trait in the adoption of new technologies (Lin and Filieri 2015) – as an antecedent of CE. Conceptually, this antecedent has special relevance because higher personal innovativeness (i.e., willingness to try new technologies) directly contributes to higher engagement with new technological services.

The evidence on whether different CE dimensions influence behavioral intentions is conflicting (e.g., Hollebeek et al. 2014; Fang 2017). For example, Hollebeek et al. (2014) found that cognitive processing does not influence usage intention, whereas Leckie et al. (2016) established a negative relationship between cognitive processing and loyalty. One potential explanation for these contradictory findings is the studies' different contextual settings. Understanding the contextual dependencies that influence CE's impacts, therefore, is vital when designing marketing activities. Unfortunately, the moderators that determine CE's effects on behavioral intentions have not been empirically identified. This dissertation, therefore, opens this discussion by examining perceived risk as a moderator of the relationship between CE and service continuance intention. Scrutinizing perceived risk as a moderator is relevant because it plays a significant role in the consumption of goods and services (e.g., Chang and Chen 2008; Ross 1975), and managers can relatively easily manipulate consumers' risk perceptions, for example, through warranty and money-back guarantees. Accordingly, the third RQ is as follows:

RQ3: *Are self-congruence and personal innovativeness drivers of CE, and is service continuance intention an outcome of CE? (Paper III)*

Sub-RQ3.1: *Does perceived risk moderate the relationship between CE and service continuance intention? (Paper III)*

Attitude (Madden et al. 1992; Voss et al. 2003) and satisfaction (Oliver 1999; Szymanski and Henard 2001) are both traditional marketing constructs frequently used to explain and predict consumer intentions. For example, attitude is a central element in the well-known theory of planned behavior (Madden et al. 1992), and customer satisfaction is a top measure tracked by marketing executives (Aksoy 2013). It, therefore, is worthwhile to investigate whether CE, as a modern marketing phenomenon, is a stronger driver of service continuance intention than these two traditional marketing constructs. The insights generated can help managers determine the focus of their marketing efforts. For instance, such insights can aid managers in selecting the best key performance indicators. For the same reason, it is also beneficial to explore the potential interaction effects between CE and attitude and between CE and satisfaction. Such moderating effects remain unexplored in the literature. Accordingly, the fourth RQ is as follows:

RQ4: *Is the explanatory power of CE for service continuance intention better than the explanatory power of attitude and satisfaction? (Paper IV)*

Sub-RQ4.1: *Does CE influence the explanatory powers of attitude and satisfaction? (Paper IV)*

1.2 Outline of the dissertation

This dissertation is divided into two main parts. Part I provides an overview, which begins with a discussion of the theoretical background of the dissertation. Thereafter, the methodological standpoints are then discussed, followed by a summary of each paper's findings. The first part concludes with a recapitulation of theoretical contributions, managerial implications, and limitations and future research directions. Part II comprises four individual papers, and they are introduced in TABLE 1.

TABLE 1 Individual papers in this dissertation

Paper	Authors	Publication outlet	Study focus	Author's contribution
I	Hepola and Leppäniemi	<i>European Journal of Marketing</i> (revised for second-round submission)	This paper provides a systematic and critical literature review of definitions, measurement scales, and relationships of customer engagement.	Main responsibility in all areas of the paper.
II*	Hepola, Karjaluoto, and Hintikka	<i>Journal of Product & Brand Management</i>	This survey paper examines involvement and sensory brand experience as antecedents and brand equity as a consequence of CE.	Full responsibility for analyzing the data and main responsibility for writing the paper.
III	Hepola, Karjaluoto, and Shaikh	<i>ICIS 2016 Proceedings</i>	This survey paper examines self-congruence and personal innovativeness as antecedents and continuous usage intention as an outcome of CE. Moreover, it examines perceived risk as a moderator.	Full responsibility of analyzing the data and main responsibility for writing sections related to CE.
IV	Hepola, Leppäniemi, and Karjaluoto	<i>European Journal of Marketing</i> (revised for second-round submission)	This survey paper compares the explanatory power of CE over continuance intention with those of attitude and satisfaction. In addition, it explores the moderating role of CE.	Full responsibility of analyzing the data and main responsibility of designing the research model, collecting the data, and writing the paper.

* This paper was selected by the editorial team as Highly Commended in the 2018 Emerald Literati Awards.

2 THEORETICAL BACKGROUND

This chapter discusses the theoretical background of this dissertation. The literature streams of CE are first presented, followed by a discussion of the cognitive, emotional, and behavioral components of CE. Thereafter, the service-dominant logic as a macro-foundational perspective is discussed, followed by a summary of the relationships of CE with other constructs. The chapter concludes with a presentation of the theoretical framework for the dissertation.

2.1 Literature streams of CE

There are multiple definitions of engagement in marketing literature (see TABLE 2). Researchers apply various engagement terms, including “customer engagement” (e.g., Brodie et al. 2011; Hollebeek et al. 2016; Pansari and Kumar 2017), “customer engagement behavior” (e.g., Groeger et al. 2016; Jaakkola and Alexander 2014; van Doorn et al. 2010), “consumer brand engagement” (e.g., de Villiers 2015; Hollebeek et al. 2014; Leckie et al. 2016), “advertising engagement” (e.g., Kim et al. 2016; Phillips and McQuarrie 2010), and “community engagement” (e.g., Algesheimer et al. 2005; Dessart et al. 2016). These terms generally highlight the engagement subject (e.g., the customer and the consumer) and the engagement object (e.g., the brand and advertising).

There are four distinct engagement streams in marketing literature (see Paper I): 1) the behavioral stream (e.g., Pansari and Kumar 2017; van Doorn et al. 2010), 2) the psychological stream (e.g., Algesheimer et al. 2005; Calder et al. 2009), 3) the combined stream, which views engagement as a combination of the psychological and behavioral facets (e.g., Hollebeek et al. 2014, 2016), and 4) the consumer trait stream (e.g., Guèvremont and Grohmann 2016; Sprott et al. 2009). Although there is no consensus on the nature of engagement, studies generally adopt the “who engages with what” (Hollebeek 2011a, p. 789) perspective, which posits that engagement is based on the interactions between a subject and an object. Next, these four engagement streams are discussed.

TABLE 2 Representative definitions of engagement in different literature streams

Study	Term	Definition
<i>Behavioral stream</i>		
van Doorn et al. (2010)	Customer engagement behavior	"[T]he customers' behavioral manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers" (p. 253)
Pansari and Kumar (2017)	Customer engagement	"[T]he mechanics of a customer's value addition to the firm, either through direct or/and indirect contribution" (p. 295)
<i>Psychological stream</i>		
Algesheimer et al. (2005)	Community engagement	"[T]he positive influences of identifying with the brand community, which are defined as the consumer's intrinsic motivation to interact and cooperate with community members" (p. 21)
Calder et al. (2009)	CE with website	"[A] collection of experiences with the site" (p. 322)
Higgins and Scholer (2009)	Engagement	"[A] state of being involved, occupied, fully absorbed, or engrossed in something – sustained attention" (p. 102)
Mollen and Wilson (2010)	Online engagement	"[A] cognitive and affective commitment to an active relationship with the brand as personified by the website or other computer-mediated entities designed to communicate brand value" (p. 923)
<i>Combined stream</i>		
Vivek et al. (2012)	Customer engagement	"[T]he intensity of an individual's participation in and connection with an organization's offerings and/or organizational activities, which either the customer or the organization initiate" (p. 127)
Hollebeek et al. (2016)	Customer engagement	"A customer's motivationally driven, volitional investment of focal operant resources (including cognitive, emotional, behavioral and social knowledge and skills), and operand resources (e.g., equipment) into brand interactions in service systems" (p. 7)
Kumar and Pansari (2016)	Engagement	"[T]he attitude, behavior, the level of connectedness (1) among customers, (2) between customers and employees, and (3) of customers and employees within a firm" (p. 498)
<i>Consumer trait stream</i>		
Sprott et al. (2009)	Brand engagement in self-concept	"[A] person's tendency to incorporate his or her own favorite brands into the self-concept" (p. 95)

In the behavioral stream, van Doorn et al.'s (2010) non-transactional engagement definition is often applied (e.g., Beckers et al. 2017; Bijmolt et al. 2010; Oh et al. 2017). van Doorn et al. (2010) proposed that engagement behaviors should be evaluated using five dimensions: valence, form/modality, scope, nature of impact, and customer goals. Most other definitions in this stream (e.g., Harmeling et al. 2017; Jaakkola and Alexander 2014) also emphasize the non-transactional nature of engagement. In particular, Jaakkola and Alexander (2014) identified four different engagement behaviors – augmenting, co-developing, influencing, and mobilizing. Verleye et al. (2014) classified engagement behaviors into compliance, cooperation, feedback, helping other customers, and positive word-of-mouth. Further, Schivinski et al. (2016) examined CE with brand-related social media content. They divided engagement into consuming content, contributing to existing content, and creating new content. Kumar et al. (2010) provided a compelling argument that “[w]hen one envisions the different ways in which a customer can interact or ‘engage’ with the firm, purchasing from the firm naturally arises” (p. 298). They proposed that a customer may provide either direct (purchasing) or indirect (referring new customers, influencing other customers’ behavior, and feedback) value to the company (see also Pansari and Kumar 2017).

In the psychological stream, there is no consensus with regard to the meaning of engagement. Numerous studies highlight a consumer’s cognitive resource allocation – specifically, attention and concentration (e.g., Cian et al. 2014; Higgins 2006; Higgins and Scholer 2009). However, Algesheimer et al. (2005) viewed engagement as an intrinsic motivation (see also Baldus et al. 2015), and Calder et al. (2009) considered engagement with a website as the sum of different experiences (e.g., utilitarian, community, and social facilitation). The latter further proposed that there are two types of engagement: personal and social-interactive (see also Calder et al. 2016; Pagani and Mirabello 2011). With support from organizational literature, Hsieh and Chang (2016) conceptualized engagement as a second-order construct that is reflected in vigor, dedication, and absorption.

The combined stream comprises studies that adopt both behavioral and psychological views of engagement. Similar to the previous stream, there is no consensus on the definition of CE in this stream. Nevertheless, numerous studies adopt a cognitive-emotional-behavioral framework of CE (e.g., de Villiers 2015; Hollebeek 2011a, b; Hollebeek and Chen 2014). For example, Hollebeek et al. (2014) viewed CE as a positively valenced cognitive, emotional, and behavioral activity that occurs during or is related to interactions with an engagement object. There are also numerous other types of engagement conceptualizations. For example, Kumar and Pansari (2016) viewed engagement as a combination of attitude, behavior, and connectedness (see also Steward et al. 2017). In the tourism domain, So et al. (2014) argued that customer engagement is a customer’s personal connection to a brand, which is reflected in identification, attention, enthusiasm, absorption, and interaction (see also So et al. 2016a, b). A few studies also refer to the social dimension of engagement. A representative example is Hollebeek et al. (2016, p. 12–13), who outlined five fundamental engagement propositions (FPs):

FP1: CE [Customer Engagement] reflects a customer's motivationally driven, volitional investment of specific operant and operand resources into brand interactions in service systems.

FP2: The CE benefits of customer individual and interpersonal operant resource development and cocreation result from CE within service systems.

FP3: The CE foundational processes of customer resource integration, knowledge sharing and learning represent either necessary (i.e., for customer resource integration), or conducive (i.e., for customer knowledge sharing/learning) factors for the development of CE in service systems.

FP4: CE reflects a customer's investment of focal cognitive, emotional, behavioral and social resources during, or related to, specific brand interactions in service systems.

FP5: CE is contingent on focal context-specific characteristics in service systems. Customer manifestations (including intensity, valence) of CE, the CE foundational processes and CE benefits may thus vary across contextual contingencies.

Previous CE research streams emphasized the consumer's active interaction with a single specific engagement object. However, in the consumer trait stream, engagement is conceptualized as a personal trait that influences interactions with multiple objects. For this reason, the consumer trait stream is fundamentally different from the previous streams. In this stream, Sprott et al. (2009) conceptualized brand engagement in self-concept as a consumer's tendency to generally incorporate important brands as one's self-concept. This approach is adopted in several other studies as well (e.g., Flynn et al. 2016; Guèvremont and Grohmann 2016; Razmus et al. 2017).

2.2 Cognitive, emotional, and behavioral dimensions of CE

Given the wide variety of engagement definitions, the question of what engagement truly is arises. In this dissertation, the view on CE proposed by Hollebeek et al. (2014) is adopted for three main reasons:

- Their conceptualization considers both the psychological and behavioral facets of CE, which enable a holistic examination of engagement. This view is also in line with the repeatedly adopted cognitive-emotional-behavioral framework of engagement (Brodie et al. 2011; de Villiers 2015; So et al. 2014).
- Hollebeek et al.'s (2014) engagement definition is based on in-depth consumer interviews, and it is distinct from definitions of numerous other marketing concepts, such as experience (cf. Calder et al. 2009, 2016), commitment (cf. Mollen and Wilson 2010), and motivation (cf. Algesheimer et al. 2005; Baldus et al. 2015).
- There is an existing measurement scale for this CE conceptualization.

Inherent to the conceptualization by Hollebeek et al. (2014) is the three-component (cognitive, emotional, and behavioral) framework of CE. This dimensional nature separates engagement from the closely related, traditional relational concepts of involvement (a psychological phenomenon; Zaichkowsky 1985) and participation (a behavioral phenomenon; Dong and Sivakumar 2017; see also Brodie et al. 2011). Still, many agree that the concept most closely related to CE is consumer experience. In an influential paper, Brakus et al. (2009, p. 52) defined brand experience as “sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand’s design and identity, packaging, communications, and environments.” Similar to CE, experience incorporates cognitive, emotional, and behavioral dimensions but, unlike CE, also includes a sensory component (Brakus et al. 2009). Nevertheless, it would be more reasonable to scrutinize physiological reactions than behavioral responses in order to clearly separate consumer experience (an internal response) from consumer behavior (an external response). These issues conceptually separate engagement and experience but the two concepts certainly overlap to some extent.

According to Hollebeek et al. (2014), CE comprises cognitive processing (a cognitive dimension), affection (an emotional dimension), and activation (a behavioral dimension). These three dimensions represent distinct types of investments in firm-related interactions and thus can have different antecedents and consequences (see Hollebeek et al. 2014; Leckie et al. 2016). However, although they capture different sub-types of engagement, they may be related to each other. In fact, Hollebeek et al. (2014) found that cognitive processing and affection have positive associations with activation. This finding is not surprising because in consumer research, cognitive and emotional phenomena are commonly viewed as driving behavior. Next, these three components of CE are briefly discussed.

Cognitive processing emphasizes thought processing and elaboration during an interaction with an engagement object (Hollebeek et al. 2014). A similar focus can be observed in other proposed terms for the cognitive dimension of CE, including immersion (defined as “a customer’s level of brand-related concentration in particular brand interactions”) (Hollebeek 2011b, p. 566; see also Hollebeek and Chen 2014) and absorption (defined as “the sense of being fully concentrated and happily engrossed in brand interactions and in which time passes quickly”) (Dwivedi 2015, p. 101; see also Harrigan et al. 2017; Hsieh and Chang, 2016; So et al. 2016a). Further, Cian et al. (2014, p. 187) generally defined engagement as “the maintenance of attention to a selected object.” A common theme in these definitions is the consumer’s cognitive resource allocation, and these definitions thus can be viewed to accord with the elaboration likelihood model (Petty and Cacioppo 1986) and the heuristic-systematic model of information processing (Chaiken 1980). According to these models, the information processing capabilities of consumers are limited and they may lack the motivation to engage in challenging cognitive processing, which explains why a consumer’s level of cognitive investment may differ in various interactions. Information processing theories (e.g., Greenwald and Leavitt 1984; MacInnis and Jaworski 1989) also de-

lineate different types of cognitive processing that differ in terms of the complexity of processing operations. For example, comprehending a brand's advertisements is generally less complex than imagining what one would do with the brand's product. It is also noteworthy that Hollebeek et al.'s (2014) view of the cognitive dimension of CE emphasizes the positive valence of information processing (e.g., immersion in an interesting movie), which is also evident in numerous other definitions of cognitive engagement (e.g., Dwivedi 2015; Harrigan et al. 2017).

Affection refers to a positive affect elicited during interactions with an engagement object (Hollebeek et al. 2014), and Hollebeek (2011b) adopted a similar view on passion, considering it to be a manifestation of emotional engagement. Kim et al. (2016, p. 305) also generally defined engagement as "a participant's emotionally motivating experience of interaction with a brand and with its advertising." The appraisal theory (Folkman and Lazarus 1988) posits that emotions are mental states of readiness that arise from cognitive evaluations. Thus, emotions are "elicited by something, are reactions to something, and are generally about something" (Ekkekakis 2013, p. 322). However, there is no general agreement on the classification of emotions, and psychological literature provides several frameworks for emotions. For example, Russell and Mehrabian (1977) proposed that emotional states can be defined using three bipolar dimensions: pleasure-displeasure, degree of arousal, and dominance-submissiveness. In the marketing context, Richins (1997) identified 16 different clusters of consumption emotion descriptors that range from positive (e.g., love, peacefulness, and optimism) to negative (e.g., anger, discontent, and worry). For the interested reader, Huang (2001) provides a review of the different classifications of emotions in marketing. Although emotions can be positive or negative (Batra and Holbrook 1990; Richins 1997), affection specifically focuses on positive emotions (Hollebeek et al. 2014).

Activation is related to energy, effort, and time spent in interaction with an engagement object (Hollebeek et al. 2014). Although activation can be defined as "tonic physiological readiness to respond" (Pribram and McGuinness 1975, p. 116) from the psycho-physiological perspective, CE literature has considered activation as a behavioral construct (e.g., Harrigan et al. 2018; Hollebeek et al. 2014; Stathopoulou et al. 2017). Therefore, the term activation may be slightly misleading. Similar to Hollebeek et al. (2014), Raïes et al. (2015) evaluated the level of behavioral engagement through frequency and duration of engagement as well as the level of various activities performed (e.g., participating in contests and commenting on other consumer's online posts). Despite the fact that CE research has identified several classifications for engagement behaviors (Jaakkola and Alexander 2014; Pansari and Kumar 2017; Verleye et al. 2014), activation primarily focuses on usage behavior (Hollebeek et al. 2014). In addition, although CE behaviors may create or destroy value (Echeverri and Skålén 2011), an implicit assumption of activation is that it is positively valenced (Hollebeek et al. 2014). In practice, this implies that the consumer uses goods and services in a manner that is not harmful for the company (e.g., the consumer follows company rules).

2.3 Service-dominant logic as a macro-foundational perspective

Given that CE represents a micro-foundational construct close to marketing practice but narrow in scope (Hollebeek et al. 2016), it can be enlightening to understand its connections to broader theoretical perspectives. Indeed, Vargo (2011, p. 127) stated that “to understand markets and value creation, one must constantly oscillate the focus among micro-, meso-, and macroperspectives.” CE streams can be linked to different broader theoretical perspectives. The behavioral stream of CE research is connected to the customer relationship management literature aimed at identifying and maintaining the most important customer relationships (e.g., Payne and Frow 2005; Reinartz et al. 2004). The psychological stream shares conceptual underpinnings with customer experience management focused on continuous design and proactive adaptation of customer experiences (e.g., Homburg et al. 2017; Schmitt 2003). The consumer trait stream accords with trait theory studying human personality through habitual patterns of thought, emotion, and behavior (e.g., Epstein 1994; Pervin 1994).

The adopted conceptualization of CE integrates behavioral and psychological dimensions. Although these two aspects can be connected to different broader fields of the literature, they are frequently scrutinized from the perspective of the service-dominant logic (e.g., Hollebeek et al. 2014, 2016). Vargo and Lusch (2004) proposed this new marketing logic to emphasize service provision as fundamental to economic exchanges. This original view has been refined and extended over the years (e.g., Lusch and Vargo 2006; Vargo and Lusch 2008), resulting in the current foundational premises of the service-dominant logic (Vargo and Lusch 2016, p. 8):

1. Service is the fundamental basis of exchange.
2. Indirect exchange masks the fundamental basis of exchange.
3. Goods are distribution mechanisms for service provision.
4. Operant resources are the fundamental source of strategic benefit.
5. All economies are service economies.
6. Value is cocreated by multiple actors, always including the beneficiary.
7. Actors cannot deliver value but can participate in the creation and offering of value propositions.
8. A service-centered view is inherently beneficiary oriented and relational.
9. All social and economic actors are resource integrators.
10. Value is always uniquely and phenomenologically determined by the beneficiary.

11. Value cocreation is coordinated through actor-generated institutions and institutional arrangements.

Numerous researchers (e.g., Brodie et al. 2011; Hollebeek et al. 2014, 2016) have acknowledged the good fit between the CE concept and the service-dominant logic, which both emphasize interactivity between stakeholders. The sixth premise of the service-dominant logic implies that the consumer needs to invest resources in order to cocreate value, and the CE concept posits that these investments may be cognitive, emotional, and behavioral in nature (Hollebeek et al. 2014). In addition, to develop a service-dominant-logic-informed framework of customer engagement, Hollebeek et al. (2016) relied on the classification of the customer's resource investments as operant (cognitive, emotional, and behavioral knowledge and skills) and operand (e.g., equipment and money; see Vargo and Lusch 2004).

Given that value is jointly created by actors (e.g., the consumer and the firm), it follows from the seventh premise that the firm and the consumer cannot deliver value by themselves but can only participate in value creation. This idea contradicts the traditional marketing view that considers the consumer to have a passive role in value creation (Vargo and Lusch 2004). The related tenth premise views value as the consumer's subjective perception, which generally is implicitly assumed in the CE literature (e.g., Baldus et al. 2015; Hollebeek et al. 2014; So et al. 2016a). In fact, an emerging discussion concerns the valence of engagement and is aimed at elucidating the consumer's positive and negative experiences during interactions with the firm (e.g., de Villiers 2015; Hollebeek and Chen 2014).

2.4 The relationships of CE with other constructs

As illustrated in the previous sections, there is no consensus regarding the meaning and measurement of engagement in marketing literature. For this reason, extreme caution must be exercised when interpreting the relationships of CE with other constructs. In accordance with the adopted definition of and measurement scale for CE, this chapter focuses on the relationships of engagement based on Hollebeek et al.'s (2014) conceptualization (see Paper I for insights into relationships beyond the adopted conceptualization). TABLE 3 provides an overview of studies that examine the nomological network of CE based on Hollebeek et al.'s (2014) conceptualization. Notably, although there are several studies that examine the antecedents and outcomes of CE, no papers were found in relation to the interaction effects of CE.

Hollebeek et al. (2014) provided the first insights regarding the antecedents and consequences of CE. Since then, there has been some interest in quantitative exploration of the relationships of CE, and such research has been conducted in varied contextual settings. Several studies (Algharabat et al. 2018; Harrigan et al. 2018; Hollebeek et al. 2014; Leckie et al. 2016) have found that involvement posi-

tively influences all three engagement dimensions – cognitive processing, affection, and activation. This finding is in line with Brodie et al. (2011), who proposed that involvement is a conceptually necessary antecedent of engagement. Interestingly, although Brodie et al. (2011) also proposed that participation is another required antecedent of engagement, Leckie et al. (2016) found that participation positively influences only cognitive processing. Other findings in Leckie et al.'s (2016) study illustrated that antecedents may have different relationships with various engagement dimensions. Studies that adopt the one-factor model (e.g., Islam and Rahman 2017; Stathopoulou et al. 2017) or second-order reflective-reflective measurement model (e.g., Algharabat et al. 2018; Fang 2017) are unable to account for this type of dimension-level effects related to CE.

Further, various engagement dimensions may also have different consequences, as shown by Hollebeek et al. (2014) and Leckie et al. (2016). In particular, the latter study reported a negative relationship between cognitive processing and brand loyalty, while affection and activation had a positive association with it. Using one-factor measurement models, Islam and Rahman (2017) and McLean (2018) also examined the CE-brand loyalty relationship and found empirical support for it. There is also growing evidence that CE is positively related to self-brand connection (Berger et al. 2018; Harrigan et al. 2018; Hollebeek et al. 2014) and varying behavioral intentions, including usage intention (Fang 2017; Harrigan et al. 2018; Hollebeek et al. 2014), purchase intention (Fang 2017; Islam et al. 2017), willingness to donate (Algharabat et al. 2018), and intention to share advertisements (Stathopoulou et al. 2017).

TABLE 3 Studies exploring the relationships of CE based on Hollebeek et al.'s (2014) conceptualization

Study	Operationalization of CE	Context	Antecedents	Consequences
Hollebeek et al. (2014)	Three factors (cognitive processing, affection, and activation)	Social media	Involvement was positively related to all engagement dimensions.	All engagement dimensions positively influenced self-brand connection. Cognitive processing did not influence brand usage intent, whereas affection and activation were positively associated with it.
Leckie et al. (2016)	Three factors based on Hollebeek et al. (2014)	Mobile phone service	Involvement was positively related to all engagement dimensions. Participation positively influenced only cognitive processing. Self-expressive brand was positively related to cognitive processing and affection, but negatively related to activation.	Affection and activation had a positive effect on brand loyalty, whereas the influence of cognitive processing was negative.
Fang (2017)	Second-order construct based on Hollebeek et al. (2014)	Branded mobile application	Interactivity and social presence positively influenced brand engagement.	Brand engagement was positively related to application continuance intent and brand repurchase intent.
Islam and Rahman (2017) ^a	One factor based on Hollebeek et al. (2014)	Online community	Information quality, system quality, virtual interactivity, and rewards are positively related to customer engagement.	Customer engagement is positively related to brand loyalty.
Islam et al. (2017)	One factor based on Hollebeek et al. (2014)	Online community	Openness to experience, extraversion, agreeableness, and neuroticism have a positive association with CE, while conscientiousness has a negative relation to CE.	CE is positively related to purchase intention.

(continued)

TABLE 3 (continued)

Stathopoulou et al. (2017) ^a	One factor based on Hollebeek et al. (2014)	Branded hashtags	There were varied influence levels with regard to advertising creativity dimensions (novelty, resolution, and elaboration) on CE. Some evidence showed that brand familiarity positively influences engagement.	CE was positively related to share intent.
Algharabat et al. (2018)	Second-order construct based on Hollebeek et al. (2014)	Non-profit organization	Telepresence, social presence, and involvement are positively related to consumer brand engagement.	Consumer brand engagement is positively associated with word-of-mouth and willingness to donate.
Berger et al. (2018) ^a	Two factors (cognitive and emotional engagement) from Hollebeek et al. (2014)	Gamified interactions	Highly interactive and optimally challenging gamified interactions positively influence both cognitive and emotional brand engagement.	Both cognitive and emotional brand engagement were positively related to self-brand connection.
Harrigan et al. (2018)	Three factors based on Hollebeek et al. (2014)	Tourism social media site	Involvement is positively related to all three dimensions of engagement.	All three dimensions are positively related to self-brand connection and brand usage intent.
McLean (2018) ^a	One factor based on Hollebeek et al. (2014)	Mobile commerce application	Perceived ease of use, perceived usefulness, convenience, and enjoyment are positively related to engagement with mobile application.	Engagement with mobile application is positively related to brand attitude ^b and brand loyalty.

^a The study also examines how the interaction of certain constructs influences CE.

^b The study found that although the effect was not significant after one month of mobile application use, it became significant after 12 months of use.

2.5 Theoretical framework

The main objective of the three quantitative survey papers is to explore the nomological network of CE. Based on current literature, antecedents of CE can be classified into interaction-based (e.g., Harrigan et al. 2018; Hollebeek et al. 2014; Leckie et al. 2016) and trait-based (Islam et al. 2017) drivers. Interaction-based drivers are those antecedents that are based on a consumer's engagement with an engagement object. In contrast, traits reflect "habitual patterns of behavior, thought, and emotion, which are stable over time and exist in all individuals to a varying degree" (Bölte et al. 2011, p. 66). Therefore, trait-based antecedents are drivers that are inherent in the consumer and, thus, do not imply interaction with an engagement object. From a managerial perspective, this classification is viable because managers can actively seek to influence the level of interaction-based antecedents, while trait-based antecedents provide segmentation opportunities. In this dissertation, involvement, sensory brand experience, and self-congruence represent interaction-based drivers, whereas personal innovativeness is considered a trait-based antecedent of CE.

The consequences of CE can be divided into service- (e.g., Fang 2017; Stathopoulou et al. 2017) and brand-related (e.g., Islam and Rahman 2017; Leckie et al. 2016) outcomes. While service describes the application of knowledge and skills to benefit entities (Lusch and Vargo 2006), brand is defined as "a name, term, sign, symbol, or design, or combination of them which is intended to identify the goods and services of one seller or group of sellers and to differentiate them from those of competitors" (Kotler 1997, p. 443). In essence, these two categories differ in terms of the engagement object: service-related variables focus on the focal economic exchange, whereas brand-related constructs are concerned with the trademark that frames the economic exchange. In general, this distinction emphasizes that service interaction may have consequences beyond the focal service. In this dissertation, service continuance intention represents a service-related outcome, whereas brand equity is a brand-related consequence of CE.

This dissertation also examines two types of interaction effects. First, the influence of CE on its consequences may be moderated by other variables (e.g., Cian et al. 2014; Raies et al. 2015). In this dissertation, perceived risk is proposed to moderate the influence of CE (and specifically the influence of affection) on service continuance intention. Second, CE may moderate the effects of other variables on their consequences (e.g., Cheung et al. 2014; Zablah et al. 2016). In this dissertation, CE is hypothesized to moderate the influences of attitude and satisfaction on service continuance intention. Although these two types of interaction effects do not differ mathematically, it is essential to note that they are theoretically different forms of interaction. This brings to question what causes the variation in the strength of the association between the two variables and why.

FIGURE 2 summarizes the theoretical framework for this dissertation and TABLE 4 presents the definitions for the constructs in the proposed framework.

The reader should note that the dissertation papers provide more in-depth discussions on the meaning of the constructs and the justification for the related hypotheses. The proposed framework can be scrutinized in light of the conceptual model of customer engagement behaviors proposed by van Doorn et al. (2010). They separated antecedents and consequences of engagement into customer-, firm-, and context/other-related variables. The majority of variables in the theoretical framework of this dissertation represent customer-related antecedents and consequences but some variables (e.g., brand equity) can also be viewed from a focal firm’s perspective.

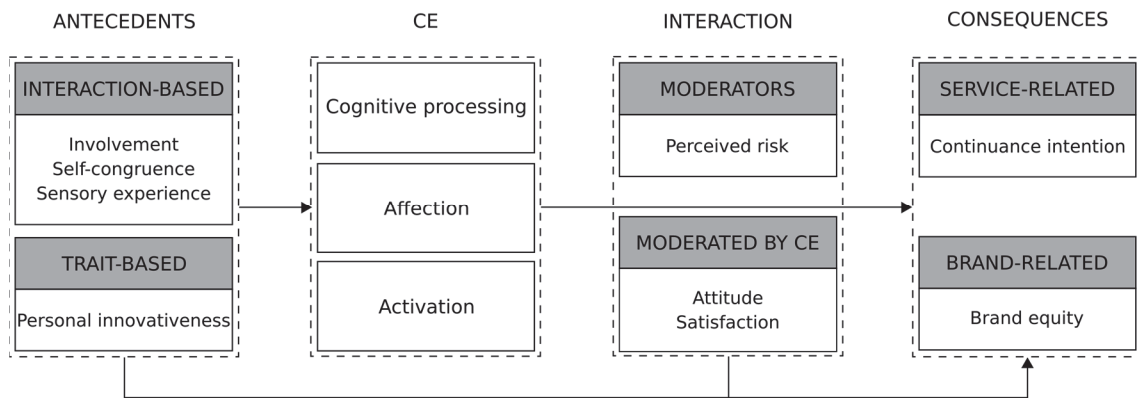


FIGURE 2 Theoretical framework

Note: All paths are not tested in this dissertation.

TABLE 4 Definitions for the constructs in the theoretical framework

Construct	Definition	Paper
<i>Antecedents</i>		
Involvement	“A person’s perceived relevance of the object based on inherent needs, values, and interest” (Zaichkowsky 1985, p. 342)	II
Personal innovativeness	“[T]he willingness of an individual to try out any new information technology” (Agarwal and Prasad 1998, p. 206)	III
Self-congruence	“[T]he extent to which an individual’s self-image is congruent with the typical brand-user image” (Kim 2015, p. 348)	III
Sensory (brand) experience	“[S]ensations [...] evoked by brand-related stimuli that are part of a brand’s design and identity, packaging, communications, and environments” (Brakus et al. 2009, p. 52)	II
<i>CE</i>		
Cognitive processing	“[A] consumer's level of brand-related thought processing and elaboration in a particular consumer/brand interaction” (Hollebeek et al. 2014, p. 154)	II-IV
Affection	“[A] consumer's degree of positive brand-related affect in a particular consumer/brand interaction” (Hollebeek et al. 2014, p. 154)	II-IV
Activation	“[A] consumer's level of energy, effort and time spent on a brand in a particular consumer/brand interaction” (Hollebeek et al. 2014, p. 154)	II-IV
<i>Interaction</i>		
Attitude	“[A]n association between a given object and a given evaluative category” (Fazio et al. 1982, p. 341)	IV
Perceived risk	“[A] person’s perception of the possibility of having negative outcome” (Liu and Wei 2003, p. 232)	III
Satisfaction	“[T]he consumer’s response to the evaluation of the perceived discrepancy between prior expectations (or some other norm of performance) and the actual performance of the product as perceived after its consumption” (Tse and Wilton 1988, p. 204)	IV
<i>Consequences</i>		
Brand equity	“[C]onsumers’ different response between a focal brand and an unbranded product when both have the same level of marketing stimuli and product attributes” (Yoo and Donthu 2001, p. 1)	II
Continuance intention	Consumer’s self-reported intent to keep on using a service (Bhattacharjee 2001)	III & IV

3 RESEARCH METHODOLOGY

This chapter discusses the methodological standpoints of the dissertation. The first section provides a discussion on the selected research paradigm; the second section focuses on measurement; the third section relates to data collection and the sample; and the fourth section discusses aspects related to data analysis.

3.1 Critical realism as a research paradigm

Paradigms comprise a set of assumptions on which theories are founded (Arndt 1985). Kuhn (1996, p. 10) characterized paradigms as “accepted examples of actual scientific practice – examples which include law, theory, application, and instrumentation together – provide models from which spring particular coherent traditions of scientific research.” This implies that research paradigms relate to how research is methodologically conducted (Arndt 1985; Kuhn 1996). When research paradigms are discussed, two constructs are of particular interest: ontology and epistemology. In general, ontology investigates the nature of reality, whereas epistemology studies the nature and scope of human knowledge (Niniluoto 1999).

Positivism has been the dominant research paradigm in social sciences (Robson 2002) and marketing (Hirschman 1986). Ontologically, the extreme form of positivism – naïve realism – builds on an idea that there is only one true reality in which claims of universal truth apply (Järvensivu and Törnroos 2010). Epistemologically, naïve realists believe that it is possible to acquire objective knowledge through direct observations (Järvensivu and Törnroos 2010; Robson 2002). In other words, the phenomenon and the researcher are independent and it is, thus, possible to acquire value-free knowledge (Hirschman 1986). According to this paradigm, the goal of science is to explain events and establish universal causal laws (Järvensivu and Törnroos 2010; Robson 2002). In general, it applies a deductive research process that focuses on theory testing through empirical observations (Chen and Hirschheim 2004; Järvensivu and Törnroos 2010). For a

more in-depth account of the key ideas of positivism, the reader is suggested to consult Bentz and Shapiro (1998).

A few key criticisms of positivism relate to the soundness of direct experiences as a basis of knowledge, rejection of unobservable theoretical constructs, inseparability of researcher's values and facts, and its general applicability in social research (see a summary of the critique from philosophical and social research perspectives by Robson 2002). For these and other reasons, the role of positivism as a standard view of science has been challenged by numerous other paradigms. The extreme form of relativism – naïve relativism – represents an opposite paradigm from numerous perspectives. From an ontological perspective, it argues that no reality exists beyond the subjects (Hirschman 1986; Järvensivu and Törnroos 2010). Epistemologically, naïve relativists believe that it is possible to understand subjective realities by analyzing the subject's account of knowledge (Järvensivu and Törnroos 2010; Robson 2002). The epistemological perspective acknowledges that the researcher and the phenomenon interact with each other and inquiry is, therefore, value-laden (Hirschman 1986). In general, this paradigm emphasizes the interpretation of the subject's meaning and behavior in different contextual settings (Chen and Hirschheim 2004; Robson 2002). This paradigm attempts to achieve this by applying qualitative methods in inductive research processes that aim to generate theory (Järvensivu and Törnroos 2010; Robson 2002).

In this dissertation, critical realism as a research paradigm is embraced. In general, critical realism balances naïve realism and naïve relativism (Easton 2010; Järvensivu and Törnroos 2010). From the ontological perspective, adopting critical realism is reasonable because it relaxes the strict assumption of the completely subject-dependent reality of naïve relativism and questions universal truth claims, which naïve realists advocate (see Järvensivu and Törnroos 2010). In essence, critical realists assume that there is only one reality that is independent of observers (Easton 2010; Järvensivu and Törnroos 2010; Sayer 1992); however, "specific local, contingent truth claims apply" to this reality (Järvensivu and Törnroos 2010, p. 101). In other words, critical realism argues that, while the world is socially constructed, it is not entirely so because reality influences social phenomena (Easton 2010; Sayer 1992). Considering the adopted research paradigm, CE is viewed as a consumer's subjective interpretation of experiences that occur in their subject-independent reality. Moreover, CE is subject to context-specific factors, such as the object of engagement (e.g., service, social media content, and online community) (see also Brodie et al. 2011; Hollebeek et al. 2016).

Bhaskar (1978) suggested that there are three domains of reality: empirical, actual, and real. They differ from each other in the sense that experiences occur in the empirical domain, events occur in the actual domain, and causal mechanisms operate in the real domain (Bhaskar 1978). Hence, any events under investigation and their underlying causal powers occur in domains that differ from those in which empirical observations are made. Given that reality is mediated through perceptual filters (Frauley and Pearce 2007), researchers' observations of events and causal powers are imperfect (Bhaskar 1978). From the epistemological

perspective, this implies that researchers may only acquire knowledge that continues to reflect local truths more accurately (Järvensivu and Törnroos 2010). For example, an absence of an observable event does not necessarily imply that there is no causal mechanism—perhaps there are many mechanisms that counterbalance each other (Tsang and Kwan 1999). Because of the limitations of our knowledge, social phenomena must be critically evaluated (Sayer 1992). In general, critical realism is skeptical with regard to the confirmation and falsification of hypotheses (see Bhaskar 1978); instead, hypotheses are merely either supported or not supported.

3.2 Measurement

The next section addresses the concept of measurement, which is followed by a discussion of measurement in this dissertation.

3.2.1 Introduction to measurement

Measurement concerns the assignment of numbers to a variable based on certain rules (Hair et al. 2016). In social sciences, numerous constructs (e.g., psychological engagement, attitude, and satisfaction) are theoretical constructs that cannot be directly observed. To capture latent constructs, indicators need to be used as a proxy for the theoretical construct of interest (Coltman et al. 2008; Hair et al. 2017). The simplest way to do this is to apply a single indicator to measure a construct. For example, a single-item measure “I am satisfied with the brand” anchored by strongly disagree/strongly agree could be used to capture consumer satisfaction with a brand. This single-item measure represents a potential measure that could be used to capture the focal concept (Fuchs and Diamantopoulos 2009). In general, the use of single-item measures prevents respondent fatigue and boredom, which could lead to inappropriate response behavior (Drolet and Morrison 2001).

Nevertheless, single-item measures have a few weaknesses. One of them relates to construct validity, which refers to “the degree to which a measure assesses the construct it is purported to assess” (Peter 1981, p. 134). Two types of validity are commonly examined: convergent validity and discriminant validity (Hair et al. 2011; Henseler et al. 2009). Convergent validity scrutinizes whether the indicators of a construct measure the same underlying phenomenon, whereas discriminant validity is concerned with whether two conceptually different constructs are also empirically distinct (Henseler et al. 2009). When only single-item measures are used, an examination of these two types of validity is limited (Fuchs and Diamantopoulos 2009). A related drawback concerns reliability, which can be defined as “the degree to which measures are free from error and therefore yield consistent results” (Peter 1979, p. 6). In particular, single-item measures do not enable smoothing out the measurement error, which decreases their reliabil-

ity (DeVellis 2003; Hair et al. 2017). Therefore, multi-item scales generally outperform single-item measures in terms of predictive validity (Diamantopoulos et al. 2012).

The use of multiple indicators has become the golden measurement standard in marketing research. When multiple indicators are used, their relationship to the latent construct must be specified. In general, indicators can be viewed as reflective or formative (Coltman et al. 2008; Jarvis et al. 2003). Their view on causality differs in the sense that indicators (x) are viewed to be caused by the latent construct (Y) in reflective measurement, whereas indicators are expected to cause the latent construct in formative measurement (Coltman et al. 2008; Jarvis et al. 2003) (see FIGURE 3). In reflective measurement, loading l describes the strength of association between the latent variable and its indicator, and the related error term e captures the variance in the indicator that the latent variable is unable to explain (Hair et al. 2017). In contrast, weight w refers to the impact of the formative indicator in the formation of the latent construct (Hair et al. 2017). Formative indicators are expected to be error free, but there is an error term z at the level of the latent variable (Coltman et al. 2008; Jarvis et al. 2003). In practice, this implies that reflective indicators are expected to be highly correlated, whereas formative items do not necessarily correlate (Jarvis et al. 2003). In addition, eliminating a reflective item does not change the meaning of the construct, whereas omitting a formative indicator is likely to alter the meaning of the construct (Jarvis et al. 2003).

For example, consider the following two consumer satisfaction items that are based on Haumann et al. (2014): 1) *All in all, I am very satisfied with the company* (anchored by strongly disagree/strongly agree), and 2) *Overall, how satisfied are you with the company* (anchored by extremely dissatisfied/extremely satisfied). These two indicators are expected to reflect a consumer's overall satisfaction level, they are likely highly correlated, and omitting one of them does not change the meaning of the latent variable. Hence, they are reflective indicators of consumer satisfaction. Further, it is also possible to measure consumer satisfaction through its causes and, thus, rely on formative measurement. For example, one can measure consumer satisfaction with a tourism service provider by inquiring about the consumer's 1) pre-trip satisfaction (e.g., booking); 2) satisfaction during the trip (e.g., hotel experience); and 3) post-trip satisfaction (e.g., marketing communication immediately after the holiday). These indicators – which are not necessarily correlated – are expected to contribute to a consumer's overall satisfaction and eliminating any of them would typically mean that the overall satisfaction is not captured. Thus, identifying the correct measurement model is essential because misspecification may severely bias results (i.e., structural model estimates) (Jarvis et al. 2003; Law and Wong 1999). However, Jarvis et al. (2003) showed that misspecification is common in marketing and consumer literature.

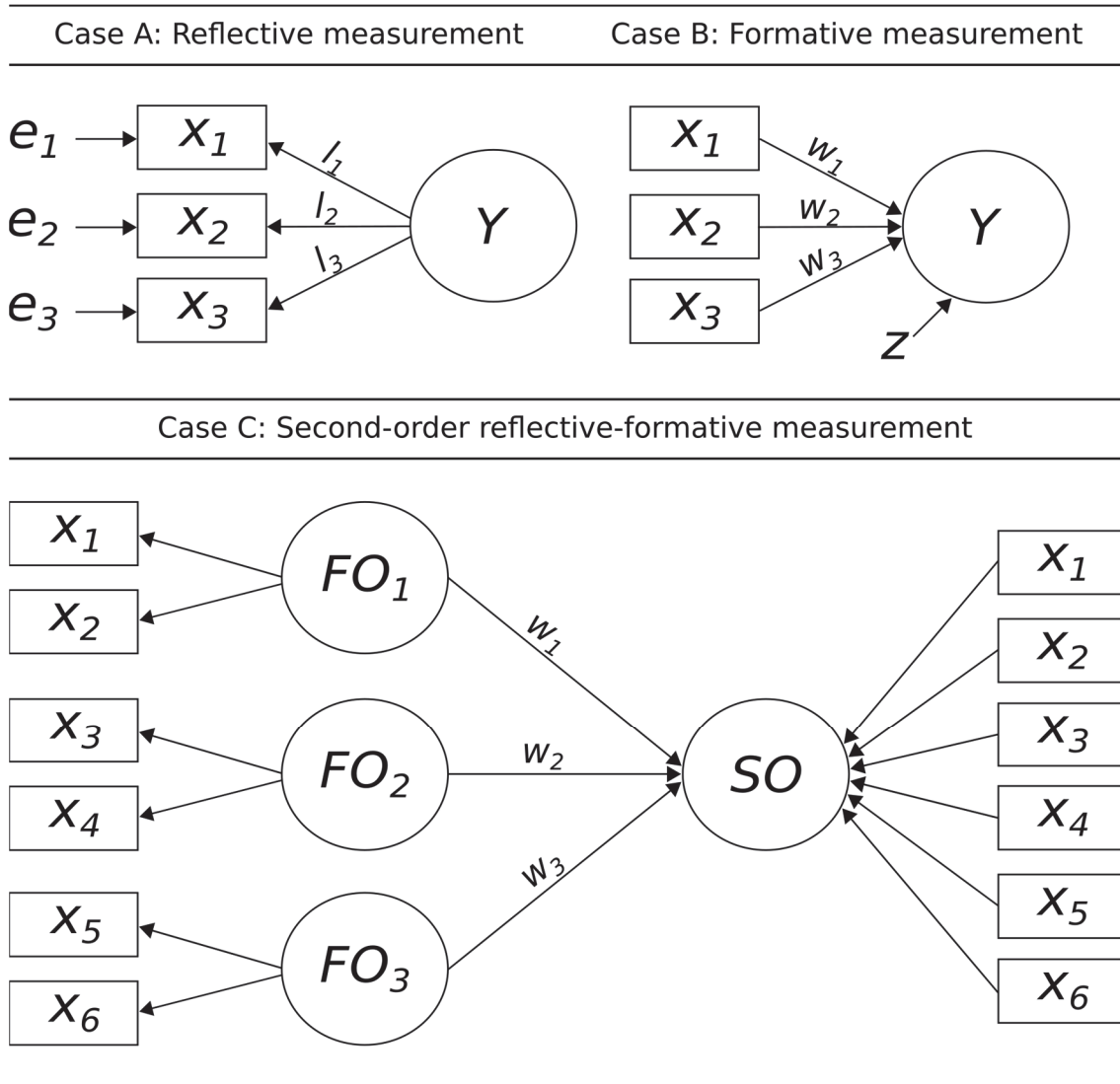


FIGURE 3 Different types of measurement models

Note: Error terms are omitted for simplicity in Case C.

Further, marketing scholars have also shown interest in operationalizing constructs as second-order models. Second-order models apply the same indicators in two levels of construct measurement (Lee and Cadogan 2013), and the first-order dimensions (*FOs*) are generally more concrete than the abstract second-order dimension (*SO*) (Hair et al. 2017) (see FIGURE 3). Becker et al. (2012) identified four types of second-order models: reflective-reflective, reflective-formative, formative-reflective, and formative-formative. They differ in terms of their specification of the first-order dimensions (reflective or formative) and the second-order dimension (reflective or formative). For example, cognitive processing, affection, and activation (i.e., dimensions of CE) could be measured reflectively at the first-order level, and could also be further viewed to cause overall CE, which is a second-order dimension (i.e., reflective-formative measurement model). One reason for using the second-order model is to simplify the model

(Hair et al. 2017). For example, if one examines the effects of CE on brand equity using the reflective-formative operationalization of CE, the effects of the first-order dimensions (i.e., cognitive processing, affection, and activation) are not modeled directly on brand equity. Instead, their effects operate via the second-order construct (i.e., overall CE). Consequently, compared to a situation in which no second-order operationalization is applied, the number of examined relationships decreases from three to one.

3.2.2 Adopted measurement practices

Given that there is no consensus on the definition of CE, it is not surprising that there are also different ways to measure engagement in marketing literature. TABLE 5 provides sample measurement scales in each literature stream. CE has been measured in numerous contexts (e.g., brands, nursing homes, social media content, and brand community), and most measures rely on consumers' self-reports. The application of objective data is common only in the behavioral stream, and such data are mainly extracted from social media and online community statistics (e.g., Kaptein et al. 2015; Wang and Kim 2017; Wu et al. 2017). In other streams, only Cian et al. (2014) used objective data; in addition to a survey measure, they applied eye-tracking to capture consumers' cognitive engagement with logos. The great majority of multi-item measurement scales rely on reflective measurement (for an exception, see Raies et al. 2015). There are also studies that specifically aim to develop measurement scales for engagement (e.g., Hollebeek et al. 2014; Kumar and Pansari 2016; Sprott et al. 2009).

In line with the adopted definition of CE, the three quantitative papers reviewed in this dissertation rely on the measurement scale provided by Hollebeek et al. (2014). This measurement scale has been applied in several other studies, including those by Berger et al. (2018), Fang (2017), and Leckie et al. (2016). The measurement scale comprises the following 10 items:

Cognitive processing is measured through the following three items:

- *Using [brand] gets me to think about [brand]*
- *I think about [brand] a lot when I'm using it*
- *Using [brand] stimulates my interest to learn more about [brand]*

Affection is captured through the following four items:

- *I feel very positive when I use [brand]*
- *Using [brand] makes me happy*
- *I feel good when I use [brand]*
- *I'm proud to use [brand]*

Activation is measured through the following three items:

- *I spend a lot of time using [brand] compared to other [category] brands*
- *Whenever I'm using [category], I usually use [brand]*
- *[Brand] is one of the brands I usually use when I use [category]*

TABLE 5 CE sample measurement scales

Study	Aim of the measure	Data source	Number of items (dimensions)
<i>Behavioral stream</i>			
Verleye et al. (2014)	To measure engagement in nursing homes.	Self-report	16 (5)
Kaptein et al. (2015)	To measure the number of messages a consumer has posted in online communities.	Online community statistics	1 (1)
Schivinski et al. (2016)	To measure engagement with brand-related social media content.	Self-report	17 (3)
Harmeling et al. (2017)	To measure word-of-mouth behavior.	Self-report	Unstated (1)
Wang and Kim (2017)	To measure the number of posts a consumer has shared on social media.	Facebook statistics	1 (1)
<i>Psychological stream</i>			
Algesheimer et al. (2005)	To measure engagement with a brand community.	Self-report	4 (1)
Cian et al. (2014)	To measure engagement with logos.	Self-report	4 (1)
Baldus et al. (2015)	To measure engagement in online brand communities.	Self-report	42 (11)
Berger et al. (2018)	To measure cognitive and emotional brand engagement.	Self-report	7 (2)
<i>Combined stream</i>			
Dijkmans et al. (2016)	To measure cognitive and behavioral engagement in a company's social media activities.	Self-report	2 (2)
Kumar and Pansari (2016)	To measure engagement with a company brand.	Self-report	16 (4)
So et al. (2016a)	To measure engagement with tourism brands.	Self-report	25 (5)
Steward et al. (2017)	To measure engagement with firms.	Self-report	12 (4)
<i>Consumer trait stream</i>			
Sprott et al. (2009)	To measure consumers' general tendency to incorporate important brands in one's self-concept.	Self-report	8 (1)

All CE dimensions in Hollebeek et al.'s (2014) measurement scale were measured reflectively. In addition, Papers II and IV applied second-order reflective-formative measurement models to operationalize CE. The second-order specification was considered applicable because it was possible to simplify the models without sacrificing important empirical insights. In contrast, Paper III examined the moderating role of perceived risk on the relationship between affection and continuous usage intention of a mobile service (but not between the other two CE dimensions and continuous usage intention). In this case, applying the second-order model would have been suboptimal.

Further, several analyses were conducted to examine the soundness of each measure. In accordance with Hair et al. (2011) and Henseler et al. (2009), while the analysis of convergent validity focused on indicator loadings, composite reliabilities, and average variance extracted (AVE) values, indicator cross-loadings and the Fornell-Larcker criterion were used to establish discriminant validity for reflective measurement models. The analysis of the formative measurement models addressed variance inflation factors (VIF) and indicator weights (Cenfetelli and Basselier 2009; Diamantopoulos and Winklhofer 2001). The examination of these two concepts enable an evaluation of the impact of an individual formative indicator in the formation of a latent construct (Cenfetelli and Basselier 2009; Diamantopoulos and Winklhofer 2001). For example, the weight of the CE's first-order dimension represents the importance of an individual CE dimension (Cenfetelli and Basselier 2009), and the VIF value reflects the extent of multicollinearity between the dimensions (Diamantopoulos and Winklhofer 2001). If multicollinearity is high, it is difficult to separate the distinct effect of a formative indicator on a latent variable (Diamantopoulos and Winklhofer 2001). In summary, the analyses supported the soundness of both reflective and formative measurement models (see TABLE 6).

TABLE 6 A summary of the measurement models

Paper	Reflective measurement					Formative measurement	
	Loadings ^a	Composite reliabilities ^b	AVE ^c	Fornell-Larcker ^d	Cross-loadings ^e	VIF ^f	Weights ^g
II	The loadings were generally greater than 0.7, and the loadings of used items were all over 0.6.	Passed	Passed	Passed	Passed	Passed	All weights were positive and statistically significant.
III	The loadings were generally greater than 0.7, and all loadings were over 0.4.	Passed	Passed	Passed	Passed	n/a	n/a
IV	The loadings were generally greater than 0.7, and all loadings were over 0.6.	Passed	Passed	Passed	Passed	Passed	Almost all weights were positive and significant. Two weights did not attain statistical significance. In addition, the weight of cognitive processing was negative in one case, and cognitive processing was thus eliminated from that measurement model (see Cenfetelli and Basselier 2009).

^aThe cut-off value is 0.7, but loadings between 0.4 and 0.7 are acceptable if composite reliabilities and AVE values are over the recommended levels (Hair et al. 2011); ^bthe cut-off value is 0.7 (Hair et al. 2011); ^cthe cut-off value is 0.5 (Hair et al. 2011); ^dthe square root of AVE is higher than the correlation between the latent variable and all other reflectively measured constructs (Fornell and Larcker 1981); ^ethe loading of an indicator is higher than its cross-loadings with other reflectively measured constructs (Hair et al. 2011); ^fthe cut-off value is 5 (Hair et al. 2011); ^gall weights represent the importance of a first-order dimension in the formation of a formative second-order construct (Cenfetelli and Basselier 2009); n/a: not applicable.

3.3 Data collection and samples

The data collection procedures were different in each paper of this dissertation. These procedures and the resulting samples are briefly discussed next.

Paper I: A systematic review of the customer engagement literature

A systematic literature review was conducted in Paper I. Research articles that included the terms “customer engagement,” “consumer engagement,” or “brand engagement” in their abstracts, titles, and/or keywords were searched for in multiple databases (EBSCOhost Business Source Elite, ScienceDirect, Scopus, Web of Science, and ProQuest Central). Several articles were also identified from the reference lists of the retrieved publications. The search was finalized on September 6, 2017 and yielded 1,027 unique articles. In the filtering process, articles were eliminated on the basis of the following criteria: 1) papers published in journals that are ranked below level 3 in the *Chartered Association of Business Schools' Academic Journal Guide 2015*; 2) papers published in managerially-oriented journals (e.g., *Harvard Business Review* and *MIT Sloan Management*), editorials, and commentaries; and 3) articles that lacked a clear definition, conceptualization, operationalization, and/or an explicit referral to either a specific definition or conceptualization of customer (or a similar entity, such as consumer) engagement. The final sample included 73 articles from several disciplines, such as marketing, psychology, and tourism.

Paper II: The effect of sensory brand experience and involvement on brand equity directly and indirectly through consumer brand engagement

Paper II was intended to reach customers of a Finnish tableware brand, and survey data ($n = 1,385$) were collected in 2015. Data collection platforms included the Facebook page of the brand and other Facebook groups in which the brand's customers participate. Of the respondents, 95.3% were female; the analyses showed that the large proportion of women did not bias the results (i.e., the structural estimates do not differ between female and male). In terms of age, the distribution was as follows: between 18–25 (12.7%); between 26–35 (24.7%); between 36–45 (21.4%); between 46–55 (23.3%); and 56 years or older (17.8%). Most of the respondents had used the focal brand between 5 and 20 years (47.1%) or over 20 years (40.9%).

Paper III: Consumer engagement and behavioral intention toward continuous use of innovative mobile banking applications – A case study of Finland

Paper III was intended to reach users of a Finnish mobile banking and wallet application, and survey data ($n_{\text{banking}} = 992$; $n_{\text{wallet}} = 524$) were obtained through a questionnaire administered in 2015. In general, mobile banking applications enable users to access bank accounts and conduct financial transactions (e.g., transferring money) through mobile devices (Shaikh and Karjaluoto 2015). A mobile wallet refers to an application that enables users to make electronic payments on

mobile devices (Shin 2009). The questionnaire was made available on the participating bank's Facebook page. Of the respondents, approximately half were female in both samples (mobile banking: 53.3%; mobile wallet: 52.9%). In both samples, the two largest age groups were between 26–34 years (mobile banking: 28.0%; mobile wallet: 32.8%) and between 35–49 years (mobile banking: 34.7%; mobile wallet: 31.3%). Given that 81.5% of the mobile banking respondents and 75.0% of the mobile wallet respondents had used the mobile service for over six months, the respondents were generally experienced users of these applications.

Paper IV: Is it all about consumer engagement? Explaining continuance intention for utilitarian and hedonic service consumption

Paper IV focused on two underlying reasons for service consumption: utilitarian and hedonic. In keeping with Pedersen and Nysveen (2003), a mobile parking application (n = 297) was selected as a service that is used for utilitarian reasons. Similar to Moe and Fader (2001), a mobile music application (n = 596) was selected to represent a service that is consumed for hedonic reasons. This paper was intended to reach users of these two mobile services. Survey participants were recruited from an online consumer panel during 2017. Both the mobile parking sample (60.3%) and the mobile music sample (54.0%) were slightly dominated by females. In the mobile parking sample, the majority of respondents were aged between 35–49 years (36.4%) and 50–64 (29.6%) years; in the mobile music sample, the two largest age groups were between 18–25 years (28.9%) and between 26–34 (28.0%) years. Of the mobile parking respondents, 54.9% had used the application for over a year, while 70.0% of the mobile music respondents had used the application for over a year.

3.4 Data analysis

The main analyses in Paper I were related to 1) categorizing customer engagement studies into different literature streams; 2) providing descriptive statistics of customer engagement research; 3) examining the referencing network; and 4) analyzing the nature, measurement, and relationships of customer engagement. Although many of the analyses were quantitative in nature, certain tasks were required to analyze the content of the customer engagement articles (e.g., definitions of engagement). In general, content analysis is an observational research technique that systematically assesses the content of written texts (Hall and Valentin 2005). Krippendorff (2004, p. 18) defined it as “a research technique for making replicable and valid inferences from texts (or other meaningful matter) to the contexts of their use.” This type of analysis can either be inductive or deductive; the former is data driven, whereas the latter is theory led (Braun and Clarke 2006). In this paper, the qualitative data were analyzed using both inductive (e.g., categorizing studies into different streams) and deductive (e.g., analyzing the soundness of engagement measures) approaches. In order to avoid highly

subjective results, two researchers independently evaluated the studies. The percentage of agreement and Cohen's kappa values were acceptable in all cases.

All three quantitative dissertation papers applied partial least squares (PLS) path modeling. This data analysis method—which was initially developed by Herman Wold (1974, 1982, 1985)—has been widely applied in marketing literature (see Hair et al. 2012). This technique applies the ordinary least squares method to estimate path relationships in a manner that maximizes the variance that is explained by the dependent variable (Hair et al. 2011, 2017). PLS is a suitable analysis method when the research is exploratory in nature and/or the aim is to predict a key construct rather than to confirm an existing theory (Hair et al. 2011). Because the CE research is in its early stages, Papers II–IV focus on theory building, which signals a good fit between the research goals and the PLS method. Moreover, PLS is also capable of estimating formative measurement models, and it does not assume a normal distribution of data (Hair et al. 2011). Therefore, the PLS method was selected, and the data analyses were conducted with SmartPLS 3 (Ringle et al. 2015).

PLS models comprise an outer model (measurement model) that displays the relationships between latent variables and their respective indicators, and an inner model (structural model) that represents the relationships of latent variables to other latent variables (Hair et al. 2011, 2017; Henseler et al. 2009). In a hypothetical model illustrated below (FIGURE 4), x presents an observed indicator of a latent construct Y . The measurement model can be specified as reflective (arrows pointing from the construct to its indicators) or formative (arrows pointing from indicators to the construct) (Henseler et al. 2009; Jarvis et al. 2003). In the figure, loading l represents the degree of connection between a construct and its reflective indicators and weight w represents the relationship between a formative indicator and the respective construct (Hair et al. 2011, 2017). It must be noted that all latent constructs are nevertheless composite variables in PLS (Hair et al. 2017). In other words, the latent variable is a weighted sum score of its indicators (Henseler et al. 2009). Further, the error terms e and z capture the unexplained variance in the estimated model; while the former error term is related to reflective measurement models, the latter error term is concerned with dependent variables in a structural model (Hair et al. 2017). Although a formative measurement is generally expected to have an error term at the construct level, a composite measurement does not contain such an error (Henseler et al. 2016). Finally, path coefficient p describes the degree of the association between two variables (Hair et al. 2011, 2017), ranging from -1 (a strong negative relationship) and 1 (a strong positive relationship; Hair et al. 2017).

Measurement model

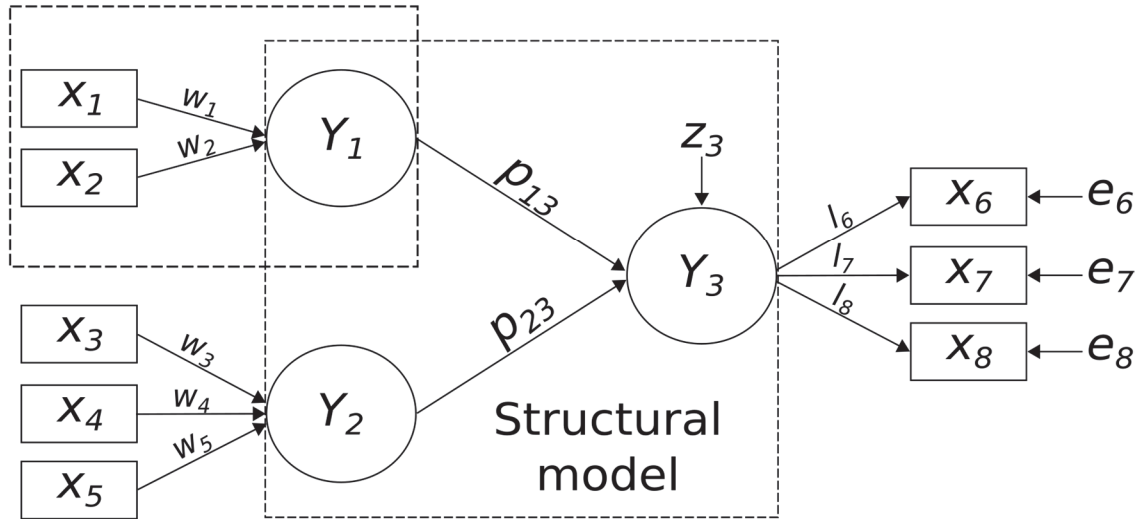


FIGURE 4 A hypothetical PLS model (based on Hair et al. 2017)

In contrast to covariance-based methods, the PLS technique does not assume normally distributed data, which implies that traditionally used parametric approaches are not applicable to the testing of statistical significance of coefficients (Hair et al. 2011, 2017). Instead, PLS relies on the nonparametric bootstrapping method to examine whether the results are generalizable to a target population (Efron and Tibshirani 1986; Hair et al. 2011). In this procedure, a large number of subsamples (e.g., 5,000) is randomly drawn from the original sample with replacement (i.e., the drawn observation is returned to the sampling population before the next one is drawn) (Hair et al. 2011, 2017). Thus, a bootstrap distribution is formed, and the empirical standard errors of the parameters can be obtained for hypotheses testing (Hair et al. 2011, 2017). The effectiveness of bootstrapping depends on the representativeness of the sample in terms of the population of interest (Hair et al. 2011).

4 SUMMARIES OF THE FINDINGS FOR PAPERS I-IV

The purpose of this chapter is to provide brief overviews of the findings from Papers I-IV.

4.1 Paper I: A systematic review of the customer engagement literature

This paper provides a systematic and critical literature review of the customer engagement concept. This paper shows that there has been an increase in the number of customer engagement articles in top journals, with a compound annual growth rate of 27.8% between 2005 and 2017. The top publishers of these articles include the *Journal of Business Research* (12.3% of the articles in the sample), the *Journal of Service Research* (9.6%), the *Journal of the Academy of Marketing Science* (9.6%), *Computers in Human Behavior* (6.8%), the *Journal of Interactive Marketing* (6.8%), and *Psychology & Marketing* (6.8%). The analysis shows that the behavioral stream is the most dominant, followed by the psychological and combined streams. The study also conducts a network analysis and identifies the most prominent studies in the field. In general, studies from the behavioral (Bijmolt et al. 2010; Kumar et al. 2010; van Doorn et al. 2010) and combined (Brodie et al. 2011, 2013) literature streams are the most cited.

This paper primarily focuses on scrutinizing the nature, measurement, and relationships of customer engagement. TABLE 7 provides a short summary of the findings. A critical analysis reveals that a large number of definitions of engagement are neither explicit, logical, nor truly different from other marketing concepts (e.g., motivation and experience). In terms of measurement, most of the studies do not apply scales that are specifically designed to measure engagement. In addition, most of the reflective indicators are not interchangeable, which is in dissonance with the measurement theory (Jarvis et al. 2003). These concerns also overshadow the interpretation of the relationships of engagement.

TABLE 7 A summary of the results of Paper I

Perspective	Behavioral stream	Psychological stream	Combined stream	Consumer trait stream
Nature of customer engagement	The non-transactional view of engagement is emphasized, but some argue that customers' transactional behavior should be considered. However, there is no commonly accepted classification of engagement behaviors.	There is no consensus regarding what engagement is. The main approaches emphasize customers' cognitive involvement, motivation, and the sum of their experiences.	There is no consensus on the nature of engagement. The main approaches emphasize customers' overall activity; attitude, connectedness, and behavior; and psychological state reflected in cognitive, emotional, and behavioral dimensions.	Studies share a unified view of engagement.
Measurement of customer engagement	Numerous measures are used to capture engagement, and some apply objective data. Schivinski et al. (2016) specifically developed a measurement scale for engagement, but it is not applied in any of the other studies.	Numerous different measurement scales are used to capture engagement, and they mainly rely on customer's self-reports. Algesheimer et al. (2005) and Baldus et al. (2015) developed measurement scales for engagement, but they have not been applied in any of the other studies.	Numerous different measurement scales are used to capture engagement, and they rely on customer's self-reports. Hollebeek et al. (2014) and Kumar et al. (2016) developed measurement scales for engagement; the former's scale has been applied in a few studies.	The measurement scale by Sprott et al. (2009) has been applied in all the reviewed studies.
Relationships of customer engagement	Customer engagement is positively related to favorable customer-level outcomes, such as attitude and identification. The relationship between engagement and firm-level performance metrics is inconclusive.	Customer engagement is positively related to customers' attitudes and different intentions. Customer engagement may be a better driver of customer behavior than satisfaction (Calder et al. 2016).	Customer engagement is positively related to several different intentions. Customer engagement and firm performance are positively related to each other (Kumar and Pansari 2016).	Engagement influences memory, attention, preference, and loyalty processes (Sprott et al 2009). Intrinsic and extrinsic aspirations have a different relationship with engagement (Rasmus et al. 2017).

4.2 Paper II: The effect of sensory brand experience and involvement on brand equity directly and indirectly through consumer brand engagement

This quantitative survey paper examines personal involvement and sensory brand experience as interaction-based antecedents of cognitive processing, affection, activation, and brand equity. In addition, consumer brand engagement—which is operationalized as a second-order reflective-formative construct that comprises cognitive processing, affection, and activation—is viewed to influence brand equity (a brand-related consequence of CE). TABLE 8 presents the associated hypotheses and results.

TABLE 8 A summary of the results of Paper II

Hypothesis	Path coefficient	Supported?
H1a: Personal involvement is positively related to cognitive processing.	0.261***	Yes
H1b: Personal involvement is positively related to affection.	0.355***	Yes
H1c: Personal involvement is positively related to activation.	0.175***	Yes
H2: Personal involvement is positively related to brand equity.	0.091***	Yes
H3a: Sensory brand experience is positively related to cognitive processing.	0.376***	Yes
H3b: Sensory brand experience is positively related to affection.	0.379***	Yes
H3c: Sensory brand experience is positively related to activation.	0.242***	Yes
H4: Sensory brand experience is positively related to brand equity.	0.252***	Yes
H5: Consumer brand engagement is positively related to brand equity.	0.478***	Yes

*** $p < 0.01$.

By using confirmatory tetrad analysis (see Gudergan et al. 2008), this paper first empirically demonstrated that CE's formative operationalization at the second-order level is more justifiable than reflective measurement. This is contrary to certain extant measurement practices of CE (e.g., Fang 2017; Stathopoulou et al. 2017). The results show that personal involvement is positively related to cognitive processing, affection, and activation. In general, consumer motivation increases as a function of perceived involvement (see Zaichkowsky 1985), which is further hypothesized to explain the increase in cognitive, emotional, and behavioral activity. The results also reveal that sensory brand experience can be leveraged to influence all dimensions of consumer brand engagement, and these effects could be attributed to various dimension-level mechanisms. The relationship between sensory experience and cognitive processing is expected to derive

from the capability of sensations to capture consumer's attention. The association between sensory experience and affection can be explained through the ability of sensory experience to invoke pleasant thoughts that further generate positive emotions, and the sensory experience-activation relationship is hypothesized to operate through motivation. Finally, consumer's overall brand engagement—which is mainly influenced by affection and activation—is positively related to brand equity. This provides evidence regarding the significant role of consumer brand engagement in building brand equity. In fact, when the dimensions of brand engagement are compared to the components of brand equity in Yoo and Donthu's (2001) conceptualization, some of them appear to be closely related. For example, activation (i.e., dimension of brand engagement) resembles brand loyalty (i.e., component of brand equity).

4.3 Paper III: Consumer engagement and behavioral intention toward continuous use of innovative mobile banking applications – A case study of Finland

This quantitative survey paper explores the role of self-congruence as an interaction-based antecedent of cognitive processing, affection, and activation. Personal innovativeness is examined as a trait-based antecedent of cognitive processing and affection. Cognitive processing, affection, and activation are considered to influence continuous usage intention, which is considered a service-related consequence of CE. Finally, perceived risk is considered to negatively influence continuous usage intention and function as a moderator of the affection–continuous usage intention relationship. TABLE 9 presents the associated hypotheses and results.

The results show that self-congruence and personal innovativeness—both previously unexamined antecedents—can be leveraged to stimulate CE. Consumers are generally interested in verifying, validating, and sustaining their self-concepts (Swann 1983), which provides an explanation for why self-congruence is associated with cognitive, emotional, and behavioral activities. The positive relationships between personal innovativeness and the two CE dimensions (cognitive processing and affection) could be attributed to the fact that consumer's psychological resource investments toward using new services are in line with the focal consumer trait (i.e., willingness to try new technologies; Agarwal and Prasad 1998; Lin and Filieri 2015). Further, motivation is expected to explain the relationships between the two psychological dimensions of CE and continuous usage intention because both cognitive processing and affection are pleasurable experiences (Hollebeek et al. 2014) that drive future consumption (see Higgins and Scholer 2009; Holbrook and Hirschman 1982). In terms of the activation–continuous usage intention relationship, there are several causal (e.g., activation increases the accessibility of behavior) and non-causal (e.g., consumer traits cause behavioral consistencies) mechanisms that could account for it (see Trafimow

and Borrie 1999). However, empirically, only affection and activation are positively related to continuous usage intention. Finally, perceived risk strengthens the affection–continuous usage intention relationship, and this effect could be attributed to the shift in focus from utilitarian gains to pleasurable experiences in high-risk circumstances (see Chiu et al. 2014).

TABLE 9 A summary of the results of Paper III

Hypothesis	Path coefficient	Supported?
H1: Self-congruence positively influences cognitive processing.	0.437*** / 0.474***	Yes
H2: Self-congruence positively influences affection.	0.528*** / 0.520***	Yes
H3: Self-congruence positively influences activation.	0.485*** / 0.536***	Yes
H4: Personal innovativeness positively influences cognitive processing.	0.105*** / 0.148***	Yes
H5: Personal innovativeness positively influences affection.	0.093*** / 0.165***	Yes
H6: Cognitive processing is positively related to continuous usage intention.	-0.008ns / -0.087ns	No
H7: Affection is positively related to continuous usage intention.	0.288*** / 0.308***	Yes
H8: Activation is positively related to continuous usage intention.	0.271*** / 0.434***	Yes
H9: Perceived risk negatively influences continuous usage intention.	-0.284*** / -0.241***	Yes
H10: Perceived risk strengthens the relationship between affection and continuous usage intention.	0.140*** / 0.106***	Yes

The first number refers to the mobile banking sample; the second number refers to the mobile wallet sample. *** $p < 0.01$; ns: not significant.

4.4 Paper IV: Is it all about consumer engagement? Explaining continuance intention for utilitarian and hedonic service consumption

This quantitative survey paper examines whether CE moderates the relationship between attitude and continuance intention and between satisfaction and continuance intention. CE is operationalized as a second-order reflective-formative construct, which comprises cognitive processing, affection, and activation. In addition, this paper compares the explanatory power of psychological engagement over continuance intention (service-related consequence of CE) with the explanatory powers of attitude and satisfaction. Psychological engagement is operationalized as a second-order reflective-formative construct, which only comprises cognitive processing and affection. The associated hypotheses and results are presented in TABLE 10.

TABLE 10 A summary of the results of Paper IV

Hypothesis	Path coefficient		Supported?
	Model 1	Model 2	
H1: CE is positively related to continuance intention.	0.330*** / 0.680***	0.060* / 0.447***	Yes
H2: Attitude is positively related to continuance intention.	0.349*** / 0.104**	0.436*** / 0.231***	Yes
H3: Satisfaction is positively related to continuance intention.	0.251*** / 0.117***	0.405*** / 0.219***	Yes
H4: Attitude has a stronger association with continuance intention than does psychological engagement when service consumption is driven by utilitarian reasons.	n/a	n/a	Yes
H5: Satisfaction has a stronger association with continuance intention than does psychological engagement when service consumption is driven by utilitarian reasons.	n/a	n/a	Yes
H6: Psychological engagement has a stronger association with continuance intention than does attitude when service consumption is driven by hedonic reasons.	n/a	n/a	Yes
H7: Psychological engagement has a stronger association with continuance intention than does satisfaction when service consumption is driven by hedonic reasons.	n/a	n/a	Yes
H8: CE negatively moderates the relationship between attitude and continuance intention.	-0.068ns / -0.026ns	-0.054ns / -0.100**	No
H9: CE negatively moderates the relationship between satisfaction and continuance intention.	0.053ns / 0.003ns	0.037ns / 0.090*	No

Model 1: CE comprises psychological and behavioral dimensions; Model 2: CE comprises psychological dimensions. The first number refers to the mobile parking sample; the second number refers to the mobile music sample. *** $p < 0.01$; ** $p < 0.05$; * $p < 0.1$; ns: not significant; n/a: not applicable.

In line with hypotheses H1–H3 and H8–H9, a model was estimated in which engagement consisted of both psychological and behavioral dimensions (Model 1). In line with the rationale already presented in Paper III, CE is positively associated with continuance intention. To explain the moderating role of CE, two main mechanisms are proposed in the paper. First, when activation increases, the action may become automatic (Ouellette and Wood 1998; Schneider and Shiffrin 1977), which further suggests that the influence of cognitive-based constructs (e.g., attitude and satisfaction) on continuance intention should decrease. Second,

cognitive processing and affection may diminish the importance of utilitarian benefits, which are captured by both attitude and satisfaction. This is hypothesized to occur because psychological engagement provides immediate hedonic benefits, but utilitarian benefits are instrumental in nature (Botti and McGill 2011). However, no significant moderating effects emerged.

In line with hypotheses H4–H7, a model was estimated in which engagement consisted of only psychological dimensions (Model 2). The percentile p -values, which were obtained by comparing 5,000 bootstrap samples (Chin et al. 2013), indicate that the influence of attitude and the influence of satisfaction are significantly stronger than the influence of psychological engagement in the mobile parking sample ($p = 0.000$). In the mobile music sample, the influence of psychological engagement is significantly stronger than the influence of attitude ($p < 0.05$). Further, the effect of psychological engagement is also stronger than the effect of satisfaction ($p < 0.01$) in this sample. These findings could be attributed to the lack of utilitarian focus and the emphasis of hedonic aspects of psychological engagement. In other words, the degree to which CE is capable of capturing important interaction elements (utilitarian and hedonic) varies compared to attitude and satisfaction, which explains the differences in relative explanatory power in different consumption contexts.

5 DISCUSSION

This chapter begins by presenting the theoretical contributions of the dissertation, followed by a discussion of managerial implications as well as limitations and potential future research directions.

5.1 Theoretical contributions

This dissertation contributes to marketing and consumer research in three major areas by increasing the available knowledge on the definition, measurement, and relationships of engagement (see TABLE 11). While the focus of the first paper was on summarizing the current knowledge in these areas, the remaining papers focused on expanding the nomological network of CE based on Hollebeek et al.'s (2014) view of CE. Below, the theoretical contributions in these three areas are discussed.

First, this dissertation contributes to our understanding of the meaning of CE. In particular, Paper I provides a systematic literature review on the definitions of engagement. Although previous studies have attempted to provide a holistic overview of the various definitions of engagement (e.g., Brodie et al. 2011; Hollebeek et al. 2016), this is the first study to provide a *systematic* and *critical* literature review on the topic. By identifying the main research streams and their sub-streams, a means to organize the overwhelming number of views on CE is offered. This dissertation also provides insights on the development of these research streams over time and the impact of individual studies in the development of the focal research domain. In general, the behavioral view of CE dominates the field (e.g., Kumar et al. 2010; van Doorn et al. 2010), but many highly cited papers also incorporate psychological dimensions in the conceptual domain of CE in order to holistically examine the phenomenon (e.g., Brodie et al. 2011, 2013). These contributions enable researchers to more deeply understand the CE domain, which shares conceptual underpinnings with broader theoretical perspectives,

such as the service-dominant logic (Vargo and Lusch 2004), customer relationship management (Payne and Frow 2005), customer experience management (Homburg et al. 2017), and trait theory (Epstein 1994).

More importantly, this dissertation critically evaluates various definitions of engagement and finds that many are neither explicit, logical, nor truly different from other marketing concepts, such as experience (cf. Calder et al. 2009, 2016), commitment (cf. Mollen and Wilson 2010), and motivation (cf. Algesheimer et al. 2005; Baldus et al. 2015). To some extent, definitional ambiguities are to be expected in developing research areas and providing refinements and extensions to previous definitions is typical in research. But after more than a decade of CE research, definitional improvements have been minor in scale. In fact, it seems that definitional problems have increased rather than decreased over time. Thus, this issue requires further research and this dissertation provided useful recommendations for researchers who are interested in improving the existing definitions.

This dissertation contributes to the understanding of engagement measurement that has remained an unexplored area in many ways in the current CE literature. This dissertation not only provides a summary of various types of engagement measures but also critically evaluates these measures. This enables consumer and marketing researchers to understand the different means of measuring engagement related to, for example, company brands (Kumar and Pansari 2016), websites (Calder et al. 2009), social media content (Schivinski et al. 2016), and online brand communities (Baldus et al. 2015). It also helps identify problematic areas in these measures. Given that the results show that the application of measurement scales that are specifically designed to capture engagement is limited, the question that arises is whether CE is anything but a repackaged version of an old concept. If CE is truly different from other marketing concepts (e.g., attitude and intention), why do such a large number of researchers use the measurement scales and items of other constructs? It appears that this issue stems at least partially from the definitional ambiguities of engagement; when CE is not sufficiently differentiated from other marketing concepts or the adopted CE definition is vague, using a valid measurement scale becomes challenging.

TABLE 11 A summary of theoretical contributions and managerial implications of this dissertation

Paper	Theoretical contributions	Managerial implications
I	<ul style="list-style-type: none"> • Identifies four distinct literature streams of customer engagement and provides insights on their development. • Provides a summary of various engagement definitions and measures as well as guidelines to improving them. • Provides a summary of the existing quantitative knowledge of antecedents and consequences of customer engagement. 	<ul style="list-style-type: none"> • Caution should be exercised in the CE domain. • Adoption of the multidimensional view of CE is encouraged to holistically manage customers. • Guidelines for the measurement of CE are provided. • In general, it may be worthwhile for managers to invest in marketing activities that increase CE levels.
II	<ul style="list-style-type: none"> • Sensory brand experience is identified as an interaction-based antecedent of all three dimensions of consumer brand engagement. • Supporting the findings of previous literature, involvement (interaction-based antecedent) is found to be positively related to all three dimensions of consumer brand engagement. • Brand equity is identified as a brand-related consequence of consumer brand engagement. 	<ul style="list-style-type: none"> • Managers can leverage CE to influence brand equity. • Managers can bolster CE levels by creating sensory experiences and increasing consumer's involvement.
III	<ul style="list-style-type: none"> • Personal innovativeness is identified as a trait-based antecedent of cognitive processing and affection. • Self-congruence is identified as an interaction-based antecedent of all three CE dimensions. • Supporting the findings of some previous literature, affection and activation are positively related to continuous usage intention of a service but cognitive processing does not influence it. • Perceived risk is identified as a positive moderator between affection and continuous usage intention of a service. 	<ul style="list-style-type: none"> • Managers can strengthen a consumer's intention to continue using a service by influencing CE. • In high-risk environments, managers should specifically focus on affection because it helps to mitigate the negative effect of perceived risk on continuous usage intention. • Managers can influence CE by increasing consumer's perceived fit between the self and a typical consumer of that service. • Managers can use personal innovativeness as a basis for segmentation, particularly in new service launch.

(continued)

TABLE 11 (continued)

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|----|---|--|
| IV | <ul style="list-style-type: none">• Psychological engagement is identified as a stronger driver of service continuance intention (service-related consequence of engagement) than either attitude or satisfaction when consumption is based on hedonic reasons.• Attitude and satisfaction are identified as stronger drivers of service continuance intention than psychological engagement when consumption is based on utilitarian factors.• Very little empirical evidence found supports the moderating effect of CE on the relationships between attitude and continuance intention and between satisfaction and continuance intention. | <ul style="list-style-type: none">• Managers should consider consumer's motivation for using a service (utilitarian vs. hedonic) when they determine the focus of their marketing efforts. |
|----|---|--|
-

The dissertation findings also show that multiple-indicator reflective measures of CE often raise concerns because they do not follow the general principles of measurement theory (Coltman et al. 2008; Jarvis et al. 2003). Thus, in numerous cases, it is not entirely clear what the applied CE measurement scales actually measure. This is problematic because measurement model misspecifications have been shown to bias results and thus lead to incorrect conclusions (Jarvis et al. 2003; Law and Wong 1999). The dissertation findings are broadly consistent with those of Jarvis et al. (2003), who reported that 28% of the measurement models of latent constructs with multiple items were incorrectly specified as reflective in top marketing journals. This problem, therefore, is not unique to CE but is widespread in academic marketing research. This dissertation, though, found that around 82% of the reflectively operationalized CE dimensions contained indicators that did not have the same meaning, a substantially higher figure than found of Jarvis et al. (2003). These issues discussed substantiate the time and effort required to improve CE measures, and this dissertation suggests helpful guidelines to do so.

Further, this dissertation contributes to understanding the relationships of CE. Paper I provides a profound and novel summary of the existing quantitative knowledge of antecedents and consequences of engagement. The conceptual framework by van Doorn et al. (2010) was adopted, and constructs were categorized into customer-, firm-, and context/society-related. The findings reveal that research has focused on customer-based antecedents and consequences, whereas firm- and specifically context-/society-related variables have gained less attention. This knowledge enables researchers to understand the relationships of engagement with regard to what has already been studied and what requires further attention. In general, CE has several psychological (e.g., attitude, identification, and commitment) and behavioral (e.g., word-of-mouth and consumption) consequences.² Nevertheless, the reader should consider that there are numerous issues that are related to definitions and operationalizations of CE that overshadow the interpretation of relationships; it is not always evident what engagement is supposed to represent, and the measurement practices employed often raise major concerns. In addition, definitions and measurement techniques may vary greatly, even within streams. Therefore, caution must be exercised when interpreting the relationships of CE.

While Paper I summarizes existing knowledge regarding the relationships of CE, Papers II–IV theoretically and empirically add new constructs to the nomological network of CE and re-examine the roles of previously studied concepts. Given that CE consists of three distinct components (Hollebeek et al. 2014), this exploration also contributes to micro-foundational research domains beyond CE. Specifically, research on cognitive processing increases knowledge in the information processing domain (e.g., Greenwald and Leavitt 1984; Petty and Cacioppo 1986), research on affection yields insights into the roles of consump-

² It is recommended that the reader consults Paper I for a comprehensive overview of different antecedents and consequences of CE.

tion-related emotions (e.g., Richins 1997; Russell and Mehrabian 1977), and research on activation contributes to the broad consumer behavior literature (e.g., Sirgy 1982; Trafimow and Borrie 1999).

This dissertation categorizes examined antecedents as trait- (personal innovativeness) and interaction-based antecedents (sensory brand experience, self-congruence, and involvement). The literature related to trait-based antecedents of CE is scant (for an exception, see Islam et al. 2017). Identifying personal innovativeness as an antecedent of the two CE dimensions (cognitive processing and affection), therefore, provides novel insights into the important influence of individuals' traits on cognitive and emotional investments in service interactions. It should be noted that this dissertation does not examine the relationship between personal innovativeness and activation because activation is measured as the share of service usage relative to the other services in the service category (see Hollebeek et al. 2014). This operationalization makes it likely that personal innovativeness influences the total usage of services in the category rather than the use of any one service relative to others. Given that the examined services (mobile banking and mobile payment) were relatively new and innovative applications, personal innovativeness likely represents a contextual antecedent of CE. In other words, the results are likely to differ if the engagement object is not considered to be new and innovative.

Brand experience (see Brakus et al. 2009) and brand engagement (see Hollebeek et al. 2014) are closely related (and even overlapping) modern marketing concepts, so examining their relationship is theoretically current. This dissertation advances knowledge by identifying sensory brand experience as an antecedent of all three components of CE. Previous contributions were limited to preliminary conceptual explorations of experience and engagement (e.g., Brodie et al. 2011; Calder et al. 2009), and more research is needed to establish solid connections between engagement and other dimensions of experience. The construct of self-congruence resembles the concept of self-expressive brand investigated by Leckie et al. (2016). However, self-congruence focuses more on the association between the self and a typical consumer of the brand (see Kim 2015), whereas a self-expressive brand emphasizes the relationship between the self and the brand (see Leckie et al. 2016). Conflicting with Leckie et al. (2016), this dissertation finds support for a positive relationship between self-congruence and activation, but the dissertation findings concerning cognitive processing and affection are similar to those of Leckie et al. (2016). In addition, previous studies (e.g., Hollebeek et al. 2014; Leckie et al. 2016) established involvement as an antecedent of CE dimensions. The findings of this dissertation support that relationship. However, previous research failed to sufficiently theoretically explain why involvement is related to each engagement dimension; the studies primarily focused on CE as an aggregate construct. This dissertation provides the theoretical basis for the relationships.

With regard to the consequences of CE, this dissertation reveals that CE may influence brand equity (brand-related outcome) and service continuance intention (service-related outcome). In the current literature, the relationships of

the three CE dimensions (cognitive processing, affection, and activation) with brand equity have remained unexplored. Brand equity, though, can be viewed as one of the most valuable brand-related assets (Keller 1993), so examining these relationships is extremely relevant to understanding the mechanisms creating brands valuable to both consumers and firms. Further, previous research (Fang 2017; Hollebeek et al. 2014) has shown that CE is related to consumption-related intentions, and this dissertation supports these findings. However, while the association may be positive at the aggregate level, the results indicate that cognitive processing – one of the components of engagement – has either a negative association or no relationship with service continuance intention. This finding is in line with Hollebeek et al. (2014) and Leckie et al. (2016), but contradicts the results of Harrigan et al. (2018). The likely explanation for this is that an increase in cognitive processing may be pleasurable on certain occasions (e.g., watching an interesting TV program) and perceived negatively at other times (e.g., using an online banking service). In addition, it was found that perceived risk strengthens the relationship between affection and continuous usage intention of a service. Specifically, context-dependency is one of the defining characteristics of CE (see Brodie et al. 2011), and this finding contributes to unveiling these context dependencies.

This dissertation also finds that psychological engagement (i.e., cognitive processing and affection) is a stronger driver of service continuance intention than either attitude or satisfaction when consumption is based on hedonic reasons. In contrast, attitude and satisfaction are stronger drivers when consumption is based on utilitarian reasons. Above all, these interesting findings emphasize the central role of motivation (hedonic vs. utilitarian) in the consumer's decision making. This novel contribution extends the findings of Calder et al. (2016); while their study only empirically compared the explanatory power of CE and satisfaction for newspaper consumption, this dissertation provides both theoretical justifications and empirical evidence from two different service settings (utilitarian and hedonic). Studies typically focus on establishing relationships rather than comparing the strength of associations (for another exception, see van der Heijden 2004), so this contribution is rare in the marketing and consumer literature. In short, this finding helps understand the role of CE in modern marketing.

Finally, this dissertation also examines the moderating role of CE, which has received scant attention in the literature: not a single study currently adopts Hollebeek et al.'s (2014) three-dimensional CE conceptualization and explores the moderating role of CE. Specifically, the moderating effect of engagement on both satisfaction-continuance intention and attitude-continuance intention relationships are investigated in this dissertation. Although there are theoretical reasons to consider CE as a negative moderator, very little empirical evidence is found in this dissertation. Nevertheless, the moderating effect on the attitude-intention relationship became statistically significant when behavioral engagement was omitted from the model in the hedonic setting (i.e., when CE consists only of psychological engagement). This provides some support for the rationale that consumers may prefer immediate enjoyment (i.e., psychological engagement)

over delayed utility (i.e., utilitarian benefits). In the utilitarian setting, consumers may be more eager to experience the expected utilitarian benefits than enjoyment, which might explain why a corresponding moderating effect did not emerge in the utilitarian context.

5.2 Managerial implications

Several implications for marketing practices are provided in three areas of CE: 1) meaning, 2) measurement, and 3) relationships (see TABLE 11). Given that there are many distinct views on CE, managers generally struggle to understand its meaning. This dissertation provides managers with a summary of different CE literature streams to facilitate the understanding of this focal domain. Consequently, managers can now identify a study within a wider framework when they read CE articles. This should mitigate the managerial confusion in a domain that is plagued by different and even conflicting views of CE. Imperfections in these definitions, which will help managers understand some of the limitations related to these views, are also identified. These considerations emphasize prudence when managers familiarize themselves with the CE concept. In essence, practitioners should note and accept that there is no consensus with regard to what engagement is in academic literature. Nevertheless, this dissertation encourages managers to adopt a multi-dimensional view on the CE concept because it enables holistic customer management. In this regard, the view proposed by Hollebeek et al. (2014) is a promising candidate.

This dissertation also provides a valuable summary of CE measurement practices for managers and measurement scales of engagement for many contextual settings, such as products, brand communities, and social media content. For example, managers can employ numerous types of objective behavioral data (e.g., transactions and Facebook likes) to capture behavioral engagement, but survey data are likely needed to measure psychological engagement. To capture psychological engagement with multiple items, the measurement scale applied by Cian et al. (2014) is recommended because it was found to follow the principles of reflective measurement. To capture brand engagement in self-concept, the use of the scale proposed by Sprött et al. (2009) is encouraged for the same reason. In general, the use of multiple indicators is often not feasible in practice, so managers may select appropriate single-item measures as long as the measures match the definitions of the constructs. This dissertation further provides insights into the shortcomings of some measurement scales and recommendations on how to improve CE measurement. From a managerial perspective, an awareness of the limitations of these measurement scales and potential remedies is essential to implementing high-quality marketing research in this domain. However, given that many current measurement scales raise major concerns, managers must generally be cautious regarding the measurement of CE.

This dissertation also provides managerial insights into the consequences of CE and ways to create engagement among consumers. CE generally has positive associations with numerous favorable consumer-based constructs, such as attitude, brand equity, and behavioral intentions. It, therefore, may be worthwhile for managers to invest in marketing activities that increase CE levels. However, managers should also consider dimension-level effects. For example, the dissertation results show that cognitive processing has a non-significant or even negative relationship with service continuance intention, whereas affection and activation have positive influences. Whether managers can increase the firm's economic performance through CE likely depends on the definition and operationalization of engagement adopted. In this case, the evidence seems to favor multidimensional views of CE. For managers interested in influencing the level of consumers' engagement, insights into the relevant consumer-, firm-, and context-based antecedents are provided. Still, managers should note that concerns related to CE definitions and measurement practices overshadow the interpretation of engagement relationships.

Managers should also consider consumers' reasons for service consumption. Specifically, this dissertation found that psychological engagement (i.e., cognitive processing and affection) has a stronger association with service continuance intention than attitude and satisfaction when consumption is based on hedonic reasons. In contrast, attitude and satisfaction have stronger relationships with continuance intention than psychological engagement when service use is driven by utilitarian factors. The focus of marketing efforts, therefore, should differ in utilitarian and hedonic service settings. For example, an active measurement of psychological engagement among customers is reasonable in hedonic services, but better key performance indicators for a utilitarian context exist. Generally, banking and payment services represent services used primarily for their utilitarian benefits, whereas entertainment services (e.g., movies and music) are mostly consumed for hedonic reasons.

5.3 Limitations and future research directions

Although all four papers that are reviewed here have their individual limitations, there are three general limitations related to this dissertation that must be addressed. The first concern is the generalizability of the results. In Paper I, the retrieved articles were eliminated from the final sample based on several criteria, which included the quality of the journal in which the paper was published. For this reason, it is possible that the results would deviate from the current findings if one examined all CE articles. Nevertheless, it appears counterintuitive that criticism directed to articles published in top academic journals would not also concern papers published in lower level journals. In Papers II-IV, the data were obtained through convenience sampling, so there is little guarantee that the results are generalizable to the entire population of interest. Moreover, there is no em-

empirical evidence that the results would be similar in other contexts, including different products/services, countries, and competitive environments. Future studies could more aptly support the findings of this dissertation in this regard.

The second concern is that because Papers II–IV rely on cross-sectional survey data, causal inferences are not warranted. Adopting longitudinal and experimental research designs would provide additional support for the findings. Nevertheless, theoretical mechanisms explaining the causality between the examined variables are proposed, providing some evidence for the empirical findings in this regard.

The third concern relates to the measurement of CE in Papers II–IV. Specifically, the operationalization by Hollebeek et al. (2014) suffers from one main issue underlined in Paper I: many of the intended reflective indicators of the three CE dimensions are not truly interchangeable, which violates measurement theory (see Jarvis et al. 2003). Although the operationalization of the construct raises concerns, the issue is not severely detrimental in this case because the adopted analysis method (partial least squares) does not assume a factor structure (cf. covariance-based structural equation modeling) but considers a latent variable to be a weighted sum score of its indicators (Henseler et al. 2009). This analytical method, therefore, is recommended when the measurement model includes composite indicators (Sarstedt et al. 2016).

Each paper also discusses its specific future research opportunities. Of these, improving both the definition and measurement of CE are the most critical because these two aspects provide the fundamental basis for further research. In the future, researchers must better emphasize the conceptual differences of CE in relation to other marketing concepts and show that their measures are also empirically distinct. This would enable a more comprehensive discussion of the importance of the CE concept in marketing theory and practice. In addition, discussing typologies and the valence of CE as well as increasing the application of objective data collection methods (e.g., brain imaging and eye-tracking) would be valuable. In terms of relationships of CE, more research is needed to explore firm- and, in particular, society/context-related antecedents and consequences of engagement (see van Doorn et al. 2010). Given the inconclusive findings, future research could further explicate the relationship between CE and a firm's economic performance. An interesting question would be whether customer engagement management leads to better financial performance than other customer management approaches (e.g., customer loyalty management and customer relationship management). Thus, it is evident that much more research on CE is needed in the future.

SUMMARY IN FINNISH (YHTEENVETO)

Kuluttajan sitoutumisen käsitettä edistämässä: ymmärrystä sen määritelmään, mittaamiseen ja suhteisiin

Kuluttajakäyttäytymisen ymmärtäminen on korostunut kilpailluilla globaaleilla markkinoilla. Niin liike-elämän johtajat kuin tutkijatkin ovat yhä enenevässä määrin kiinnostuneita kuluttajan sitoutumisesta (engl. *consumer engagement*). Kuluttajan sitoutumisen määritelmään, mittaamiseen ja suhteisiin muihin ilmiöihin liittyy kuitenkin paljon ristiriitoja ja epätietoisuutta. Tämä hidastaa merkittävästi käsitteen teoreettista kehitystä sekä soveltamista käytännön liike-elämässä. Tästä syystä tämän väitöskirjan tavoitteena on lisätä tietoa ja ymmärrystä näihin kolmeen aihealueeseen (määritelmä, mittaaminen ja suhteet) liittyen neljän eri tutkimuksen sekä kokoavan johdanto-osion avulla.

Tutkimus I tarjoo ensimmäisen systemaattisen ja kriittisen kirjallisuuskatsauksen asiakkaan sitoutumiseen markkinoinnin ja siihen liittyvien alojen kärki-lehdissä. Kyseinen kirjallisuuskatsaus jäsentää asiakkaan sitoutumisen tutkimusta eri vuosina sekä identifioi käsitteen kehityksen kannalta oleelliset tutkimukset lähdeluetteloanalyysin avulla. Sen jälkeen tutkimus erottelee neljä asiakkaan sitoutumisen päätutkimussuuntaa: 1) käyttäytymiseen perustuva suuntaus, 2) psykologinen suuntaus, 3) suuntaus, joka käsittelee sitoutumista käyttäytymisenä ja psykologisena ilmiönä, ja 4) kuluttajan piirteeseen perustuva suuntaus. Tarjottuaan tiivistelmän asiakkaan sitoutumisen määritelmistä sekä mittausmenetelmistä, tutkimus analysoi aiempia kvantitatiivisia tutkimustuloksia liittyen sitoutumisen suhteisiin muihin ilmiöihin. Tuloksista selviää, että asiakkaan sitoutumisella on positiivinen vaikutus moneen yrityksen näkökulmasta myönteiseen ilmiöön, kuten asenteeseen, brändipääomaan ja käyttäytymisaikomukseen. Aiemmat tutkimustulokset ovat kuitenkin ristiriidassa sen suhteen, onko asiakkaan sitoutuminen yhteydessä yrityksen taloudelliseen suoriutumiseen. Kriittisen arvioinnin pohjalta tutkimus kuitenkin toteaa, että sitoutumisen määritelmät eivät usein ole täsmällisiä, loogisia tai eroa muista markkinoinnin käsitteistä. Lisäksi sitoutumista mitataan usein mittaristoilla, joita ei ole erityisesti kehitetty sitoutumisen mittaamiseen, ja monet sitoutumisen mittarit eivät ole sopuosinussa mittausteorian kanssa. Tästä syystä asiakkaan sitoutumisen vaikutusten ja siihen vaikuttavien tekijöiden tulkinta on haasteellista ja jopa kyseenalaista.

Seuraavat kolme tutkimusta perustuvat empiiriseen aineistoon ja ne keskittyvät tutkimaan kuluttajan sitoutumisen vaikutuksia sekä siihen vaikuttavia tekijöitä. Sitoutumiseen vaikuttavat tekijät väitöskirja jakaa vuorovaikutus- (osallisuus [engl. *involvement*], minäyhteneväisyys [engl. *self-congruence*] ja aistillinen brändikokemus) ja piirrepohjaisiin (henkilökohtainen innovatiivisuus) muuttujiin. Sitoutumisen vaikutukset jaetaan palveluun (palvelun käyttöaikomus) ja brändiin (brändipääoma) liittyviin ilmiöihin. Kyseisissä tutkimuksissa kuluttajan sitoutumisen määritelmä perustuu Hollebeek et al.:n (2014) näkemykseen, jonka mukaan sitoutuminen voidaan käsittää positiivisena tiedollisena, tunteel-

lisena ja käyttäytymiseen liittyvänä toimintana vuorovaikutuksen aikana tai siihen liittyen. Heidän mukaansa sitoutuminen koostuu kolmesta ulottuvuudesta: kognitiivinen prosessointi (tiedollinen komponentti), kiintyminen (tunteellinen komponentti) ja aktivoituminen (käyttäytymiseen perustuva komponentti).

Tutkimus II selvittää, onko osallisuudella – joka määritellään brändin tärkeytenä kuluttajalle – ja aistillisella brändikokemuksella yhteys brändisitoutumisen kolmeen eri ulottuvuuteen. Lisäksi tutkimus tarkastelee, onko brändisitoutuminen yhteydessä brändipääomaan, jolla tarkoitetaan kuluttajan tavaramerkkiin kytkeytyvää reaktiota. Empiirinen aineisto on kerätty verkkokyselyn avulla suomalaisen astiastobrändin asiakkailta. Niin kuin muissakin väitöskirjan empirisissä tutkimuksissa, pääanalyysimenetelmänä tässä tutkimuksessa toimii osittainen pienimmän neliösumman (engl. *partial least squares*) menetelmä. Tutkimustulokset näyttävät, että osallistumista ja aistillista brändikokemusta kehittämällä, yritys voi parantaa kuluttajan kognitiivista prosessointia, kiintymystä ja aktivaatiota. Tämä on tärkeää, sillä brändisitoutumisella (ja erityisesti sen tunteellisella komponentilla) on edelleen merkittävä rooli brändipääoman synnyssä.

Tutkimus III tarkastelee minäyhteneväsyyden – joka määritellään kongruenssina kuluttajan minäkuvan ja palvelun tyyppillisen käyttäjän välillä – ja henkilökohtaisen innovatiivisuuden vaikutuksia kuluttajan sitoutumisen ulottuvuuksiin. Lisäksi tutkimuksessa selvitetään kuluttajan sitoutumisen eri komponenttien vaikutuksia palvelun käyttöaikomukseen. Näitä suhteita tutkitaan kahdella eri aineistolla, jotka ovat kerätty mobiilipankki- ja mobiilimaksusovellusten käyttäjiltä verkkokyselyn avulla. Tulokset osoittavat, että minäyhteneväisyys on positiivisesti yhteydessä kaikkiin kolmeen sitoutumisen ulottuvuuteen ja että henkilökohtaisella innovatiivisuudella on positiivinen yhteys kognitiiviseen prosessointiin ja kiintymykseen. Lisäksi kiintymyksellä ja aktivoitumisella on positiivinen yhteys palvelun käyttöaikomukseen, mutta yllättäen kognitiivisen prosessoinnin ja käyttöaikomuksen välillä ei ole suhdetta. Tuloksista käy myös ilmi, että kuluttajan kokema palvelun käyttöön liittyvä riski vahvistaa kiintymyksen ja käyttöaikomuksen välistä suhdetta, mikä tarjoaa yrityksille mahdollisuuksia parantaa palvelun käyttöaikomusta erityisesti korkeariskisissä kulutuskonteksteissa.

Myös tutkimus IV keskittyy kuluttajan sitoutumisen vaikutukseen palvelun käyttöaikomukseen, mutta tämän tutkimuksen päätavoitteena on verrata psykologisen sitoutumisen (kognitiivinen prosessointi ja kiintyminen) vaikutuksen voimakkuutta asenteen ja tyytyväisyyden vaikutusten voimakkuuteen. Asenne ja tyytyväisyys on valittu vertailukohteiksi, sillä ne ovat perinteisesti markkinoinnissa käytettyjä muuttujia, joilla pyritään selittämään ja ennustamaan kuluttajan käyttäytymistä ja käyttäytymisaikomuksia. Tutkimuksen keskeisenä ajatuksena on, että muuttujien selityskyky vaihtelee eri kulutuskonteksteissa; psykologiseen sitoutumiseen liittyy voimakas tunteiden kokeminen ja nautiskelu (hedonistiset hyödyt), mutta se ei ota samalla tavoin kantaa rationaalisten (utilitaaristen) hyötyjen saavuttamiseen kuin asenne ja tyytyväisyys. Kyselydata on peräisin mobiiliparkki- (utilitaarinen konteksti) ja mobiilimusiikkisovellusten

(hedoninen konteksti) käyttäjiltä. Tulokset osoittavat, että psykologinen sitoutuminen on parempi selittäjä palvelun käyttöaikomukselle kuin asenne ja tyytyväisyys silloin kun palvelun käyttö perustuu hedonistisiin tekijöihin; kun palvelun käyttö pohjautuu utilitaarisiin syihin, asenne ja tyytyväisyys ovat parempia käyttöaikomuksen selittäjiä kuin psykologinen sitoutuminen. Tämä tarkoittaa, että yritysten tulisi huomioida kulutuskonteksti suunnitellessaan markkinointitoimenpiteitään. Tuloksista käy lisäksi ilmi, että ennako-oletuksista poiketen kuluttajan kokonaissitoutumisella (tiedollinen, tunteellinen ja käyttäytymiseen perustuva sitoutuminen) ei ole vaikutusta asenteen ja käyttöaikomuksen tai tyytyväisyyden ja käyttöaikomuksen välisten suhteiden voimakkuuteen.

Tämä väitöskirja edistää markkinoinnin ja kuluttajakäyttäytymisen kirjallisuutta tutkimalla yhtä modernin markkinoinnin mielenkiintoisimmista ilmiöistä. Väitöskirja antaa kattavan yleiskuvan kuluttajan sitoutumisen määritelmästä, mittaamisesta ja tunnetuista suhteista. Liikkeenjohtajilla on paljon syytä sitouttaa asiakkaitaan, mutta väitöskirja kehottaa perehtymään nykyiseen sitoutumisen kirjallisuuteen kriittisesti. Tiivistetysti voidaan sanoa, että kuluttajan sitoutuminen on niin teoreettisesta kuin liikkeenjohdonkin näkökulmasta oleellinen markkinoinnin ilmiö, mutta se vaatii vielä paljon lisätutkimusta.

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ORIGINAL PAPERS

I

A SYSTEMATIC REVIEW OF THE CUSTOMER ENGAGEMENT LITERATURE

by

Janne Hepola & Matti Leppäniemi

Revised for second-round submission to European Journal of Marketing

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II

THE EFFECT OF SENSORY BRAND EXPERIENCE AND INVOLVEMENT ON BRAND EQUITY DIRECTLY AND INDIRECTLY THROUGH CONSUMER BRAND ENGAGEMENT

by

Janne Hepola, Heikki Karjaluoto, & Anni Hintikka 2017

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The effect of sensory brand experience and involvement on brand equity directly and indirectly through consumer brand engagement

Abstract

Purpose – This study examines the effect of sensory brand experience and involvement on brand equity directly and indirectly through cognitive, emotional and behavioral consumer brand engagement.

Design/methodology/approach – A survey was administered to the customers of a Finnish tableware brand using relevant Facebook channels. A total of 1385 responses were analyzed using partial least squares structural equation modeling.

Findings – The empirical findings suggest that both involvement and sensory brand experience are directly related to the three facets of consumer brand engagement. Further, involvement, sensory brand experience and consumer brand engagement jointly explain more than 50 % of the variance in brand equity. In addition, the results reveal that emotional engagement was the most influential factor in determining consumers' overall engagement level.

Research limitations/implications – The framework should be tested in other contexts and the application of longitudinal research setting is encouraged.

Practical implications – The study highlights not only the importance of holistic consumer brand engagement management but also the necessity to manage sensory aspects

of consumer-brand interactions. In this way, managers can build sustainable consumer-brand relationships.

Originality/value – The nomological network of consumer brand engagement is not well-known. This study integrates two central constructs (sensory brand experience and brand equity) with the concept of consumer brand engagement and examines their effects on brand equity both directly and indirectly through cognitive, emotional and behavioral consumer brand engagement.

Keywords Consumer brand engagement, Brand equity, Sensory brand experience, Formative measurement, Brand relationship

Introduction

In the marketing literature, the attention paid to consumer brand engagement (CBE) has been rapidly increasing (e.g., Brodie *et al.*, 2011; Hollebeek *et al.*, 2016; Pansari and Kumar, 2016). In fact, the Marketing Science Institute (MSI) has identified consumer engagement as a key research priority (MSI, 2014). In general, the concept is viewed as a strategic imperative that directly influences firm performance (Kumar and Pansari, 2016; Pansari and Kumar, 2016). Further, Dwivedi (2015) found that the substantial influence of CBE on consumer loyalty goes beyond the effects of perceived quality, value and satisfaction. Thus, in addition to being interesting from the theoretical perspective, it is evident that the concept also has important managerial implications.

Although there are various conceptualizations of engagement (e.g., Bowden, 2009; Calder *et al.*, 2009; Sprott *et al.*, 2009; van Doorn *et al.*, 2010; Kumar and Pansari, 2016),

many studies view engagement as a multi-dimensional phenomenon that consists of cognitive, emotional and behavioral dimensions (e.g., Brodie *et al.*, 2011; Hollebeek *et al.*, 2014; Dwivedi, 2015). In particular, Hollebeek *et al.* (2014, p. 149) define CBE as “a consumer’s positively valenced brand-related cognitive, emotional and behavioral activity during or related to focal consumer/brand interactions”. Unfortunately for marketing managers, the field remains in its infancy; despite recent efforts to extend the nomological network of cognitive, emotional and behavioral CBE (e.g., Hollebeek *et al.*, 2014; Leckie *et al.*, 2016), there is still much to be known about their antecedents and outcomes (Brodie *et al.*, 2011).

The state of affairs suggests a fruitful means to extend our knowledge in theoretical terms and to acquire important managerial insight by examining the nomological network of cognitive, emotional and behavioral CBE. Similarly to engagement, researchers have strongly started to emphasize the vital role of experiences in marketing (e.g., Brakus *et al.*, 2009; Lemon and Verhoef, 2016; Verhoef *et al.*, 2009). Still, the concepts of brand experience and brand engagement remain largely unconnected. In general, brand experience is defined as “sensations, feelings, cognitions, and behavioral responses evoked by brand-related stimuli that are part of a brand’s design and identity, packaging, communications, and environments” (Brakus *et al.*, 2009, pp. 52). One central difference between these two concepts seems to be that experiences do not presume a motivational state (Brakus *et al.*, 2009), whereas CBE is a motivational construct (Hollebeek, 2011b; Hollebeek *et al.*, 2014). However, distinguishing them is difficult in practice because they both have cognitive, affective and behavioral dimensions and the measurement items are almost identical (see Brakus *et al.*, 2009; Hollebeek *et al.*,

2014). This suggests that there is likely an overlap between these two constructs. For this reason, focusing on sensory brand experience, a dimension not associated with CBE (Brodie *et al.*, 2011; Hollebeek, 2011a; Hollebeek *et al.*, 2014), seems reasonable. From managerial perspective, this is relevant because it is known that multi-sensory brand experiences can be used to build customer equity (Hultén, 2011), that is, the value of customer to a specific company (Leone *et al.*, 2006).

Both academics and practitioners should also be interested in consequences of CBE beyond brand usage intent (Hollebeek *et al.*, 2014) and brand loyalty (Leckie *et al.*, 2016). In particular, brand equity (e.g., Leone *et al.*, 2006; Yoo *et al.*, 2000; Keller, 1993) is considered as a vital element of market success and is thus of high relevance to brand managers. For instance, given that brand equity concerns a different consumer response to branded than to unbranded products (e.g., Keller, 1993; Yoo and Donthu, 2001; Ailawadi *et al.*, 2003), brand equity can be viewed as one of the most valuable brand-related assets (Keller, 1993). By examining brand equity as a consequence of CBE, both managers and academics are better able to evaluate the importance of CBE.

The paper is arranged as follows: first, the theoretical framework and the related hypotheses are presented. Then, we describe our research methods after which we present the empirical results. The final section discusses the implications for academics and practitioners, the study's limitations and directions for future research.

Theoretical background

The theoretical discussion is based on three broader conceptual streams: the service-dominant logic, consumer culture theory and relationship marketing (cf. Hollebeek *et al.*, 2014). The service dominant logic views consumers as active co-creators of value (Vargo and Lusch, 2004, 2008) and consumer culture theory emphasizes the experiential aspects of consumption (Arnould and Thompson, 2005). In addition, relationship marketing with customer engagement incorporated views experiences as a mean for relationship management (Vivek *et al.*, 2012). These conceptual underpinnings help to understand the proposed research model in greater depth.

The investigated research model includes six measured variables in total (Figure 1). We examine the effect of personal involvement on CBE dimensions, namely cognitive processing (H1a), affection (H1b) and activation (H1c), and on brand equity (H2). Similarly, we investigate the influence of sensory brand experience on cognitive processing (H3a), affection (H3b), activation (H3c) and brand equity (H4). Weights (w_1 , w_2 and w_3) represent the importance of CBE dimensions in formation of the CBE construct. Finally, we examine the impact of formatively measured CBE on brand equity (H5).

---- INSERT FIGURE 1 ABOUT HERE ----

Nature of consumer brand engagement

CBE is based on interactions and the subsequent interactive experiences between the engagement subject and the engagement object (e.g., Hollebeek, 2011a, 2011b; Dwivedi, 2015). Generally, the marketing literature focuses on the consumer (e.g., Hollebeek *et al.*, 2014; Dwivedi, 2015) or the customer (e.g., Brodie *et al.*, 2011; Vivek *et al.*, 2012;

De Vries and Carlson, 2014) as the subject of engagement. However, engagement objects may vary. In particular, consumer engagement has been studied in the context of brands (e.g., Hollebeek *et al.*, 2014; Dwivedi, 2015), whereby the term “consumer brand engagement” has been adopted.

As previously mentioned, recent studies (e.g., Hollebeek *et al.*, 2014; Hollebeek and Chen, 2014; Dwivedi, 2015) emphasize the multidimensional nature of CBE. Although different dimensions have been proposed to capture the holistic nature of the concept (e.g., Hollebeek *et al.*, 2016; Vivek *et al.*, 2014), CBE is generally believed to consist of cognitive, emotional and behavioral dimensions (e.g., Hollebeek *et al.*, 2014; Hollebeek and Chen, 2014; Dwivedi, 2015). The relative importance of these engagement dimensions may vary according to context (Brodie *et al.*, 2011). Hollebeek *et al.* (2014) characterized CBE as the total cognitive, emotional and behavioral activity during/related to the interaction with engagement object and constructed a measurement scale for CBE. This type of activity/investment focus on interactions is adopted by many other studies (e.g., Hollebeek, 2011a, b; Hollebeek *et al.*, 2016). Hollebeek *et al.* (2014, p. 154) referred to these dimensions as cognitive processing, affection and activation:

Cognitive processing: “a consumer's level of brand-related thought processing and elaboration in a particular consumer/brand interaction”.

Affection: “a consumer's degree of positive brand-related affect in a particular consumer/brand interaction”.

Activation: “a consumer's level of energy, effort and time spent on a brand in a particular consumer/brand interaction”.

Similar dimensions can be identified in the literature. For example, immersion (e.g., Hollebeek, 2011b; Hollebeek and Chen, 2014), absorption (e.g., Dessart *et al.*, 2015; Dwivedi, 2015; Hollebeek, 2011a) and attention (e.g., Dessart *et al.*, 2015, 2016) are similar to cognitive processing. Passion (e.g., Hollebeek, 2011b; Hollebeek and Chen, 2014; Merrilees, 2016) and dedication (e.g., Dwivedi, 2015) are unlikely to differ significantly from affection. Finally, activation (e.g., Hollebeek *et al.*, 2014; Hollebeek, 2011b) resembles vigor (e.g., Dwivedi, 2015).

As an emerging concept, consumer engagement has been conceived of in several other ways (Table I). For example, a number of scholars (e.g., Sprott *et al.*, 2009; Goldsmith *et al.*, 2011, 2014) focus on the propensity of consumers to include brands in their self-concepts (brand engagement in self-concept). However, this approach limits the interactive nature of engagement (Hollebeek *et al.*, 2014). Calder *et al.* (2009) view engagement as an overall set of experiences (see also Vernuccio *et al.*, 2015). However, they conducted their study in the context of websites, not in the brand context. In addition, experience and engagement can be considered to represent different entities (Hollebeek *et al.*, 2014; Brakus *et al.*, 2009). We consider the approach represented, for instance, by Hollebeek and Brodie the most developed and thus adopt their concept of CBE.

---- INSERT TABLE I ABOUT HERE ----

Nature of brand equity

Brand equity can be viewed as the added value that is linked to a specific product by the consumer's thoughts, words and actions (Leone *et al.*, 2006). Keller (1993) stated that customer-based brand equity is associated with situations in which customers hold favorable, strong and unique brand associations in memory. Thus, products with high levels of brand equity would be considerably less valuable without the brand name. Many researchers (e.g., Ailawadi *et al.*, 2003; Keller, 1993) define brand equity as the difference in effects between a branded and an unbranded product. In particular, Yoo and Donthu (2001, p. 1) define brand equity as the "consumers' different response between a focal brand and an unbranded product when both have the same level of marketing stimuli and product attributes". Although brand equity (referred to as overall brand equity by Yoo and Donthu, 2001) can be operationalized as a tendency to choose branded product over similar unbranded product, customer-based brand equity consists of four components: loyalty, brand awareness, perceived quality and brand associations (Yoo and Donthu, 2001).

Role of personal involvement

Involvement has received attention as a required antecedent of CBE (e.g., Dwivedi, 2015; France *et al.*, 2016; Hollebeek, 2011a; Hollebeek *et al.*, 2014). Three types of involvement can be identified: (1) *situational involvement* is evoked in a particular situation; (2) *enduring involvement* relates to inherent and ongoing concern with an object; (3) *response involvement* refers to the extent of the decision-making process (Bloch and

Richins, 1983; Zaichkowsky, 1985; Houston and Rothschild, 1978). However, the general view of involvement emphasizes the relevance or the importance of the object (e.g., Greenwald and Leavitt, 1984; Petty *et al.*, 1983; Zaichkowsky, 1985, 1994). For example, Zaichkowsky (1985) defines involvement as “a person’s perceived relevance of the object based on inherent needs, values, and interest”.

The level of consumer motivation increases as a function of felt involvement (Bloch *et al.*, 1986; Zaichkowsky, 1984, 1994). If the object (e.g., brand) is relevant to the consumer, he or she is likely to exert greater cognitive efforts in analyzing the object-related situations and thus analyze them in greater detail (Greenwald and Leavitt, 1984; Celsi and Olson, 1988). Because consumer attention is focused on object-related information, the number of object-related thoughts and inferences relative to the number of overall thoughts is larger (Celsi and Olson, 1988). This phenomenon reflects a deeper level of object-related cognitive elaboration (Hollebeek *et al.*, 2014). Therefore, we propose the following hypothesis:

H1a. Personal involvement is positively related to cognitive processing.

Emotions arise from the cognitive appraisal of events or one’s own thoughts (e.g., Roseman, 1991; Smith and Ellsworth, 1985; Bagozzi *et al.*, 1999). Thus, positive emotions are responses to the favorable outcomes that consumers are motivated to achieve (Roseman, 1991; Bagozzi *et al.*, 1999; Johnson and Stewart, 2005), such as experiencing fun and pleasure, in addition to task-related objectives in the case of highly involved consumers (Mathwick and Rigdon, 2004; Bloch *et al.*, 1986). Consequently, a situation must be relevant to the consumer so that an emotional response may occur (Bagozzi *et*

al., 1999). If the outcome of an event is congruent with the consumer's desires or needs, the arising positive emotions are stronger for consumers with high personal involvement (Nyer, 1997). Therefore, we propose the following hypothesis:

H1b. Personal involvement is positively related to affection.

Highly involved consumers are motivated towards the object (e.g., Zaichkowsky, 1985, 1994), and the level of an individual's motivation is vital in determining the level of activation (Kroeber-Riel, 1979). For instance, Mittal and Lee (1989) relate product involvement to the interest in possessing the specific product. Thus, because consumers are involved with a specific object (e.g., brand), they are willing to invest more effort in it. For example, Clarke and Belk (1978) found that more stores were visited by shoppers searching for high-involvement products than for low-involvement products. In addition, Celsi and Olson (1988) found that the higher the felt involvement with product information was, the more time consumers spent attending to the product information. Thus, we propose the following hypothesis:

H1c. Personal involvement is positively related to activation.

Given that highly involved consumers are motivated towards the object due to the increased importance or relevance (Zaichkowsky, 1985, 1994), personal involvement should also be reflected in increased levels of brand equity. Compared with CBE, involvement is not based on an interactive relationship with the object (Brodie *et al.*, 2011). Thus, involvement represents a more passive phenomenon. However, involved consumers should respond differently to similar branded and unbranded products, which is commonly used as a sign of brand equity (e.g., Yoo and Donthu, 2001). Quester and

Lim (2003) found that interest and pleasure, two subcomponents of product involvement that were merged into one factor, had a positive effect on brand loyalty. This outcome is particularly interesting for this study because brand loyalty can be considered one of the components of brand equity (Aaker, 1991). However, such effects might be mediated through other constructs. For instance, Hollebeek *et al.* (2014) found that CBE fully mediates the effect of personal involvement on purchase intention. Nevertheless, we state the following hypothesis:

H2. Personal involvement is positively related to brand equity.

Role of sensory brand experience

Brakus *et al.* (2009) divided brand experience into four dimensions: intellectual, affective, behavioral and sensory experience. Given that consumers always use their senses to perceive products (Hekkert and Schifferstein, 2008), the sensory dimension can be viewed as a central dimension of brand experience. Sensory brand experience can be defined as “sensations [...] evoked by brand-related stimuli that are part of a brand’s design and identity, packaging, communications, and environments” (Brakus *et al.*, 2009, p. 52). These sensations may be related to any of the five senses: smell, sound, sight, taste and touch (Hultén, 2011; Fenko *et al.*, 2010). The different senses specialize in different types of information (Schifferstein, 2010). However, the literature (e.g., Bahrlick and Lickliter, 2000; Ernst and Bühlhoff, 2004) suggests that the larger the number of senses that are stimulated, the stronger and richer the experiences or other outcomes are.

However, the importance of different senses may vary during different periods of product use. During the purchase event, vision is the dominant sensory modality, whereas touch and audition become more important during later stages (Fenko *et al.*, 2010).

Object-related (e.g., brand) sensory information can capture the individual's attention and block other stimuli from entering the individual's mind (Biocca and Delaney, 1995; Spangenberg *et al.*, 1996), which supports object-related thought processing and elaboration. The breadth and depth of the sensory information affect the individual's plunging into something, which results in immersion (Shih, 1998; Carù and Cova, 2006).

Therefore, consumers may perceive that time passes faster if they are, for instance, in a scented environment (Spangenberg *et al.*, 1996) or hear a certain type of music (Kellaris and Altsech, 1992). In addition, these types of sensory expression can be a source of inspiration (Hultén, 2011) and thus increasing the level of brand-related cognitive processing. Based on these findings, we propose the following hypothesis:

H3a. Sensory brand experience is positively related to cognitive processing.

Sensory stimulation may provide aesthetic pleasure and excitement (Schmitt, 1999), and thus can be used to affect consumer emotional states (Hultén, 2011). Holbrook and Hirschman (1982) suggested that consumption partly relies on consumer fantasies, feelings and fun and that multisensory aspects should be used to understand enjoyment. In fact, Baumgartner *et al.* (2006) found that congruent visual and musical emotional stimuli automatically evoke strong emotional feelings and experiences. Beckman *et al.* (2013) found that sensory experience was a strong predictor of an individual's place dependence, which provides emotional benefits to the individual. In addition, scents and

music, for instance, may affect consumer affects (Ellen and Bone, 1998; Bruner, 1990). Therefore, we propose the following hypothesis:

H3b. Sensory brand experience is positively related to affection.

If consumers experience sensations, it is likely that they are willing to receive such stimulation again (Brakus *et al.*, 2009). Therefore, consumers are encouraged to invest their behavioral inputs in the specific relationship. For instance, Milliman (1982, 1986) found that music tempo variations may affect behavioral responses, such as the length of stay and the amount of purchases. Similarly, Spangenberg *et al.* (1996) found that the presence of ambient scent may increase various approach behaviors. In addition, Barnes *et al.* (2014) studied sensory brand experience in the tourism context and found that sensory brand experience had a positive impact on revisit intention. Accordingly, we propose the following hypothesis:

H3c. Sensory brand experience is positively related to activation.

Generally, brand experience has been empirically linked to brand loyalty (e.g., Brakus *et al.*, 2009), a subcomponent of brand equity (Aaker, 1991). The holistic nature of experiences makes it difficult for competitors to mimic them (Berry *et al.*, 2002; Gentile *et al.*, 2007), particularly in terms of sensory experiences that relate to five senses. Consequently, sensory brand experiences can form brand associations (Keller, 1993), which is a subcomponent of brand equity (Aaker, 1991). These sensory experiences help differentiate the brand in the minds of consumers (Hultén, 2011). In addition, consumers must re-interact with the same brand if they want to re-experience these experiences,

which creates a motivational force towards the brand. Therefore, we propose the following hypothesis:

H4. Sensory brand experience is positively related to brand equity.

Consumer brand engagement and brand equity

Generally, loyalty and purchase intention are identified as consequences of CBE (e.g., Dwivedi, 2015; Hollebeek *et al.*, 2014). Highly engaged consumers are holistically invested in the brand interactions (Hollebeek, 2011b; Hollebeek and Chen, 2014) and thus develop a deep bond with the brand (Dwivedi, 2015). Consequently, they are likely to have unique brand associations (Aaker, 1991; Keller, 1993). Consumers also tend to maintain these types of rewarding relationship (Homans, 1958). In addition, the benefits that CBE provides are linked to a specific brand (e.g., Brodie *et al.*, 2011; Dwivedi, 2015), which should inevitably increase brand equity. Therefore, we propose the following hypothesis:

H5. Consumer brand engagement is positively related to brand equity.

Methods

Data collection

The data were collected through an online survey targeted at customers of a Finnish tableware brand. Data collection platforms included the Facebook page of the brand and

other Facebook groups in which the brand's customers participate. The data were gathered during summer 2015. The survey items were translated by a native Finnish speaking researcher and back-translated by another Finnish speaking researcher.

In total, 1,385 responses were received (5 responses were eliminated because the respondents were younger than 18 years). The great majority of the respondents were female (95.3 %). We later established partial measurement invariance (Henseler *et al.*, 2016; $p > 0.05$) and conducted group comparison using PLS-MGA (Henseler *et al.*, 2009). We found that the structural estimates do not differ between female and male ($p > 0.05$), meaning that the large proportion of women does not bias the results. The age groups represented in the sample varied as follows. A total of 12.7% were between 18 and 25 years. A total of 24.7% were between 26 and 35 years. A total of 21.4% were between 36 and 45 years. A total of 23.3% were between 46 and 55 years, and 17.8% were 56 years or older. Further, the relationship duration with the brand varied as follows: less than 6 months (2.1 %), between 6 months and 4 years (9.9 %), between 5 and 20 years (47.1 %) and over 20 years (40.9 %). To evaluate nonresponse bias, a comparison of early (N = 400) and late respondents (N = 400) was conducted. The Mann-Whitney U test did not reveal any statistically significant differences between the two groups at $p < 0.05$, which suggests that nonresponse bias is not an issue.

Measurement

The measures (Appendix) were based on the following studies: personal involvement (Zaichkowsky, 1994; 10 items), sensory brand experience (Brakus *et al.*, 2009; 3 items), CBE dimensions (Hollebeek *et al.*, 2014; 10 items) and brand equity (Yoo and Donthu,

2001; 4 items). The selection of appropriate measurement model (reflective or formative) is critical because misspecification may severely bias the structural estimates (Jarvis *et al.*, 2003). The application of the reflective measurement model in the context of engagement seems to be widespread (e.g., Calder *et al.*, 2009; Dwivedi, 2015). Given the strong focus on the dimensional nature of engagement (e.g., Hollebeek *et al.*, 2014; Brodie *et al.*, 2011), we find it uncomfortable to apply such reflective models (see selection criteria from Jarvis *et al.*, 2003) in this context and instead apply the formative measurement model.

Empirical support for the formative measurement model was examined using confirmatory tetrad analysis (PLS-CTA) (see Gudergan *et al.*, 2008). We obtained the composite scores for different dimensions and used them as manifest variables. Because CBE had only three indicators, we followed the advice of Gudergan *et al.* (2008) and added one unrelated indicator. An indicator from the dependent variable with the highest cross loading (0.628) was selected. As in all evaluations of statistical significance in this study, the statistical significance of the results was tested using a bootstrapping procedure (Henseler *et al.*, 2009) with 5,000 sub-samples. The Bonferroni-adjusted 95 % bias-corrected bootstrap (two-tailed) confidence interval limits do not include zero ([0.232; 0.489]; [0.193; 0.439]) and thus support the second-order formative measurement.

Assessment of common method variance

Because of the applied data-gathering method, common method variance may influence the structural estimates of the model (Podsakoff *et al.*, 2003). To mitigate the effect of

common method variance, the respondents were allowed to answer anonymously, the questionnaire was kept short (44 items) and the items were formulated as unambiguously as possible. We used Harman's (1976) single-factor test to assess the effect of common method variance on the study results. The single factor, extracted using principal axis factoring with no rotation, explained only 41.7 % of the overall variance. Given that the one-factor solution does not account for the majority of the variance, common method variance is unlikely to bias the path model results (Podsakoff *et al.*, 2003). Further, following Podsakoff *et al.* (2003), a PLS model with a common method factor with indicators that included all the principal constructs was run, and each indicator's variance was substantively explained by the principal construct. This analysis shows that average variance substantively explained the variance of the indicators (0.720), while the average method-based variance was 0.005. Therefore, common method variance is unlikely to be a serious concern in this study.

Results

The structural model (Figure 1) was estimated using partial least squares structural equation modeling with SmartPLS 3.2 (Ringle *et al.*, 2015). We find this approach particularly applicable because of the theory-developing nature of this research and the necessity of applying a formative measurement model (Hair *et al.*, 2011).

Assessment of reflective measurement models

One indicator was removed due to low loading (< 0.4). The remaining loadings were high and significant ($p < 0.01$). Only the loading of the seventh indicator of personal in-

volvement (0.693) was lower than 0.7. In addition, the composite reliabilities and average variance extracted (AVE) values were over the suggested levels of 0.7 and 0.5, respectively (Hair *et al.*, 2011) (Appendix). Thus, convergent validity was established.

Discriminant validity was first evaluated through indicator cross loadings, which revealed that no indicator loaded higher on any opposing construct. Second, we applied Fornell and Larcker's (1981) criterion: the square root of AVE for each reflective construct was larger than the correlation between the latent variable and all other reflectively measured constructs (Table II). However, the correlation between affection and the formatively measured engagement construct exceeded the square root of AVE. This outcome was not unexpected and not critical in higher-order formative models (Hair *et al.*, 2013). Therefore, discriminant validity was established.

---- INSERT TABLE II ABOUT HERE----

Assessment of formative measurement model

Excessive collinearity between indicators is problematic in formative measurement models because it makes it difficult to separate the distinct effect of a particular indicator on a dependent variable (Diamantopoulos and Winklhofer, 2001). The VIF values for the different dimensions of CBE ranged from 1.393 to 2.214. They were substantially below the critical level of 10 (Henseler *et al.*, 2009), which suggests that multicollinearity is not a severe issue in this study. In addition, the weights of cognitive processing ($w_1 = 0.150$), affection ($w_2 = 0.592$) and activation ($w_3 = 0.431$) were all significant ($p < 0.01$). Thus, we can proceed with the proposed formative measurement model.

Assessment of structural model

Because the model includes dependent formative constructs, we adopted the repeat indicator approach with mode B and the path-weighting scheme, as suggested by Becker *et al.* (2012). The analysis of the structural relations reveals that personal involvement was directly associated with all dimensions of CBE, which supports H1a-c (Table III). Personal involvement was also positively related to brand equity, which supports H2. Similarly, sensory brand experience exhibited a positive impact on all CBE dimensions, which supports H3a-c. However, the total variance explained (R^2) was surprisingly low in activation. In addition, sensory brand experience positively influenced brand equity, which supports H4. Finally, CBE was connected with brand equity, which supports H5. In addition, when each CBE dimension was directly connected with brand equity, rather than via the formatively measured CBE construct, affection ($\beta = 0.237$) and activation ($\beta = 0.272$) exhibited a positive impact ($p < 0.01$), whereas cognitive processing ($\beta = 0.015$) had no effect. In this model, the effects of personal involvement ($\beta = 0.112$) and sensory brand experience ($\beta = 0.276$) on brand equity were also both significant ($p < 0.01$).

---- INSERT TABLE III AROUND HERE ----

We also assessed the indirect and mediation effects. The mediation analysis was conducted through assessing the significance of the indirect effect via the mediator using the bootstrapping procedure, as suggested, for example, by Preacher and Hayes (2008) and Zhao *et al.* (2010). The indirect effect of personal involvement on brand equity via CBE was 0.155 ($p < 0.01$) (a total effect of 0.246, $p < 0.01$). The VAF value of 0.630 indicates partial mediation (Hair *et al.*, 2013). Similarly, sensory brand experience exhibited an

indirect effect of 0.184 ($p < 0.01$) (a total effect of 0.436, $p < 0.01$). The VAF value of 0.422 indicates partial mediation (Hair *et al.*, 2013).

Discussion

This study extends the nomological network of CBE by integrating two constructs into it: sensory brand experience and brand equity. Sensory brand experience exhibited a positive impact on the cognitive (cognitive processing), emotional (affection) and behavioral (activation) dimensions of CBE. This topic is particularly intriguing because the relationship between experience and engagement is controversial (Hollebeek *et al.*, 2014; Calder *et al.*, 2009). However, the joint capability with personal involvement to explain variance in activation was weak. Given the strong focus on experiences in the modern marketing (e.g., Pine and Gilmore, 1998; Brakus *et al.*, 2009), this can be considered surprising. However, other types of experiences might be more capable of predicting consumer behavior (see Brakus *et al.*, 2009; Calder *et al.*, 2009). Therefore, other drivers of activation should be considered. Sensory brand experience also directly influenced brand equity. Consequently, these findings strengthen our understanding of sensory approaches as a vital tool in brand management (e.g., Hultén, 2011; Lindstrom, 2005; Beckman, 2013).

This study also empirically identified brand equity as an outcome of CBE. In particular, this is intriguing because brand equity can be viewed as one of the most valuable brand-related assets (Keller, 1993). Consequently, the results support the pivotal role of CBE in modern marketing. Previous studies suggest that CBE exhibits a positive effect on brand usage intent (Hollebeek *et al.*, 2014) and brand loyalty (Leckie *et al.*, 2016).

Therefore, our study provides more insight regarding the types of outcomes CBE has an effect on. In addition, we found that affection was the most important dimension in determining the overall engagement level, which highlights the central role of emotions in this context. However, when the effects of different CBE dimensions on brand equity were directly modeled rather than through the formative engagement construct, the effect of cognitive processing was not significant. This result resembles that of Hollebeek *et al.* (2014) in terms of the insignificant impact of cognitive processing on brand usage intention in the social media setting (see also Leckie *et al.*, 2016). Naturally, this outcome raises the question of the scale's functionality; one reason for the result might be that cognitive processing was relatively highly correlated with affection. Researchers might wish to reassess the scale and compare alternative scales (e.g., Dwivedi, 2015; Vivek *et al.*, 2014). Alternatively, cognitive processing simply does not influence these types of outcomes.

The study also offers several other theoretical contributions. We found that personal involvement had an indirect impact on brand equity via CBE. However, it also directly influenced brand equity (partial mediation). In their study, Hollebeek *et al.* (2014) found complete mediation in terms of the relationship between personal involvement, CBE and brand usage intention. Given that brand equity consists of loyalty, brand awareness, perceived quality and brand associations (Yoo and Donthu, 2001), personal involvement has likely influenced other components than loyalty in this case. For instance, the emotional nature of involvement (Zaichkowsky, 1994) may bias consumer's quality evaluations (Bagozzi *et al.*, 1999). It is also possible that affection insufficiently captures more intense emotions, such as passion (e.g., Hollebeek, 2011b; Hollebeek and

Chen, 2014), leading to a spurious significant direct effect of involvement in the tableware context (Hollebeek *et al.*, 2014 examined social media platforms). We also demonstrate that considering the definition and operationalization of CBE provided by Hollebeek *et al.* (2014) researchers should apply formative measurement instead of the commonly used reflective measurement if they wish to construct a higher-order model. Given that misspecification may severely bias the structural estimates (Jarvis *et al.*, 2003), this finding is particularly important and provides guidelines for future studies.

Managerial implications

This study has important implications for brand managers who aim to holistically engage consumers and build brand equity. Brand equity is essential in building the long-term success of firms (Leone *et al.*, 2006). Given the connection between CBE and brand equity, managers should focus on tactics and strategies that engage consumers. In particular, increasing the consumer's emotional activity and activation during the consumer/brand interaction are the two most important dimensions when the overall engagement levels are assessed. Consequently, managers should pay attention to both experiential and behavioral aspects of CBE. The results also suggest that sensory brand experience provides managers a way to build brand equity. Thus, brand managers should consider how they can harness five human senses to effectively co-create powerful sensations with their customers. Finally, managers may want to consider leveraging consumer's involvement with the brand although its direct impact is relatively small.

The dimensions of CBE (i.e., cognitive processing, affection and activation) can be affected by enhancing the level of personal involvement and co-creating sensory brand

experiences. In particular, strengthening personal involvement and sensory brand experience is an effective way to enhance the level of emotional engagement. However, managers need to consider other means to influence the level of activation because the two constructs did not have a particularly strong impact on activation; managers should evaluate the relevance of other types of experiences, such as affective experience, in driving behavioral engagement.

Limitations and future research

This study has some limitations. First, the study was conducted in the context of a single Finnish tableware brand. Thus, the results may vary in different contexts, such as in other industries and cultures. Second, brand equity was considered as an outcome of CBE. However, engagement is a process (e.g., Brodie *et al.*, 2011). Given that increased brand equity is also valuable to the customer (Aaker, 1991; Yoo *et al.*, 2000), future studies may highlight its role as an antecedent of engagement. Thus, to achieve a better understanding of the role of CBE, longitudinal studies would be important. Given that brand equity can be divided into different components (Yoo and Donthu, 2001), researchers might want to examine the different impact of consumer engagement on these components to derive additional insight. In addition, three-dimensional engagement studies are primarily qualitative, which calls for quantitative perspective to the CBE studies. Generally, understanding the different roles of engagement dimensions in various contexts requires additional quantitative studies.

In a more general level, researchers are encouraged to examine experience-engagement dichotomy to a greater extent in the future. Although there are some minor conceptual

differences proposed between the two concepts (Hollebeek *et al.*, 2014), the measurement scales for respective dimensions of experience (e.g., Brakus *et al.*, 2009) and engagement (e.g., Hollebeek *et al.*, 2014) are very similar in practice. For this reason, academics should be very accurate when defining these two concepts and creating measurement items for them. Researchers might also wish to evaluate different CBE measurement scales (e.g., Dessart *et al.*, 2016; Dwivedi, 2015; Vivek *et al.*, 2014) so that it could be better understood, how well, if at all, different consumer engagement studies can be compared.

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Table I Definitions of consumer brand engagement and its related terms

Author(s)	Term	Definition
Bowden (2009, p. 65)	Engagement	[A] psychological process that models the underlying mechanisms by which customer loyalty forms for new customers of a service brand as well as the mechanisms by which loyalty may be maintained for repeat purchase customers of a service brand.
Calder <i>et al.</i> (2009, p. 322)	Consumer engagement with website	[A] collection of experiences with the site.
Higgins and Scholer (2009, p. 102)	Engagement	Engagement is a state of being involved, occupied, fully absorbed, or engrossed in something—sustained attention.
Sprott <i>et al.</i> (2009, p. 95)	Brand engagement in self-concept	[A]n individual difference representing consumers' propensity to include important brands as part of how they view themselves.
van Doorn <i>et al.</i> (2010, p. 253)	Customer engagement behavior	[T]he customers' behavioral manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers.
Brodie <i>et al.</i> (2011, p. 260)	Customer engagement	[A] psychological state that occurs by virtue of interactive, cocreative customer experiences with a focal agent/object (e.g., a brand) in focal service relationships. It occurs under a specific set of context-dependent conditions generating differing CE [Customer Engagement] levels; and exists as a dynamic, iterative process within service relationships that cocreate value. CE plays a central role in a nomological network governing service relationships in which other relational concepts (e.g., involvement, loyalty) are antecedents and/or consequences in iterative CE processes. It is a multi-dimensional concept subject to a context- and/or stakeholder-specific expression of relevant cognitive, emotional and/or behavioral dimensions.
Hollebeek <i>et al.</i> (2014, p. 154)	Consumer brand engagement	[A] consumer's positively valenced brand-related cognitive, emotional and behavioral activity during or related to focal consumer/brand interactions.
Vivek <i>et al.</i> (2014, p. 401)	Customer engagement	CE [Customer Engagement] goes beyond purchase and is the level of the customer's (or potential customer's) interactions and connections with the brand or firm's offerings or activities, often involving others in the social network created around the brand/offering/activity.
Dwivedi (2015, p. 100)	Consumer brand engagement	[C]onsumers' positive, fulfilling, brand-use-related state of mind that is characterized by vigor, dedication and absorption.
Dessart <i>et al.</i> (2016, p. 409)	Consumer engagement	[T]he state that reflects consumers' individual dispositions toward engagement foci, which are context-specific. Engagement is expressed through varying levels of affective, cognitive, and behavioural manifestations that go beyond exchange situations.

Table II Discriminant validity

	INV	SBE	COG	AFF	ACT	CBE	BE
INV	.760						
SBE	.522	.867					
COG	.457	.512	.881				
AFF	.553	.564	.674	.862			
ACT	.301	.333	.365	.531	.935		
CBE	.529	.558	.706	.922	.800	n/a	
BE	.476	.567	.467	.609	.528	.667	.924
Mean	5.740	5.417	4.667	5.626	5.722	5.551	5.381
SD	.824	1.005	1.301	1.050	1.346	1.013	1.324

Notes: INV: personal involvement; SBE: sensory brand experience; COG: cognitive processing; AFF: affection; ACT: activation; CBE; formatively measured consumer brand engagement; BE: brand equity; n/a: not applicable; SD: standard deviation. The square root of AVE is presented on the diagonal.

Table III Structural model estimates

	<i>Path coefficient</i>	<i>t-value</i>	<i>Construct</i>	<i>R²</i>
H1a: INV → COG	.261***	7.623	Cognitive processing	.312
H1b: INV → AFF	.355***	9.793	Affection	.410
H1c: INV → ACT	.175***	5.015	Activation	.133
H2: INV → BE	.091***	3.611	Brand equity	.505
H3a: SBE → COG	.376***	12.551		
H3b: SBE → AFF	.379***	11.129		
H3c: SBE → ACT	.242***	6.838		
H4: SBE → BE	.252***	7.673		
H5: CBE → BE	.478***	13.051		

Note: *** $p < 0.01$ (two-tailed test).

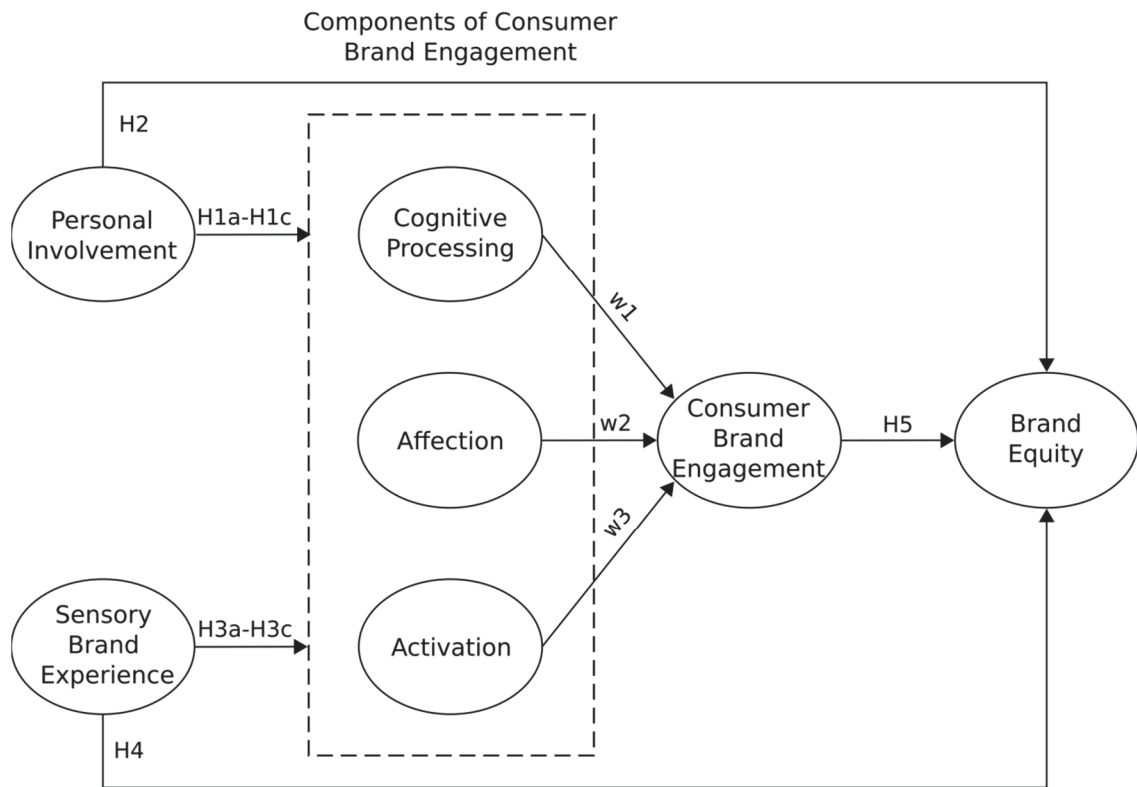


Figure 1 Research model

Appendix Survey items

Personal involvement (CR = 0.931, AVE = 0.577)

I think [brand] brand is...

1. unimportant—important
2. boring—interesting
3. irrelevant—relevant
4. unexciting—exciting
5. meaningless—meaningful
6. repulsive—appealing
7. mundane—exceptional
8. worthless—valuable
9. uninvolving—involving
10. not needed—needed

Sensory brand experience (CR = 0.858, AVE = 0.752)

1. [Brand] brand makes an impression on my visual sense and other senses.
2. [Brand] brand is interesting in a sensory way.
3. [Brand] brand does not appeal to my senses.*

Consumer brand engagement¹

Cognitive processing (CR = 0.912, AVE = 0.777)

1. Using [brand's] products gets me to think about [brand name] brand.
2. I think about [brand] brand a lot when I'm using their products.
3. Using [brand] products stimulates my interest to learn more about [brand] brand.

Affection (CR = 0.920, AVE = 0.743)

1. I feel very positive when I use [brand's] products.
2. Using [brand's] products makes me happy.
3. I feel good when I use [brand's] products.
4. I'm proud to use [brand's] products.

Activation (CR = 0.954, AVE = 0.874)

1. I use [brand's] tableware more than the tableware of other brands.
2. Whenever I'm using tableware, I usually use [brand].
3. When I use tableware, I use [brand's] products.

Brand equity (CR = 0.959, AVE = 0.853)

1. It makes sense to use [brand's] products instead of any other similar products.

2. Even if other tableware had the same features as [brand], I would still use [brand].

3. If there were other tableware as good as [brand], I would still use [brand].

4. If other tableware did not differ from [brand] in any way, I would still use [brand].

Notes: CR: composite reliability; AVE: average variance extracted; *: dropped; ¹: a higher-order construct that consists of cognitive processing, affection, and activation. All items were measured using a 7-point Likert scale except personal involvement, which was measured using a 7-point semantic differential scale.



III

CONSUMER ENGAGEMENT AND BEHAVIORAL INTENTION TOWARD CONTINUOUS USE OF INNOVATIVE MOBILE BANKING APPLICATIONS—A CASE STUDY OF FINLAND

by

Janne Hepola, Heikki Karjaluoto, & Aijaz Shaikh 2016

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Consumer Engagement and Behavioral Intention Toward Continuous Use of Innovative Mobile Banking Applications — A Case Study of Finland

Completed Research Paper

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Abstract

This study tests the effects of users' self-congruence and personal innovativeness on consumer engagement in the context of mobile banking (m-banking) and mobile payment (m-payment) applications. In addition, it examines the effects of engagement and perceived risk on continuous usage intention. We test our hypotheses with two convenience samples of users of m-banking and m-payment applications (total N=1516) using partial least squares structural equation modeling. The results show that a) self-congruence positively influences all three types of consumer engagement, b) personal innovativeness has a small effect on cognitive processing and affection, c) affection and activation have a positive impact on continuous usage intention, and d) perceived risk moderates the relationship between affection and continuous usage intention. The study contributes to the emerging consumer engagement literature and gives managerial insight into enhancing the level of consumer engagement and continuous usage intention of m-banking and m-payment applications.

Keywords: Consumer engagement, Mobile banking, Mobile payment, Self-congruence, Perceived risk, Continuous usage intention, Mobile applications

Introduction

Given the rapid innovation and development seen in mobile information systems and mobile finance, the ubiquitous characteristics of mobile banking (m-banking) and mobile payment (m-payment) applications, and the increasing consumer interest in adopting and using these applications for banking and payment purposes, mobile applications (m-applications) have gradually started to attract attention in academic research. In practice, m-applications have become an integral part of many consumers' daily life (Böhmer et al. 2011). In the banking sector, the rise of

m-applications is a natural part of the shift from over-the-counter services (such as branch banking) and ATMs to online banking.

Broadly speaking, m-banking is considered to be one of the innovative services offered by a financial services firm such as a bank for conducting financial (balance transfer, bill payment, making investments) and non-financial (balance inquiry, ATM location) transactions using a portable device, namely, a mobile phone, smartphone, or tablet (Shaikh and Karjaluo 2015, 2016). These m-banking services can be offered either through short messaging services (SMS) or downloadable m-banking applications.

An m-banking application requires an Internet connection on the mobile device, but SMS relies on standard Global System for Mobile Communication (GSM) networks (Shaikh and Karjaluo 2015). Further, prior research (e.g., Shaw 2014; Shin 2009) has largely considered mobile wallet (m-wallet) to be a much-advanced versatile m-application that, unlike m-banking applications, includes several elements such as conducting mobile transactions or m-payments that contain information related to membership cards, loyalty cards, and travel cards, and that store personal and sensitive information, including passports, credit card information, PIN codes, and online shopping accounts that can be encrypted.

The concept of consumer engagement is an emerging and interesting topic. Indeed, the Marketing Science Institute (MSI) has named consumer engagement as a key research priority (MSI 2014). Within the context of this recent call for prioritizing customer engagement (CE), additional research into the topic has just started to emerge in marketing and IS literature. In the context of m-applications, CE can be defined as a consumer's positively valenced mobile-application related cognitive, emotional, and behavioral activity during or related to focal consumer and m-application interactions (Hollebeek et al. 2014). In the brand domain, Dwivedi (2015) recently discovered that consumer engagement can bring additional predictive power to loyalty intentions when the effects of satisfaction, perceived value, and perceived quality are controlled for. This emphasizes the immense value that the concept of engagement can offer to academics and practitioners in various contexts. Given that studies on CE have primarily been conceptual or qualitative (e.g., Bowden 2009; Brodie et al. 2011, 2013; van Doorn et al. 2010; Vivek et al. 2012) with a few exceptions (e.g., Dwivedi 2015; Hollebeek et al. 2014; Leckie et al. 2016), this study will contribute to the emerging literature on consumer engagement in the m-banking and m-payment context.

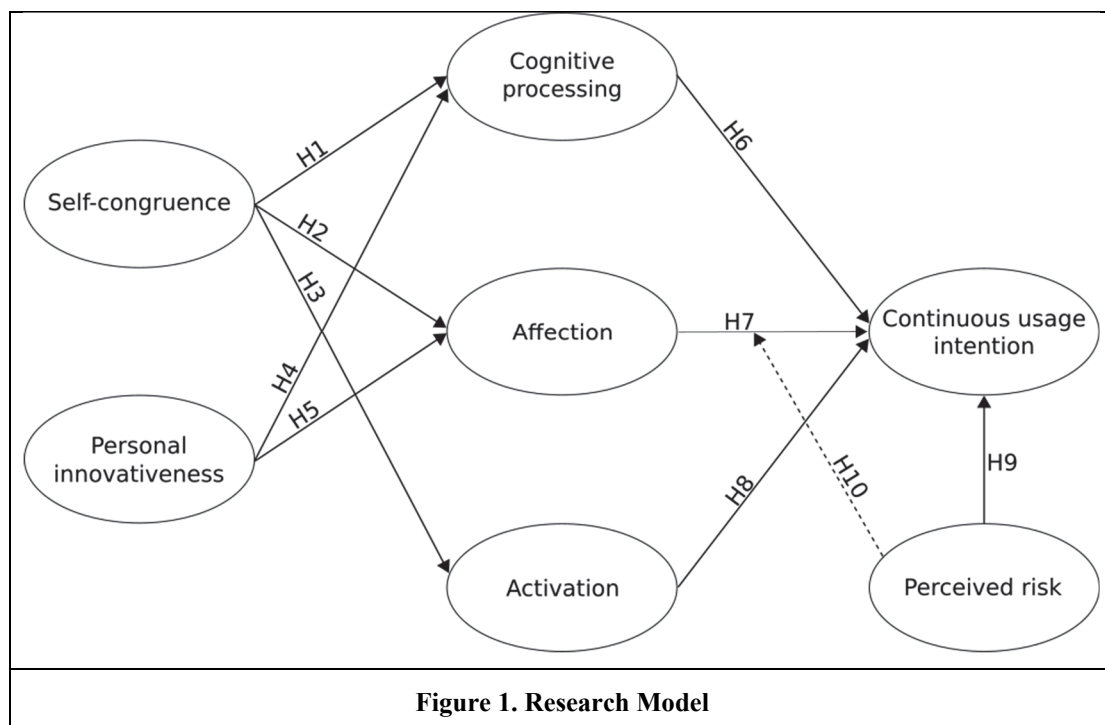
This study was conducted in Finland, which is considered one of the leading countries in online banking and mobile application use. Finland occupies a significant position in developing and deploying advanced wireless and digital banking infrastructure and has the lowest global costs for telecommunications network data. With respect to mobile devices, approximately 60 percent of users in Finland own a smartphone with access to the Internet, and 32 percent of Finnish households (approximately 5.4 million) use at least one tablet (Statistics Finland 2014). Despite this promising adoption and usage of portable devices, the personal computer has remained the most preferred device to access electronic banking services such as paying bills (Federation of Finnish Financial Services 2014). Against this backdrop, the purpose of this study is to examine the influence of cognitive (cognitive processing), emotional (affection), and behavioral (activation) engagement on consumers' intention toward continuous use of m-applications in Finland. We also study the role of perceived risk in the formation of behavioral intentions. Finally, we integrate two new constructs into the nomological network of consumer engagement: self-congruence and personal innovativeness, which are studied as antecedents of consumer engagement.

The paper is organized as follows: a theoretical framework is presented before detailing the research methods. Subsequently, we present the analysis and results. The concluding section discusses the implications of the findings for academics and practitioners, the limitations of the study, and directions for future research.

Theoretical Background

This study builds on the frameworks of service-dominant logic (Vargo and Lusch 2004, 2008), relationship marketing (Vivek et al. 2012), and technology acceptance (e.g., Kesharwani and Bisht 2012; Im et al. 2008). The basic tenet in our model is that consumer–service characteristics (self-congruence) and consumer–service category characteristics (personal innovativeness) holistically influence consumer engagement, because consumers are active co-creators of value (Vargo and Lusch 2004, 2008). Engagement is also characterized as feelings and experiences (cognitive and emotional engagement) (e.g., Brodie et al. 2011; Vivek et al. 2012; Hollebeek 2014) in addition to behavioral responses, and so it provides a means to retain existing customers and acquire new ones (Vivek et al. 2012). In general, several factors hinder the acceptance of new technology and the diffusion of innovations (see the TAM, UTAUT, UTAUT2, IDT models; e.g., Im et al. 2008; Kesharwani and Bisht 2012; Martins et al. 2014). Taking the context of this study (banking and payments in a mobile environment) into account, perceived risk is a relevant factor in determining the use of m-banking and payment applications (e.g., Luo et al. 2010; Chen 2013). Thus, perceived risk represents a potential direct counterbalance to consumer engagement.

The research model is illustrated in Figure 1, and it includes seven constructs and ten hypotheses in total. It should be noted that we do not hypothesize any relationship between personal innovativeness and activation, because activation measures the relation between usage of a specific m-application and usage of other m-applications in the given service category (see Hollebeek et al. 2014). If activation measured only behavior related to the specific mobile application (e.g., usage duration and frequency), then we would expect personal innovativeness and activation to be linked.



Nature of Consumer Engagement

Although consumer engagement has not received much attention in the marketing domain until recently, it has been studied in other related academic disciplines, such as sociology, psychology, and organizational behavior (Brodie et al. 2011). Marketing researchers have started to study the phenomenon specifically in the service (e.g., Jaakkola and Alexander 2014; Calder et al. 2016) and mobile contexts (e.g., Kim et al. 2013a; Kim et al. 2013b). Although researchers have not yet reached a consensus on the nature of consumer engagement (see Table 1 for different definitions),

engagement is generally considered to be based on interactions between the engagement subject and the engagement object (e.g., Hollebeek 2011; Brodie et al. 2011).

Table 1. Literature Review of Engagement			
Author(s)	Term	Definition	Dimensionality
Calder et al. (2009)	Consumer engagement with website	A collection of experiences with the site.	Eight different experiences
Sprott et al. (2009)	Brand engagement in self-concept	A person's tendency to incorporate his or her own favorite brands into the self-concept.	Unidimensional
van Doorn et al. (2010)	Customer engagement (CE) behaviors	The customer's behavioral manifestation toward a brand or firm, beyond purchase, resulting from motivational drivers.	Behavioral
Brodie et al. (2011)	Customer engagement	A psychological state that occurs by virtue of interactive, co-creative customer experiences with a focal agent/object (e.g., a brand) in focal service relationships. It occurs under a specific set of context-dependent conditions generating differing CE levels and exists as a dynamic, iterative process within service relationships that co-create value. CE plays a central role in a nomological network governing service relationships in which other relational concepts (e.g., involvement, loyalty) are antecedents and/or consequences in iterative CE processes. It is a multidimensional concept subject to a context- and/or stakeholder-specific expression of relevant cognitive, emotional, and/or behavioral dimensions.	Cognitive, emotional, and behavioral
Hollebeek et al. (2014)	Consumer brand engagement	A consumer's positively valenced brand-related cognitive, emotional, and behavioral activity during or related to focal consumer-brand interactions.	Cognitive processing, affection and activation
Vivek et al. (2014)	Customer engagement	CE [Customer Engagement] goes beyond purchase and is the level of the customer's (or potential customer's) interactions and connections with the brand or firm's offerings or activities, often involving others in the social network created around the brand/offering/activity.	Conscious attention, enthusiastic participation and social connection
Dwivedi (2015)	Consumer brand engagement	Consumers' positive, fulfilling, brand-use related state of mind that is characterized by vigor, dedication, and absorption.	Vigor, dedication and absorption

Table 1. Literature Review of Engagement

Many researchers highlight the behavioral, cognitive, and emotional dimensions of consumer engagement (e.g., Brodie et al. 2011; Hollebeek et al. 2014; Dessart et al. 2015). In particular, Hollebeek et al. (2014) constructed a measurement scale for consumer engagement in the social media context and referred to these three dimensions as cognitive processing, affection, and activation. These dimensions are theoretically and empirically separate constructs (Hollebeek et al. 2014), which means that their nomological network may differ, and they may or may not have different antecedents, outcomes, and moderators. In addition, they have varying roles in different contexts and thus lead to differing engagement levels (Brodie et al. 2011).

It is our perspective that Hollebeek et al. (2014) provide a fruitful conceptualization of consumer engagement in this study, because 1) their measurement scale was developed in a similar context (online services), and 2) the study captures the cognitive, emotional, and behavioral elements of consumer engagement that the recent literature emphasizes.

Self-congruence

The terms “self-congruence (SC),” “self-image congruence/congruity,” “self-congruity,” or “image-congruence” are used interchangeably in the consumer behavior and IS literature. The main attention of self-image congruity is focused on the image projected by various products and services (Sirgy 1982). Consequently, the term “self-congruity” is defined as the extent to which an individual’s self-image is congruent with the typical brand-user image (Kim 2015; Sirgy 1982). In general, consumers are thought to prefer products with images that are congruent with their self-image (Swann 1983; Swann et al. 1990). Perhaps the notion that products have dimensions beyond functional utility is a singular contribution to consumer behavior (Landon 1974). Prior studies (e.g., Verone 2015; Thomas et al. 2015; Aguirre-Rodriguez et al. 2012) have shown that companies should not underestimate the power of SC due to its significant impact on consumer behavior and that SC is vital to achieve positive brand attachment and consistency over a long period of time (i.e., continuous use) as well as sustainable competitive advantage and brand equity.

The term “cognitive processing” concerns a consumer’s level of m-application related thought processing and elaboration when interacting with a specific m-application (Hollebeek et al. 2014). Given that individuals view it important to verify, validate, and sustain their self-concepts (Swann 1983), the relationship between SC and cognitive processing can be explained through the increased motivation to elaborate consumer–mobile service interactions; in general, if consumers consider the m-application relevant or important to them, they are likely to exert greater cognitive efforts in analyzing the m-application related situations and further analyze them in greater detail (Greenwald and Leavitt 1984; Celsi and Olson 1988). For instance, Xue and Phelps (2013) studied SC in the advertising context and found that congruence between a consumer’s self-concept and brand image in an ad will generate stronger brand interest (i.e., an increased motivation to invest cognitive resources). Thus, we propose the following hypothesis:

H1: SC positively influences cognitive processing

The term “affection” refers to the extent of a consumer’s positive m-application related affect in a particular consumer and m-application interaction (Hollebeek et al. 2014). According to self-verification theory, consumers are motivated to verify, validate, and sustain their current self-concepts (Swann 1983; Swann et al. 1990). When consumers succeed in the pursuit of this goal, positive emotions should be elicited (Bagozzi et al. 1999). In two empirical studies, Malär et al. (2011) examined 167 brands and showed that a consumer’s actual SC generates an emotional positive response toward the brand. In addition, Xue and Phelps (2013) found that the increased degree of congruence between a consumer’s self-concept and the brand image in an ad leads to affective responses. Consequently, we pose the following hypothesis:

H2: SC positively influences affection

Activation is a consumer’s level of energy, effort, and time spent on a specific mobile service (Hollebeek et al. 2014). In general, consumers tend to avoid experiences that pose a threat to their self-concept and, as a result, a motivational force pushes them away from such experiences (Swann 1983; Swann et al. 1990). Thus, consumers should be more likely to spend time using mobile services that they consider to be consistent with their self-concepts (Stern et al. 1977; Sirgy et al. 2000). Consistent with this reasoning, we propose the following hypothesis:

H3: SC positively influences activation

Personal Innovativeness

Personal innovativeness (PI) is a personality trait that refers to a consumer’s technophilia or tendency to willingly embrace change and try new things (Lin and Filieri 2015). Generally, PI is defined as the willingness of an individual to try out any new information technology or information system (c.f. Agarwal and Prasad 1998). Users of information systems with this trait are willing to take chances, and they are able to cope with high levels of risk and uncertainty (Thakur et al. 2016).

Previous research has investigated PI in pre-adoption and post-adoption studies and demonstrated that PI has a moderating effect between perceptions about new information technology (IT) and intention to use new IT continuously (Hwang 2014). In line with Thakur and Srivastava (2014), as m-applications are a relatively new technology, the PI of consumers is expected to play an important role in the pre-adoption and continuous usage of an innovative product or service such as m-banking. For instance, Lu et al. (2005) revealed a strong relationship between social influences, PI, usefulness, and ease of use in the context of the intention to adopt wireless Internet services.

Given that personally innovative consumers have a willingness to try out new technologies (Agarwal and Prasad 1998; Lu et al. 2005; Lin and Filieri 2015), they should be likely to invest more cognitive resources in these interactions than consumers that are not as eager to test new technologies; PI can thus be viewed as a personal characteristic that provides an internal motivation (Agarwal and Prasad 1998; Lu et al. 2005). In accordance with this idea, Agarwal and Karahanna (2000) found that PI had a strong impact on cognitive absorption — deep involvement characterized by temporal dissociation, focused immersion, heightened enjoyment, control, and curiosity — in the online technology context. Based on these findings, we propose the following hypothesis:

H4: PI positively influences cognitive processing

Similar to the relationship between PI and cognitive processing, the relationship between PI and affection can be examined from the motivational perspective. Given that PI provides an internal motivation to test new technologies (Agarwal and Prasad 1998; Lu et al. 2005), the use of newly introduced technology can be viewed as valuable *per se*, because it induces feelings and is fun (Holbrook and Hirschman 1982; Holbrook 2006). Because of the nature of the concept of PI, low-scoring consumers are unlikely to view the testing of new technologies as purely valuable. Personally innovative consumers also perceive the technologies to be more useful and easier to use than consumers that are not personally innovative (Lu et al. 2005), further eliciting more positive emotional responses in the case of personally innovative consumers. As has already been mentioned, Agarwal and Karahanna (2000) found a positive relationship between PI and cognitive absorption; in their model, cognitive absorption was modeled as including a dimension of heightened enjoyment, which resembles the emotional dimension of consumer engagement. This provides partial empirical support for the relationship. Thus, we pose the following hypothesis:

H5: PI positively influences affection

Engagement and Continuous Usage Intention

Observed consumer behavior is a function of different consumption values (Sheth et al. 1991). When consumers cognitively engage with the m-application, they have many brand-related thoughts during the focal interaction and are likely to be fully absorbed in the situation (Hollebeek et al. 2014; Dessart et al. 2015); the cognitive dimension of consumer engagement relates to positive experiences (Vivek et al. 2012; Hollebeek et al. 2014), which by themselves would offer a reason for the usage of a mobile service (Holbrook 2006). These types of immersive experiences are desirable for the consumer (Carù and Cova 2007). Similarly, Higgins and Scholer's (2009) regulatory engagement theory suggests that engagement, defined as being involved, occupied, fully absorbed, or engrossed (i.e., the cognitive dimension of engagement, cf. Hollebeek et al. 2014; Dwivedi 2015), creates a motivational force toward an object. However, contrary to their expectations, Hollebeek et al. (2014) found that cognitive processing did not affect the usage intention for social media. As the effect still remains somewhat unclear, we want to further examine it, and propose the following hypothesis:

H6: Cognitive processing is positively related to continuous usage intention

In general, the purpose of consumption may be to pursue fantasies, feelings, and fun (Holbrook and Hirschman 1982; Holbrook 2006). Consequently, positive emotional responses, such as pleasure, may lead to approach responses (Mehrabian and Russell 1974). These types of approach behaviors relate to a desire to move toward, spend time in, and return to the specific environment (Donovan and Rossiter 1982); positive feelings during m-application usage should thus lead to an increased intention to keep using the mobile service. Several similar concepts, such as perceived enjoyment and emotional value, have empirically been linked to various behavioral intentions in the mobile service context (e.g., Nysveen et al. 2005; Liao et al. 2007; Pihlström and Brush 2008).

Hollebeek et al. (2014) also found that affection has an influence on usage intention of social media. Hence, we propose the following hypothesis:

H7: Affection is positively related to continuous usage intention

Various studies (e.g., Speckart and Bentler 1982; Oullette and Wood 1998; Wu and Kuo 2008) have shown that past behavior can be used to predict future behavioral intentions. The explanations for this relationship vary; it is claimed that (1) individuals' traits, (2) individuals' desire to act consistently, (3) the attitude change that is caused by past behavior, and/or (4) the priming effect, in which past behavior increases the accessibility of the behavior in the memory, cause the predictive power of past behavior on future behavioral intention (see Trafimow and Borrie 1999). Consequently, if consumers have frequently used the specific m-application over other applications in a given category, they should report a higher intention to use that specific m-application in the future. Hollebeek et al. (2014) also specifically linked activation and usage intention in the social media context. Thus, we pose the following hypothesis:

H8: Activation is positively related to continuous usage intention

Perceived Risk and Continuous Usage Intention

Although perceived risk (PR) theory has been used to explain consumers' behavior since the early 1960s (Lee 2009), its inevitability was realized after the advent of online or e-commerce financial transactions in the recent past. Here Aldás-Manzano et al. (2011) found that the risk associated with possible losses arising from online banking transactions are greater than in traditional environments. Similar to these arguments, the Federal Reserve Bank (FRB 2012) explained that the consumer adoption of m-banking and m-payment technologies are impeded by security concerns and, therefore, consumer attitudes regarding whether m-banking or m-payment technologies are adequately secure is correlated with their use of these technologies.

Particularly in the context of online financial transactions, PR is defined as a perception about implicit risk in using the open Internet infrastructure to exchange private information (Chen 2013).

Earlier studies (e.g., Aldás-Manzano et al. 2009; Kesharwani and Bisht 2012; Martins et al. 2014) have vigorously debated the influence of PR on consumer purchase and usage intentions and examined its relationship to different antecedents such as continuous usage; in the majority of the studies, this relationship between PR and continuous usage was found to be negative. PR is an important factor affecting the customer's intention to use m-banking (Chen 2013) or Internet banking (Martins et al. 2014), and according to Laukkanen (2016), the intention to use online banking channels is adversely affected by different facets of PR, such as security risk, privacy risk, and financial risk. Furthermore, PR has been considered to be negatively related to buyers' repeat purchase intention (Chiu et al. 2014) and usage intention (Zhou 2013). Thus, it is hypothesized that:

H9: PR negatively influences continuous usage intention

Based on the current literature, we expect that PR moderates one relationship related to consumer engagement and continuous usage intention, namely, the affection-continuance intention relationship. The higher levels of PR may shift the consumers' focus from utilitarian gains to pleasurable experiences (O'Curry and Strahilevitz 2001; Chiu et al. 2014). This type of sensation-seeking behavior is reflected as a willingness to take risks to obtain such experiences (Zuckerman 1979; Arnett 1994), and customers may be less sensitive to utilitarian losses under such circumstances (Bowden 2009). Consequently, the effect of affection on continuous usage intention of an m-application should be higher when risks are perceived to be high. The effect of PR is very different from situations in which consumers expect to receive some sort of utilitarian gain (Chiu et al. 2014). Accordingly, we propose the following hypothesis:

H10: PR strengthens the relationship between affection and continuous usage intention

Method

Data Collection

The data were collected from m-banking and m-payment application users from Finland during a six-week period beginning in July 2015 (from 7/22/2015 to 9/3/2015). The data gathering focused on two types of m-applications: a typical m-banking application and a newly launched (late 2013) m-wallet application (called *Pivo*). In addition to information related to the personal banking account, the latter contains information about payment cards and users' favorite stores based on the current location. The questionnaire was made available on the participating banks' Facebook pages, meaning that the sampling method was convenience sampling. The survey items were first translated from English to Finnish by a researcher who was a native Finnish speaker. To ensure consistency, the items were back-translated into English by a different researcher. Slight changes to the items' wording were made in the screening process of the questionnaire. Lastly, three managers from a financial institution involved in the research checked that the items' wording matched the terms that the financial industry uses in its vocabulary.

A total of 1516 responses were received. The majority of them were m-banking application users (N=992), and the rest were m-wallet users (N=524). In terms of gender, both samples were almost equally split into female and male (Table 2). In terms of age, both samples were skewed toward younger respondents, as around one-fifth of the respondents were between 18 and 25, and over 60% were between 26 and 49. Less than 20% of the respondents were over 50. The respondents were experienced users of m-banking and m-wallet applications, as merely 11% had less than three months of experience with using the application. In the m-banking application sample, around 65% had experience of more than one year; in the m-wallet sample, three-fourths had used the application for more than six months. The majority of m-banking application users (66.8%) and m-wallet users (73.5) had used the application 1–3 days ago.

This sample mirrors the Finnish population well in terms of gender (of the adult population in Finland, 51% are female) and income (the average income in Finland is 2330 EUR), but it is skewed toward younger consumers, as around 83% were 18–49 (in the whole population, around 50% are 18–49) (Statistics Finland 2014). However, the samples are in line with previous studies on m-banking users in general (e.g., Luarn and Lin 2005; Laforet and Li 2005). To assess response bias, comparisons of early ($N_{m-banking} = 200$; $N_{m-wallet} = 100$) and late respondents (N = equivalent to the early respondents) were conducted. The Mann-Whitney U test did not reveal any statistically significant differences between the two groups at $p < 0.05$, except in the case of PR in the second sample. Based on further analyses¹, we do not consider nonresponse bias a severe issue in this study.

	m-banking		m-wallet	
	N	%	N	%
<i>Gender</i>				
Female	529	53.3	277	52.9
Male	463	46.7	247	47.1
<i>Age</i>				
18–25	180	18.1	114	21.8
26–34	278	28.0	172	32.8
35–49	344	34.7	164	31.3
50–64	165	16.6	64	12.2

¹ We later conducted a group comparison and found no differences between the two groups in terms of relationships that involve perceived risk.

65 or older	25	2.5	10	1.9
<i>Monthly household income (gross EUR)</i>				
Below 2000	181	18.3	114	21.8
2001–4000	337	33.9	191	36.4
4001–6000	239	24.1	109	20.8
6001–8000	153	15.5	73	13.9
8001 or more	82	8.2	37	7.1
<i>Experience of use</i>				
Less than 3 months	107	10.8	58	11.1
3–6 months	76	7.7	73	13.9
6–12 months	169	17.0	133	25.4
1–2 years	334	33.7	218	41.6
2–4 years	261	26.3	40	7.6
Over 4 years	45	4.5	2	0.4
<i>Time from last usage</i>				
1–3 days	663	66.8	385	73.5
4–7 days	128	12.9	78	14.9
Around 2 weeks	63	6.4	19	3.6
Around 1 month	40	4.0	10	1.9
Over 1 month	98	9.9	32	6.1

Table 2. Profile of Respondents

Measurement

We used established scales to measure the study constructs (see the Appendix A). The three items measuring SC were taken from Sirgy (1985). PI was measured with four items adopted from Lu et al. (2005). Cognitive processing, affection, and activation were measured using ten items in total that were adopted from Hollebeek et al. (2014). PR was measured with the scale used by Karjaluoto et al. (2014), including three items. Continuous usage intention was measured through the three items used by Zhou (2013).

Although the differences between the two groups are not hypothesized, we preferred to assess potential differences empirically, because the m-wallet application also offers other non-mobile banking related benefits. Establishing measurement invariance is a prerequisite of group comparisons (Rigdon et al. 2010; Vandenberg and Lance 2000). If measurement invariance is not established, the same constructs are not measured (Little 1997; Steinmetz et al. 2009), making the group comparison useless. We used the same indicators, treated the data identically, and applied identical settings to establish the configural invariance (Henseler et al. 2016). Next, we tested the compositional invariance using a nonparametric MICOM procedure with 5,000 permutations (Henseler et al. 2016). The c values of the multiple indicator measures were not significantly different from 1 ($p > 0.05$). Therefore, partial measurement invariance was established, and a group comparison could be conducted. Furthermore, we could not pool the data because some means and variances of the studied constructs differ among the two sub-groups (i.e., full measurement invariance was not established; Henseler et al. 2016).

Assessment of Common Method Bias

As with survey studies in general, common method bias is also present to some extent in this study. The marker variable approach was used to assess its effects on the study results (e.g., Lindell and Whitney 2001; Malhotra et al. 2006). A single item measure “I am going to stay being a customer of [the bank] also in the future” on a seven-point Likert scale anchored by strongly disagree/strongly agree served as a marker, and this item was expected to be theoretically unrelated

to indicators of PI. The highest correlations between the marker and the indicators of PI were 0.056 for the m-banking sample and 0.070 for the m-wallet sample (both $p > 0.05$). These correlations, which served as proxies for common method variance, were below the level that would significantly affect the studied structural relations (Malhotra et al. 2006). As a result, we do not consider common method variance a serious issue in this study.

Results

The structural model (Figure 1) was estimated using partial least squares structural equation modeling (PLS-SEM) with SmartPLS 3.2 (Ringle et al. 2015). We find this method very applicable in this context due to our focus on predicting key target constructs and identifying key antecedents (see Hair et al. 2017). Given the recent appearance of the concept of consumer engagement in the consumer behavior (marketing) and information system contexts, the emphasis is on the exploration of the nomological network of consumer engagement through the selected constructs (i.e., theory development rather than theory confirmation). Therefore, PLS-SEM is a superior alternative over covariance-based techniques in this case. PLS is also less stringent with non-normal distribution of the data and multicollinearity of the variables and is ideal for exploratory models (Hair et al. 2017). Recent research also suggests that the differences between covariance-based SEM and PLS when estimating common factor model-based data are largely only marginal (Sarstedt et al. 2016). Next, we evaluated the quality of the PLS path model by examining the measurement models and the structural model.

Assessment of Measurement Models

The loadings of the manifest variables used were all significant ($p < 0.01$) and generally greater than 0.7 in both subsamples (Table 3). However, although the loadings did exceed the recommended level of 0.7 (Hair et al. 2011) in some cases, the average variance extracted (AVE) and composite reliability values were greater than the common threshold values of 0.50 and 0.70, respectively. As a result, we did not remove any indicators, in accordance with the suggestions by Henseler et al. (2009) and Hair et al. (2011). Discriminant validity was first examined using Fornell and Larcker's (1981) criterion. The square root of the AVE of each latent variable exceeded the correlations with all the other latent variables (Appendix B). In addition, an indicator level examination was conducted through the inspection of cross-loadings (Henseler et al. 2009). None of the indicators loaded more strongly to another latent variable than to their respective latent variable. Therefore, both the convergent and discriminant validity of the measurement models were achieved.

Table 3. Indicator Loadings and Descriptive Statistics				
	m-banking		m-wallet	
	Loading	Mean (SD)	Loading	Mean (SD)
<i>Self-congruence</i>				
SC1	.878	5.60 (1.36)	.906	5.54 (1.34)
SC2	.900	4.99 (1.51)	.885	4.94 (1.54)
SC3	.877	5.16 (1.55)	.880	5.13 (1.46)
<i>Personal Innovativeness</i>				
PI1	.906	4.00 (1.84)	.923	4.30 (1.70)
PI2	.833	3.63 (1.82)	.834	3.92 (1.75)
PI3	.876	3.93 (1.94)	.878	4.39 (1.80)
PI4 ^a	.561	4.81 (1.75)	.423	4.91 (1.65)
<i>Cognitive Processing</i>				
COG1	.893	4.37 (1.67)	.894	4.48 (1.70)
COG2	.860	3.77 (1.57)	.887	3.96 (1.64)

COG3	.832	4.28 (1.57)	.856	4.48 (1.58)
<i>Affection</i>				
AFF1	.907	4.09 (1.45)	.920	4.22 (1.49)
AFF2	.896	4.04 (1.45)	.917	4.21 (1.50)
AFF3	.892	4.43 (1.55)	.909	4.39 (1.59)
AFF4	.903	4.30 (1.64)	.916	4.39 (1.66)
<i>Activation</i>				
ACT1	.751	4.12 (1.73)	.824	4.36 (1.80)
ACT2	.873	4.86 (1.84)	.899	4.70 (1.81)
ACT3	.825	4.69 (1.87)	.848	4.85 (1.80)
<i>Perceived Risk</i>				
PR1	.924	3.24 (1.67)	.902	3.10 (1.67)
PR2	.631	3.03 (1.47)	.602	3.15 (1.53)
PR3	.916	3.38 (1.71)	.888	3.15 (1.69)
<i>Continuous Usage Intention</i>				
USE1	.900	6.12 (1.33)	.896	6.02 (1.35)
USE2	.886	5.45 (1.60)	.815	5.02 (1.58)
USE3 ^a	.802	6.20 (1.32)	.776	6.06 (1.37)

Notes: SD: standard deviation; ^a: initially reverse-coded.

Table 3. Indicator Loadings and Descriptive Statistics

Assessment of Structural Model

Next, we examined the structural relationships between the constructs (Figure 1). We evaluated the quality of the structural model through the target constructs' percentage of variance explained (R^2). We found that the values for cognitive processing ($R^2_{m-banking} = 0.235$; $R^2_{m-wallet} = 0.286$), affection ($R^2_{m-banking} = 0.323$; $R^2_{m-wallet} = 0.346$), and activation ($R^2_{m-banking} = 0.235$; $R^2_{m-wallet} = 0.287$) were at a low level. However, it should be taken into account that these constructs had only one or two predictor variables. In addition, around half of the variance in continuous usage intention was explained (Table 4). The blindfolding procedure was run so that Stone-Geisser criterion (Q^2) values could be obtained. All the values were above zero, indicating the model's predictive relevance (Henseler et al. 2009).

Statistical significance was evaluated through the bootstrapping procedure with 5,000 subsamples (Hair et al. 2011). In addition, the two-stage calculation method (the main effect PLS path model is estimated to obtain latent variable scores, after which the interaction term is calculated as the product of exogenous variables and the moderator) was used to examine moderating effects (Henseler and Chin 2010). We found that SC had a positive effect on each dimension of consumer engagement in both samples, supporting H1, H2, and H3 (Table 4). In addition, PI had a positive influence on cognitive processing and affection, supporting H4 and H5. The path coefficients and median effect size (f^2) values show that SC had a seemingly stronger impact on the specific dimensions of consumer engagement; the effect of PI was generally small. With respect to H6, our results mirror those from Hollebeek et al. (2014) as cognitive processing did not have an impact on continuous usage intention in either of the cases. Thus, H6 is not supported. However, affection and activation positively influenced continuous usage intention, supporting H7 and H8. PR also had a negative impact on continuous usage intention, as predicted by H9. Finally, the positive moderating effect of PR on the relationship between affection and continuous usage intention was established in both cases, supporting H10. Aguinis et al. (2005) found that the median effect size (f^2) for moderation is only 0.002. The effect size for the moderating effect of PR on the relationship between affection and continuous usage intention is therefore substantial ($f^2_{m-banking} = 0.048$; $f^2_{m-wallet} = 0.029$). Further analyses showed that if age and gender were added as control variables for continuous usage intention, their effect was not significant ($p > 0.05$).

The group comparison was conducted using the partial least squares multi-group analysis (PLS-MGA) method with 5,000 subsamples; this is a nonparametric group comparison method in which the samples are exposed to separate bootstrap analyses (Henseler et al. 2009). In most of the cases, no differences between the groups were found. However, the relationship between activation and continuous usage intention was stronger for users of the m-wallet application than of the m-banking application ($\Delta\beta = 0.164, p < 0.01$). Given that m-banking users tend to be more experienced than m-wallet users (Table 2), we further examined the role of user experience. Further analyses showed that the interaction effect of user experience and activation on continuous usage intention was negative ($\beta_{m-banking} = -0.088, p < 0.01$; $\beta_{m-wallet} = -0.079, p < 0.05$).

Notes: ^a: difference in path coefficients; ^b: *p*-values smaller than 0.05 or greater than 0.95 are statistically significant; ***: *p* < 0.01 (two-tailed test); ns: not significant

Table 4. Structural Model Estimates and Group Comparison						
Structural relation	Group	<i>B</i>	<i>t</i> -value	<i>f</i> ²	Group difference ^a	<i>p</i> -value ^b
<i>Direct effects</i>						
SC → COG	m-banking	.437***	14.692	.217	.037ns	.768
	m-wallet	.474***	11.681	.289		
SC → AFF	m-banking	.528***	18.589	.357	.007ns	.437
	m-wallet	.520***	14.441	.382		
SC → ACT	m-banking	.485***	16.736	.307	.051ns	.861
	m-wallet	.536***	14.685	.402		
PI → COG	m-banking	.105***	3.263	.012	.043ns	.804
	m-wallet	.148***	3.708	.028		
PI → AFF	m-banking	.093***	3.087	.011	.072ns	.929
	m-wallet	.165***	4.253	.038		
COG → USE	m-banking	-.008ns	0.211	.000	.078ns	.117
	m-wallet	-.087ns	1.627	.005		
AFF → USE	m-banking	.288***	6.472	.041	.020ns	.616
	m-wallet	.308***	5.755	.049		
ACT → USE	m-banking	.271***	8.639	.077	.164***	.998
	m-wallet	.434***	9.447	.184		
PR → USE	m-banking	-.284***	10.469	.134	.043ns	.836
	m-wallet	-.241***	3.158	.114		
<i>Moderating effect</i>						
PR*AFF → USE	m-banking	.140***	5.880	.048	.033ns	.210
	m-wallet	.106***	3.158	.029		
	m-banking		m-wallet			
<i>Construct</i>	<i>R</i> ²	<i>Q</i> ²	<i>R</i> ²	<i>Q</i> ²		
Cognitive processing	.235	.173	.286	.218		
Affection	.323	.259	.346	.288		
Activation	.235	.154	.287	.210		
Continuous usage intention	.459	.335	.514	.342		

Table 4. Structural Model Estimates and Group Comparison

Discussion

Consumer engagement has theoretical roots within the expanded domain of relationship marketing, which emphasizes the notions of interactivity, customer experience, and value co-creation (Vargo and Lusch, 2004, 2008; Vivek et al. 2012). The objective of this study was to develop and

test a model investigating the ways in which consumer engagement and PR influence continuous use intentions in the context of m-banking and m-wallet applications. In addition, we examined how SC and PI are linked to consumer engagement. This study is among the first to examine the three dimensions of consumer engagement (i.e., cognitive [cognitive processing], emotional [affection], and behavioral [activation]) among m-banking and m-wallet application users. Overall, the findings of this study improve our understandings of the mechanics of consumer engagement in this specific context.

Theoretical Contributions

The nature of consumer engagement in terms of these three dimensions has barely been examined in the m-application context (cf. Kim et al. 2013b; Kim et al. 2013a). Our findings support a positive relationship between the emotional dimension of consumer engagement (affection) and continuous usage intention and between the behavioral dimension of consumer engagement (activation) and continuous usage intention. These results support prior findings in the brand domain (consumer brand engagement; e.g., Hollebeek et al. 2014; Dwivedi 2015). Furthermore, the relationship between activation and continuous usage intention was stronger for users of the m-wallet application. We did not hypothesize any theoretical reason that would explain this difference; the analysis of two different samples was simply driven by the lack of prerequisites to pool the data. However, further analyses showed that the higher level of m-banking users' experience appears to explain the difference.

The cognitive dimension of engagement (cognitive processing) did not have an impact on consumers' intention to use the m-banking application in the future. The previous literature has linked consumer engagement to loyalty (intentions) (Dwivedi 2015; Leckie et al. 2016) and usage intention (Hollebeek et al. 2014). The insignificant effect of cognitive processing is, however, in line with the findings of Hollebeek et al. (2014) and Leckie et al. (2016). This naturally raises questions regarding the operationalization of the cognitive dimension: is the measurement scale truly valid or does the cognitive dimension simply not lead to behavioral intentions or loyalty? All that can be said with certainty is that cognitive processing is highly correlated with the two other dimensions of consumer engagement, and the effect on continuous usage intention is insignificant when the effects of affection and activation are controlled for.

The study also found that the emotional and behavioral dimensions of consumer engagement were not particularly strong predictors of continuous usage intention. Therefore, consumer engagement was in no way a superior predictor of behavioral intention in this context. Considering the previous engagement research that studied the concept in the brand context, the results are more similar to those of Leckie et al. (2016) and Hollebeek et al. (2014) than of Dwivedi (2015).

Prior online banking studies (e.g., Lee 2009; Kesharwani and Bisht 2012) emphasized the negative impact of risk on behavioral intentions. As expected, the findings also showed that PR negatively influenced continuous usage intention in this context. Furthermore, the effect of affection on continuous usage intention was stronger when the risks were perceived as high. This finding is similar to that of Chiu et al. (2014), who found that PR strengthened the relationship between hedonic value and purchase intention in the B2C e-commerce context. Given that consumer engagement studies generally rely on the examination of direct effects (e.g., Hollebeek et al. 2014; Dwivedi 2015), this finding helps to understand the emerging concept of consumer engagement to a greater extent.

In addition, we identify SC and PI as antecedents of consumer engagement, thereby extending the nomological network of consumer engagement. SC was an antecedent of all three types of engagement, and PI influenced cognitive processing and affection. The effect of SC also seemed to be higher, although the variances in the engagement dimensions were not explained particularly well. Therefore, future research also should consider other predictors. However, it should be noted that these two variables do not capture the actual service features; they relate to consumers' perceptions of typical users of the service and their willingness to try out new mobile services. Hence, these two factors can be considered relatively important.

Managerial Contributions

This study nonetheless offers valuable implications to business managers. First, the finding that SC is a strong driver of all the dimensions of consumer engagement in m-banking and m-wallet

applications could be used as a branding tactic to appeal to the target segments of m-application users. Further, managers should carefully consider different customer segments and how they can modify or tailor the application to enhance the level of SC among their target segments. Although the effect of PI on cognitive processing and affection is rather small, companies may take this detail into account in specific circumstances, such as in an m-application launch.

In terms of engagement, managers should focus on the activation and affection processes, since cognitive processing does not have an effect on behavioral intention. Moreover, given that PR also positively moderates the relationship between affection and continuous usage intention, focusing on affection is a viable option in high-risk circumstances. Consequently, PR may benefit companies, because it shifts the focus of the emotional aspects of consumer and m-application interaction. Managers should keep this in mind, for example, when they introduce new types of m-applications. Naturally, reducing the level of PR contributes significantly to increasing the transaction volume on m-applications and reducing the negative effect on continuous usage intention of m-applications usage.

Third, we recommend that managers also use other constructs, such as those from UTAUT2 (Venkatesh et al. 2012), to predict and influence the level of continuous usage intention of an m-application. In this study, the three dimensions of engagement and PR predicted approximately half of the variance in continuous usage intention; although this level is acceptable, managers may improve the level of continuous usage intention by influencing other antecedents of behavioral intention.

Limitations and Future Research

Although the study was carefully designed and executed, it has some limitations that bear mentioning, many of which suggest opportunities for future research. First, the main limitation is related to its cross-sectional nature. This study is limited to a single demographic location, and the perceptions and usage intentions of m-applications' users were measured at a single point in time. Under these circumstances, it is difficult to elicit any generalizations from the study results, and there is a possibility that the results are not similar in other countries. Therefore, our hypotheses could also be examined with longitudinal research designs. In addition, future research may also consider replicating the research model in emerging markets, which have recently been flooded with m-banking and m-wallet models and applications.

Second, it is widely believed that the concept of consumer engagement is still in its infancy. Therefore, a more detailed analysis into the mechanism of the antecedents and outcomes of consumer engagement with m-banking applications is necessary to understand the nomological network of consumer engagement to greater extent than was possible in this study.

Third, the study sample is biased toward m-applications users, and non-users were not considered (Van der Heijden 2004). Certainly, a consumer's intention to use m-applications follows a different pattern from the thought processes of a user who does not have such an intention. Future research may investigate this issue.

Fourth, this study used traditional survey methodology, which has been widely and frequently used in previous studies (e.g., Shaikh and Karjaluoto 2015) examining m-applications. However, this type of survey methodology is considered weak when it comes to establishing the causal relationships among the variables. Future research, therefore, may consider using other research methodologies, such as experiments, to examine the direction of causal effects among the key variables in the context of m-applications.

Fifth, m-wallet applications provide some utilitarian benefits that are not related to m-banking. Additional studies in this direction will help to generalize the results to other utilitarian applications. A comparison of primarily hedonic or utilitarian banking and payment applications could be a valuable research area in the future. In addition, considering the universal nature of mobile telephony and m-applications, a few cross-cultural studies examining and comparing the influence of consumer engagement on the adoption and continuous usage of m-applications could provide significant insights into the behavior and attitudes of the consumer.

Sixth, this study has considered m-banking and m-payment applications separately, however, the interoperability in relation to the host of services now offered separately through these m-applications is highly relevant. This interoperability between applications developed and offered by a

single entity or bank largely implies that customers can use these two applications as a single application, and these applications can easily interface with or speak to each other seamlessly (Nyaga, 2014). For future research it would be interesting to explore the interoperability of m-applications and how this interoperability could bring convenience and value to drive customer behavior.

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Appendices

Appendix A. Survey Items
Self-congruence (CR _{m-banking} = .916, AVE _{m-banking} = .783; CR _{m-wallet} = .920, AVE _{m-wallet} = .793)
SC1 People similar to me use [m-banking/m-wallet application]
SC2 I can identify with people who prefer [m-banking/m-wallet application] to other forms of banking
SC3 The image of a typical user of [m-banking/m-wallet application] is highly consistent with how I see myself
Personal innovativeness (CR _{m-banking} = .878, AVE _{m-banking} = .649; CR _{m-wallet} = .862, AVE _{m-wallet} = .624)
PI1 If I heard about a new mobile application for financial and insurance services, I would look for ways to experiment with it
PI2 Among my peers, I am usually the first to explore new mobile financial and insurance applications on my smartphone and/or tablet
PI3 I like to experiment with new mobile applications for financial and insurance services
PI4 In general, I am hesitant to try out new mobile applications for financial and insurance services ¹
Cognitive processing (CR _{m-banking} = .897, AVE _{m-banking} = .743; CR _{m-wallet} = .911, AVE _{m-wallet} = .773)
COG1 Using [m-banking/m-wallet application] gets me to think about the app
COG2 I think about [m-banking/m-wallet application] a lot when I'm using it
COG3 Using [m-banking/m-wallet application] stimulates my interest to learn more about the app
Affection (CR _{m-banking} = .944, AVE _{m-banking} = .809; CR _{m-wallet} = .954, AVE _{m-wallet} = .838)
AFF1 I feel very positive when I use [m-banking/m-wallet application]
AFF2 Using [m-banking/m-wallet application] makes me happy
AFF3 I feel good when I use [m-banking/m-wallet application]
AFF4 I'm proud to use [m-banking/m-wallet application]

Activation (CR _{m-banking} = .858, AVE _{m-banking} = .669; CR _{m-wallet} = .893, AVE _{m-wallet} = .736)
ACT1 I spend a lot of time using [m-banking/m-wallet application], compared to other mobile financial and insurance services applications
ACT2 Whenever I'm using mobile financial and insurance application, I usually use [m-banking/m-wallet application]
ACT3 [M-banking/m-wallet application] is one of the services I usually use when I use mobile applications for financial and insurance services
Perceived risk (CR _{m-banking} = .871, AVE _{m-banking} = .697; CR _{m-wallet} = .847, AVE _{m-wallet} = .655)
PR1 I would worry about how reliable [m-banking/m-wallet application] would be
PR2 I would be afraid that [m-banking/m-wallet application] would not provide the benefits I expected
PR3 I am concerned about security risks of [m-banking/m-wallet application]
Continuous usage intention (CR _{m-banking} = .898, AVE _{m-banking} = .746; CR _{m-wallet} = .869, AVE _{m-wallet} = .690)
USE1 I intend to continue using [m-banking/m-wallet application] rather than discontinue its use
USE2 My intentions are to continue using [m-banking/m-wallet application] rather than use any alternative means
USE3 If I could, I would like to discontinue my use of [m-banking/m-wallet application] ¹

Notes: CR: composite reliability; AVE: average variance extracted; ¹: reverse-coded. All items were measured using a 7-point Likert scale (strongly disagree – strongly agree).

Appendix A. Survey Items

Appendix B. Square Root of AVE (on the Diagonal) and Construct Correlations (Results for M-wallet Shown in Parentheses)							
	SC	PI	COG	AFF	ACT	PR	USE
SC	.885 (.891)						
PI	.362 (.280)	.806 (.790)					
COG	.475 (.515)	.263 (.281)	.862 (.879)				
AFF	.561 (.567)	.284 (.311)	.822 (.833)	.900 (.916)			
ACT	.485 (.536)	.372 (.265)	.562 (.652)	.640 (.716)	.818 (.858)		
PR	-.296 (-.256)	-.133 (.004)	-.155 (-.121)	-.272 (-.193)	-.248 (-.174)	.835 (.809)	
USE	.636 (.597)	.288 (.196)	.435 (.469)	.540 (.583)	.544 (.637)	-.435 (-.365)	.864 (.830)

Notes: SC: self-congruence; PI: personal innovativeness; COG: cognitive processing; AFF: affection; ACT: activation; PR: perceived risk; USE: continuous usage intention.

**Appendix B. Square Root of AVE (on the Diagonal) and Construct Correlations
(Results for M-wallet Shown in Parentheses)**



IV

IS IT ALL ABOUT CONSUMER ENGAGEMENT? EXPLAINING CONTINUANCE INTENTION FOR UTILITARIAN AND HEDONIC SERVICE CONSUMPTION

by

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