UNDERSTANDING AND MANAGING
THE CUSTOMER EXPERIENCE

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DUTCH SUMMARY

(NEDERLANDSTALIGE SAMENVATTING)

Het begrip Customer Experience (CX) is alomtegenwoordig. Managers wereldwijd beschouwen CX als een topprioriteit en zien het als de sleutel tot succes op lange termijn. Niettegenstaande de uitgebreide aandacht die CX ontvangt, zowel in de academische als in de ondernemingswereld, blijft CX een vaag begrip en bestaat er geen eensgezindheid over de definitie en theoretische grond van het concept. Dit heeft tot gevolg dat er in toenemende mate nood is aan een integratief raamwerk dat duidelijkheid brengt en een concrete omlijning van CX vooropstelt. Enkel en alleen dan kunnen managers concrete projecten opzetten met het oog op een verbeterde CX en kan het academische onderzoeksveld zich verder ontwikkelen. Het doel van dit doctoraat is dan ook om wetenschappers en managers te helpen bij het doorgronden van CX en concrete adviezen te geven om CX te managen.

Hoofdstuk 2 staat centraal in dit proefschrift en tracht de fundamenten van het CX-begrip bloot te leggen. Meer specifiek werken we een theoretisch raamwerk uit dat het CX-domein definieert, conceptualiseert en afbakent. Dit gebeurt aan de hand van een interdisciplinaire aanpak waarbij inzichten uit marketing, filosofie, psychologie en sociologie worden gecombineerd. Dit raamwerk zorgt voor de noodzakelijke duidelijkheid omtrent CX en vormt een uitgebreide basis voor verder onderzoek.

De doelstellingen van dit doctoraat zijn echter niet beperkt tot het leveren van een theoretische bijdrage aan de marketingwetenschap. Het ontwikkelde raamwerk (hoofdstuk 2) kan ook gebruikt worden in de praktijk, om nieuwe strategieën voor het verbeteren van CX te bepalen. Om dit aan te tonen worden drie empirische studies uitgewerkt die het theoretische raamwerk (deels) vertalen naar enkele cruciale taken van marketingmanagers: (1) tevredenheidsmeting, (2) klantsegmentatie en (3) cross-cultureel klantmanagement.

Hoofdstuk 3 onderzoekt hoe traditionele tevredenheidsmetingen verbeterd kunnen worden, rekening houdend met competitieve invloeden en de polygame natuur van klantloyaliteit. Zodoende evalueert deze studie verschillende 'relatieve' methodes die de rangorde van een specifiek bedrijf/merk ten opzichte van de concurrentie in beeld brengen. Gebaseerd op data van 79453 klanten (258743 observaties over 650 merken in 20 industrieën,

verdeeld over 15 landen) worden verschillende modellen met elkaar vergeleken op basis van hun voorspellende kracht inzake klantloyaliteit (gemeten a.d.h.v. share of wallet): Wallet Allocation Rule, Zipf-AE, Zipf-PM, truncated geometric model, generalized Wallet Allocation Rule en hiërarchische regressiemodellen. Hoe beter share of wallet voorspeld kan worden, hoe beter een individueel model presteert. De resultaten tonen duidelijk aan dat de voorgestelde 'relatieve' modellen het best scoren en share of wallet beter kunnen voorspellen. De relatie tussen klanttevredenheid en loyaliteit wordt dus voornamelijk verklaard door de relatieve positie die een bedrijf/merk inneemt (i.e., beter of slechter dan de concurrentie), eerder dan door absolute tevredenheidsscores.

Hoofdstuk 4 heeft tot doel om voorgaand onderzoek rond klantsegmentatie in een 'multichannel' context te reproduceren en te verbeteren. In tegenstelling tot Konuş, Verhoef en Neslin (2008)[1], die klanten segmenteren op basis van hun kanaalgebruik in de eerste twee fases van het koopproces (i.e., het zoeken van informatie en kopen), onderzoekt deze studie in welke mate een betere segmentatie wordt bekomen indien ook het kanaalgebruik tijdens de dienst-na-verkoop in rekening wordt gebracht. De resultaten tonen aan dat het in kaart brengen van kanaalgebruik overheen alles fases van het koopproces (3 fases i.p.v. 2) leidt tot een betere en meer verfijnde segmentatie. Met andere woorden, managers kunnen zo beter inspelen op klantnoden, wat vervolgens leidt tot een verbeterde klantrelatie.

Hoofdstuk 5 gaat na in welke mate klanten geneigd zijn om garanties te innen na een fout tijdens de dienstverlening van een bedrijf. Tegelijkertijd wordt in ons onderzoek rekening gehouden met het type garantie (voorwaardelijk versus onvoorwaardelijk) en de individuele culturele oriëntatie van een individu (collectivistisch versus individualistisch). 171 respondenten uit 4 verschillende continenten (23 landen) namen hiervoor deel in een quasi-experimenteel onderzoeksopzet. De resultaten tonen aan dat consumenten sterk geneigd zijn een garantie te innen na een fout in de dienstverlening, onafhankelijk van het type garantie en de culturele oriëntatie. Als de fout wordt rechtgezet door de dienstverlener daarentegen, liggen deze intenties een stuk lager. Dit is echter niet het geval voor collectivistische individuen (i.e.,

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[1] Konuş, Umut, Peter C. Verhoef and Scott A. Neslin (2008), "Multichannel Shopper Segments and Their Covariates," Journal of Retailing, 84 (4), 398-413.

personen die het gemeenschappelijke belang boven dat van het individu plaatsen) die een voorwaardelijke garantie kunnen innen. Deze consumenten zijn sterk geneigd om de voorwaardelijke garantie te innen, onafhankelijk van een goede of slechte rechtzetting van de oorspronkelijke fout. Dit resultaat wijst op een in-group/out-group principe, waarbij collectivisten sterker geneigd zijn om zich opportunistisch te gedragen ten opzichte van een out-group (e.g., de dienstverlener) in vergelijking met individualisten.

Het zesde en laatste hoofdstuk vat de contributies en implicaties van dit doctoraat samen. Dit gebeurt aan de hand van 4 metaforische rollen die doorheen dit doctoraat worden ingenomen: de astronaut, de architect, de cartograaf en de ingenieur. Aansluitend worden de beperkingen van het doctoraat besproken en volgen suggesties voor verder onderzoek in het CX-domein.

ENGLISH SUMMARY

Customer Experience (CX) has become a top priority of business executives worldwide, and is considered to be a key determinant of long-term corporate success. Although research on CX has become commonplace amongst academics and marketing practitioners, the literature remains fragmented and no clear accordance on the meaning and foundations of CX can be found. Researchers and managers are left with almost no guidance as to the true meaning and nature of CX, or even the appropriateness of current best practices for CX management. As a result, there is a growing need for an integrative framework that (i) brings structure and harmony to the field and (ii) serves as a basis to expedite the next generation of knowledge development on CX. The goal of this dissertation, therefore, is to assist scholars and managers in understanding and managing the CX.

Chapter 2 takes center stage in this dissertation and aims to uncover the grounds of CX (i.e., understanding CX). We develop a generalized theory-based framework that defines, conceptualizes and circumscribes the CX domain. It builds upon interdisciplinary insights from marketing, philosophy, psychology and sociology. Taken together, our framework gives meaning and 'action' significance to CX, thereby aiding scholars and managers to enhance their research, daily practices and long-term strategic thinking.

This doctoral thesis, however, is not just theoretical in nature. It is also applicable in practice and can help steer the development of new CX strategies and practices. Therefore, three empirical studies (partially) translate the conceptual framework to real-life applications, providing managerial guidance to better manage the CX. Specifically, this dissertation focuses on three areas of inquiry that are highly important to the practitioner community and in need of an update based on a CX-mindset: (1) Voice-of-the-Customer (VOC) programs, (2) Customer Segmentation and (3) Cross-Cultural Customer Management.

Chapter 3 investigates how traditional VoC-programs can be improved, taking account of competitive influences and the polygamous nature of customer loyalty. More specifically, this study compares multiple methods that allow a relative approach to VoC-measurement and specifically consider the preference (i.e., rank) for a focal company as opposed to its competitors. Using data from 79,543 consumers who provided 258,743 observations regarding

the brands that they use (over 650 brands) covering 20 industries from 15 countries, various models such as the Wallet Allocation Rule, Zipf–AE, and Zipf–PM, truncated geometric model, generalization of the Wallet Allocation Rule and hierarchical regression models are compared to each other in terms of performance in predicting share of wallet as the 'ultimate' measure of customer loyalty. The results indicate that the relationship between satisfaction and share of wallet is primarily driven by the relative fulfillment customers perceive from the various brands that they use (as gauged by their relative ranked satisfaction level), and not the absolute level of satisfaction (i.e., traditional non-comparative VoC-measurement). In doing so, this study makes a strong case to revise current VoC-measurement and provides practical insight into several easy-to-use approaches that (academic) researchers and managers can apply in order to improve the strength of VoC-programs.

Chapter 4 replicates and extends previous research on multichannel customer segmentation (i.e., Konuş, Verhoef and Neslin 2008[2]) by adopting a customer journey perspective. More specifically, this work considers the additional value of taking into account actual channel usage in the information search, purchase and after-sales stages of the customer journey when segmenting the customer base. By including after-sales channel usage in the segmentation scheme, the authors are able to refine the two-stage solution of Konuş, Verhoef and Neslin (2008) and extend the segmentation outcome to six different, meaningful customer segments that all have significant managerial value. Not taking into account after-sales channel usage leads to a sub-optimal solution and equal treatment of customers who differ in their after-sales channel usage, potentially endangering their long-term relationship with the firm. Therefore, this study urges the need to adopt a broader customer segmentation scheme to optimize the CX for different customer groups.

Chapter 5 investigates the extent to which customers are inclined to invoke service guarantees after a service failure (i.e., a negative CX), thereby discriminating between conditional and unconditional guarantees and controlling for the impact of customers' individualistic versus collectivistic cultural orientation. 171 respondents from 4 continents (spanning 23 countries) were recruited to participate in a quasi-experimental study in a hotel

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[2] Konuş, Umut, Peter C. Verhoef and Scott A. Neslin (2008), "Multichannel Shopper Segments and Their Covariates," Journal of Retailing, 84 (4), 398-413.

setting. The results indicate that all respondents all very likely to invoke a service guarantee after an unsatisfactory service recovery. However, when they are satisfied with the service recovery, customers report lower invoke intentions, except for collectivistic individuals who are still inclined to invoke an unconditional service guarantee after a satisfactory service recovery. This finding therefore supports an in-group/out-group rationale, whereby collectivists tend to behave more opportunistically towards out-groups than individualistic customers. This study thus highlights the importance of excellence in service recovery, thereby taking into account cultural differences and distinct types of service guarantees with respect to customers' intentions to invoke service guarantees.

Chapter 6 concludes with an overview of the contributions and implications of this dissertation. Additionally, we discuss the limitations of our work and propose multiple avenues for future research.

CHAPTER 1:

Introduction

1. CUSTOMER EXPERIENCE: A GROWING FIELD & INDUSTRY

In recent years, the creation of superior customer experience (CX) has become a top priority for management practice (McColl-Kennedy et al. 2015; Verhoef et al. 2009). Practitioner research consistently finds CX to be among the top three priorities of business executives worldwide, considered to be of vital importance for the long term success of any company (McCarthy and Schadler 2014). For evidence, look no further than the sheer number of business conferences, seminars, webinars and roundtables organized around CX. At the same time, leading companies, such as British Airways, Delhaize, Lowe's, Nordstrom, Renault and Walgreens have incorporated the promise of outstanding CX in their mission and value statements and are continuously introducing new initiatives to help improve their delivered CX. Renault, for instance, recently launched its C@re-program (Customer Approved Renault Experience) with the specific aim of re-inventing the entirety of its customer relationships, putting the customer and his/her CX central to everything the company does. The program involves, among other things, behavioral training for technicians and sales staff, a seamless integration of the company's online channels with the physical retail network, and the development of a 3D configurator allowing customers to fully prepare a purchase before visiting a dealership.

While the CX-industry is skyrocketing (i.e., a market worth $8.39 billion by 2019 (MarketsandMarkets 2014)), the academic community is gradually picking up the pace as CX research finds its way into peer-reviewed journals (e.g., Alcantara et al. 2014; Bolton et al. 2014; Brakus, Schmitt and Zarantonello 2009; Zomerdijk and Voss 2011). Although several special issues have been published (e.g., Journal of Service Management, Vol. 26, Issue 2, 2015 – "Co-creating Service Experience"; Journal of Retailing, Vol. 85, Issue 1 – "Customer Experience Management in Retailing"), or are on their way (e.g., Journal of Service Research, 2017 – "Service Design and Innovation"; Service Science, 2016 – "Co-Creating the Customer Service Experience with High Tech and High Touch"), a great deal of CX knowledge still derives from practitioner-oriented journals and management books (e.g., Lasalle and Britton 2002; Meyer and Schwager 2007; Pine II and Gilmore 1998; Schmitt 2003). As a result, academic research largely focuses on managerial actions and outcomes, rather than establishing a sound theoretical foundation of the CX (McColl-Kennedy et al. 2015). This failure has led to

a diversity of interpretations and (often contradicting) uses of CX, instigating multiple calls that highlight the need for a greater conceptual understanding of CX (e.g., Verhoef et al. 2009). Absent such a foundation, CX could easily become marginalized due to its current ambiguous nature in academic and business literature. Furthermore, managerial practice built upon a loose understanding of CX is misguided and bound to fail eventually. Practice without theory (i.e., managing without understanding) can quickly become a dull and dangerous occupation (Shubik 1987).

Leading marketing companies consider this problem so important that the Marketing Science Institute (MSI) has labeled its highest research priority for 2014-2016 as "Understanding Customers and the Customer Experience". This dissertation seeks to address this call by (i) developing an integrative framework (chapter 2) that offers a common ground to discuss CX in future academic research and managerial practice, (ii) while also demonstrating the direct usability of the framework for empirical research and day-to-day business practice (chapter 3, 4 and 5).

2. DISSERTATION GOALS

Given the existing shortcomings of CX research and practice, the goal of this dissertation is twofold. First, we aim to assist scholars and managers in **understanding CX**. For this, we develop a generalized theory-based framework that defines, conceptualizes and circumscribes the CX domain. The framework aims to give clear meaning and 'action significance' to CX, providing structure to the field and establishing CX's key position as a cornerstone of the marketing discipline. This unifying CX-mindset can stimulate further academic thought on CX, providing a basis upon which future research can build.

However, the aim of our framework is not limited to theory building. It has strong managerial value as it can steer the development of new CX strategies and practices. The second goal of this dissertation, therefore, involves the (partial) translation of our framework by means of three empirical studies. This enables us to demonstrate the practicality of our framework and to **provide managerial guidance aimed at improving current CX management**. Specifically, we devote our attention to three areas of inquiry that are highly relevant to the practitioner community and might benefit from a new, adapted approach based

on our CX-thinking: (1) Voice-of-the-Customer (VOC) programs (Keiningham et al. 2014; Schmidt-Subramanian 2014), (2) Customer Segmentation (Neslin et al. 2006), and (3) Cross-Cultural Customer Management (Ostrom et al. 2015; Ostrom et al. 2010). Whilst we could have opted for other empirical research foci (e.g., the impact of technology on CX), the selected topics – VoC programs, segmentation and cross-cultural management - are at the heart of every CMO's activities and serve as crucial inputs for the development of successful customer-firm relationships (Kotler et al. 2013); hence our interest in these topics.

3. DISSERTATION OUTLINE

The following paragraphs describe the structure and flow of the dissertation. All included chapters are written in such a way that they can be read independently. As a result, the reader can mix and match to optimize his/her reading experience. Figure 1.1 summarizes the structure of this dissertation.

The second chapter, *A Framework for Understanding and Managing the Customer Experience*, takes center stage in this dissertation. Specifically, it seeks to answer the question '*What is Customer Experience?*'. To do so, we take a holistic approach, connecting and synthesizing interdisciplinary insights from marketing, philosophy, psychology and sociology. Based on these insights, we develop a comprehensive theory-based framework that construes CX's theoretical underpinnings and provides a clear definition of the concept. More precisely, we define CX as follows: "Customer Experience is comprised of the cognitive, emotional, physical, sensorial, and social elements that mark the customer's direct or indirect interaction with a (set of) market actor(s)". In other words, we think of CX being the "raw" data underlying and driving the specific processes that shape consumer behavior. Without CX there is simply nothing that follows (Zaltman 2000). It is the primary result of direct or indirect interactions with a (set of) market actor(s), marked by different levels of uniqueness and composed of multiple elements whose specific expression might vary across contexts and situations. We further detail CX by specifying four fundamental properties (P1, P2, P3, P4), considering CX to be embedded within a multi-layered system: an individual, intrasubjective system encompassing the unique processing system and background of every individual customer (*P1a – CX is individually intrasubjective*); a social system that is composed of a

FIGURE 1.1: Dissertation Outline
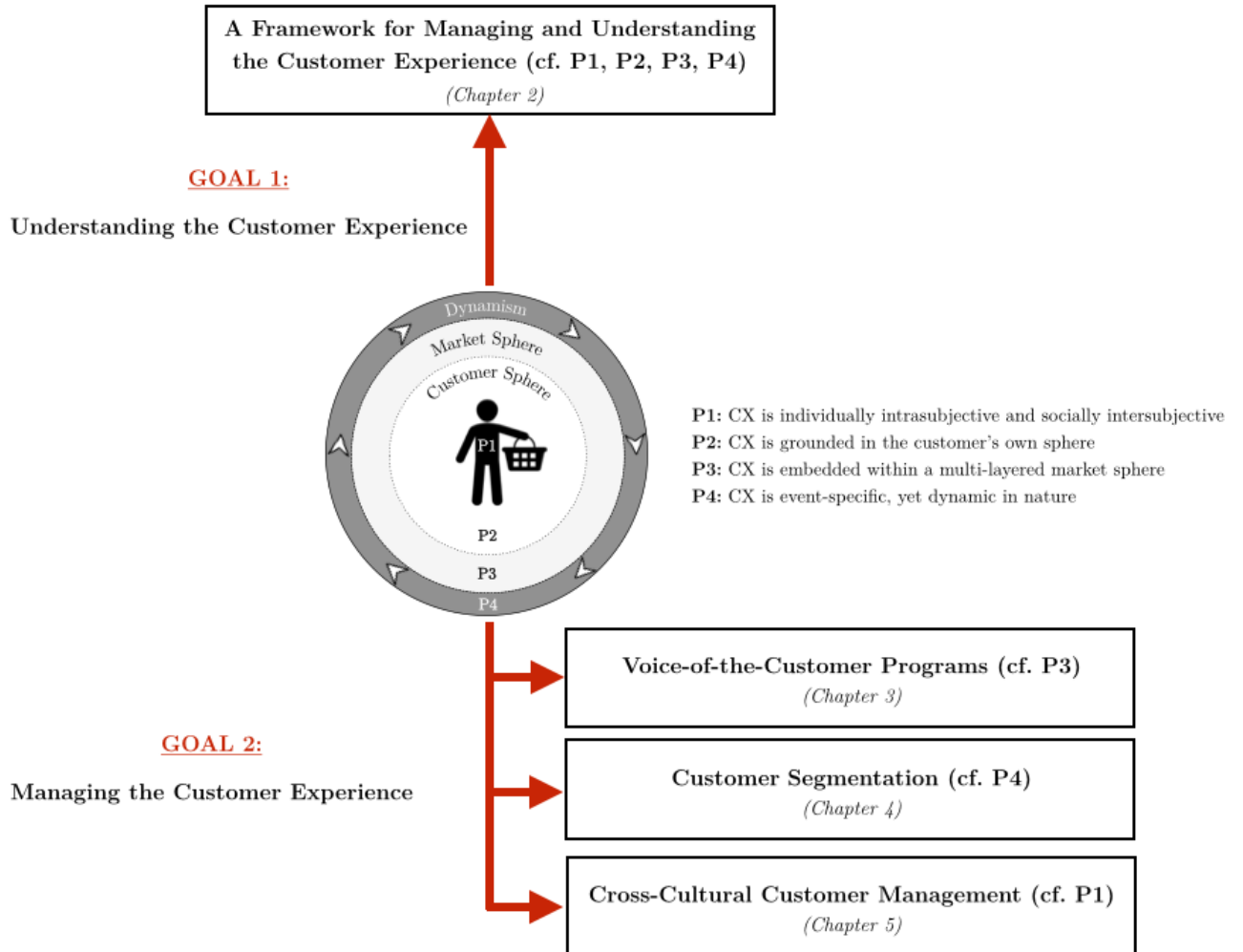
multitude of social norms, institutions and practices that guide the CX (*P1b – CX is socially intersubjective*), a customer sphere that involves the immediate personal context of a customer that is outside the immediate control of the firm (*P2 – CX is grounded in the customer's own sphere*), and a market sphere bringing together multiple interrelated (market) actors that influence CX (*P3 – CX is embedded within a multi-layered market sphere*). Importantly, this system is inherently dynamic and continuously changes over time, causing CX to be dynamic in nature (*P4 – CX is event-specific, yet dynamic in nature*). Additionally, in an attempt to further anchor CX, we show how it feeds into customer engagement and customer value by means of a three-stage cyclical process (i.e., anticipation, realization and reflection) and demonstrate how CX acts as a vital 'nutritional' element for customers to function. To conclude this chapter, we demonstrate how business practice benefits from our insights,

identify ways to strengthen CX strategy development and execution, and put forth an agenda for further inquiry.

Based upon above understanding, three empirical studies follow that highlight specific elements of the developed CX-mindset (chapter 3, 4 and 5). Specifically, the following chapters are empirical in nature, relating to one of the fundamental properties specified in chapter 2. The different chapters are ordered in such a way that they guide the reader through a series of core concerns of CMO's, with an increasing level of topic specificity.

Chapter three, *Perceptions Are Relative: An Examination of the Relationship between Relative Satisfaction Metrics and Share of Wallet*, investigates how traditional VoC-programs can be improved to take account of competitive influences and the polygamous nature of customer loyalty (i.e., links to P3: CX is embedded within a multi-layered market sphere surrounding the customer – Chapter 2). More specifically, we compare multiple methods that allow a relative approach to VoC-measurement and specifically consider the preference (i.e., rank) for a focal company as opposed to its competitors. Using data from 79,543 consumers who provided 258,743 observations regarding the brands that they use (over 650 brands) covering 20 industries from 15 countries, various models such as the Wallet Allocation Rule, Zipf–AE, and Zipf–PM, truncated geometric model, generalization of the Wallet Allocation Rule and hierarchical regression models are compared to each other in terms of performance in predicting share of wallet as the 'ultimate' measure of customer loyalty. The results indicate that the relationship between satisfaction and share of wallet is primarily driven by the relative fulfillment customers perceive from the various brands that they use (as gauged by their relative ranked satisfaction level), and not the absolute level of satisfaction (i.e., traditional non-comparative VoC-measurement). In doing so, this chapter makes a strong case to revise current VoC-measurement and provides practical insight into several easy-to-use approaches that (academic) researchers and managers can apply in order to improve the strength of VoC-programs.

The fourth chapter, *Multichannel Customer Segmentation: Do After-Sales and Call-Center Matter? A Replication and Extension*, replicates and extends previous research on multichannel customer segmentation (i.e., Konuş, Verhoef and Neslin 2008) by adopting a customer journey perspective (i.e., links to P4: CX is event-specific, yet dynamic in nature –

Chapter 2). More specifically, we consider the additional value of taking into account actual channel usage in the information search, purchase and after-sales stages of the customer journey when segmenting the customer base. In line with previous research, our initial two-stage solution (i.e., considering channel usage in the search and purchase phase) finds evidence for the existence of store-focused shoppers, web-focused shoppers, call-center prone shoppers and research shoppers. By including after-sales channel usage to the segmentation scheme (i.e., three-stage solution), however, we are able to refine the two-stage solution of Konuş, Verhoef and Neslin (2008) and extend the segmentation outcome to six different, meaningful customer segments that all have significant managerial value. Not taking into account after-sales channel usage leads to a sub-optimal solution and equal treatment of customers who differ in their after-sales channel usage, potentially endangering their long-term relationship with the firm. As a result, this chapter urges the need to adopt a broader customer segmentation scheme to optimize the CX of different customer groups.

Chapter five, *Customer Intentions to Invoke Service Guarantees: Do Excellence in Service Recovery, Type of Guarantee and Cultural Orientation Matter?*, investigates to what extent customers are inclined to invoke service guarantees after a service failure (i.e., a negative CX), thereby discriminating between conditional and unconditional guarantees and controlling for the impact of customers' individualistic versus collectivistic cultural orientation (i.e., links to P1b: CX is socially intrasubjective – Chapter 2). 171 respondents from four continents (spanning 23 countries) were recruited to participate in a quasi-experimental study in a hotel setting. We find that all respondents all very likely to invoke a service guarantee after an unsatisfactory service recovery. However, when they are satisfied with the service recovery, customers report lower invoke intentions, except for collectivistic individuals who are still inclined to invoke an unconditional service guarantee after a satisfactory service recovery. This finding therefore supports an in-group/out-group rationale, whereby collectivists tend to behave more opportunistically towards out-groups than individualistic customers. Taken together, this chapter highlights the importance of excellence in service recovery, thereby taking into account cultural differences and distinct types of service guarantees with respect to customers' intentions to invoke the guarantee.

The final and sixth chapter, *Concluding Remarks*, concludes by summarizing the overall contribution and implications of this dissertation for academia and practice and discusses the most promising avenues for future research.

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CHAPTER 2:

A Framework for Understanding and Managing the Customer Experience

1. ABSTRACT

Customer Experience (CX) has become a top priority of business executives worldwide, and is considered to be a key determinant of long-term corporate success. Although research on CX has become commonplace amongst academics and marketing practitioners, the literature remains fragmented and no clear accordance on the meaning and foundations of CX can be found. Researchers and managers are left with almost no guidance as to the true meaning and nature of CX, or even the appropriateness of current best practices for CX management. As a result, there is a growing need for an integrative framework that brings harmony to the field and offers guidance to develop future discussions and research. The goal of this paper is to help scholars and managers understand and manage the CX. The authors develop a generalized theory-based framework that defines, conceptualizes and circumscribes the CX domain. Employing a three-step analytical procedure, the framework is built upon interdisciplinary insights from marketing, philosophy, psychology and sociology. The authors give meaning and action significance to CX, thereby aiding scholars and managers to improve their research, daily practices and long-term strategic thinking.

Keywords – Customer Experience, Customer Experience Management, Customer Value, Customer Engagement, Conceptual Paper, Marketing Theory

2. INTRODUCTION

Much practitioner attention is devoted to the concept of customer experience (CX) (Verhoef et al. 2009). Forrester Research finds that CX is the current No. 1 priority of executives worldwide, and considered to be a key determinant of long-term success (McCarthy and Schadler 2014). Several international brands, including Apple, Audi, Hilton, and McDonald's explicitly aim to deliver a superior CX, incorporating this goal in their mission and value statements. The result is a hiring surge across the firm, with job titles wearing an explicit CX-label such as "Chief Experience Officer (CXO)", "VP Customer Experience", and "Customer Experience Manager" (Hagen 2011). Likewise, CX receives considerable attention from consulting, with prominent players such as Accenture, Gartner, IBM, and McKinsey building entire practices around it. Further, several professional societies such as the Customer Experience Professionals Association (CXPA) and a vast body of trade literature have been established to advance this new CX-industry.

Stimulated by this business interest, CX research has become a key focus of academic marketing literature (McColl-Kennedy et al. 2015). Although much impactful scholarly work has been published in recent years (e.g., Bolton et al. 2014; Brakus, Schmitt and Zarantonello 2009; Grewal, Levy and Kumar 2009), our knowledge on CX remains limited. Given the interest in the topic, one would presume CX to have a clear meaning that is supported by a well-developed theoretical foundation. On the contrary, to date there is considerable debate amongst academics and practitioners as to what exactly the definition, dimensions and foundations of the CX-construct are. Anyone looking into this evolving literature will find CX and CX-management to be interpreted and used in very different ways and supported with a diverse set of (oftentimes contradicting) arguments. Researchers and managers are left with almost no guidance as to the true meaning and nature of CX, or even the appropriateness of current best practices for CX management. This diversity and its consequences are rarely debated. This is a significant concern, as CX represents one of the cornerstones of the marketing discipline. Clearly the field is still in its conceptual infancy, lacking common ground to move forward and build better CX practices (Calder, Isaac and Malthouse 2013). This problem is deemed so important that the Marketing Science Institute (MSI) has labeled its highest research priority for 2014-2016 as "Understanding Customers and the Customer

Experience." We seek to address this call by providing an integrative framework that offers a basis for future academic research and managerial practice on CX.

The purpose of this article, therefore, is to assist scholars and managers in understanding and managing the CX. By connecting and synthesizing interdisciplinary insights from marketing, philosophy, psychology and sociology, our work provides a holistic, yet parsimonious perspective of the CX that accommodates its complexity. We aim to develop a generalized theory-based framework that defines, conceptualizes and circumscribes the CX domain. We thereby advance marketing literature and practice as follows. First, we provide a multi-perspective review of the literature and distill the key dimensions that capture current CX understanding. Second, by defining and describing CX, we give clear meaning and 'action significance' to the construct (MacInnis 2011). Third, we describe several guidelines that can help managers strengthen CX-strategy development and execution. These might not only lead to direct changes in daily practice, but also induce significant change of long-term strategic thinking (Jaworski 2011). Fourth, we identify several opportunities for future research that can foster an impactful stream of CX research. Overall, we feel this paper brings structure where it is needed and serves as a basis to expedite the next generation of knowledge development on CX.

3. METHODOLOGICAL CONSIDERATIONS

We employ a three-step analytical procedure consistent with MacInnis's (2011) typology of conceptual contributions – summarizing, integrating, and delineating.

Step 1 – Summarizing: The goal of summarization is to take stock of existing knowledge and reduce it to a manageable set of key takeaways (MacInnis 2011). It helps to see the forest for the trees. This paper aims to provide an evolutionary perspective of the marketing literature discussing CX. This revision is not limited to academic inquiry, but also considers the parallel evolution in the practitioner discourse, thereby enriching our examination of CX. To assess the state of CX research, we seek out and analyze conceptual and empirical articles published between 1950 and 2015 in several scientific databases (e.g., Emerald, Science Direct, JSTOR, Google Scholar). We supplement our search with screenings of the major marketing journals, and draw on the reference lists of the selected articles. To identify relevant

practitioner literature, we carefully screen the Internet for research reports and white papers stemming from major companies and consulting firms doing research on CX (e.g., Forrester Research, IBM, Temkin Group). Additionally, we scan the publication lists of major publishers to identify business books and writings that discuss CX.

Our literature review, however, is not restricted to marketing. While CX is often submitted as the 'new kid on the block' in marketing, human experience in general has been debated for many centuries and is deeply rooted across scientific disciplines (Carù and Cova 2003). A true understanding of CX, therefore, can only occur by evaluating and juxtaposing multiple relevant perspectives (Gioia and Pitre 1990). Hence, we follow the recommendation of Brown et al. (2005) and adopt an interdisciplinary stance to yield a more comprehensive view of the CX. Specifically, we look at writings on human experience across philosophy, psychology, sociology, and marketing. This meta-perspective allows for a multidimensional representation of the topic area and a deeper understanding of CX. It helps overcome the existing diversity of positions on CX and allows summarizing extant knowledge on the characteristics of CX.

Taken together, our review permits us to identify seven key dimensions that readily capture the CX concept and serve as input for the next analytical step.

Step 2 – Integrating: Integration aims to draw connections between what is previously known, finding a novel, higher-order means of perceiving connections between multiple themes and elements in the literature (Mele, Pels and Storbacka 2015). It involves synthesis, creating a bigger whole from the diverse parts available, leading to overarching ideas that accommodate previous findings and resolve existing contradictions. In doing so, integration addresses complexity, offering a simple, parsimonious perspective of a specific phenomenon (MacInnis 2011).

In this paper, we integrate the findings from the summarization step and develop an overall definition of CX, describe its three base tenets and establish four fundamental properties that mark the CX. As a result, we provide a holistic assessment of CX that accommodates its complexity and provides a basis for further discussion on CX.

Step 3 – Delineating: Delineation entails depicting a specific entity and showing how it relates to the broader conceptual world around it. The goal is to improve comprehension of a focal entity by understanding its relationship with other concepts, hence stipulating its

boundaries, and identifying what should be considered in its study. Delineation results in the creation of a roadmap that permits a greater understanding of the processes that underlie an entity and details how it connects to other conceptual entities (MacInnis 2011).

With respect to our analysis, delineation allows discerning CX from two other, highly related concepts in the marketing literature: customer engagement and customer value (Chandler and Lusch 2015). While all three are often debated in the current theoretical discourse, no clear understanding of their interrelationship exists to date. We recognize CX as the vital nutritional element driving both customer engagement and customer value, and specify a three-stage cyclical process that captures the essence of this interrelationship.

In sum, this work details the specific grounds of CX, shows how it is continuously present in the customer environment, and argues why a clear understanding of CX is crucial to the marketing domain.

4. SUMMARIZATION: AN INTERDISCIPLINARY LITERATURE REVIEW

4.1 Marketing Literature

The growing body of research considering CX has been fragmented in marketing, with different viewpoints that lack harmony. Overall, we identify three main foci in the academic and practitioner discourse: content, context, and tools. Table 2.1 summarizes academic and practitioner thought on CX.

Content – the concept of CX. Content includes literature concerned with describing CX and represents different theoretical views on CX. Generally, we can discern two major streams of interest looking into (i) the nature and (ii) the distinctiveness of CX.

First, initial research discussing the nature of CX traces back to the works of Adam Smith (2012/orig. 1776) and John Maynard Keynes (2010/orig. 1936), further developed in the 50's and 60's by Lawrence Abbott (1955) and Wroe Alderson (1957), and can be epitomized as "What people really desire are not products but satisfying experiences" (Abbott 1955, p. 40). Cognitive research of early behavioral theorists, nevertheless, insisted on explaining consumer actions as a dominantly rational process (Azjen and Fishbein 1977), initially restricting the role of CX in the marketplace. Challenging this view, experiential theorists advocated the critical role of emotions and re-introduced the significance of CX as a broad construct underlying

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TABLE 2.1: Marketing Thought on CX

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Category	Literature Foci	Academic Literature	Business Practice Literature
Content – The concept of CX	Early Perspectives	e.g., Keynes (2010/orig. 1936); Abbott (1955); Alderson (1957)	N.A.
	'Rational' Cognitive Theories	e.g., Howard and Sheth (1973); Azjen and Fishbein (1977)	N.A.
	Experiential Theorists	e.g., Holbrook and Hirschman (1982); Hirschman and Holbrook (1982)	N.A.
	Extraordinary Experiences	e.g. Arnould and Price (1993); Schouten, McAlexander and Koenig (2007)	e.g., Lasalle and Britton (2002); Michelli (2007)
	Experiential Consumption	e.g., Nicolao, Irwin and Goodman (2009); Van Boven and Gilovich (2003)	e.g., Pine II and Gilmore (1998); Jensen (1999)
	Holistic Experiences	e.g., Brakus, Schmitt and Zarantonello (2009); Verhoef et al. (2009)	e.g., Meyer and Schwager (2007); Schmitt (1999, 2003); Shaw (2007)
Context– The embeddedness of CX	Unidirectional Perspectives of CX	e.g., Stuart and Tax (2004); Berry, Wall and Carbone (2006)	e.g., Carbone (2004); Carbone and Haeckel (1994); Shaw and Ivens (2002)
	Co-Created Experiences	e.g., Prahalad and Ramaswamy (2004); Vargo and Lusch (2004)	e.g., Kambil, Friesen and Sundaram (1999); Prahalad and Krishnan (2008)
	CX Context and Situationality	e.g., Heinonen et al. (2010); Vargo and Lusch (2008)	e.g., Lieb (2014); Manning and Bodine (2012)
	CX System Thinking	e.g., Tax, McCutcheon and Wilkinson (2013); Chandler and Lusch (2015)	e.g., Joachimsthaler (2007); Bodine (2013)
Tools –Mapping, prototyping and measuring CX	Mapping CX	e.g., Bitner, Ostrom and Morgan (2008); Patricio et al. (2011)	e.g., Browne (2012); Tincher (2013)
	Prototyping CX	e.g., Edvardsson, Enquist and Johnston (2005, 2010)	e.g., Dalton and Sizemore (2013); Polaine, Løvlie and Reason (2013); Stickdorn and Schneider (2012)
	Measuring CX	e.g., Klaus and Maklan (2012); Verleye (2015); Plassmann et al. (2015)	e.g., Schmidt-Subramanian (2014); Temkin and Bliss (2011)

consumer behavior (Holbrook and Hirschman 1982). While not rejecting the important role of cognition, the experiential view stressed the need to embrace an enlarged view of human behavior, recognizing the importance of the emotional aspects of CX. This movement inspired more recent academic and practitioner work to reflect upon the broad, holistic nature of CX (e.g., Brakus, Schmitt and Zarantonello 2009; Shaw 2007; Verhoef et al. 2009). Here, CX is believed to encompass customers' cognitive, emotional, social, and sensory responses to all interactions (i.e., pre-purchase, purchase, post-purchase) with a firm (e.g., Lemke, Clark and Wilson 2011; Meyer and Schwager 2007), implying CX to be process-oriented rather than solely the outcome of consumption (Bolton et al. 2014).

Second, research focused on the distinctiveness of CX largely evolved contrasting ordinary and extraordinary experiences (Schouten, McAlexander and Koenig 2007). Whereas the former involve experiences that are the result of mundane, everyday activities such as grocery shopping (Carù and Cova 2003), extraordinary experiences (including flow and peak experiences) mostly come by surprise and surpass customer expectations, resulting in situations of extreme enjoyment (Schouten, McAlexander and Koenig 2007). Consumer behavior research increasingly focuses on the effects of so-called experiential purchases (e.g., theatre, concerts, vacations) made with the primary intention of acquiring extraordinary life experiences (Van Boven and Gilovich 2003). Findings suggest these bring greater enduring happiness than positive material purchases, which stimulated business thinkers to initiate 'experiences' as a new economic offering next to and distinct from commodities, goods and services (Pine II and Gilmore 1998). A consumer then buys experiences to "spend time enjoying a series of memorable events that a company stages … to engage him in an inherently personal way" (Pine II and Gilmore 1998, p. 3). Schmitt, Brakus and Zarantonello (2014), however, criticized this view for adopting a too narrow focus. Rather than viewing experiences as the sole result of experiential purchases, every customer-company interaction is said to lead to a CX, independent of its nature (i.e., experiential vs material) and form (i.e., commodity, product or service).

Taken together, while earlier 'content'-writings either adopted a rational or emotional stance to discuss CX, the marketing discourse is evolving towards a holistic perspective of CX. Here CX is multidimensional by nature, including both cognitive and emotional aspects that

mark the customer-firm interaction. Further, a distinction has frequently been made between extraordinary and ordinary experiences, relating to the perceived uniqueness of a specific CX.

Context – the embeddedness of CX. Context includes a range of perspectives on how the CX arises from customer-firm interactions embedded within a larger environment. This literature emphasizes the role and degree of involvement of the provider and the customer in designing and influencing the CX. Here, we can discern a clear shift of research extending beyond the dyadic customer-firm relationship, towards considering the impact of broader networks of interrelated actors on CX.

Traditionally, CX studies adopted a unidirectional view of the customer-firm relationship. CX was assumed to be the result of a series of interactions with the firm, completely under control of, designed, and staged by the provider (Berry, Carbone and Haeckel 2002). This philosophy has been widely embraced by practice, developing step-by-step procedures that promise the delivery of sought-after experiences (e.g., Carbone 2004). Opposing this 'makeable' perspective, however, Prahalad and Ramaswamy (2004) and Vargo and Lusch (2004) introduced a co-creative view of CX. Here, customers are no longer considered as 'passive' observers, but as 'active' participants in the co-creation of their own personal experience (Vargo and Lusch 2004). Firms can merely create optimal 'experience environments' in which customers can participate in active dialogue and co-construct their own, personalized experiences (Prahalad and Ramaswamy 2004).

Building on this line of thought, academics and practice are increasingly considering the multiple actors and elements that are actively involved in the creation of CX. Consumer culture theorists, for instance, put emphasis on the broader customer sphere, investigating how customers integrate product/service providers in their daily lives and how this helps them create valuable experience beyond the customer-firm interaction (Arnould, Price and Malshe 2006; Heinonen et al. 2010). At the same time, others are exploring how contextual marketing techniques (e.g., location-based apps) can help researchers and managers understand why, how and when customers use products and services and how these are experienced (Lieb 2014).

Moreover, marketing thought in general is evolving towards a network-oriented view of the experience environment, emphasizing the importance of communities (Schouten, McAlexander and Koenig 2007), experience networks (Prahalad and Ramaswamy 2003),

network constellations (van Riel et al. 2013), service delivery networks (Tax et al. 2013), service-dominant networks (Lobler 2013), service systems (Maglio and Spohrer 2008) and service ecosystems (Vargo and Lusch 2011). Emphasizing the larger constellations within which actors are related across varying levels, time and space (Chandler and Lusch 2015), these perspectives are put forward as more appropriate ways to study CX.

Overall, context-related CX-thought is increasingly shifting from a sole focus on the dyadic customer-firm relationship towards a broader, networked view that considers both the immediate personal environment of the customer (e.g., his/her lifeworld) and a broader market context that connects different (commercial and non-commercial) parties.

Tools – visualizing, prototyping and measuring the CX. Tools assess the CX practice and management literature; they include contributions of recent marketing research, developing ways to visualize, prototype and measure the CX to increase managerial insights. To date, practitioners and academics have developed an extensive toolbox containing multiple methods that help understand and manage CX (Klaus 2014; Stickdorn and Schneider 2012). The practice of CX management is often defined as "the collection of processes a company uses to track, oversee and organize every interaction between a customer and the organization throughout the customer lifecycle. The goal of CX management is to optimize interactions from the customer's perspective and, as a result, foster customer loyalty" (Rouse 2010, p.1). Many of these efforts focus on the development of visualization techniques, the use of prototyping and the implementation of measurement tools that can help generate better insights into CX.

Customer journey mapping (Browne 2012; Rawson, Duncan and Jones 2013), service blueprinting (Bitner, Ostrom and Morgan 2008; Patricio, Fisk and Cunha 2008) and customer experience mapping (Teixeira et al. 2012) are amongst the most-popular visualization methods and are widely applied across the industrial landscape. These mappings help visualize and structure the process a customer goes through when interacting with the firm (Bitner, Ostrom and Morgan 2008). In practice, they are often developed for specific customer segments on the basis of personas that embody fictional profiles representing the archetype of particular customer groups (Manning and Bodine 2012). To optimize the CX of these personas, product and service prototypes are now common practice in new product and service development (Dalton and Sizemore 2013). These allow innovations to be tested in real-life and improved

before launch, based upon an improved sense of how customers experience novel products and services (Polaine, Løvlie and Reason 2013).

To further enhance CX insights, significant efforts have been made to improve CX measurement. While several CX scales have been proposed to date (e.g., Brakus, Schmitt and Zarantonello 2009; Klaus and Maklan 2012; Verleye 2015), scholars recognize the need for further inquiry, expanding the focus of CX measurement to qualitative techniques (e.g., narrative data collection) that allow more detailed consumer insights (Helkkula, Kelleher and Pihlstrom 2012). Business practice, on its end, increasingly turns toward neuroscientific techniques that allow a more accurate measurement of CX (Plassmann et al. 2015). Techniques like biometrics, eye tracking, EEG and fMRI-scans can help marketing researchers to better understand CX formation and its behavioral outcomes (Venkatraman et al. 2012). Marketing research firms, therefore, are initiating neuroscientific divisions (e.g., Nielsen Neuro, Ipsos Neuroscience and Emotion, Millward Brown Neuroscience Practice) that complement their traditional research methods (Plassmann, Ramsoy and Milosavljevic 2012).

In sum, the quest for better insights into CX is becoming multi-method. While traditional CX tools are used to measure and map CX impressions at an aggregate level (e.g., survey research), the totality of CX insights is increasingly refined as novel techniques from other scientific disciplines such as neuroscience allow a much deeper investigation of CX.

Marketing − Conclusion. While the above review shows that there has been a veritable rise of CX research in the last few years, many challenges remain. Marketing literature is fragmented, discussing bits and pieces of a larger CX understanding. More concretely, the field lacks an overarching framework that provides structure and guidance to the rapidly growing body of literature. Absent such a foundation, the CX concept could easily become marginalized due to its current ambiguous nature in academic and business literature. In an attempt to develop a truly comprehensive understanding of CX and integrate the different viewpoints in marketing literature, we turn to broader scientific thought on human experience. Such a pluralistic stance might improve our understanding of the diverse perspectives in marketing and highlight the key dimensions related to CX. The following sections summarize (albeit briefly) extant knowledge on experience across the literature, outlining contributions of philosophy, psychology and sociology over the last century.

4.2 Philosophy

Philosophy has made important contributions toward describing, defining and understanding the nature of human experience. Of particular interest is Husserl's (2012/orig. 1937) phenomenological discourse, set out to be an opportune 'lens' to explore human experience (Thompson, Locander and Pollio 1989). Husserl studies subjective experiences, adopting a first-person point of view that stresses the inherent individual nature of human experiences (Smith 2013). Any experience is said to always have reference and intentionality, meaning that experiences are 'of' or 'about' something (Pollio, Henley and Thompson 1997).

Building on Husserl, Heidegger (1962/orig. 1927) and Merleau-Ponty (1962/orig. 1945) initiated existential phenomenology as a superior way to describe human experience (Pollio, Henley and Thompson 1997). The result is a contextualist worldview, seeking to attain a first-person point of view considering the "totality of human-being-in-the-world (Heidegger 1962/orig. 1927)" (Thompson, Locander and Pollio 1989, p. 135). Human experience can only be understood taking into account an individual's context (i.e., a person's Lebenswelt, or Lifeworld (Merleau-Ponty 1962/orig. 1945)), acknowledging every experience is coherently related to the ongoing project of a specific lifeworld (Sartre 1962/orig. 1943).

Similarly, John Dewey (1922, 1925) considers human experience to be the result of organism-environment interactions taking place within broader social and contextual environments. In his view, an experience is to be approached as a multidimensional construct, comprised of intellectual, emotional, sensorial and behavioral components. Dewey argues that, although people are always 'experiencing', much of this happens without conscious perception of it (Calder and Malthouse 2008). To be able to talk about 'an' experience, a phase of closure needs to be reached (Dewey 1980/orig. 1934).

In short, philosophy highlights the idiosyncratic and subjective nature of human experience. Every human experience is always unique to the individual and can only be understood when considering the context in which it takes place (i.e., an individual's lifeworld). Moreover, human experience is not singular. Rather, it is composed of multiple elements, including intellectual, emotional, sensorial and behavioral components.

4.3 Psychology

Psychology literature provides us with a better notion of the nature, framing and

dynamics of human experience. Herein, the study of basic hedonic pleasure/pain experiences has received most attention, residing in the classic motivational principle that people approach pleasant experiences and avoid painful ones (Higgins 2006). Judgments on the pleasure/pain experiences can involve both an immediate, in-the-moment evaluation, or encompass a retrospective evaluation of past experiences (Kahneman, Wakker and Sarin 1997). As a result, many psychologists have been interested in the longitudinal nature of human experience (e.g., Ariely and Carmon 2003; Loewenstein and Prelec 1993), examining 'patterns' of experiences over time (e.g., Ariely and Zauberman 2000). Numerous aspects have been found to influence both the retrospective evaluations of past experiences and the anticipation of future experiences, including the trend of past experiences (Loewenstein and Prelec 1993), their rate of change (Hsee and Abelson 1991), and the maximum and final intensities associated with momentary experiences (Verhoef, Antonindes and de Hoog 2004).

Educational psychologists, on their turn, accentuate the role of human experiences as a powerful learning source (DeRue and Wellman 2009). For instance, experiential learning theory holds that learning occurs when individuals engage in challenging experiences, followed by a reflection on the outcomes of these experiences (Kolb 1984). As a learner integrates these observations into existing knowledge schemes and formulates hypotheses on how the new experience can relate to previously developed knowledge and experiences, these updated schemes can be tested and serve as guides in the creation of new experiences (DeRue and Wellman 2009).

Lastly, psychology literature also devotes significant attention to the subject of extraordinary experiences, including Maslow's (1964) and Laski's (1962) peak experiences and Csikszentmihalyi's (1990) concept of flow. These involve transitory, yet powerful and often meaningful, experiences that have a significant impact on the one who undergoes them.

In short, psychology literature primarily focuses on the inherent dynamic nature of CX. Each CX is considered to build on other experiences over time. The importance and impact of every individual CX depends upon its intensity and perceived uniqueness (e.g., extraordinary vs ordinary) as opposed to other, related experiences.

4.4 Sociology

Sociology literature contributes to understanding how human experience is influenced

and shaped by social environments. Social construction theories help us to understand how human experience is inherently related to social situations and structures, with the premise that each person is inherently a social being, living in and taking up a specific set of roles and positions in a social system (Berger and Luckmann 1966; Giddens 1984). Social constructionism urges the need to consider individuals and their experiences as socially intersubjective, meaning that they are subject to a system of shared understandings and social consensus. Human experiences thus emanate from an ongoing set of interpretations of daily life, rooted in a stock of knowledge that accumulates based on associations with others (Schutz 1967).

Social intersubjectivity is largely driven by the human socialization process making people internalize ways of thinking, feeling and behaving that are customary and allow them to participate successfully within society (Hobbs and Blank 1975). This process implies conformity with a given culture, driving how people are supposed to experience specific situations, and largely realized through language practices (Schieffelin and Ochs 1986).

While radical constructionists decline any form of individual agency, most social construction theorists approach experience as personal and social at the same time, co-driven by the individual and environment he/she lives in (Richardson 2004). One's experience is contingent upon one's unique background; while at the same time one is influenced by the societal norms and values of the different groups one is involved with. However, as individuals continuously reproduce and sometimes modify these social structures (i.e., norms and values) through interaction with the world, experiences are formed and evolve within an inherent dynamic system of structures, systems and social interactions (Giddens 1984).

Thus, sociology helps us understand how experience is co-determined by the multiple social environments an individual is embedded in. Each experience is colored by an internal stock of knowledge established through social contact with other people. This shared knowledge continuously evolves over time, causing human experience to dynamically evolve as well.

4.5 Literature Review: Towards an Integrated Understanding

To better understand the customer and be able to develop relationships with customers through CX, it is important to have deeper insight into how such experiences are shaped and become. This requires us to understand what is at the ground of a CX. We do not argue in favor of any of the approaches reviewed above. Each distinct discipline offers a specific

contribution to understanding CX, but none, individually, succeeds in capturing and describing the complexity of the experience construct. In a first step towards the development of a unified framework for the CX, we summarize the above extant literature into seven dimensions that readily capture the CX: (i) interactional basis, (ii) multidimensional nature, (iii) ordinary vs extraordinary character, (iv) individually intrasubjective ground, (v) socially intersubjective foundation, (vi) contextual nature, (vii) dynamic character. Taken together, these elements provide a terminology or language system for describing the CX (Mele, Pels and Storbacka 2015). In a next step, we attempt to integrate all seven dimensions by means of a formal conceptualization of the CX construct. More specifically, we define CX, describe its basic tenets and develop four basic properties that mark every CX.

5. INTEGRATION: LAYING THE CONCEPTUAL FOUNDATIONS OF CX

The above review highlights a number of universally shared beliefs on what exactly an experience is and what its properties are. Building on these multidisciplinary insights, the following sections of the paper aim to integrate and translate the identified dimensions back to the marketing discipline. The goal is to synthesize and develop an overarching framework that accommodates a complete view and understanding of the CX.

5.1 Defining the CX

First, we distinguish three base tenets that constitute the ground of every CX.

The first basic tenet of CX is its interactional nature, meaning that a CX always stems from an interaction between a customer and a (set of) market actor(s) through various interfaces, both human (e.g., frontline employees) and non-human (e.g., self-service technologies). We define a customer as a focal individual who engages in a commercial interaction; a market actor is defined in a generic way, covering the entire spectrum of commercial and non-commercial service/product providers. The interaction, or service exchange, is defined as the 'application of specialized competences (knowledge and skills) through deeds, processes, and performance for the benefit of another entity or the entity itself' (Vargo and Lusch 2004, p. 2). Without an interaction, there is simply nothing to experience (Pollio, Henley and Thompson 1997); we cannot discuss the CX. This interaction can be lived or imaginary (Helkkula, Kelleher and Pihlstrom 2012) and relate to past, present and future

events (Wirtz et al. 2003). A lived interaction stems from observable contact between the customer and (an)other actor(s), in the past (i.e., remembered, retrospective experience – "how it was") or present (i.e., real-time, immediate experience – "how it is"). It can be either direct, for example stemming from the actual purchase of a product/service or the use of it; or indirect, stemming from factors like word-of-mouth or reviews (Meyer and Schwager 2007). Imaginary interactions, on the other hand, are created in the mind of the customer and do not involve observable contact. These are the result of a simulation or mental construal process within the mind of the individual (Trope and Liberman 2010). Again, these stem from direct/indirect past ("how it could have been") and/or present ("how it can be") events, but might also be reflective of an anticipated future ("how it will be") (Gilbert and Wilson 2007).

The second basic tenet holds that a specific level of uniqueness marks every CX. Specifically, experiences vary on a continuum ranging from ordinary to extraordinary (Bhattacharjee and Mogilner 2014). Ordinary experiences correspond to routine activities that are common, frequent and occur in everyday life (Carù and Cova 2003). Extraordinary experiences, instead, are uncommon, infrequent and extend beyond everyday life (Bhattacharjee and Mogilner 2014). Often, these are more intense, marked by extreme enjoyment or even a transcendent nature (Schouten, McAlexander and Koenig 2007).

The third basic tenet of CX relates to its multidimensional nature, which goes beyond a purely rational, cognitive consideration of CX (Dewey 1925; Holbrook and Hirschman 1982). Acknowledging the richness of an experience, the literature proposes that cognitive, emotional, physical, sensorial, and social elements most readily encompass the broad spectrum of basic human experiences (Brakus, Schmitt and Zarantonello 2009; Gentile, Spiller and Noci 2007). These experience elements are interrelated, forming a unitary CX. The specific expressions of each of the five experience elements, however, might vary across contexts and situations. More specifically, specific elements of the CX might be more or less present depending on the context and situation the customer finds him/herself in.

Taken together, we define customer experience as follows:

Customer Experience is comprised of the cognitive, emotional, physical, sensorial, and social elements that mark the customer's direct or indirect interaction with a (set of) market actor(s).

In this way, we think of CX as constituting the "raw" data underlying and driving the specific processes that shape consumer behavior. Without CX there is simply nothing that follows. It is the primary result of direct or indirect interactions with a (set of) market actor(s), marked by different levels of uniqueness and composed of multiple elements whose exact manifestation varies across contexts and situations. Our interdisciplinary perspective reveals four more dimensions that can be considered as fundamental properties coloring every CX. The following sections discuss all four properties in detail. Figure 2.1 offers a complete visual representation of the holistic conceptualization of CX developed in this paper.

FIGURE 2.1: CX Conceptualization
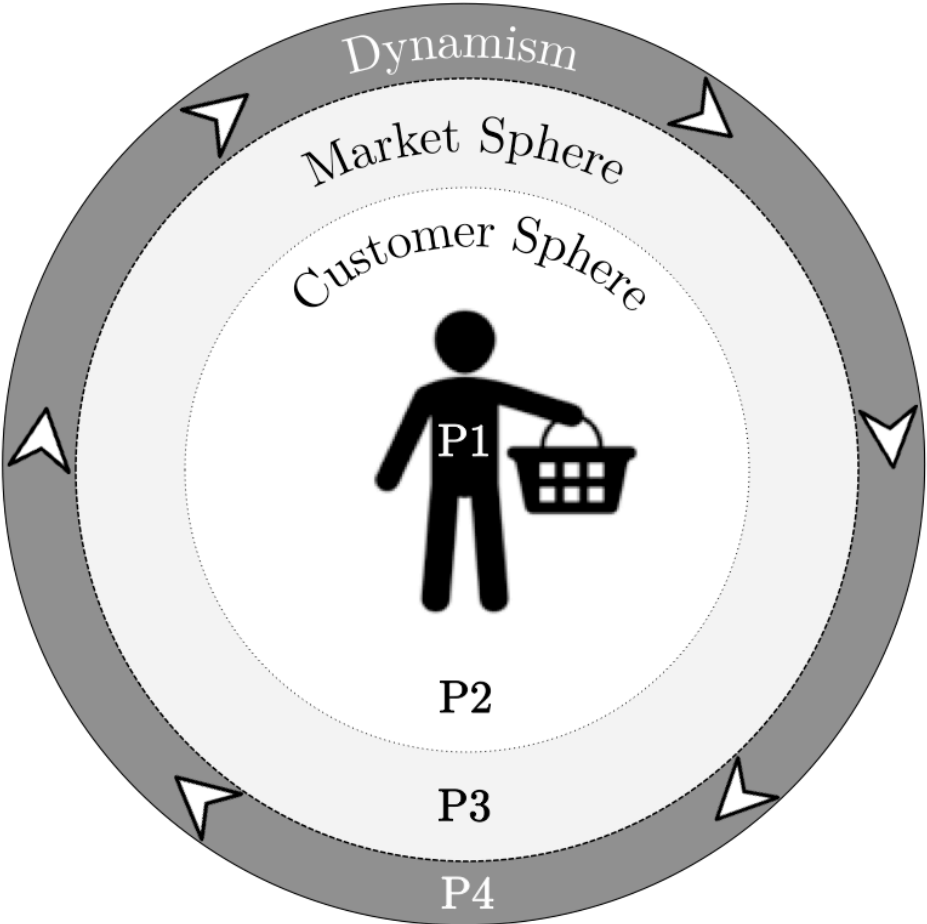
P1: CX is individually intrasubjective and socially intersubjective
P2: CX is grounded in the customer's own sphere
P3: CX is embedded within a multi-layered market sphere surrounding the customer
P4: CX is event-specific, yet dynamic in nature

5.2 CX properties

P1: CX is individually intrasubjective and socially intersubjective

We posit every CX is intrasubjective in nature, meaning that CX is inherently personal and unique to the individual customer (Helkkula, Kelleher and Pihlstrom 2012; Vargo and Lusch 2008). The individual CX is contingent upon the unique set of resources available to the customer and the way he/she integrates them (Chandler and Vargo 2011). Since customers are at the very heart of their own experience, they bring in their own heterogeneous background (e.g., personality, past related experiences and associative patterns in memory). Hence, different customers may perceive the same service exchange otherwise. In essence, no two people can have the exact same CX (Gentile, Spiller and Noci 2007).

Despite the individual perception of the environment and the resulting intrasubjective nature of CX, several authors have discussed the social and shared nature of human experience (Helkkula, Kelleher and Pihlstrom 2012; Vargo and Lusch 2008). Given that an individual and his/her service exchange with other actors are always embedded within (multiple) social system(s), every CX has to be understood accordingly. Therefore, one must account for the specific societal norms and values that govern the interrelationships and the social system(s) in which an individual is embedded (Edvardsson, Tronvoll and Gruber 2011).

In particular, CX is found to be co-steered by cultural schemas and rules (Giddens 1979, p. 21). These can be defined as "generalized procedures applied in the enactment of social life", including conventions, traditions, recipes and habits of speech (Arnould, Price and Malshe 2006). Institutional and social structures heavily influence the CX, providing 'guidelines' on how to consume a product or service and shaping individual actors' activities and interactions (Arnould, Price and Malshe 2006).

Consequently, although people experience individually, it is clear they share several types of experiences with others by means of their collective lifeworlds (Schutz 1967). Hence, we assert that CX is at the same time individually intrasubjective and socially intersubjective.

P2: CX is grounded in the customer's own sphere

While CX is individually intrasubjective, the same individual will most likely experience a similar service exchange differently between occasions in a different context (Edvardsson, Tronvoll and Gruber 2011). Accordingly, an individual's experience is always to be considered

as it is lived within the individual's life world and contingent upon the specific context in which the experience becomes (Heidegger 1962/orig. 1927). This conforms with S-D logic's tenth premise, implying that CX is unique and context-dependent (Vargo and Lusch 2008); and fits with customer-dominant logic's focus on the life situation of the customer (Heinonen et al. 2010). Therefore, we assert that CX is unique, not only to the individual, but also to the context in which it is embedded.

In this paper, we submit that context can either be approached from a customer-grounded view (Heinonen et al. 2010; i.e., the customer sphere) or from a market-grounded view (Chandler and Vargo 2011; i.e., the market sphere). The former focuses on the direct personal context (e.g., family and friends) of an individual outside the immediate control of the firm, whereas the latter discusses how unique sets of connections between multiple market actors determine the context and outcomes of service exchange. In the following paragraphs, we will focus on the individual's immediate personal context (P2: CX is grounded in the customer's own sphere). Subsequently, we will discuss the impact of the market sphere (P3: CX is embedded within a multi-layered market sphere surrounding the customer). Although it is impossible to list every contextual factor impacting CX, we aim to discuss some of the most imperative contextual elements previously touched in literature.

Adopting a customer-grounded view, the customer sphere can be discussed at three levels: individual, social and environmental. At the individual level, we can distinguish a myriad of factors that influence the personal context in which a CX takes place. First and foremost, customers are driven by goals that motivate them to engage in service exchange and influence their daily choices and actions (Bagozzi and Dholakia 1999). Specifically, goals drive the progression and perception of the service exchange, thereby influencing CX (Higgins and Scholer 2009). The same retail environment, for instance, may produce very different experiences, depending on the customer's goals. Just as one customer seeking entertainment might love crowded marketplaces, another customer might become frustrated as he/she seeks a specific product for immediate use (Puccinelli et al. 2009).

Not only do customers have specific consumption goals, their actions are often driven by larger life themes (e.g., environmentalism) and/or a set of life projects (e.g., adopting a toxin-free diet) that will impact and color their experiences (Arnould and Price 2000). The

better a particular service exchange fits with other activities of the customer and his/her life themes and projects as a whole, the more positive and stronger the resulting CX might be. If, on the other hand, specific events do not coincide with other related activities in the customer sphere, this might lead to negatively perceived CX (Heinonen et al. 2010).

Another important individual-level factor is the ubiquitous presence of affect in everyday life. Affect is an internal feeling state that comprises a collection of moods and emotions that continuously color one's experience of a specific service exchange (Puccinelli et al. 2009). People in a good mood, for instance, are more open to new products/services (hence, a novel CX), whereas a bad mood often leads to sticking with familiar brands and being more receptive to negative clues within a retail environment (Puccinelli et al. 2009).

At a social level, we can again distinguish multiple factors that influence the CX. First, the presence of other customers in the context of a service exchange can steer and modify the individual CX (Grove and Fisk 1997). While others might enhance CX (e.g., by taking on an advisory role), sometimes others might lead to a disruption of the environment (e.g., making noise during a movie), diminishing CX (Verhoef et al. 2009). The mere presence of another can amplify one's experience as "people take into account the (inferred) inner states of others, especially significant others, to construct or verify their views" (Echterhoff, Higgins and Levine 2009, p. 496). By observing how others react to the outcome of a service exchange (i.e., vicarious learning (Bandura 1971)), the individual CX is informed and becomes more psychologically prominent (Boothby, Clark and Bargh 2014). This 'social' influence becomes even more important as it is increasingly facilitated and stimulated by the rapid growth of online environments and brand communities (Verhoef et al. 2009).

Second, as every individual is embedded within multiple social systems (e.g., family, organizations, brand communities), he/she will adopt a set of social positions and roles that come with defined appropriate expectations for behavior (Edvardsson, Tronvoll and Gruber 2011). As a CX happens, which contextual aspects stand out will be partly driven by these roles and positions. Depending on context, a customer will take on a specific role that consequently influences his/her experiences (Arnould, Price and Malshe 2006). As people often adopt multiple roles simultaneously (e.g., parent, customer, employee), role conflict and/or role ambiguity (Verleye 2015) might occur, resulting in equivocal experiences.

At the environmental level, multiple factors such as weather, temperature, time of day, and traffic conditions can enhance or undermine the CX. Although research on the effects of these environmental conditions on CX is limited (Gummerus and Pihlstrom 2011), it is reasonable to assume that these elements will have an impact. While sometimes unpredictable, a customer often chooses the environmental conditions in which to interact with other parties.

In sum, it becomes clear that contextual factors in the customer's own sphere significantly affect the CX. Therefore, one can only truly understand an individual's CX by taking account of specific contextual factors present the moment the CX becomes.

P3: CX is embedded within a multi-layered market sphere surrounding the customer

Adopting a market-grounded view of context, research has predominantly focused on dyadic exchanges whereby CX is formed in isolation, depending upon the interaction of a customer with a single firm (Layton 2011). However, research is moving toward a broader, networked view of service systems and ecosystems (Chandler and Lusch 2015); actors become interconnected through service within larger constellations and continually influence one another across varying contextual levels (Chandler and Vargo 2011). Accordingly, we posit that the CX is not formed in isolation; rather it is embedded within and co-shaped by three different contextual levels of a larger market sphere or service ecosystem: (1) the micro-level, (2) the meso-level and (3) the macro-level (Lusch and Vargo 2014).

The micro-level context involves the individual-level service exchange, focusing on the dyadic relationship between provider and customer. This level is highly deterministic; the provider has an extended toolbox at its disposal to shape the CX (Grewal, Levy and Kumar 2009). Although CX is individual and cannot be induced by the provider as such (Prahalad and Ramaswamy 2004), the latter can deploy a series of "experience facilitating factors" to create the circumstances that enable desired experiences to take place (Zomerdijk and Voss 2010). To do so, marketing practice relies on aspects of the marketing mix, under the firm's control, including the product mix (e.g., Mantrala et al. 2009), price setting (e.g., Grewal, Levy and Kumar 2009), promotions (e.g., Ailawadi et al. 2009), atmospherics and location (e.g., Dagger and Danaher 2014), organizational culture (e.g., Bowen and Schneider 2014) and the operational performance/organization of the supply chain (e.g., Ganesan et al. 2009).

Today, the nature of the service/product delivery is increasingly fragmenting due to technological advancement and outsourcing of non-core activities (Tax et al. 2013). This had led to specialized providers that depend upon complementary partners to fulfill customer goals (van Riel et al. 2013). Customers have multiple encounters with a complex network of related providers in pursuit of goals, giving shape to the meso-level context in which the CX is embedded. Often, customers will adopt a holistic view, seeing and evaluating these multiple providers as responsible for an overall, connected service central to their CX (Piccoli et al. 2009). The overall CX is then based on the gestalt derived from the encounter with all involved parties (Ariely and Carmon 2000), while the customer interaction and experience with each separate entity is potentially influenced by the CX with the other involved parties (Tax et al. 2013). As such, from a meso-level standpoint, CX results from the broader alignment of multiple directly and indirectly engaged actors at different times and places within a service system (Chandler and Lusch 2015).

The macro-level comprises higher-level structures such as national economies, law systems, and political unions, and acts as a stabilizing layer above the other two (Chandler and Vargo 2011). According to Grewal, Levy and Kumar (2009), these macro-structures have a direct impact on the CX and percolate down to the meso- and micro-levels of the ecosystem. Ma et al. (2011), for instance, find that macroeconomic factors like gasoline prices, real estate value and GDP growth affect consumer willingness and ability to buy products and services, directly impacting the retail CX. Although the potential effects of these factors are not always clear-cut, the recent economic crisis undoubtedly demonstrated their severe and varied impact on the CX formed within the economic arena (Kumar et al. 2014).

P4: CX is event-specific, yet dynamic in nature

Although the world is presented to us as a continuous stream of information, the human brain perceives activity as a series of meaningful units or discrete events (Speer, Zacks and Reynolds 2007). Imagine buying a new book online. If asked to describe this activity, people most likely describe it in terms of the events that make it up: "I googled Amazon and clicked on the first search result. I browsed the site and found the book I wanted. I added it to my shopping cart, ordered and paid for it. I received the book the next day." Every event can be described as "a segment of time at a given location that is conceived by an observer to have

a beginning and an end" (Zacks and Tversky 2001, p. 17). It functions as a piece of information to anticipate events that follow. Every discrete event thus fosters an experience for the person involved (Speer, Zacks and Reynolds 2007), which subsequently feeds the experience of events that follow. Given the intrinsic change across sequential events, CX is subject to temporal modification (Vallacher, Read and Nowak 2002).

Therefore, we distinguish between event-specific CX, the CX that is linked to a particular customer-firm interaction, and dynamic CX, the overall CX that evolves over time and is reflective of multiple interactions during the customer-firm relationship. The latter continuously informs and is informed by discrete event-specific CX. The former is considered to be the result of an individual event (Zacks and Tversky 2001) stemming from a specific alignment of actors and resources at a given moment in time within a specific context (Vargo and Lusch 2008). Each event-specific CX is thus influenced by an iterative flow back and forth between past, current and future (imagined) experiences (Helkkula, Kelleher and Pihlstrom 2012), contingent upon the momentary context an individual finds him/herself in.

When debating event-specific CX, marketers frequently use the term 'touchpoint' to denote each individual interaction between a customer and the firm (Rawson, Duncan and Jones 2013). These occur whenever a customer directly or indirectly "touches" the firm, across multiple channels and at various points in time and result in specific CX's that represent opportunities for the firm to leverage advantage (Zomerdijk and Voss 2010).

Despite CX's 'in-the-moment' character and the importance of individual touchpoints (Bitner, Ostrom and Morgan 2008), several authors have underlined the importance of CX's dynamic nature (e.g., Zomerdijk and Voss 2010). More precisely, an individual often accumulates experiences across consecutive touchpoints that are related to multiple service exchanges over time and together make up the so-called 'customer journey' (Patricio et al. 2011; Rawson, Duncan and Jones 2013). Building on experiential learning theory (Kolb 1984) and literature on intertemporal choice (Ariely and Zaubermann 2003), we argue that each event-specific CX helps shape an overall dynamic CX that is influenced by the specific pattern, rate of change, time between, and minimum and maximum intensities of the individual experiences (Ariely and Carmon 2003). Dynamic CX recursively informs future event-specific experiences that result from similar service exchanges with the same and/or different related

actors. Each individual CX thus informs related experiences in the future as it is encoded and stored in memory (Puccinelli et al. 2009).

It is important to note that the different systems (i.e., the individual, social system(s), customer sphere, market sphere) within which the CX is embedded are inherently dynamic as well, as many of these environments behave as complex adaptive systems (Layton 2011). According to Giddens (1984), these systems are "constantly recreated and changed in coherent ways through actions and 'enduring cycles of reproduced relations'" (Högström and Tronvoll 2012, p. 429). Social systems and the shared institutions (i.e. structures) that underlie them are not static; rather they influence and are influenced by one another, thereby co-developing over time (Vargo and Akaka 2012). As a result, the experiences formed within these adapting service systems are not stable, but inherently dynamic as well.

In essence, CX has a dynamic component to it that is composed of and informed by multiple event-specific experiences that happen over the course of the customer-firm relationship, taking place in a dynamic environment. Dynamic CX does not equal the sum of all individual event-specific CX's, but accounts for specific peaks of intensity, time intervals and fluctuations between all individual event-specific experiences that feed it.

6. DELINEATION: MAPPING THE CX LANDSCAPE

So far, we have summarized the literature, defined CX, described its three base tenets and designated its four fundamental properties. Doing so, this paper offers an overarching framework that captures the complexity of CX. To specify CX's boundaries and understand its underlying processes, we need to go one step further and establish how CX links to and influences "the broader conceptual world around it" (MacInnis 2011, p. 144). Therefore, we set out to explore how CX links to its two natural allies: customer engagement and customer value (Chandler and Lusch 2015).

6.1 The Trinity of Marketing: Customer Experience, Engagement and Value

Customer value (e.g., Leroi-Werelds et al. 2014; Zeithaml 1988) and customer engagement (e.g., Brodie et al. 2011; van Doorn et al. 2010) readily capture many of the core ideas of the marketing discourse. Both are generally acknowledged as fundamental concepts in marketing and are discussed extensively within the popular S-D logic dialogue (Chandler and

Lusch 2015). Research examining and defining value and engagement stresses the essential position of CX and presumes CX feeds into both (Brodie et al. 2011; Vargo and Lusch 2008). In other words, CX is viewed as the root of both customer value and engagement. While this is commonly accepted, no previous study has deeply examined the intersection and the interrelationship between all three concepts. This paper sets out to describe and formalize the dynamic interplay of CX, value and engagement. We first define value and engagement. Then, we develop a three-stage cyclical model that governs and explicates the interaction between CX, value and engagement. This cycle is spurred by the customer's inherent need to satisfy specifics wants and needs through goal pursuit.

Customer Value. Customer value has long been recognized as a key marketing concept, subconsciously and consciously driving consumer behavior (e.g., Alderson 1957; Leroi-Werelds et al. 2014). Traditionally, value is thought of in mechanical terms as a trade-off between price and quality (Zeithaml 1988). However, in recent years value discussions have shifted towards a phenomenological perspective, considering value as inherently 'experiential' in nature (Vargo and Lusch 2008); value does not reside within a specific product or service, but rather in the experiences derived therefrom (Leroi-Werelds et al. 2014). Therefore, in line with Higgins and Scholer (2009), we adopt a psychological stance on customer value. More precisely, we define customer value as an evaluative motivational force that is the direct result of CX (Higgins 2006; Vargo and Lusch 2008). Customer value derives from a direct reflection upon CX where the customer answers the following question: "Do I get better in some respect, be it functional, economic, emotional, social, ethical or environmental?" (Gronroos and Voima 2013). If 'yes', the customer positively values a specific CX and feels attraction toward it; if 'no', the customer negatively values a specific CX and feels repulsion from it (Higgins and Scholer 2009). We argue that a positive value stems from the combination of experienced physical, cognitive, sensorial, emotional, and social benefits outweighing the corresponding costs of a service exchange; whereas negative value occurs when costs outweigh the benefits (Zeithaml 1988).

Just as CX is marked by an underlying dynamic nature, value accumulates over time through experiences as people get better or worse off over time (Gronroos and Voima 2013). Therefore, customer value always appears as a function of past, present and/or future experiences (Helkkula, Kelleher and Pihlstrom 2012). In other words, no value judgment can be

made without any CX taking place. If there is no experience, be it imaginary or actual, there is simply nothing the customer can value (Helkkula, Kelleher and Pihlstrom 2012).

Customer Engagement. Customer engagement is an increasingly popular term that captures the ways in which customers directly and indirectly interact with the firm. It includes both purchase-related and non-purchase related activities (Kumar et al. 2010). While behavioral manifestations, such as word-of-mouth and purchase, most readily capture customer engagement, the concept entails a much broader psychological foundation. In line with Brodie et al. (2011), we define customer engagement as a psychological state marked by specific levels of cognitive, emotional and behavioral activity with a particular service exchange. Engagement occurs primarily by virtue of an individual's experiences and resulting value judgments with a specific (set of) actor(s). Customer engagement is largely driven by past, present and/or future experiences and the extent to which these are valued positively or negatively. Positively valued experiences will generally lead to increased engagement levels, whereas negatively valued experiences will most likely lead to lowered engagement. Engagement levels reside on a continuum, ranging from non-engaged (where no interactions take place) to highly engaged (where active interactions result in a CX) (Brodie et al. 2011).

6.2 Goal pursuit as the impetus for a three-stage cyclical process

Human goal pursuit is critical for the creation of CX, value and engagement. People continuously strive to satisfy specific needs and wants thereby engaging in goal pursuit processes aimed at reaching a desired end state (Fishbach and Dhar 2005). For most consumption goals, however, an individual's own resources are not sufficient to reach a desired end state, forcing him/her to interact with other (often commercial) parties (Bagozzi and Dholakia 1999; Vargo and Lusch 2004). An individual consumer will generally have multiple options to reach a desired end-state, forcing the individual to choose amongst several alternative paths toward goal attainment (Huang and Zhang 2013).

As goals are set and choice imposes itself, CX, engagement and value start connecting. Although these forces are experienced holistically, conceptually they are distinct. How all three interrelate is detailed subsequently and described as a three stage cyclical process, consisting of an anticipation, realization and reflection phase (Morewedge 2015).

Phase 1: Anticipation

The anticipation phase is marked by consumer choice for a specific path to goal attainment, driven by anticipated CX and its resulting value estimates. The individual makes up his/her mind and selects a (set of) service exchange partner(s) to engage with in order to reach a desired valuable end state (Chandler and Lusch 2015). Critical in this stage is the human ability to 'simulate' experiences and their resulting value outcomes. Every individual is at least to some extent able to 'pre-experience' future events and to 'prefeel' the resulting consequences (i.e., value) (Gilbert et al. 2002). This process involves the mental simulation of experiences that would be encountered along the goal-attainment process (e.g, searching, buying, unwrapping a book) and upon goal completion (e.g., reading a book) (Gilbert and Wilson 2007). Choice is then informed by the individual's reaction to the simulation (i.e., attraction or repulsion), which is a manifestation of the CX's anticipated value.

The anticipated CX is assessed based on the temporal and relational connections available to the individual, i.e., the available resources (Anderson, Håkansson and Johanson 1994) and the individual's disposition toward the past, present and future (Kolb 1984; Trope and Liberman 2010). If, for example, a previous CX was unsatisfactory, an individual may choose to renovate his/her connections by choosing a different partner for service exchange that promises a better CX in the future (Chandler and Lusch 2015). If on the other hand, previous CX was satisfactory, that individual may choose to reinforce a specific past experience by choosing the same partner for future service exchange that promises a similar CX as before (Wirtz et al. 2003). Once actual choice is made, customer engagement appears in the realization phase that follows (Chandler and Lusch 2015).

Two important remarks should be made when considering the anticipation phase. First, any individual's capacity to evaluate multiple alternatives is not infinite. Customers are constrained by a "bounded rationality' (Simon 1955) and restricted by factors such as limited working memory, imperfect computational capabilities, and lack of information on all existing choice options (Bettman, Luce and Payne 1998). Often, therefore, people will only compare a limited set of alternatives (Dar-Nimrod et al. 2009), use simple heuristics to make their choice (Bettman, Luce and Payne 1998) or be driven by a threshold of acceptability that results in satisficing behavior (Schwartz et al. 2002). In other cases, emotions rather than cognitive

reasoning might determine consumer choice (Bagozzi, Gopinath and Nyer 1999).

Furthermore, in many circumstances the processes that mark the anticipation phase (i.e., CX forecasting) happen at an unconscious level (Rangel, Camerer and Montague 2008). Choice is often not the result of deliberate, conscious processing of multiple alternatives and their predicted value experiences. Rather, choice can involve automatic, implicit or habitual processing where behavior is driven by automatic goal pursuit rather than explicit goals (Aarts and Dijksterhuis 2000). Habitual behavior, for instance, involves "psychological dispositions to repeat past behavior" (Neal et al. 2012, p. 492) and relates to the cognitive hardwiring of one's mind to repeat previously successful behavior in similar situations (Shah, Kumar and Kim 2014). When specific service exchanges are marked by a 'proven' CX and value, the level of conscious/deliberate thought by which the anticipatory processes take place is much lower as goal pursuit activates automatically (Aarts and Dijksterhuis 2000).

Second, the anticipatory phase can result in the immediate realization of value as people often derive utility from dreaming, fantasizing or savoring experiences that they could have or are about to happen. As a result, people can infer value from a future event before it even occurs (Kumar, Killingsworth and Gilovich 2014).

In sum, the anticipation phase is marked by choice of a specific (set of) partner(s) to engage with in order to accomplish a desired (set of) goal(s). Choice is based upon the anticipated CX and value that would result from the service exchange(s). The intensity, or level of conscious percept, by which this process takes place depends upon the prominence of the service exchange and is driven by the context in which the individual is immersed.

Phase 2: Realization

The realization phase takes center stage as the actual experiencing unfolds and the 'raw' experience data gets shaped. Upon consumer choice, the process of goal pursuit commences and people actively engage in a sequence of one or more events that lead up to goal attainment and contribute to multiple interrelated event-specific experiences (Ariely and Carmon 2003). Every separate event or action is marked by a specific experience for the individual as he/she undergoes it. Here, the individual finds him/herself to be 'within' the CX as a result of the immediate encounter with the surrounding environment.

The realization phase is therefore characterized by immediate event-specific experiences

taking place as a result of the customer's engagement in service exchange (Chandler and Lusch 2015). The specific expression of each CX can differ as the advent of all CX-elements, i.e., cognitive, emotional, physical, sensorial and social elements, heavily depends on the individual, the conditions in which the event takes place, and the dynamic flow by which it is linked to previous and future events. As such, the customer journey represents the path along which the realization phase happens. This journey occurs in single events or touchpoints that impact each other and contribute to an overall dynamic CX.

Importantly, customer engagement leading to the realization of CX can be affected by other sources than the anticipated CX and value estimates of a specific goal (Higgins 2006). These include, among others, interfering forces, personal resistance, likelihood of occurrence, regulatory fit and the use of proper means of goal pursuit (Higgins and Scholer 2009). Interfering forces, for instance, can include physical barriers (e.g., physical limitations), other people (e.g., authority figures) or environmental conditions (e.g., bad weather) that hinder customer engagement and cause disruption of goal pursuit (Higgins 2006). In some cases, customer engagement will therefore be absent, despite the anticipation of valuable experiences, and no real-time CX will be realized.

Customer engagement states appear in different intensities along the customer journey (Brodie et al. 2011). Depending on how strongly the individual is attracted toward a specific goal (Sansone and Thoman 2006), the hedonic profile of the customer journey (Ariely and Zauberman 2000), the occurrence of other factors, such as interfering forces (Higgins 2006), and the proximity of the goal's end state (Kivetz, Urminsky and Zheng 2006), engagement intensity might be higher or lower. Additionally, as people regularly pursue multiple goals simultaneously, they have to balance a limited set of personal resources (e.g., energy, time and attention) to ensure that all sought-after goals can be attained (Louro, Pieters and Zeelenberg 2007). Depending on the urgency and proximity of every distinct goal, engagement levels vary as resources get reallocated (Fishbach and Dhar 2005).

Taken together, the realization phase is characterized by actual experiencing of the customer. As choices are made, individuals engage in service exchange leading to event-specific experiences. Here, the CX comes into existence through customer engagement. Although the latter is largely driven by the anticipated CX and value estimates that stem from the

anticipation phase, several other factors impact the intensity by which it occurs.

Phase 3: Reflection

Every event that leads up to goal attainment is followed by individual reflection upon its actual value realization: "Am I better off?" Thus, the reflection phase is marked by customer judgment/sense-making of experienced events: do they convey positive or negative value? Customers make sense of value in an interactive way, making connections between past, present and future experiences (Helkkula, Kelleher and Pihlstrom 2012) and influenced by the comparison of the 'true' CX with its earlier anticipated counterpart (Oliver 2010).

We can make a distinction between two value sources: value from the process and value from the end state (Higgins and Scholer 2009). Value from the process reflects how the goal pursuit activity itself is experienced. People often perform a sequence of actions to reach a desired end state; every individual action leads to a specific experience. The meaning of each action can differ by individual and hence involves its own value judgment (Vargo and Lusch 2008). People can, for instance, derive value from doing things "the right way" or by following personal standards (Higgins 2006). How goals should be pursued often coincides with cultural maxims that highlight how one is supposed to act (Arnould, Price and Malshe 2006). Following such maxims can lead to immediate "ethical" value for the individual.

Value from the end state, on the other hand, reflects the nature and experience of the outcome (Higgins and Scholer 2009). Interestingly, every distinct event along goal attainment may not only lead to immediate process-value, but also affects the perceived value-of-the-outcome (Oliver 2010). Difficulties along the goal attainment, for example, might result in negative process-related value, but also reflect negatively on the value of the end goal (Louro, Pieters and Zeelenberg 2007). As goal attainability decreases, motivation to pursue the focal goal can decrease (Huang and Zhang 2013), directly impacting future CX and engagement.

The intensity or conscious percept of the value reflection depends on the customer, the situation, and the progress along the goal pursuit. Some events or actions will have a very low intensity and impact on both process-value and value-of-the-outcome, while others will result in significant reflection by the customer. Such moments are often referred to as moments-of-truth, representing critical interactions that can make or break a customer-firm relationship (Bitner, Ostrom and Morgan 2008). Taken together, the reflection phase is marked by customer

judgment on the value of the experienced event(s). Value is derived from both the process by which the goal is pursued and from the end state itself. The level of reflection for each step differs; some events are more influential or important than others.

Cyclical Pattern

If the desired goal is not reached after one event, the phases of anticipation, realization and reflection repeat again forming a cyclical pattern until one either quits goal pursuit or attains the goal. Whether or not to continue customer engagement after reflection is dependent upon the output of the anticipation phase that follows. Specifically, the value judgments from the reflection phase serve as input for a next anticipation phase and update the customer's ability to simulate future experiences and estimate their resulting value (Kolb 1984). Experienced value thus impacts future experiences through memory and encoding (i.e., explicit and implicit learning) (Plassmann, et al. 2012). As positive value is experienced, one can expect the customer to continue engagement. If, however, the goal pursuit results in negative value or a lowered attraction towards the end state, the customer might decide to cease goal pursuit and invest resources in the attainment of other goals (Louro, Pieters and Zeelenberg 2007). In some cases, a negative experience (negative process-value) might reinforce engagement and increase the attractiveness of the end state (Clee and Wicklund 1980). Alternatively, a negative experience might also reinforce engagement negatively, resulting in behaviors such as negative word-of-mouth and customer revenge (van Doorn et al. 2010).

Together, these stages, embedded within a larger ecosystem, move through time and are experienced holistically by the individual. Whenever a specific goal is reached, this dynamic interplay is paused. However, one might retake the same goal (e.g., buy another car), instigating the cycle anew and build upon the experiences and value gained from previous goal pursuit through explicit and implicit brand memory (Rangel, Camerer and Montague 2008). Interestingly, the experiences gained in one goal pursuit might transfer to other similar goal attempts or interactions with the same provider. For example, successful goal pursuit with a brand might push the customer to engage in buying other products/services of that same brand or involve in other activities such as positive word-of-mouth behaviors and brand advocacy. These strengthen the customer-firm relationship and potentially influence other customers to engage in service exchange with the brand (van Doorn et al. 2010).

Taken together, we have defined CX, value and engagement, explained their interrelationship and specified their dynamic nature. We now turn to the implications of this work for practice and show how managers can learn from it to improve current CX strategies.

7. ADVANCING CX PRACTICE

Although the proposed framework is conceptual in nature, we feel it holds great value for practice. Our holistic conceptualization of the CX construct and its underlying processes offers guidance and insight to managers to develop better practices based upon a unified view and clear definition of CX. We offer a theoretical foundation that should help address current business challenges in developing CX strategies. Based upon our CX framework, we present four general guidelines that can aid executives in better managing CX (see Table 2.2).

First, a CX-driven practice should be centered on the individual customer applying a 'jobs-to-be-done' perspective. Only then will companies become truly customer-centric, enhancing the CX and its resulting value judgment (Christensen et al. 2007). Rather than focusing on the question "How can we increase sales?" a truly CX-oriented firm prioritizes answering the following strategic questions: How does our firm integrate within the lives of our customer? What capabilities do we possess that the customer wants to use to his/her own advantage? How can we harness these capabilities to the highest benefit of our customer? Can we improve the way our customer gets a job done given the context he/she is embedded in? In other words, management should examine how their customers integrate products and services within their daily lives and how these help them achieve specific goals (Bettencourt, Lusch and Vargo 2014). Multiple tools can aid management in this endeavor, including qualitative research techniques such as shadowing, narratives and contextual interviews (Stickdorn and Schneider 2012), ethnography and netnography (Kozinets 2002), customer involvement in new product and service design through participatory design (Verleye 2015) and the use of prototyping to observe product/service usage in real-life settings (Edvardsson, Enquist and Johnston 2005).

Second, the scope of CX programs should extend beyond the dyadic customer-firm relationship and adopt a service ecosystem perspective (Lusch and Vargo 2014). Marketers need a greater understanding of the whole ecosystem that fosters action and causes multiple

TABLE 2.2: Key Managerial Guidelines

Managerial Focus	Goals	Exemplary Tools Available
Take a customer 'Jobs-To-Be-Done' Perspective	• Determine how the firm's offerings and capabilities can integrate into its customers' lives • Identify how the firm can enable customers to get a job done in a better way	Shadowing Narratives and Contextual Interviews Ethnography Netnography Participatory Design Prototyping
Consider the service ecosystem beyond the dyadic customer-firm relationship	• Identify all stakeholders involved in the service ecosystem • Understand how they impact the CX, and the extent to which the firm can exert control or influence	Multilevel Service Design Ecosystem Mapping Social Network Analysis (SNA)
Focus on the long-term, dynamic nature of CX	• Understand how the CX evolves across the customer journey • Identify how this CX trajectory may change across segments • Understanding the impact of CX investments on the bottom-line	Real-time Analytics Smart Technologies Customer Journey Mapping Service Blueprinting
Use multiple methodologies to measure CX	• Determine the breath of CX • Identify what needs to be measured • Only then begin to identify methods and key metrics	Survey Research Focus Groups Neuroscience Techniques Social Media Tracking

CX's to take place across this larger system of interrelated actors (Mele, Pels and Storbacka 2015). Management should be aware of and account for the direct and indirect influence of multiple parties involved in the creation of CX and its resulting value judgment: complementary service/product providers, other customers, competitors, government, etc.

Optimizing CX, therefore, requires balancing the (often interrelated) needs of multiple parties (Hillebrand, Driessen and Koll 2015). Several methods, such as multilevel service design (Patricio et al. 2011) and ecosystem mapping (Bodine 2013), can increase insight into this increasingly complex environment and help identify which parties are relevant to the creation of CX and how their needs relate. Also, social network analysis (SNA) is a promising methodology that can help quantify and visualize the impact of network structures on the delivery of CX.

Third, marketers should realize the long-term, dynamic nature of CX is of utmost importance. While significant attention is to be given to every individual touchpoint, adopting a customer journey perspective will foster insights into how successive touchpoints interrelate and how CX, value judgments and engagement evolve over the course of the customer-firm relationship. In practice, customer journey mapping and service blueprints are widely applied to visualize CX dynamics (Bitner, Ostrom and Morgan 2008; Browne 2012). While these tools require significant efforts, new technologies are increasingly automating this process. Smart technologies and real-time analytics, for instance, offer new promising avenues that allow tracking the CX across consecutive touch points spanning multiple channels and create opportunities for a better and more personalized service provision that deepens customer relationships and drives profitability (Rust and Huang 2014). Such tools will also better enable firms to determine how investments in CX impact profit and value.

Fourth, CX measurement requires a multi-method approach and cannot be centered around one single measure such as satisfaction or NPS. Rather, only a combination of methods will allow an accurate understanding of CX and proof useful to guide managerial decision-making. While managers can still use traditional methods like survey research and focus groups, new research methods that augment conventional approaches are gaining traction. Neuroscientific techniques, for instance, helps generate new insights into CX, enabling researchers to capture consumers' unconscious processes that take place at touchpoints (Plassmann et al. 2015). Further, social media tracking techniques help gather insights on customer perceptions and provide opportunities to reply and listen to customers in real-time (van Noort and Willemsen 2012).

Managers armed with the knowledge about the key role of CX will be able to design

offerings in accord with experiences their customers desire, ultimately driving firm performance. Our framework provides a specific mindset to assist top-level management in thinking about and discussing CX. It gives 'action significance' to a previously ambiguous concept, helps reduce its complexity to a manageable set of key takeaways and provides a basis for the development of new tools that aid CX managers in designing, executing and monitoring vital, dynamic, and holistic CX strategies.

8. CONCLUSION AND RESEARCH AGENDA

CX has become a top priority for marketers. Our framework brings the necessary clarity to the CX domain by defining and describing the conceptual grounds of CX, and represents a first step toward theory development on CX as the 'raw' data of the customer's environment. Based upon an interdisciplinary review and literature integration, CX is defined as "the cognitive, emotional, physical, sensorial, and social elements that mark the customer's direct or indirect interaction with a (set of) market actor(s)". CX is multidimensional in nature and marked by different levels of uniqueness.

Further, this paper discusses the fundamental embeddedness of CX within a multi-layered system: an individual system representing the internal processes taking place within the customer (P1 – individually intrasubjective); a social system comprising social norms, institutions and practices that guide the CX (P1 – socially intrasubjective), a customer sphere describing the personal context of an individual that is outside the immediate control of the firm (P2), and a market sphere involving multiple interrelated (market) actors that influence CX (P3). This multi-layered system acts as a dynamic entity (P4), causing CX to be inherently dynamic as well. At the ground of most CX-creation is the process of goal pursuit (i.e., getting a job done), sparking CX and instigating a three-stage, cyclical process consisting of an anticipation, realization and reflection phase that connect CX, customer engagement and customer value.

Finally, we identify four guidelines that can enable firms to better manage and execute holistic CX strategies. Although this paper is the first to offer a unified view on CX, many challenges and research gaps remain across all levels of the CX-realm. To conclude, we outline multiple research questions (Table 2.3) with the aim of stimulating further CX-thought.

TABLE 2.3: Summary of Important Future Research Questions

Proposition		Research Area	Research Questions
P1		CX-understanding	• Do customer expectations of the experience from one domain (e.g., industry or context) spill over to other domains? • How do the multiple elements of CX link? How and at what point do specific elements (e.g., emotion rather cognition) affect consumer decision making? • What triggers the appearance and strength of intensity of the different CX elements? How does this impact value judgment and engagement? • To what extent is CX driven by unconscious processes taking place within an individual, rather than it being subject to conscious perception? • How can management measure the multiple facets of the CX and determine their relative importance? • What is the ideal mix of quantitative and qualitative methods to measure CX? How can new research methods (e.g., brain imaging) advance CX measurement? • What metrics allow to measure return on CX investments/initiatives?
P1		Societal Norms and Institutions	• How can the influence of context and culture on CX be measured and estimated? • What is the role of institutions and cultural values? To what extent are CX, engagement and value driven by norms and institutions? When is their influence stronger? • To what extent do foreign norms and institutions influence CX? Are there differences across ethnicity, age, gender? • How can organizations monitor and measure the impact of institutions? How can they influence or change these? • To what extent do cultural, political and legal dynamics and change over time and space influence CX? • How do norms and practices percolate through the different levels of the service ecosystem? When and how do they influence one level more than the other?
P2		Customer Lifeworld	• To what extent does customer context affect CX? When and why is this influence bigger? • How can techniques like (n)et(h)nography, shadowing, contextual interviews, narrative methods help companies to improve their CX? What method is best in what situation? How do these techniques complement objective research methods? • What is the effect of contextual marketing on CX? • How can companies adapt their offerings to achieve a better fit with their customer's context? How far should these efforts go (i.e., segment-level, individual-level, …)? • How can management manage customer heterogeneity in product/service usage goal and integration in their personal context? • How do we measure the realized experience within a specific context and its derived value-in-context?
P3	MICRO	Service Design and Innovation	• What strategies allow the design of a coherent touchpoint architecture? • How do the elements the firm cannot control influence customer experience? And how can firms try to manage these? • How does service modularity impact the CX? How does the CX vary along the stages in customer-involved new service development (NSD)? • How can design-tools help innovate the CX? What (combination of) design techniques allow optimal CX design? • How far does "experience staging" reach? What is the role and advantage of prototypes to 'manufacture' the CX? • How can management involve customers in participatory design and co-design to enhance the CX? • What is the value of alternative sources of insight generation (e.g., crowdsourcing) to drive innovation and improve the CX? • How can firms use other customers' assistance to foster CX?
P3	MICRO	Multichannel Environments and New Technologies	• What is the optimal channel mix for the CX? When should/could a channel be added or removed to enhance CX? • What is ideal mix of "high-tech" and "high-touch"? How does self-service, remote service or self-help relate to CX? • To what extent does an omni-channel strategy improve the CX? • How has CX evolved/changed in a multi-media, multi-screen and multichannel environment? • How do smart services impact CX? How does technology-integration (e.g., location-based services) and mobile technolgoy enable and enrich CX? • How does self-quantification through wearables (e.g., smartwatch) augment the CX? • What are the downsides and dangers of new technologies? How can these deteriorate the CX? • How can management use big data and customer analytics to (dynamically) manage CX over time? • To what extent does social media create a different CX? Does social media change the CX journey? • Should firms monitor and intervene in social media? How do different intervention strategies impact the CX?

Proposition		Research Area	Research Questions
P3	MICRO	CX-governance	• How does the coordination between employee roles and customer roles impact CX? • How does increased employee engagement improve CX? • How should the different functional areas of the firm (e.g., marketing, operation, finance, R&D) be organized and connected to improve CX? • How does a quality vs productivity orientation impact CX? • Do service-oriented practices, capabilities and service climate lead to better CX? • Do experience-based strategies enhance firm performance?
	MESO	Service Delivery Networks and Service Ecosystems	• What are the boundaries of the experience network? How far does the impact of all network-actors reach? • How can management foster collaboration across the network to deliver a better CX? • When does a customer consider different firms to be linked and co-deliver his/her CX? When not? • Does the network position of the customer impact CX? What is the influence of network density and centrality on the CX? • To what extent is CX with a focal firm influenced by the customer's CX with other firms within the service delivery network? • How do different forms of collaborative networks influence the CX? How can ideal service platforms be developed to respond to dynamic environments? • How can management build adaptive/flexible systems that allow rapid changes that safeguard CX? How does network evolution impact CX? • Can complex adaptive systems-thinking help management to improve their collaborative networks?
	MACRO	Globalization	• How can management improve and customize service offerings for different cultural contexts? • Do cross-cultural and cross-national differences in service ecosystems impact cooperation, design and delivery of service? What is their impact on CX? • How are service design and innovations different in emerging markets? How do factors such as affordability, accessibility and availability impact their success? • How can we foster service innovation and design at the bottom of the pyramid? • To what extent can firms transfer customer-insights from developed countries to developing countries?
		Macro-Economic and Governmental Factors	• How do economic climate and economic foresights influence CX and value (predictions)? • What is the role of global forces such as global warming, terrorism concerns, natural resource shortages, ageing population and income equality in shaping CX? • How does country-of-origin impact CX? • Can governments play a role in and support firms in the delivery of better CX? How big can their impact be? • Are there huge differences across industries as to what elements help shape a good CX? Is there such a thing as industry-rules that have to be followed?
P4		CX Dynamics	• How can CX dynamics be measured optimally? • How can we model and measure the CX journey? What is the best way to determine the role and importance of every touchpoint along the CX journey? • Can management collect real-time CX measures? If so, how can it do this in a cheap, low-effort way? • Does the influence of CX-drivers change over time? • How strongly is momentary, immediate CX driven by past and future experiences? How far does the influence of one specific CX reach in the future?

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Perceptions Are Relative: An Examination of the Relationship between Relative Satisfaction Metrics and Share of Wallet

1. STRUCTURED ABSTRACT

Purpose – There is general agreement among researchers and practitioners that satisfaction is relative to competitive alternatives. Nonetheless, researchers and managers have not treated satisfaction as a relative construct in terms of measurement efforts. The result has been (1) weak relationships between satisfaction and share of wallet in the literature, and (2) challenges by managers as to whether satisfaction is a useful predictor of customer behavior and business. This study explores multiple approaches to more closely link satisfaction to share of wallet.

Design/Methodology/Approach – Using data from 79,543 consumers who provided 258,743 observations regarding the brands that they use (over 650 brands) covering 20 industries from 15 countries, the predictive value of various relative models such as the Wallet Allocation Rule, Zipf–AE, and Zipf–PM, truncated geometric model, generalization of the Wallet Allocation Rule and hierarchical regression models are compared to each other.

Findings – The results indicate that the relationship between satisfaction and share of wallet is primarily driven by the relative fulfillment customers perceive from the various brands that they use (as gauged by their relative ranked satisfaction level), and not the absolute level of satisfaction.

Originality/value – This research provides support to the small number of studies that point to the superiority of using relative metrics, and encourages the adoption of relative satisfaction metrics by the academic community. Additionally, this study provides practical insight into several easy-to-use approaches that researchers and managers can apply to improve the strength of the relationship between satisfaction and share of wallet.

2. INTRODUCTION

Managers widely believe that customer satisfaction is a fundamental determinant of long-term consumer behavior (Cooil et al. 2007; Oliver 2010). This widespread acceptance has made customer satisfaction the most widely used metric in the measurement and management of customer loyalty (Aksoy 2013a; Zeithaml et al. 2006), taking center stage in Voice-of-the-Customer (VoC) programs. Companies spend substantial amounts of money to measure and manage customer satisfaction. For example, Inside Research (2012) found that for the thirteen marketing research firms that responded to their survey, revenue from US-only customer satisfaction research would exceed $750 million—this figure likely underestimates the total spent with marketing research firms given the small number of responding firms.

A review of the scientific literature supports management's focus on customer satisfaction. In particular, numerous studies have linked customer satisfaction to a myriad of customer loyalty behaviors and found on average a positive relationship between satisfaction and loyalty (e.g., Aksoy et al. 2013; Kumar et al. 2009; Lariviere 2008; Mittal and Kamakura 2001). In more recent years and inspired by the increasingly polygamous nature of customer loyalty (Rust, Lemon and Zeithaml 2004), management focus has shifted toward share of wallet (SOW) as the ultimate measure of loyalty (Cooil et al. 2007). A close examination of the research regarding customer satisfaction and customers' share of category spending, however, reveals that while the relationship is positive, it tends to be very weak (Hofmeyr et al. 2008; Keiningham et al. 2014a; Keiningham et al. 2014f; Mägi 2003).

Because of this weak relationship, managers have difficulty connecting their efforts to improve satisfaction with tangible financial outcomes (Aksoy 2013a; Keiningham et al. 2014a). Results such as these have led to calls by some managers and researchers to discontinue the measurement and management of satisfaction (Gupta and Zeithaml 2006). Books like "Customer Satisfaction Is Worthless, Customer Loyalty Is Priceless", by consultant Jeffery Gitomer (1998), and articles like "Customer Satisfaction: It Is Dead, But It Will Not Lie Down," by researchers Williams and Visser (2002), are indicative of this general frustration.

Given customer satisfaction's weak relationship to business outcomes and customer behaviors, Mägi (2003, p. 104) argues "it might be informative to use relative measures of satisfaction when predicting customer share". High satisfaction with a focal company does not

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preclude higher satisfaction with competition, resulting in a possibly lower share of wallet for the focal company (Verhoef 2003). Measuring and monitoring "comparative" metrics of satisfaction, explicitly acknowledging competitive influence, might therefore improve our understanding of customer loyalty as measured by share of wallet and represent a better mechanism to develop customer loyalty in the current marketplace.

While the small number of studies that have used relative satisfaction in the scientific literature (e.g., Bolton, Kannan and Bramlett 2000; Bowman and Narayandas 2004; Hardie, Johnson and Fader 1993; Wind 1970) point to the superiority of relative metrics in linking to customer behavior, the scientific community in general has been slow to adopt relative satisfaction in their research. None of the methods used by these researchers have been widely used in other scientific investigations. Rather, the overwhelming majority of scientific research investigating satisfaction relies on absolute metrics on a single firm.

The same reluctance to use relative metrics cannot be said for the practitioner community. Some of the world's largest survey research organizations specifically advocate the use of relative metrics when linking customer satisfaction to a customer's share of wallet, and make them the foundation of their brand equity and customer experience measurement approaches, i.e., TNS: Conversion Model (Louw and Hofmeyr 2012), Ipsos: Brand Value Creator (Hofmeyr et al. 2008), and Ipsos: Wallet Allocation Optimizer (Keiningham et al. 2011). These firms report strong correlations between their approaches and share of wallet.

The creators of these frameworks have made them widely available for managers to apply in their organizations by publishing their methodologies. Each of these approaches, however, uses a different technique to link relative metrics to share of wallet. Furthermore, despite their publication, these methodologies are not often used by managers outside of their application within a research firm's specific product offer. This, however, does not mean that they are not widely used. For example, the Conversion Model is used by "80% of the world's most valuable brands" (TNS 2012).

The gap between the science and the practice of marketing in this regard has profound implications for both managers and researchers. There is no research in the peer reviewed literature that rigorously investigates various methodologies to determine their efficacy. As a

result, researchers and managers are left with almost no guidance as to the usefulness of different approaches, or even to the validity of relative satisfaction metrics in general.

Additionally, if relative metrics more accurately reflect the relationship between satisfaction and customers' share of category spending, this would likely serve as impetus for new research in a number of areas. Clearly, this would necessitate new research into the relative nature of satisfaction and its corresponding impact on consumer behavior. It would also likely spur examinations into the potential relative impact of other perceptual and attitudinal metrics on consumer behavior (e.g., commitment, emotions, etc.).

As a result, there is a need for research regarding 1) the efficacy of relative satisfaction metrics and 2) best practices regarding the use of relative satisfaction metrics. This research fills these gaps by investigating the relationship between relative satisfaction and customers' share of category spending (i.e., share of wallet) using data from 79,543 consumers who provided 258,743 observations regarding the brands that they use within a particular industry category. Data included ratings of over 650 brands in 20 industries from 15 countries.

The results of this investigation find that relative satisfaction significantly outperforms absolute satisfaction levels in linking to customers' share of category spending. Models based upon absolute satisfaction levels were consistently the worst performing models investigated. Moreover, we find that the most commonly used power laws in practice perform well compared to other models investigated in linking relative satisfaction to share of wallet. Finally, we note that there are significant differences in the complexity of the various approaches examined. Therefore, managers need to consider the trade-off between relationship strength and complexity when selecting the best approach for use within their firms.

3. STRUCTURE OF MANUSCRIPT

This investigation relies upon a rigorous investigation of different power laws and hierarchical regression models that can be applied as a relative approach to share of wallet predictions. As a result, a thorough description of the investigation requires a detailed presentation of several models and analytic procedures. This has the potential to make the manuscript quite technical and fragmented, resulting in a paper that is difficult for most

managers to read. As a result, we believe that the core message of the paper can be lost in the technical descriptions of the models and analytics.

Therefore, in an effort to maximize the readability and insights gleaned from this investigation, this paper is divided into two main sections. The first section focuses on the theoretical foundation, core findings, and implications of the research. The second section is a Technical Appendix that provides a detailed overview of the models examined, and the various approaches used to investigate the properties of these models.

By using this approach, we hope that we are able to provide researchers and managers with clear and relevant insights while maintaining scientific rigor and transparency regarding our analyses and findings.

4. THEORETICAL BACKGROUND

4.1 Customer Satisfaction

Satisfaction is the consumer's response to the fulfillment of needs, expectations, wishes or desires. Specifically, Oliver (2010, p. 8) defines customer satisfaction as follows: "Satisfaction is the consumer's fulfillment response. It is a judgment that a product/service feature, or the product or service itself, provided (or is providing) a pleasurable level of consumption-related fulfillment, including levels of under- or overfulfillment." Generally speaking, satisfaction results from the positive match (i.e., (over)fulfillment) between a-priori expectations in the mind of the customer and actual performance by the company (Fornell et al. 1996). Fulfillment can thus only be judged vis-à-vis a standard or reference point. Oliver (2010, p. 22) defines this expectancy-disconfirmation as "the psychological interpretation of an expectation-performance discrepancy. Consumers would describe this concept in terms of the performance of a product or service being better or worse than expected." Although satisfaction and disconfirmation are not perfectly correlated, "satisfaction results primarily from disconfirmation" (Rust, Zahorik and Keiningham 1996, p. 234). As such, expectations tend to play a strong role in consumers' satisfaction judgments.

To date, researchers have extensively examined the theoretical underpinnings of the satisfaction construct (e.g., Fornell et al. 1996; Luo and Bhattacharya 2006; Oliver 1997) and investigated the effects of customer satisfaction on future consumer behaviors (e.g., Crosby and

Stephens 1987; Keiningham, Perkins-Munn and Evans 2003; Luo and Homburg 2007). While research has a long tradition of considering the links between satisfaction and loyalty (and more recently with share of wallet as a popular loyalty measure), its value is still not well understood and/or appreciated (Oliver 2010) as is explained in the next section of the paper, causing satisfaction research to decrease in importance.

4.2 Customer Satisfaction and Share of Wallet

As many consumers are increasingly polygamously loyal, meaning that they divide their purchases among multiple brands in a category (e.g., Bennett and Rundle-Thiele 2005; Rust, Lemon and Zeithaml 2004; Uncles, Dowling and Hammond 1995, 2003), share of wallet is considered to be a more appropriate measure for a firm's performance as compared to mere customer retention (e.g. repurchase behavior). The latter generally only focuses on retention (i.e. has the customer returned or not?) with a focal company, regardless of the dollars spent at the competition. Rather, share of wallet is to be considered as the "percentage of money a customer allocates in a category that is assigned to a specific firm" (Cooil et al. 2007, p. 68). In other words, share of wallet reflects how customers divide their spending across multiple competitors, basically benchmarking a company's performance relative to its competitors (Lariviere et al. 2011). Therefore, it is often considered as 'the ultimate measure of loyalty' (Jones and Sasser 1995, p. 94). Although this may be an overstatement (Oliver 1999), share of wallet is frequently preferred by managers and researchers to operationalize loyalty behavior (Cooil et al. 2007; Lariviere et al. 2014) as it incorporates both spending at the company and the competition. Additionally, Keiningham, Perkins-Munn and Evans (2003) remark that for many in the business community, share of wallet is thought to be a better reflection of customer retention rates as opposed to actually measuring repurchase and/or the continued maintenance of the customer-firm relationship.

The idea that customer satisfaction should link to share of category spending is intuitive (i.e., we tend to spend more with firms that better satisfy us). A large body of research does support this positive relationship (e.g., Baumann, Burton and Elliot 2005; Bowman and Narayandas 2004; Cooil et al. 2007; Keiningham, Perkins-Munn and Evans 2003; Keiningham et al. 2005; Lariviere 2008; Mägi 2003; Perkins-Munn et al. 2005; Silvestro and Cross 2000; Verhoef 2003).

The problem from a managerial perspective, however, is that while there tends to be a statistically significant positive relationship between satisfaction and share of wallet, the percentage of variance explained by this relationship is low (Hofmeyr et al. 2008; Keiningham et al. 2014a; Mägi 2003). As a result, managers have openly challenged "whether the relationship between unobservable measures such as customer satisfaction and observable behavior such as purchasing is sufficiently strong to justify its use as the primary unobservable predictor" (Gupta and Zeithaml 2006, p. 721).

Researchers have proposed two possible reasons to explain this weak relationship. First, customers appear to differ in their sensitivity to variations in satisfaction (Hofmeyr and Parton 2010). For example, demographic differences have been shown to impact the satisfaction-share of wallet relationship (Cooil et al. 2007). Second, researchers argue that satisfaction's impact on customer behavior is nonlinear and asymmetric (e.g., Anderson and Mittal 2000; Crotts, Pan and Raschid 2008; Keiningham and Vavra 2001). Accounting for the asymmetric, non-linear pattern of satisfaction does improve the predictive relationship between satisfaction and share of wallet (e.g., Bowman and Narayandas 2004; Keiningham, Perkins-Munn and Evans 2003). Nonetheless, a large portion of the variance remains unexplained (Hofmeyr and Parton 2010) and satisfaction research has declined as such.

It is here that the practitioner community proposes an alternative explanation, thereby sustaining the key position of customer satisfaction as a key metric in today's VoC programs. More specifically, Hofmeyr and Parton (2010) argue that the overriding reason for the asymmetric, non-linear relationship between satisfaction and share of wallet is not the absolute level of satisfaction per se. Rather at some point higher/lower levels of satisfaction correspond to a shift in a customer's preference ranking for a brand vis-à-vis competitive brands that the customer also uses. Therefore, Hofmeyr and colleagues (2010; 2008) argue that the focus of satisfaction research should shift from absolute satisfaction levels to the relative preference rank that a brand's satisfaction level represents among competing brands used by customers to improve the strength of the relationship between satisfaction and share of wallet.

The following paragraphs build on this practitioner thought, investigating why relative measures might add value to the satisfaction-loyalty discourse and discussing previous

academic and practitioner marketing literature using relative (satisfaction) measures in loyalty research.

4.3 Relative Measures

4.3.1. The Intuition behind Relative Thinking

Despite their prevalence in business practice and academic research, the focus on absolute measures of customer satisfaction has the potential to mislead managers and researchers. Below are two of the most common problems.

The Illusion of Good and Bad Scores

One of the main problems with looking solely at a firm's focal satisfaction score is that it is a poor indicator of the relative ranking that customers' assign to the multiple brands they use. For example, imagine that a customer rated his satisfaction level a "9" on a ten-point scale. The most immediately relevant question to a manager is, "Is this a good or a bad score?" Most managers would argue that a "9" is a good satisfaction rating. But suppose that same customer uses another brand in the category and for this brand he rates his satisfaction level a "10". In this case the competitor is the preferred brand. Similarly, imagine that another customer rated your brand an "8'. Most managers would not consider this to be a great score. But imagine the next highest score the customer assigns to a competitor brand is a "6". In this case, your brand is the customer's preferred brand.

Given that satisfaction ratings are negatively skewed (that is, consumers tend to rate their satisfaction positively) (Vavra 1997), most satisfaction ratings given by customers are not obviously good or bad relative to competitors customers also use. Clearly, extreme ratings at the lower end of the scale are bad, the highest rating point is good, but points in between are much less obvious. Without an understanding of how customers perceive a brand relative to competitors also used, there is a potential threat for managers to draw incorrect conclusions regarding customers' perceptions of their firm's performance.

The Illusion of Rating Equivalence

Managers typically treat customer satisfaction scores and other customer survey-based metrics as being equivalent across customers. For example, in the Net Promoter Score system, customers who rate their likelihood to recommend a 9 or 10 (on a 0 to 10 scale) are classified as "Promoters," a 7 or 8 as "Passives," and a 6 or lower as "Detractors." These groups are then

treated as being homogeneous. For example, "Promoters generate 80 percent to 90 percent of referrals" (netpromotersystem.com 2012).

Unfortunately, such generalities are often very misleading. First, treating customers as homogeneous based upon their satisfaction scores typically suffers from the ecological fallacy, that is, drawing false conclusions about individuals based upon population-level averages (Robinson 1950). In line with the NPS-example, Kumar, Petersen and Leone (2007) demonstrate that only a small percentage of customers who state that they will refer the firm actually do so. So drawing inferences from given scores isn't exactly correct. Second, a host of demographic and cultural characteristics have been shown to impact how individuals respond to survey-based rating scales (e.g., Iacobucci et al. 2003; Van Herk, Poortinga and Verhallen 2004; Van Vaerenbergh and Thomas 2013). Without taking these factors into consideration, it is not possible to adequately assess the equivalence of consumers' ratings. Third, different respondents do not uniformly interpret scores or scale-labels, leading them to fill out satisfaction or other scales in a different manner (Olsen 2002). A "9" doesn't have the same meaning for everyone. Some give it when they find you are performing well, whereas others score a "good" performance with a "7".

Working with relative scores can help to mitigate these three problems, thereby aiding to improve the relationship between customer satisfaction and share of wallet. Why? Relative scores help comprehend how a customer rates the focal company as opposed to its competitors, regardless of the absolute score the firm receives.

4.3.2 The Inherent Logic for Relative Thinking

While satisfaction is generally measured in absolute terms (i.e., focused on the focal firm), we can find (theoretical) agreement among researchers that satisfaction is in fact relative in nature (e.g., Birtchnell 1994; Holt and Huber 1969; Semon 1994; Varki and Rust 1997). More specifically, there is a large body of research confirming the influence of competitive comparisons on post-purchase evaluations (i.e., transaction-specific satisfaction/dissatisfaction) (Rust, Danaher and Varki 2000).

While early research on post-purchase evaluations largely centers on focal brand expectations, Woodruff, Cadotte and Jenkins (1983) argue that norms based on consumer experiences with brands within a product category offer a more natural comparison standard

than focal brand expectations as such. Specifically, Woodruff, Cadotte and Jenkins (1983, p. 283) argue:

"The traditional view of confirmation/disconfirmation limits the comparison baseline to experiences with the focal brand, i.e., the one actually purchased and used. Clearly, focal brand expectations are likely to result from the decision to use the brand, but each consumer may have much broader experience within a product class. For example, a consumer's experiences may be with (1) a brand unit (e.g., a particular pair of Levi's jeans or a particular Wendy's restaurant), (2) other units of the same brand (e.g., several pairs of Levi's jeans or several Wendy's restaurants), (3) other similar brands (e.g., Wrangler's and Penney's jeans or McDonald's and Burger King restaurants), (4) a type of product consisting of a set of similar brands competing for the same use situation (e.g., work jeans or fast food restaurants), or even (5) a whole class of products comprising different product types competing for the same need or want (e.g., all slacks or all restaurants)."

Thus, people often have experiences with multiple competitive brands, that all together help shape expectations (i.e., by setting reference points) that co-determine post-purchase evaluation of a focal brand. As a result, we can imply that satisfaction is relative given that it's base (i.e., reference point) is relative in nature (Varki and Rust 1997).

Follow-up research by Cadotte, Woodruff and Jenkins (1987) confirms this viewpoint, demonstrating that experience-based norms better explain variations in satisfaction than focal brand expectations. Gardial et al. (1994), on their turn, show that in most cases consumers tend to rely on competitive comparisons/norms when evaluating their consumption experiences. This specifically means that competition serves as a benchmark to evaluate satisfaction with the focal firm, greatly impacting satisfaction scores and also calling for the need to have knowledge on the level of this reference point. Indeed, neurological research confirms the fundamental embeddedness of relative thinking in the human mind (Dehaene 2003), while behavioral economists demonstrate relative thinking to better predict real-life economic behaviors (Kahneman and Tversky 1984).

4.3.3 Relative Measures in Marketing Literature

From above section, relative thinking appears to be central to the consumer decision process and is inherently present in driving customer expectations by influencing consumers'

reference points. Additional proof within satisfaction-loyalty research also points to the relative nature of both concepts. For example, Jacoby and Chestnut (1978, p. 88) argue that "brand loyalty is a function of decision-making, evaluative processes. It reflects a purchase decision in which the various brands have been psychologically (perhaps even physically) compared and evaluated on certain internalized criteria, the outcome of this evaluation being that one or more brands was (were) selected."

Similarly, Dick and Basu (1994, p. 100-101) observe, "Attitudes have been related to behaviors, although it is important to note that one may hold a favorable attitude toward a brand but not purchase it over multiple occasions because of comparable or greater attitudinal extremity toward other brands. For purposes of predictive validity, it is hence advantageous to compare brands that are viewed by consumers to be relevant in a given consumption context. The nature of relative attitudes is likely to provide a stronger indication of repeat patronage than the attitude toward a brand determined in isolation."

Despite this recognition of relative thinking and the relative nature of satisfaction, academic research has overwhelmingly focused on absolute metrics to gauge the satisfaction-loyalty relationship. There are, however, some notable exceptions. Table 3.1 provides a brief summary of the research to date regarding the use of relative measures in the scientific literature. An examination of the research in Table 3.1 supports the superiority of relative metrics in linking to customer intentions and behaviors. Interestingly, none of the methods used by these researchers have been widely employed in other scientific investigations. Furthermore, managers rarely use these methods.

Instead, the most prominent voices for the use of relative measures in the prediction of share (specifically market share and share of wallet) and the most widely used methodologies come from practitioners. The first widely adopted approach was Customer Value Analysis (CVA), advocated by Bradley Gale (1994) in the book Managing Customer Value. One of the primary points of differentiation of the CVA approach was its incorporation of relative brand position in linking customer perceptions to business outcomes, most notably market share. At one time this metric was widely used in industry, although it has fallen out of favor because of underlying statistical issues with the ratios used in the process (Keiningham and Vavra 2001,

p. 41-44) and the inability of many firms to validate the claimed link to market share (Keiningham et al. 2008).

Hofmeyr et al. (2008) introduced a new brand "attitudinal equity" (AE) measure using the Zipf distribution (Zipf 1935).[1] The AE measure was calculated by transforming satisfaction (or other perceptual/attitudinal metrics) into relative ranks. Specifically, to transform a customer's satisfaction ratings to ranks, the highest satisfaction rating a customer gave to a brand in his/her usage set would be assigned a "1," the second highest a "2," and so on; in the case of ties, the average is used for the ranks that would have been used had there been no ties. These ranks were then transformed to share of wallet estimates using the Zipf distribution. The parameters of the Zipf distribution were determined by fitting the relationship between the rank of a brand and the corresponding share of wallet that the customer allocated to that brand.[2] For the remainder of this paper, we will refer to this model as Zipf-AE.

The results of the Zipf-AE approach showed a large improvement in model R-square. In particular, Hofmeyr and colleagues report that the average R-square between customer satisfaction and customers' share of wallet using absolute measures was .24, while using the rank-based Zipf-AE transformation resulted in a .44 R-square.

Keiningham et al. (2011) introduced a power law for transforming relative "ranked" satisfaction into share of wallet predictions, which they called the Wallet Allocation Rule (WAR). Satisfaction ranks were calculated using the same approach as Hofmeyr et al. (2008). WAR is a fixed parameter model; as such, no estimation (i.e., data fitting) is required to estimate the relationship between rank transformed satisfaction and share of wallet. Keiningham and colleagues (2011) report that changes in customers' WAR scores and changes in their share of wallet over time showed a correlation of approximately .8, corresponding to an R-square of approximately .6.

Recently Louw and Hofmeyr (2012, p. 7) proposed what they described as "an improvement to the original measure of brand attitudinal equity proposed by Hofmeyr et al. (2008)" which they refer to as a measure of "Power of the Mind" (PM). As with Hofmeyr et al. (2008), the calculation of PM is also based upon the Zipf distribution. For the remainder of the paper, we will refer to this model as Zipf-PM.

TABLE 3.1: Summary of The Research To Date Regarding the Use of Relative Measures

Study	Setting	Study Type	Relative Metric Operationalization	Outcome	Most Important Findings/Propositions
Wind (1970)	Electronics industry	Research Paper	Two relative metrics are used: 1. Relative attitude toward an ideal supplier 2. Relative attitude toward competitors (i.e., second favorite supplier)	Share-of-wallet	The relative attitude towards competitors is found to be one of the most important indicators of source loyalty.
Hauser (1991)	Major consumer-product category	Research Paper	Satisfaction rating relative to competition	Primary brand share	Relative scales are found to significantly outperform absolute scales in linking to the primary brand share.
Hardie, Johnson and Fader (1993)	Retailing industry (Orange Juice Purchases)	Research Paper	Econometric reference-dependent choice model (multinomial logit formulation)	Brand choice	Reference dependent models clearly outperform nonreference-based models, resulting in a better prediction of brand choice.
Dick and Basu (1994)	n.a.	Conceptual Paper	Relative attitude defined as the degree to which a customer's evaluation of one product/brand dominates that of other alternatives	Repeat patronage	The inclusion of relative attitudes is likely to result in higher predictive ability for loyalty compared to single-brand attitudes.
van den Putte, Hoogstraten and Meertens (1996)	1. Broadcasting industry 2. National/Regional elections	Research Paper	Two relative scales are used: 1. Indirect relative rank order scale 2. Direct relative rank order scale	1. Buying intention 2. Voting intention	Behavioral alternative models applying direct relative rank order scales have the best predictive power, significantly improving average explained variance of behavioral intentions compared to standard, non-relative scales.
Varki and Rust (1997)	Financial Services Industry	Research Paper	Refinement of analysis of variance (ANOVA) for attribute satisfaction ratings	Customer satisfaction	The refined ANOVA-method allows firms to identify their relative performance to competitors at an attribute level, allowing for a better management practice.
Bolton, Kannan and Bramlett (2000)	Financial Services Industry	Research Paper	Gain/Loss satisfaction scores by comparing focal brand and competitor ratings	Repeat patronage	Customers make re-patronage decisions on the basis of prior re-patronage intentions or behavior, updated by comparing their prior satisfaction level with the company versus that with the competitor(s).
Olsen (2002)	Retailing Industry	Research Paper	Comparative-attribute based survey format (i.e., quality/satisfaction questions for different alternatives are posed in sequence, making them salient for comparative evaluation)	Repurchase frequency	Using a comparative assessment, as opposed to an absolute measurement, results in higher predictive power and stronger relationships between quality, satisfaction and loyalty.
Kumar (2002)	IT products and services industry	Research Paper	Satisfaction gains and losses are computed using the proportional difference between the focal and competing firms	Repurchase intentions	Customers' repurchase intentions depend both on the satisfaction level with the supplier in question and the corresponding satisfaction level and costs of its referent competitor.
Bowman and Narayandas (2004)	Metal industry	Research Paper	Satisfaction with the closest competitor (0 if lower than focal vendor; 1 if equal or higher than focal vendor)	Share-of-wallet	Satisfaction with the closest competitor has a direct, negative impact on share-of-wallet.
Rust, Lemon and Zeithaml (2004)	Airline industry Electronic Stores Facial Tissues Grocery Stores Rental Cars Industry	Research Paper	Customer ratings on several customer-equity drivers are collected for four to five leading brands in each industry, and imputed in a multinomial logit regression model.	Customer lifetime value	The developed CLV-model allows considering the impact of competitive responses on a firm's customer equity, and provides insight into competitive strengths and weaknesses.
Ahearne, Jelinek and Jones (2007)	Pharmaceutical Industry	Research Paper	Average ratings of competition are subtracted from the focal vendor's service quality and relationship quality measures	Share-of-wallet	Relative service quality evaluations are found to drive relationship quality, which in turn affects share-of-wallet.

The primary distinguishing characteristic between the Zipf-AE and Zipf-PM approaches is that Zipf-PM uses "the share that a brand's rating achieves as a percent of the sum of a respondent's ratings of relevant brands" in the Zipf distribution equation (Louw and Hofmeyr 2012, p. 11).

Louw and Hofmeyr (2012) report that the Zip-PM approach has a higher correlation to share of wallet "by a very small margin" (p. 14) than the Zip-AE and WAR approaches. It is important to note, however, that the comparison made in their investigation was not apples-to-apples; WAR and Zipf-AE were calculated using a single satisfaction question, whereas Zipf-PM was calculated using a combination of two questions in their comparison. Even with this difference, however, there was very little difference in terms of variance explained between the three approaches.

Both the Zipf and WAR approaches have received a great deal of attention by market researchers. Moreover, both the Zipf-AE (Hofmeyr et al. 2008) and WAR (Keiningham et al. 2011) approaches have won important industry awards for innovation (Gesulado 2011; Humphrey 2008).

The primary use of these approaches in practice is within specific products offered by two of the world's largest market research firms. Specifically, Ipsos and TNS use these power laws as core components of their brand equity and customer experience management approaches. As a result, it would be difficult to overstate their use by managers through the use of products offered by these firms. Even if we assume 100% overlap of clients, the research firms using these approaches work with over 5,000 different companies worldwide (Ipsos 2012).

These approaches are not yet widely used by managers outside of the specific product offerings of these firms. However, as these approaches are not "black boxes" (i.e., these methods are published) and the creators actively promote these approaches (e.g., Hofmeyr 2012; Keiningham 2012), marketing managers are increasingly aware of the call for relative metrics to more strongly link satisfaction and share of wallet (e.g., Keiningham et al. 2014a).

Moreover, while the call for relative metrics has largely come from practitioners, there is early evidence that the academic community has taken notice. For example, Rust and Huang

(2014, p. 4) argue that Keiningham et al. (2014f) "show convincingly that relative metrics (relative to competitors) are essential."

5. RESEARCH OBJECTIVES

The primary purpose of this study is to examine the relationship between relative satisfaction and share of wallet. As noted earlier, the research to date tends to support the superiority of relative perceptual and attitudinal metrics to monadic metrics in correlating to consumer buying behaviors such as share of wallet (e.g., Bowman and Narayandas 2004; Hofmeyr et al. 2008; Keiningham et al. 2011). Therefore, we hypothesize:

H1:   Ranked satisfaction levels are more strongly correlated to share of wallet than are absolute satisfaction levels.

Furthermore, although the empirical research appears to confirm the link between absolute satisfaction and share of wallet across various industries such as fleet trucking (Perkins-Munn et al. 2005), pharmaceutical (Perkins-Munn et al. 2005), institutional securities (Keiningham et al. 2005), retail banking (Baumann, Burton and Elliot 2005), processed metals (Bowman and Narayandas 2004), and grocery retailing (Mägi 2003; Silvestro and Cross 2000), the majority of this research has relied on cross sectional data. Although longitudinal examinations of the effect of customer satisfaction on other performance measures have found a positive relationship to customer retention (Bolton 1998), firm revenues and shareholder value (Anderson, Fornell and Mazvancheryl 2004), research on the impact on share of wallet is limited. One exception is the longitudinal share of wallet study by (Cooil et al. 2007) where results indicate a positive relationship between changes in satisfaction and changes in share of wallet over time. In line with these findings, we would expect longitudinal ranked satisfaction levels to link to changes in share or wallet over time. Therefore, we hypothesize:

H2:   Changes over time in ranked satisfaction levels are more strongly correlated to contemporaneous changes in share of wallet than are changes in absolute satisfaction levels.

In addition to testing the two hypotheses above, another important goal of this investigation is to provide insight into the most widely used approaches for linking satisfaction and share of wallet in practice, i.e., WAR (Keiningham et al. 2011), Zipf-AE (Hofmeyr et al. 2008), and Zipf-PM (Louw and Hofmeyr 2012). In particular, we examine each of the proposed power laws to determine their efficacy in predicting share of wallet from ranked satisfaction. As noted earlier, to date there is no research in the peer-reviewed scientific literature that examines these various methods to determine their efficacy. Also, we seek to identify better approaches (if any) to link relative satisfaction levels to share of wallet.

6. DATA AND MEASURES

6.1 Data Collection

The data was collected by a large marketing research firm as part of its global norms database. In total, the data consisted of 79,543 customers providing 258,743 observations regarding the brands that they use within a particular industry category. Each respondent in the database used two or more brands in the category (i.e., single-brand users were not included in our database for analysis since their share of wallet is, by definition, one).

Industries and Brands. Data included ratings of over 650 brands in 20 industries. Airlines represented the largest industry in terms of number of respondents, although it should be noted that retail was broken out into more homogeneous subgroups. The complete industry breakdown is: Airline (44.9%), Asthma Rx OTC (0.4%), Automobiles (0.3%), Baby Retail (1.8%), Beauty (1.7%), Clothing Retail (2.4%), Credit Card (4.3%), DIY Retail (0.7%), Drugstores (1.0%), Electronics Retail (2.0%), Furniture (2.9%), General Retail (8.0%), Grocery Retail (13.9%), Mass Merchandise Retail (0.5%), Mobile Phone Carrier (0.03%), Office Supply (0.6%), Personal Computers (0.2%), Pharmacy (1.6%), Printer Supplies (2.1%), and Retail Banking (10.7%).

Countries. Respondents were sampled from 15 countries, with the majority from the United States. The percentage of respondents from each country is: Australia (0.4%), Brazil (3.3%), China (0.8%), Denmark (0.6%), Finland (0.5%), Germany (0.6%), Italy (8.2%), the

Netherlands (0.4%), Norway (0.6%), Peru (0.3%), South Africa (0.2%), Sweden (0.6%), Turkey (1.1%), the United Kingdom (10.8%) and the United States (71.7%).

Gender. In terms of total respondents, 51% of respondents are female, 49% male. The percentage of female respondents for each country is: Australia (30%), Brazil (43%), Denmark (31%), Finland (40%), Italy (29%), the Netherlands (48%), Norway (34%), Peru (31%), South Africa (20%), Sweden (35%), Turkey (21%), the United Kingdom (52%) and the United States (53%). Gender was not available in the database for Chinese and German respondents.

Age. The average age for all respondents is 49. The average age for respondents in each country is: Australia (48), Brazil (40), China (34), Denmark (49), Finland (45), Germany (38), Italy (48), the Netherlands (47), Norway (45), Peru (41), South Africa (47), Sweden (49), Turkey (34), the United Kingdom (48) and the United States (50).

Longitudinal Data. A subset of these respondents (all from the U.S.) were contacted 6 months following the initial survey to provide longitudinal information regarding changes in satisfaction ratings and changes in share of wallet. The longitudinal data consisted of 1,138 customers providing 2,686 observations on the <u>same</u> brands in both periods 1 and 2. These customers provided a total of 3,228 rankings in period 1 and 3,365 rankings in period 2. These 1,138 customers were chosen because they ranked at least two brands in each period. We needed at least two brands from each customer in period 1 in order to be able to use their information to help estimate model parameters. Also, we needed at least two brands per customer in period 2 in order to estimate share of wallet less than 100 percent (i.e. when number of brands equal one, share of wallet is by default 100 percent).

Gender distribution for the longitudinal sample is approximately even (51% male, 49% female) with an average age of 55.6. Breakdown of respondents by industry is as follows: Grocery (13.4%), Drugstore (13.4%), Pharmacy (4.2%), Mass Merchandisers (10.1%), Retail Bank (0.5%), Asthma Rx (7.9%), DIY (17.0%), Office Supply (13.5%), Airline (12.2%), Computers (3.1%), Mobile Phone Carrier (0.4%), and Automobiles (4.1%).

6.2 Constructs and Measures

Customer Satisfaction. Following Mittal, Kumar and Tsiros (1999) we measured overall satisfaction with the brand using a single item (1 = completely dissatisfied, 10 = completely satisfied). Satisfaction levels were converted to ranks using the approach of Hofmeyr and colleagues (2008) discussed earlier.

It is important to note that relative "ranked" satisfaction is not a single-item construct in the commonly used sense. Rather ranks for customers when "Number of Brands >= 2" are based upon consumers' perceptions of multiple brands. In example form, imagine that Brand A has a 7 in satisfaction on a 10-point scale. Its rank will depend on Brand B. If Brand B rates a 5, then Brand A is rank = 1. If Brand B rates a 9, then Brand A is rank = 2. In other words, the same satisfaction level can result in different ranks as information from all brands used by a respondent is used to determine rank. [Note: In this investigation, all respondents used two or more brands.]

With regard to the use of single-item measures in general, although marketing academics typically prefer multi-item measures, single-item measures of overall satisfaction have been used in many prior studies and shown to perform adequately (e.g., Bolton 1998; Bolton and Lemon 1999; Cooil et al. 2007; Crosby and Stephens 1987; Drolet and Morrison 2001; Mittal and Kamakura 2001; Mittal, Ross and Baldasare 1998; Mittal, Kumar and Tsiros 1999).

Bergkvist and Rossiter (2007) have demonstrated that single-item measures achieve the same predictive ability as multi-item measures, provided that the focal construct is concrete and singular in nature. Satisfaction would appear to meet this standard. Zeithaml et al. (2006, p. 170) observe, "Customer satisfaction is the most widely used perceptual metric because it is generic and can be universally gauged for all products and services (including nonprofit and public services). Even without a precise definition of the term, customer satisfaction is clearly understood by respondents, and its meaning is easy to communicate to managers."

Moreover, psychometric analyses conducted by Drolet and Morrison (2001) finds that the incremental information from even the second or third item in a multi-item scale contributes very little to the information obtained from the first item in a multi-item scale. They also find that

"added items actually aggravate respondent behavior, inflating across-item error term correlation and undermining respondent reliability" (p. 196).

Of particular relevance to this investigation, Hofmeyr et al. (2008) and Keiningham et al. (2011) specifically create ranks based upon responses to a single-item measure. This is not surprising given that in practice most firms use single-item measures of satisfaction (Morgan, Anderson and Mittal 2005), and these approaches were developed in large part by industry practitioners. Therefore, it is appropriate to apply this same approach in our investigation of these methods.

It is important to note, however, that the longitudinal data examined in this analysis also contained the survey measures used in the American Customer Satisfaction Index (ACSI) to measure overall customer satisfaction, specifically: (1) overall satisfaction (as used in the single item measure), (2) performance relative to expectations, and (3) performance relative to the customer's ideal (Fornell et al. 1996). Therefore, to be certain that our findings were robust we compared the overall satisfaction measure with two reliable composites of these three questions: both the average of all three and the first principal component of the three items. The average and first principal component are essentially the same (the correlation between the two summaries is 1.000 across both periods) and overall satisfaction has a correlation of 0.95 with each. Given this equivalence, the single-item measure is preferred as the most direct estimate of overall satisfaction.

Share of Wallet. Following the approach of Cooil et al. (2007), share of wallet was measured as the percent of spending in the category that respondents allocate to the various brands that they use.

7. ANALYSIS

7.1 Description of the Relationship between SOW and Rank

As noted earlier, research consistently finds that correlation between satisfaction and SOW (at the individual customer level) is very weak. A core argument of the Zipf-AE, Zipf-PM, and WAR approaches under investigation is that relative "ranked" satisfaction is more strongly correlated to SOW. Therefore, the first step was to test the accuracy of this claim.

Table 3.2 summarizes the correlations and partial correlations between SOW and both rank and satisfaction (absolute). It also includes correlations with logarithmic transformations of each variable and the logit transformation of SOW. [3]

The correlations of SOW, and transformations of SOW, with Rank and log(Rank) are invariably stronger than the correlations of SOW, and the transformations of SOW, with the two versions of Satisfaction. Nevertheless, all correlations are highly significant ($p<.001$; which is not surprising given the sample size, n=258,743). The strongest relationships are for log(Rank) with SOW and logit(SOW); log(Rank) explains 30% (or $r^2 \times 100\%$, with r = -.545) of the variance in SOW and 29% of the variance of logit(SOW) (r=-0.536). The largest nominal correlation with Satisfaction are for Satisfaction with the logit(SOW) (r=.239), which indicates it accounts for 5.7% of the variation in logit(SOW).

Remarkably, the correlations of Rank and log(Rank) with SOW and its transformations still remain strong and quite significant when we condition on Satisfaction levels, as seen from the partial correlations (the percent variance explained ranges from 19% to 26% in each case). In contrast, the partial correlations of Satisfaction and log(Satisfaction) with SOW and its transformations are actually negative, and correspond to R-squared values that are below 1% in absolute value in every case.

Our results provide strong evidence of the superiority of relative ranked satisfaction to absolute satisfaction in linking to SOW.

TABLE 3.2: Correlations Between Transforms of SOW and Transforms of Rank and Satisfaction

	Rank	Log(Rank)	Satisfaction	Log(Satisfaction)	Partial Correlations After Removing Satisfaction		Partial Correlations After Removing Rank (as LN(Rank))	
					Rank	Log(Rank)	Satisfaction	Log(Satisfaction)
SOW	-0.484	-0.545	0.237	0.192	-0.437	-0.505	-0.010	-0.027
Log(SOW)	-0.492	-0.521	0.231	0.191	-0.448	-0.479	-0.003 [a]	-0.016
Logit(SOW)	-0.491	-0.536	0.239	0.195	-0.443	-0.494	-0.002 [b]	-0.019

Notes: N= 258,743. Except as indicated, all correlations are significant at the p<0.001 level.

[a] p=0.124, [b] p=0.209.

7.2 Investigating the Models

The next step in our analysis was to investigate the efficacy of the three most widely used power laws (i.e. Zipf-AE, Zip-PM, and WAR) in predicting SOW. A fair assessment, however, requires that we compare these power laws to other models that would be reasonably expected to perform similarly based upon the properties of these models.

The Zipf functions imply a Pareto decay in SOW as rank increases, which is distinct from a geometric decay and more rapid than the linear decay of the WAR model (when there are more than two brands). Therefore, to provide an additional reasonable point of comparison for the Zipf-AE and Zipf-PM power laws, we examine the effectiveness of the truncated geometric model in using ranked satisfaction to predict SOW.

Whenever possible, we examine three versions of these discrete distributions: a fixed-parameter version, a one-parameter version (i.e., the parameter does not vary by the total number of brands), and what we label as a 9-parameter version (i.e., the parameter varies by the total number of brands used; we consider customers who use from 2 to 10 brands). It is important to note that there is no one-parameter version of Wallet Allocation Rule, and no established fixed-parameter version of the truncated geometric. In total, we explore ten versions of the discrete distribution models by including fixed-parameter, one-parameter and 9-parameter versions of the various models.

Additionally, because hierarchical regression models are commonly used in research and practice to assess the relationship between satisfaction and SOW (e.g., Keiningham, Perkins-Munn and Evans 2003) we investigated these models as a point of comparison. In each of these models, a random effect at the customer level is used to accommodate the dependence among observations from the same customer within a product category. Specifically, we consider four hierarchical regression models (where for each of set of predictors, we estimate one version with common parameters across all m-categories, where m represents the total number of brands, and another with separate parameters within each m-category).

7.2.1 Overall Model Performance (Cross-Sectional)

To evaluate the overall performance, we first examined each model's ability to link customer satisfaction (absolute or relative ranked satisfaction) with SOW for the same time period. We assess each model's performance in four ways: mean absolute deviation (MAD), and root mean squared error (RMSE) across all observations and also by customer. Figure 3.1 shows the performance of each of the models relative to the best performing models.

The fixed-parameter versions of the discrete distribution models do remarkably well overall. Among these distributions, the fixed-parameter Zipf-AE model is best in terms of MAD, both overall and per customer, and it actually outperforms all models (including the regression models) in terms of average customer RMSE. The 9-parameter version of Zipf-AE is the best performer in terms of overall RMSE. Nevertheless, the discrete distributions generally do quite well: eight of the other ten discrete distributions have RMSE values that are within 1.5% of the best fit. The one exception is the fixed parameter Zipf-PM which has an RMSE that is 6% larger overall, relative to the best performing 9-parameter Zipf-AE model.

The 9-class regression with log(Rank) is actually the best performing model in terms of MAD, and it is just ahead of the fixed parameter Zipf-AE with MAD values that are 1.6% and 0.9% larger overall, and per customer, respectively. This regression model is also uniformly the best among the four regression alternatives, but paradoxically it does not fit as well in terms of RMSE, where it actually achieves the 10th and 9th highest overall and per customer RMSE, respectively. Still, even in these cases its error rates are only larger than the lowest RMSE values by 2.2% overall, and 2.3% per customer. By contrast, the regression models based on Satisfaction are uniformly the worst models in every case, and here the error rates are substantially larger than the best model in every instance. Although the 9-class version of this model is the better performer, even its error rates range from being higher by 7.3% (MAD overall) to 12.6% (RMSE per customer).

FIGURE 3.1: Model Performance Overall and at the Customer Level in Terms of Mean Absolute Deviation (MAD) and Root Mean Squared Error (RMSE)

1. Zipf–AE, Fixed Parameter
2. Zipf–PM, Fixed Parameter
3. WAR, Fixed Parameter
4. Zipf–AE, 1-Parameter
5. Zipf–PM, 1-Parameter
6. Truncated Geometric, 1-Parameter
7. Zipf–AE, 9-Parameter
8. Zipf–PM, 9-Parameter
9. WAR, 9-Parameter
10. Truncated Geometric, 9-Parameter
11. Logit(SOW_{ij})=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank), 1 Class
12. Logit(SOW_{ij})=β_0 + β_1Satisfaction +β_2(Total Brands), 1 Class
13. Logit(SOW_{ij})=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank), 9 Classes
14. Logit(SOW_{ij})=β_0 + β_1Satisfaction, 9 Classes

7.2.2 Overall Model Performance by Number of Brands Used

In addition to examining overall performance, we investigated whether the number of brands used by the customer affect which model performs best. Figure 3.2 provides a comparison of model performance by the number of total brands that are used by the customer. An examination of Figure 3.2 shows that the relative performance of most models varies widely depending upon the number of brands used by the customer.

The fixed-parameter versions of Zipf-AE and WAR are the best in the two-product category with MAD values of 20.5%. WAR and Zipf-AE are equivalent in this case. This is the only category where the 9-class regression with log(Rank) is not the best model, and even in the 2-category case this regression model is nearly the best with a MAD that is 20.6% (relative to the best MAD of 20.5%).

The 9-parameter Zipf-AE model and the 9-class regression with log(Rank) are the best overall performers across categories, and the Zipf-AE models are always among the top 5 models when total brands is less than 7 ($m \leq 6$). Finally, the regression models based on Satisfaction are the worst models overall, in terms of median rank across categories, although the 9-class regression on Satisfaction is the second best model in the last category ($7 \leq m \leq 10$). The regression models based on Satisfaction are uniformly the poorest performers when there are four or fewer total brands ($m \leq 4$)

It is important to note that while the relative performance of most models varies by the number of brands used, MAD values decrease as the total number of brands used increases (see Figure 3.3), which is to be expected, given that one is predicting smaller SOW values as the total number of brands increases. Across models, the lowest MAD values decrease by 64% as total brands increase across the six categories, and it ranges from 20.5% (when m=2) to 7.4% (when $7 \leq m \leq 10$).

FIGURE 3.2: Relative Model Performance in Terms of Total Brands Used Based upon Mean Absolute Deviation (MAD)

1. Zipf–AE, Fixed Parameter
2. Zipf–PM, Fixed Parameter
3. WAR, Fixed Parameter
4. Zipf–AE, 1-Parameter
5. Zipf–PM, 1-Parameter
6. Truncated Geometric, 1-Parameter
7. Zipf–AE, 9-Parameter
8. Zipf–PM, 9-Parameter
9. WAR, 9-Parameter
10. Truncated Geometric, 9-Parameter
11. Logit(SOW$_{ij}$)=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank), 1 Class
12. Logit(SOW$_{ij}$)=β_0 + β_1Satisfaction +β_2(Total Brands), 1 Class
13. Logit(SOW$_{ij}$)=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank), 9 Classes
14. Logit(SOW$_{ij}$)=β_0 + β_1Satisfaction, 9 Classes

FIGURE 3.3: Mean Absolute Deviation (MAD) of Model in Terms of Total Brands Used

1. Zipf–AE, Fixed Parameter
2. Zipf–PM, Fixed Parameter
3. WAR, Fixed Parameter
4. Zipf–AE, 1-Parameter
5. Zipf–PM, 1-Parameter
6. Truncated Geometric, 1-Parameter
7. Zipf–AE, 9-Parameter
8. Zipf–PM, 9-Parameter
9. WAR, 9-Parameter
10. Truncated Geometric, 9-Parameter
11. $\text{Logit}(SOW_{ij}) = \beta_0 + \beta_1 \text{Log}(\text{Rank}) + \beta_2 \text{Log}(\text{Total Brands} + 1 - \text{Rank})$, 1 Class
12. $\text{Logit}(SOW_{ij}) = \beta_0 + \beta_1 \text{Satisfaction} + \beta_2(\text{Total Brands})$, 1 Class
13. $\text{Logit}(SOW_{ij}) = \beta_0 + \beta_1 \text{Log}(\text{Rank}) + \beta_2 \text{Log}(\text{Total Brands} + 1 - \text{Rank})$, 9 Classes
14. $\text{Logit}(SOW_{ij}) = \beta_0 + \beta_1 \text{Satisfaction}$, 9 Classes

7.2.3 Overall Model Performance (Longitudinal)

For managers, the most important criterion for determining the success of any model of customer satisfaction is the strength of its relationship to changes in customer behavior (Oliver, Rust and Varki 1997, p. 312). Researchers similarly maintain "marketers should examine changes in customer satisfaction over time due to customer "touches" (i.e., customer or firm-initiated encounters) as well as perceptions of competitors (e.g., Bowman and Narayandas 2001)" (Bolton, Lemon and Verhoef 2004, p. 277).

Figure 3.4 provides and analysis of the two-period data. The figure summarizes the correlations of change in SOW with contemporaneous changes in model estimates.

Figure 3.4 shows that the correlation between the two-period change in the WAR estimates of SOW (fixed-parameter version) and change in SOW are nominally the largest overall (r=0.407, p<0.001), but nearly all of the discrete distributions perform at the same level in terms of predicting change in SOW.

The weakest performing models are the 9-parameter truncated geometric model (for change in SOW: r=0.371, p<0.001) and the regression models (for change in SOW: the largest r=0.366, p<0.001). Surprisingly, the 1-class regression model based on Satisfaction performs better than the 9-class version. The 9-class regression based on Satisfaction is by far the worst performer overall (R-square < 12% in each case).

Finally, Figure 3.4 shows the inadequacy of changes in absolute satisfaction levels in correlating to changes in share of wallet. Changes in Satisfaction explain less than 1% of the variation in changes in share of wallet (r=0.066).

The disaffection with customer satisfaction has caused many managers to shift to a measure of recommend intention, specifically the Net Promoter Score (NPS), to gauge customer loyalty (Reichheld, 2003). Our results, however, clearly indicate that changes in a customer's Net Promoter classification similarly has almost no correlation to changes in share of wallet (r=0.067). These results are comparable when using change in recommend intention levels (r=0.065).

FIGURE 3.4: Correlations between Changes in SOW and Changes in Model Estimates

Zipf–AE, Fixed Parameter — 0.403
Zipf–PM, Fixed Parameter — 0.393
WAR, Fixed Parameter — 0.407
Zipf–AE, 1-Parameter — 0.400
Zipf–PM, 1-Parameter — 0.404
Truncated Geometric, 1-Parameter — 0.401
Zipf–AE, 9-Parameter — 0.401
Zipf–PM, 9-Parameter — 0.403
WAR, 9-Parameter — 0.403
Truncated Geometric, 9-Parameter — 0.371
Logit(SOW_{ij})=β_0 + β_1Log($Rank$)+ β_2Log($Total Brands$+1-$Rank$), 1 Class — 0.364
Logit(SOW_{ij})=β_0 + $\beta_1$$Satisfaction$ +β_2($Total Brands$), 1 Class — 0.315
Logit(SOW_{ij})=β_0 + β_1Log($Rank$)+ β_2Log($Total Brands$+1-$Rank$), 9 Classes — 0.366
Logit(SOW_{ij})=β_0 + $\beta_1$$Satisfaction$, 9 Classes — 0.098
Rank (i.e., relative ranked *Satisfaction*)* — 0.285
Satisfaction — 0.066
Recommend Intention — 0.065
Net Promoter Score — 0.067

Correlation to Change in SOW

* Absolute value used as the correlation between rank and SOW would be expected to be negative (i.e., the lower the number associated with rank, the higher the expected SOW)
N $\geq$ 2686 for each correlation.
All correlations are significant at the level p<0.001

7.3 Results Summary

Hypothesis 1 postulated that "ranked satisfaction levels are more strongly correlated to share of wallet than are absolute satisfaction levels." This study conclusively showed this to be true.

First, table 3.2 shows that Rank and Log(Rank) account for 23% and 30% of the variance in SOW (the corresponding correlations are -0.484 and -0.545, respectively). In contrast, the percentage of variance explained by satisfaction is 5.7% (r=0.239). Even more striking, the conditional correlations between Rank and log(Rank) with SOW and logit(SOW) remain strong,

when conditioning on Satisfaction levels, while the conditional (partial) correlations with Satisfaction and Log(Satisfaction)) are not significant when we condition on Log(Rank).

Further, the regressions based on Satisfaction in Figure 3.2 demonstrate that these models do not fit as well as the corresponding regression based on Rank, and almost without exception, the Satisfaction models are the worst performing models. The one exception occurs in the largest total brand category (see Table 3.5 in the Appendix), where the 9-class regression with Satisfaction is second only to the 9-class regression model based on Rank. Finally, among the discrete distribution models, only the three Zipf-PM models use information on absolute satisfaction, and these are generally among the worst performing discrete distribution models. The findings therefore clearly indicate the superiority of using a relative ranked approach to customer satisfaction measurement compared to absolute satisfaction when attempting to link to a customers' share of wallet. Hypothesis 1 is therefore supported.

Hypothesis 2 postulated that "changes over time in ranked satisfaction levels are more strongly correlated to contemporaneous changes in share of wallet than are changes in absolute satisfaction levels." The two-period analysis summarized in Figure 3.4 shows how two-period changes in ranked satisfaction levels are more strongly correlated to contemporaneous changes in share of wallet, than are changes in absolute satisfaction levels. Change in Rank and Log(Rank) have substantially larger absolute correlations with change in SOW (r=-0.285, and r= -0.332, respectively) and with Logit(SOW) (r=-0.278, and r= -0.328, respectively), than with Satisfaction and Log(Satisfaction) (here the largest correlation is r=0.111 between satisfaction and Logit(SOW)). Among the 14 models considered, the regression models based on Satisfaction provide estimates of change in SOW and logit(SOW) that have the smallest correlations with actual change in SOW and Logit(SOW).

Using a longitudinal dataset, the findings therefore clearly demonstrate that when linking changes in customers' satisfaction levels to changes in corresponding share of wallet over time, compared to absolute satisfaction, relative ranked satisfaction remains the more closely linked measure to share of wallet. Hypothesis 2 is therefore supported.

8. DISCUSSION AND CONCLUSION

The analysis reported here advances the empirical research regarding the relationship between customer satisfaction and share of wallet in two overarching ways. First, our findings clearly demonstrate that relative ranked satisfaction is superior to absolute satisfaction in linking to the share of category spending that customers allocate to the brands that they use.

Specifically, our research finds that absolute satisfaction explains only 5.6% of the variation in share of wallet when examined cross-sectionally, and changes in absolute satisfaction explain only a very small 0.4% of the variation in contemporaneous changes in share of wallet. By contrast, relative ranked satisfaction explains 23.4% in the variation in share of wallet, and changes in relative ranked satisfaction explains 8.1% of the variation in changes in share of wallet. Furthermore, almost without exception, models based on absolute satisfaction are the worst performing models examined in our investigation.

Second, our findings indicate that there are multiple methodologies available to researchers and managers to transform ranked satisfaction into relatively good approximations of customers' share of wallet allocations.

Specifically, we find that all of the most commonly used discrete distributions (i.e. Zipf-AE, Zipf-PM, and WAR) perform remarkably well. For example, the percentage of variance explained from changes in the share of wallet estimates from these models and changes in customers' share of category spending ranged from a high of 16.6% (for the WAR-Fixed Parameter model) to a low of 15.4% (for the Zip-PM Fixed Parameter model), with the rest of the models explaining 16% or more of the variance.

Additionally, when examined cross-sectionally, the percentage of variance explained by these models ranges from a low of 34.6% (for the Zip-PM Fixed Parameter model) to a high of 37.6% (for the Zipf-AE 9-Parameter model).

Similar cross-sectional results were obtained for hierarchical regression models based on rank (36.0% and 37.0% for the two models examined). Longitudinally, however, these models explained approximately 13% of the variation in changes in share of wallet.

Taken together, these findings have wide reaching implications for both the practice and the science of marketing.

8.1 Implications for Researchers

These results have several important implications for scientific researchers, and point to the need for new research in several areas. The most obvious implication of this research is that the traditional view of the satisfaction and share of wallet relationship (i.e., a non-linear, s-shaped relationship) based upon absolute satisfaction levels is at best incomplete. Our findings indicate that the relationship is instead primarily driven by the relative fulfillment customers perceive from the various brands that they use (as gauged by their relative ranked satisfaction level), and not the absolute level of satisfaction. Therefore, while consumer satisfaction represents a widely studied area of research (for a review, see Oliver 2010), our findings indicate a need for additional research into the nature of satisfaction and its corresponding impact on consumer behavior which better takes competitive effects into account.

Choice modelers have known for years that you need to consider all brands in the usage set (Luce 1959, 1977), yet this simple fact has not been applied by most satisfaction researchers. Satisfaction researchers must recognize that consumers are making a choice, and that the choice is relative.

The relative nature of satisfaction also indicates that we need new, more comprehensive models linking satisfaction to business results. The seminal satisfaction-based chain of effects models in the literature, for instance, now focus on absolute, focal-firm only metrics.

Additionally, given the relative nature of consumer satisfaction, this raises the likelihood that other perceptual and attitudinal metrics display similar properties. For example, since most researchers presume that satisfaction is an antecedent to commitment (e.g., Bansal, Irving and Taylor 2004; Garbarino and Johnson 1999; Hennig-Thurau, Gwinner and Gremler 2002), this begs the question, "Is commitment also relative?" If yes, how do consumers trade off different types of commitment (e.g., affective, calculative, and normative) with the various brands that they use in a category?

Furthermore, previous satisfaction literature has devoted attention to the moderating impact of customer and situational characteristics on the relationship between satisfaction and share of wallet (e.g., Cooil et al. 2007). Hence, given our new insights, additional research is warranted, investigating these moderating influences in a relative context. For example, length of relationship could be of particular importance to this research context, as this has been found to lower the relationship between absolute satisfaction and loyalty (e.g., Homburg, Giering and Menon 2003).

Finally, this research relied on using ranks to capture relative satisfaction. While ranks have been used in other marketing applications to capture relative performance (e.g., Kohli and Sah 2006; Shugan and Mitra 2014), and Shugan and Mitra (2014) offer a compelling argument regarding the benefits of using ranks as a unit of analysis, more research is needed to determine the best means of capturing relative satisfaction (and other perceptual metrics). To date, there are several approaches proposed. For example, rank transformation (Hofmeyr et al. 2008; Keiningham et al. 2011) and mean-centering (Wind 1970) are two common approaches for deriving relative position. van den Putte, Hoogstraten and Meertens (1996) use direct ranking scales (i.e., respondents assign a rank). Still other researchers have proposed relative scales (e.g., Hauser 1991). Therefore, there is a need to examine different relative measurement approaches to determine which methods work best and under what conditions. Table 3.3 summarizes some of the approaches that can be used to measure relative performance of different perceptual and attitudinal metrics, warranting further research on the merits of relative metrics.

8.2 Implications for Managers

One of the most important implications is that firms need to shift from focusing on their satisfaction score (i.e., rating level) to focusing on their rank to which the satisfaction level corresponds. This need not be complicated, particularly since ranks are used in multiple aspects of our lives (sports, education, etc.). If the firm already has a customer satisfaction tracking program in place, managers can simply add questions about competitors used and ask respondents to provide satisfaction ratings for these competitors in addition to the focal firm. For firms that do

TABLE 3.3: Relative Approaches for Marketing Research

CONSTRUCT MEASUREMENT AND OPERATIONALIZATION*			
INDIRECT CALCULATION		DIRECT MEASUREMENT	
Rating	Ranking	Rating	Ranking
Separate measurement for each competitor: e.g.: How satisfied are you about 1) X 2) Y 3) Z? Comparative CPI is then calculated as follows e.g.: Satisfaction X = 5; Y = 4; 　　　　Z = 6 Relative SAT for company X: 5 – ((4+6)/2) = 0	Separate measurement for each competitor: e.g. How satisfied are you about 1) X 2) Y 3) Z? An indirect rank is then made and used to predict SOW of the company e.g.: Satisfaction X = 5; Y = 4; Z = 6 Rank: 1. Z 　　　2. X 　　　3. Y Applications: - WAR - Zipf AE/PM	Direct comparison of focal company X with all used competitors e.g.: How satisfied are you with provider X when compared to your other providers?	A direct ranking of focal company X and its competitors e.g.: Consider all your used competitor alternatives, rank these in decreasing order of satisfaction An alternative is assigning a number between 0 and 100 to each used alternative, with the sum of scores equal to 100

* The "overall satisfaction" measure is used as an example to demonstrate how relative metrics can be operationalized in marketing research

not have a tracking system in place, managers can institute one with new questionnaires that measure satisfaction perceptions for the firm and its competitors which could then be transformed into ranks. The information collected would provide valuable input for calculating metrics to be tracked and/or included in dashboards and also provide opportunities to benchmark over time.

For example, Keiningham et al. (2014a) argue that managers should focus on the percentage of their customers who would be classified as ranking the firm first among all the competitors that they used; they refer to this metric as the percentage "First Choice." There is an obvious appeal to managers for such a metric. Regardless of the level of the employee within the organization, all have a visceral sense of the importance of being first-choice vis-à-vis competition. While there are limitations with a focus on being "first," it does offer managers a measure that is easy to communicate and easy to rally support around that keeps the focus of the organization on relative rank.

Another important finding for managers is that managers have several viable options when deciding on how they wish to link satisfaction to SOW. The discrete distributions examined perform remarkably well. Nearly all of the discrete distributions perform at the same level when predicting change in SOW.

It is important to note, however, that with the exception of "automatic decision models such as those involved in search engine optimization, revenue management systems and so forth," simple models tend to perform better when users are involved (Lilien 2013). Little (1970, 2004) observes that for models to be both useful and used in practice they must be "(1) simple, (2) robust, (3) easy to control, (4) adaptive, (5) complete on important issues, (6) easy to communicate with" (2004, p. 1855). While marketing academics likely view most (if not all) of the models investigated—particularly the most commonly used discrete models—as being relatively straightforward, the reality is that most managers do not. In fact, when explaining the Wallet Allocation Rule—the simplest model investigated—the Harvard Business Review first implored managers with "Don't let the math scare you" (Keiningham et al. 2011, p. 30).

The danger is that managers tend to reject models that they don't understand and "revert to models of great simplicity" (Little 2004, p. 1855). For example, the simplicity of the calculation

and the ease of communicating the underlying philosophy would appear to explain in large part the continued popularity of the Net Promoter metric (Owen and Brooks 2009, p. 10) despite a wide body of scientific evidence (including this investigation) which casts doubt on its reported claims to link to business outcomes (e.g., Keiningham et al. 2007; Morgan and Rego 2006; Sharp 2008).

Therefore, managers need to balance precision with the ability to easily understand and communicate the fundamentals of the model selected. In the case of this examination, several of the models tested require no data fitting to arrive at share of wallet estimates, specifically the Wallet Allocation Rule (both Fixed Parameter and 9 Parameter versions) and all of the Fixed Parameter Discrete Distributions. As a result, managers have relatively simple models to use which can significantly increase the strength of the relationship between satisfaction and share of wallet.

These findings have another important implication for managers. Because rank-based models are substantially superior to absolute satisfaction based models in linking to SOW, the drivers of satisfaction and the drivers of share of wallet are likely to be different. By "drivers" we mean the underlying attributes that influence overall satisfaction levels (Anderson and Mittal 2000; Morgan, Anderson and Mittal 2005).

Most managers identify drivers of satisfaction based upon consumer ratings regarding the performance of their firm only. Relative ranked satisfaction models, however, by their nature take competition into account. Early research into the differences between drivers of satisfaction and drivers of rank (based on relative satisfaction levels) indicates that consumers who use more than one brand in a category at the same time do so to fulfill different needs (Aksoy 2013b). Therefore, improving rank would imply not only increasing satisfaction with a firm's offering, but also reducing consumers' perceived needs to use competitors.

8.3 Conclusion

There is general agreement among researchers and practitioners that satisfaction is relative to competitive alternatives (e.g., Birtchnell 1994; Holt and Huber 1969; Semon 1994; Varki and Rust 1997). Nonetheless, researchers and managers have not treated satisfaction as a relative

construct. The result has been (1) weak relationships between satisfaction and share of wallet in the literature, and (2) challenges by managers as to whether satisfaction is a useful predictor of customer behavior and business growth (Chemi 2013; Gupta and Zeithaml 2006; Reichheld 2003).

This research similarly challenges the usefulness of using absolute satisfaction levels, and absolute levels of other commonly used metrics such as recommend intention and the Net Promoter Score, in linking to customers' share of category spending. Our findings indicate that changes in these commonly used metrics explain less than one half of one percent of the variance in changes in share of wallet. While this may be statistically significant, it is almost certainly not managerially relevant.

This investigation provides compelling evidence of the superiority of relative ranked satisfaction to absolute satisfaction in linking to share of wallet. Moreover, it provides practical insight into several easy-to-use approaches that researchers and managers can apply to improve the strength of the relationship between satisfaction and share of wallet. For example, our research found that almost all versions of the three most commonly used power laws explained 35% or more of the variance in share of wallet when examined cross-sectionally, and 16% or more of the variance in changes in share of wallet when examined longitudinally.

Finally, this research points to the critical need for new research into the relative nature of satisfaction, as well as other perceptual and attitudinal constructs, to better understand their influence on consumer behavior.

9. LIMITATIONS

Although this investigation used a large data set comprised of multiple brands, industries, and countries, there are limitations that should be noted. Inclusion of additional brands, industries and countries would more clearly establish the generalizability of our findings.

Additionally, our investigation analyzed only multi-brand usage markets and customers. Therefore, research needs to be conducted in single brand usage categories to better understand the relationship between satisfaction and consumer behavior to determine if and how relative satisfaction levels impact this relationship.

Finally, our analysis identified the presence of a statistically significant relationship between 1) current share of wallet levels and relative ranked satisfaction, and 2) changes in share of wallet and concomitant changes in relative ranked satisfaction levels. We did not, however, prove causation. Therefore, additional longitudinal research should be conducted to examine the robustness of these findings.

Nonetheless, we believe these results provide compelling evidence of the superiority of relative satisfaction metrics in linking to customers' share of wallet allocations. Moreover, this investigation provides insight into several viable approaches that researchers and managers can apply to more strongly link satisfaction to customers' spending behaviors.

10. TECHNICAL APPENDIX

Most managers would consider our empirical analysis to be overly complex and therefore difficult to read and interpret. As a result, we believe that the findings and implications of our investigation would be lost in the technical descriptions of the models and analytics if included in the main document.

The goal of our research is to spur a change in current practice (as well as academic research) with regard to the measurement and management of customer satisfaction. Therefore, in an effort to maximize the impact on both the practice and the science of service management, we have chosen to present the details of our analysis in a technical appendix.

10.1 Models Investigated

Currently, the three most widely used models for linking relative ranked satisfaction with SOW are:

1. The "Attitudinal Equity" model of Hofmeyr et al. (2008). Because this is based upon the Zipf distribution, we refer to this throughout the manuscript as Zipf-AE.
2. The "Power of the Mind" model of Louw and Hofmeyr (2012). Because this is also based upon the Zipf distribution, we refer to this throughout the manuscript as Zipf-PM.
3. The "Wallet Allocation Rule" model of Keiningham et al. (2011). Throughout manuscript we refer to this as WAR.

Each of these models is described below. It is important to note that the notation we use to describe the models differs slightly from their original presentation in the respective articles that introduced them (i.e., Hofmeyr et al. 2008; Keiningham et al. 2011; Louw and Hofmeyr 2012). This is done so that common variable labels can be used across all models investigated. The models are in fact unchanged from their original presentation.

Zipf-AE

The Zipf-AE model (Hofmeyr et al. 2008) posits that customer i's share of wallet for brand j (with Rank$_{ij}$) in a usage set of size m$_i$ is:

$$SOW_{ij}^{(ZIPf-AE)} = \frac{1}{Rank_{ij}^{s(m_i)} \left[\sum_{k=1}^{m_i} \left(\frac{1}{Rank_{ik}^{s(m_i)}} \right) \right]}$$

where s(m$_i$) is a constant that depends on the number of brands (m$_i$) taken from Table 4 of Hofmeyr et al. (2008), and these constants were found with the "'solver' function in Excel" (p. 190). (In the summation, k is the index that runs through all possible brands in the product category.) We have added m$_i$ to the notation to clarify that there are different exponents depending on the number of brands in customer i's usage set. Hofmeyr et al. (2008) recommend using the values s(m$_i$) published in their article (p. 191, step 2), but one could estimate the exponent using the data at hand as discussed below. Attitudinal equity is a Zipf probability distribution, and its values must therefore sum to 1 (for a given number of brands); the constant in brackets in the denominator guarantees that the sum is 1.

Zipf-PM

The Zipf-PM model (Hofmeyr 2012; Louw and Hofmeyr 2012) posits that customer i's share of wallet for brand j (with Rank$_{ij}$) in a usage set of size m$_i$ is:

$$SOW_{ij}^{(ZIPf-PM)} = \frac{Share_{ij}}{Rank_{ij}^{s} \left[\sum_{k=1}^{m_i} \left(\frac{Share_{ij}}{Rank_{ij}^{s}} \right) \right]}$$

where j is the brand being scored, and m is the number of brands (Hofmeyr 2012, p. 18 states: "There is still an 's', but it's set to '1'. No exponential transform needed"). Also, following Hofmeyr (2012), we define Share$_{ij}$ as the share of "total satisfaction" that customer i assigns to brand j:

$$Share_{ij} \equiv \frac{Satisfaction_{ij}}{\sum_{k=1}^{m} Satisfaction_{ik}}.$$

The distinguishing characteristic of the Zipf-PM approach is that they propose using "the share that a brand's rating achieves as a percent of the sum of a respondent's ratings of relevant brands" in the Zipf distribution equation (Louw and Hofmeyr, 2012, p. 11).

Wallet Allocation Rule (WAR)

The Wallet Allocation Rule (WAR) (Keiningham et al. 2011) posits that customer i's SOW for brand j is:

$$SOW_{ij}^{(WAR)} = \left(1 - \frac{Rank_{ij}}{m_i+1}\right) \times \left(\frac{2}{m_i}\right).$$

WAR is a fixed parameter model; as such, no estimation (i.e., data fitting) is required to estimate the relationship between rank transformed satisfaction and share of wallet.

General Wallet Allocation Rule

The Wallet Allocation Rule (WAR) is actually a special case of the family of discrete probability distributions that assign an arithmetic sequence of probabilities (representing SOW values) to successive ranks. Consequently, all of these distributions imply that SOW is a linear function of the brand's rank. If $p(m_i)$ represents the probability (or SOW value) assigned to rank 1 when there are total of m_i brands, then the generalization of WAR would allow this probability to vary by m_i-category, so that the generalization becomes:

$$SOW_{ij}^{(GWAR)} = p(m_i) - \frac{2(Rank_{ij} - 1)[m_i p(m_i) - 1]}{m_i(m_i - 1)},$$

where $p(m_i)$ is the SOW assigned to the brand with rank 1, $1/m_i \leq p(m_i) < 2/m_i$ (note that non-positive SOW values would be assigned to ranks if $p(m_i) \geq 2/m_i$, and if $p(m_i) < 1/m_i$, we would not have a non-increasing sequence of SOW values that adds to 1). Consequently, the arithmetic sequence of SOW assignments begins with $p(m_i)$ at rank 1 and decreases by

$$\frac{2[m_i\, p(m_i) - 1]}{m_i(m_i - 1)}$$

for each successive rank. Since these probabilities must add to 1, this is the only arithmetic sequence possible when the SOW value $p(m_i)$ is assigned to rank 1. Note that the Wallet Allocation Rule is the special case where $p(m_i) = 2/(m_i +1)$, and the discrete uniform is the case where $p(m_i) = 1/m_i$ (i.e., in this case all ranks would be assigned the same SOW value).

Other Models

In addition to the three most widely used models, we investigated whether better approaches existed for linking relative satisfaction levels to share of wallet. Based upon the

properties of the Zipf-based models, we examined another discrete distribution that seemed plausible: the truncated geometric model. In addition, because hierarchical regression models are commonly used in satisfaction and SOW research (e.g., Keiningham, Perkins-Munn and Evans 2003) we also investigate the value of hierarchical regression models.

These models are described below.

Truncated Geometric

The truncated geometric model provides an alternative way of accommodating the decay in SOW with increasing rank. According to this model, if customer i assigns $Rank_{ij}$ to brand j (in a usage set of m_i brands), then customer i's share of wallet for brand j is:

$$SOW_{ij}^{(G)} = \frac{p(m_i)[1 - p(m_i)]^{Rank_{ij}-1}}{\left[p(m_i)\sum_{k=1}^{m_i}([1 - p(m_i)]^{k-1})\right]}.$$

(The denominator would be $[1 - (1-p(m_i))^{m_i}]$ if there were no rank ties.) Here $p(m_i)$ represents the share of wallet corresponding to the brand ranked 1 (in the untruncated case). In the 1-parameter model, it is estimated across all customers, and in the 9-parameter model it is estimated separately across all customers in one of the nine usage sets (m_i), as is the case with the Zipf models. Following the truncated geometric paradigm, the SOW for the brand with $Rank_{ij}$ is proportional to the probability of not finding the ($Rank_{ij}$–1) preferred brands, where we assume an equal failure probability ($1-p(m_i)$) of not finding each one of the preferred brands.

Hierarchical Regression

Finally, we also consider two-level regression models for SOW_{ij}, which represents customer i's SOW for brand j when it is assigned a rank of $Rank_{ij}$ among the m_i total brands in that category:

$$Logit\left(SOW_{ij}^{(HR)}\right) = f\left(Rank_{ij}, m_i\right) + \varepsilon_i + \varepsilon_{ij},$$

and

$$Logit\left(SOW_{ij}^{(HR)}\right) = f\left(Satisfaction_{ij}, m_i\right) + \varepsilon_i + \varepsilon_{ij},$$

where ε_i represents the customer random effect and ε_{ij} represents overall model error, both of which are normally distributed with mean zero, and distinct variances. The random effect at the customer level provides a flexible way to accommodate the natural dependence among the

observations from one customer across brands within a product category. As models in this category, we considered the best two-predictor regressions based on the total number of brands (m_i) and either Rank$_{ij}$ or Satisfaction$_{ij}$. (Models with more than two predictors based on these variables generally did not explain more than an additional 0.6% of the variance in SOW.) Rank$_{ij}$ and Satisfaction$_{ij}$ were considered directly as candidate predictors along with the log transforms of each variable, and the logit transforms of each when it is expressed as a proportion, i.e., the logits of the proportions P_R = Rank$_{ij}$ /(m_i + 1), and Ps = Satisfaction$_{ij}$ /(Maximum Rating+1) (here the maximum possible satisfaction rating is 10). As candidate predictors, we also considered the components of these logit transforms: log(m_i + 1- Rank$_{ij}$), and log(Maximum Rating+1-Satisfaction$_{ij}$).

10.2 Parameter Estimation

With the exception of the hierarchical regression models, the other models are discrete probability distributions that automatically provide SOW estimates that sum to 1 for each customer. If we group the customer observations by the number of total brands ranked (m) we can view each set of customer ranks within m-category as an estimate of the same continuous multinomial distribution (Johnson 1960). This is complicated by the fact that we allow tied ranks, but it still provides a straightforward method of obtaining maximum likelihood estimates for the parameters in each of the proposed models. This approach is consistent with the hierarchical structure of repeated customer rankings within each brand category.

For each of the discrete-distribution models, we consider, whenever possible, three versions: a popular fixed-parameter version, a one-parameter version (where the parameter does not vary by the total number of brands, m), and the M-parameter version where the parameter is allowed to vary by m-category. All three versions are possible for Zipf-AE and Zipf-PM. We refer to the Wallet Allocation Rule as a fixed parameter model (since in this case p(m)≡2/(m +1), so that no estimation is required). There is no one-parameter version of Wallet Allocation Rule (since p(m) must vary with the total number of brands, m), and no popular (or established) fixed-parameter version of the truncated geometric. Consequently, we explore ten versions of the discrete distribution models, and consider four hierarchical regression models (where for each of

set of predictors, we estimate one version with common parameters across all m-categories, and another with separate parameters within each m-category). The fourteen models in total investigated are as follows:

Fixed Parameter Models

1.   Zipf-AE, s=1

2.   Zipf-PM, s=1

3.   WAR, p = 2/[(Total Brands)+1]

1-Parameter Models

4.   Zipf-AE

5.   Zipf-PM

6.   Truncated Geometric

9-Parameter Models (1 Parameter per Total Brands class) [4]

7.   Zipf-AE

8.   Zipf-PM

9.   WAR

10. Truncated Geometric

Hierarchical Regression (customer i, product category j) [5]

11. $\text{Logit}(SOW_{ij})=\beta_0 + \beta_1\text{Log(Rank)}+ \beta_2\text{Log(Total Brands+1-Rank)}$, 1 Class

12. $\text{Logit}(SOW_{ij})=\beta_0 + \beta_1\text{Satisfaction} +\beta_2\text{(Total Brands)}$, 1 Class

13. $\text{Logit}(SOW_{ij})=\beta_0 + \beta_1\text{Log(Rank)}+ \beta_2\text{Log(Total Brands+1-Rank)}$, 9 Classes

14. $\text{Logit}(SOW_{ij})=\beta_0 + \beta_1\text{Satisfaction}$, 9 Classes

We chose maximum likelihood estimation throughout as relatively non-controversial way of finding good representative estimates of each model. For the discrete distributions we used the continuous multinomial likelihood (next section); for the hierarchical regressions we used standard multivariate normal distributions.

10.2.1 Maximum Likelihood Estimation Using the Continuous Multinomial

Let SOW_{ij} represent the customer i's SOW for brand j, when there are a total of m_i brands, then the vector of SOW for customer j, $[SOW_{i1}, \dots, SOW_{im}]$, would occur with the continuous multinomial probability (Johnson 1960):

$$P[SOW_{i1}, \dots, SOW_{im}] = C\left(m(\underline{r})\right) \prod_{j=1}^{m} \frac{1}{\Gamma(SOW_{ij}+1)} \left[p(r_j)\right]^{SOW_{ij}} \qquad (A1)$$

with $\sum_{j=1}^{m} SOW_{ij} = 1$, $\sum_{j=1}^{m} p(r_j) = 1$, and where $C(m(\underline{r}))$ would be the normalizing constant necessary across the m-category with a given vector of ranks $\underline{r} = (r_{1, \dots} r_m)$ (to compensate for the continuous nature of the share of wallet values; see for example: Gasbarra et al. (2011, p. 37, equation 3). $C(m(\underline{r}))$ is not part of the kernel likelihood and consequently does not affect the maximum likelihood estimates. Each of the different discrete distributions proposed in this study (the Wallet Allocation Rule, Zipf and Truncated Geometric Models) provides alternative models for how the rank-category probabilities $\{p(r_k)\}$ are determined as functions of the ranks$\{\underline{r}\} = \{r_1$, ..., $r_m\}$.

Since we must allow for tied ranks, there are more than one possible set of ranks per m-category. For example, sets of ranks {2,2,2} and {1,2,3} would be two of the four possible sets of ranks possible there are m=3 brands. Let N(m(r)) represent the total number of customers that use a particular set of ranks $\{\underline{r}\}$ when there are $m(\underline{r})$ total brands. For example, N(m(2,2,2))would represent the total number of customers that use the ranks {2,2,2} to rank 3 brands, i.e., m(2,2,2) = 3. Let $S(r_k, m(\underline{r}))$ represent the sum of the customer share of wallet values for all brands with rank r_k across the total number of customers, N(m(\underline{r})), who use the specific set of ranks $\{\underline{r}\}$(which includes r_k), i.e.,

$$S(r_k, (m(\underline{r})) = \sum_{i=1}^{N(m(\underline{r}))} SOW_{i\, r_k}$$

Here we are summing over all customer share of wallet values $SOW_{i\, r_k}$ that correspond to the same rank r_k. Thus, given a specific set of ranks $\{\underline{r}\}$, with L distinct ranks, the corresponding vector of the total share of wallets for each of those ranks,

$$\left[S\left(r_1, m(\underline{r})\right), \dots, S\left(r_L, m(\underline{r})\right)\right],$$

would also have a continuous multinomial distribution, that is:

$$P\left[S\left(r_1, m(\underline{r})\right), \dots, S\left(r_L, m(\underline{r})\right)\right]$$

$$= D\left(\underline{r}, N(m(\underline{r}))\right) \prod_{k=1}^{L} \frac{1}{\Gamma\left(S(r_k, m(\underline{r}))+1\right)} [p(r_k)]^{S\left(r_k, m(\underline{r})\right)} \tag{A2}$$

where $D(\underline{r}, m(\underline{r}))$ is the appropriate normalizing constant. Note that in those cases where customers are assigning only one rank across the full set of brands (e.g., when {2,2,2} is assigned to each of 3 brands (m=3)), then there is only one distinct category, L=1, and the distribution in (A2) becomes an example of the degenerate multinomial case where there is only one category.

For a fixed number of total brands m, there can be many possible sets of ranks {$\underline{r}$} that are used by customers (because of the different ways there can be ties), and a different multinomial distribution for each set. The full likelihood would then be a product of all the independent likelihoods (of the form given in (A2)) across all the distinct sets of ranks {$\underline{r}$} that are used by customers when m is the total number of brands ranked. For example, when m=3, the full likelihood would be the product of four different versions of the likelihood in (A2), that correspond to the four different ways of assigning ranks ({1, 2, 3}, {2, 2, 2}, {1.5, 1.5, 3}, {1,2.5,2.5}, and the number of distinct ranks for each set are L= 3, 1, 2, and 3, respectively). As the sample size increases, the non-integral nature of the {$S(r_k, m(\underline{r}))$} makes very little difference, and estimates based on the rounded sufficient statistics (and the standard multinomial distribution) are virtually the same as they would be using the continuous multinomial.

10.3 Application of the models

10.3.1 Overall Model Performance (Cross-Sectional)

Table 3.4 shows four comparisons for each model: mean absolute deviation (MAD), and root mean squared error (RMSE) across all observations and by customer.

In Table 3.4, the fixed-parameter versions of the discrete distribution models do remarkably well overall. Among these distributions, the fixed-parameter Zipf-AE model is best in terms of MAD, both overall and per customer, and it actually outperforms all models (including the regression models) in terms of average customer RMSE. The 9-parameter version of Zipf-AE is the best performer in terms of overall RMSE. Nevertheless, the discrete distributions generally do quite well: eight of the other ten discrete distributions have RMSE values that are within 1.5% of

the best fit. The one exception is the fixed parameter Zipf-PM which has an RMSE that is 6% larger overall, relative to the best performing 9-parameter Zipf-AE model.

The 9-class regression with log(Rank) is actually the best performing model in terms of MAD, and it is just ahead of the fixed parameter Zipf-AE with MAD values that are 1.6% and 0.9% larger overall, and per customer, respectively. This regression model is also uniformly the best among the four regression alternatives, but paradoxically it does not fit as well in terms of RMSE, where it actually achieves the 10th and 9th highest overall and per customer RMSE, respectively. Still, even in these cases its error rates are only larger than the lowest RMSE values by 2.2% overall, and 2.3% per customer. In contrast, the regression models based on Satisfaction are uniformly the worst models in every case, and here the error rates are substantially larger than the best model in every instance. Although the 9-class version of this model is the better performer, even its error rates range from being higher by 7.3% (MAD overall) to 12.6% (RMSE per customer).

Table 3.5 provides a comparison of model performance by the number of total brands (m) that are considered by the customer. The fixed-parameter versions of Zipf-AE and WAR are the best in the two-product category with MAD values of 20.5%. WAR and Zipf-AE are equivalent in this case, where each predicts SOW values of (2/3,1/3) when the ranks are (1,2) and values of (1/2,1/2) when ranks are tied (1.5,1.5). This is the only category where the 9-class regression with log(Rank) is not the best model, and even in the 2-category case this regression model is nearly the best with a MAD that is 20.6% (relative to the best MAD of 20.5%). Across models, the lowest MAD values decrease by 64% as total brands increase across the six categories, and it ranges from 20.5% (when m=2) to 7.4% (when $7 \leq m \leq 10$). The 9-parameter Zipf-AE model and the 9-class regression with log(Rank) are the best overall performers across categories, and the Zipf-AE models are always among the top 5 models when total brands is less than 7 ($m \leq 6$). Finally, the regression models based on Satisfaction are the worst models overall, in terms of median rank across categories, although the 9-class regression on Satisfaction is the second best model in the last category ($7 \leq m \leq 10$). The regression models based on Satisfaction are uniformly the poorest performers when there are four or fewer total brands ($m \leq 4$).

10.3.2 Overall Model Performance (Longitudinal)

Table 3.6 provides an analysis of the two-period data. This table summarizes the correlations of change in SOW and logit(SOW) with contemporaneous changes in model estimates and changes in other variables. For the eleven models that require parameter estimates (i.e., all models except for three fixed-parameter models), the parameters are estimated in period 1 and those estimates are then used to predict SOW in period 2 (using period 2 information on Rank, Total Brands, and Satisfaction).

Table 3.6 shows that the correlation between the two-period change in the WAR estimates of SOW (fixed-parameter version) and actual change in SOW are nominally the largest overall (r=0.407, p<0.001), but nearly all of the discrete distributions perform at the same level in terms of predicting change in SOW and change in logit(SOW).

The weakest performing models are the 9-parameter truncated geometric model (for change in SOW: r=0.371, p<0.001) and the regression models (for change in SOW: the largest r=0.366, p<0.001). Surprisingly, the 1-class regression model based on Satisfaction performs better than the 9-class version. The 9-class regression based on Satisfaction is by far the worst performer overall (R-square < 12% in each case).

The comparison of regression models indicates that the 1-class regression on Satisfaction and Total Brands provides an alternative way of "calibrating" satisfaction relative to total brands, so that it is comparable (in the two-period case) to a regression on a relative measure of satisfaction (like rank). This "calibration" is not achieved by the 9-class version of the same model because, although this category-specific estimation of the coefficient for Satisfaction provides a better fit within category, it does not provide a single "calibration" of Satisfaction relative to the total brands, across the 9 categories.

Finally, Table 3.6 shows the inadequacy of changes in absolute satisfaction, recommend intention, and Net Promoter Score levels in correlating to changes in share of wallet. Changes in these variables explain less than 1% of the variation in changes in share of wallet.

						Average Per Customer			
	R²-ADJ (%)	MAD	Rank (% Greater Than Best)	RMSE	Rank (% Greater Than Best)	MAD	Rank (% Greater Than Best)	RMSE	Rank (% Greater Than Best)
Fixed Parameter Models									
Zipf–AE, s=1	37.0	15.2	2 (1.6)	20.4	4 (0.8)	16.9	2 (0.9)	18.2	1 (----)
Zipf–PM, s=1	34.6	15.7	12 (4.8)	21.5	12 (6.0)	17.4	10 (3.7)	18.8	11 (3.3)
WAR, p = 2/[(Total Brands)+1]	36.3	15.4	6 (2.9)	20.5	6 (1.2)	17.1	5 (1.8)	18.4	5 (0.8)
1-Parameter Models									
Zipf–AE	37.5	15.3	4 (2.0)	20.3	2 (0.1)	17.0	4 (1.6)	18.3	3 (0.3)
Zipf–PM	36.0	15.4	8 (2.9)	20.5	8 (1.4)	17.2	7 (2.4)	18.4	6 (1.0)
Truncated Geometric	35.9	15.7	11 (4.4)	20.5	9 (1.4)	17.4	12 (3.9)	18.7	10 (2.4)
9-Parameter Models (1 Parameter per Total Brands Class)									
Zipf–AE	37.6	15.3	3 (1.7)	20.3	1 (----)	17.0	3 (1.3)	18.2	2 (0.0)
Zipf–PM	36.0	15.4	7 (2.9)	20.5	7 (1.3)	17.2	9 (2.4)	18.4	7 (1.1)
WAR	36.5	15.5	9 (3.2)	20.4	5 (0.9)	17.2	8 (2.4)	18.4	8 (1.1)
Truncated Geometric	37.2	15.4	5 (2.4)	20.3	3 (0.4)	17.1	6 (1.8)	18.3	4 (0.5)
Hierarchical Regressions (customer i, product category j)									
Logit(SOW$_{ij}$)=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank) 1 Class	36.0	15.5	10 (3.3)	20.7	11 (2.4)	17.4	11 (3.7)	19.2	12 (5.5)
Logit(SOW$_{ij}$)=β_0 + β_1Satisfaction +β_2(Total Brands) 1 Class	27.9	16.6	14 (10.4)	22.1	14 (9.1)	18.7	14 (11.3)	20.9	14 (14.8)
Logit(SOW$_{ij}$)=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank) 9 Classes	37.0	15.0	1 (----)	20.7	10 (2.2)	16.8	1 (----)	18.7	9 (2.3)
Logit(SOW$_{ij}$)=β_0 + β_1Satisfaction , 9 Classes	29.1	16.1	13 (7.3)	22.0	13 (8.4)	18.1	13 (8.1)	20.5	13(12.6)

Notes: There are 258,743 observations and 79,543 sets of customer rankings. The regression models use an additional hierarchical parameter for the additional customer level standard error. The 9-class models are fit separately to 9 groups defined by the number of Total Brands, and they include one additional hierarchical parameter per group.

TABLE 3.5: Model Performance in Terms of Total Brands Ranked

Total Brands		2		3		4		5		6		7-10		Best Rank	Worst Rank	Median Rank
Group Size (% of Total Brands >1)		24		25		16		12		7		10				
		MAD	Rank	MAD	Rank	MAD	Rank	MAD	Rank	MAD	Rank	MAD	Rank			
Model	Parameters															
Fixed Parameter Models																
Zipf–AE, s=1	fixed	20.5	1.5	17.1	3	14.0	3	11.9	5	10.3	5	8.1	10	1.5	10	4
Zipf–PM, s=1	fixed	21.0	10	17.6	12	14.6	12	12.4	13	10.8	14	8.6	14	10	14	12.5
WAR, p = 2/[(Total Brands)+1]	fixed	20.5	1.5	17.3	7	14.4	10	12.3	12	10.7	13	8.2	11	1.5	13	10.5
1-Parameter Models																
Zipf–AE	1	20.8	7	17.1	5	14.1	5	11.9	3	10.3	3	7.9	4	3	7	4.5
Zipf–PM	1	20.9	8	17.3	9	14.3	9	12.1	8	10.5	11	7.9	7	7	11	8.5
Truncated Geometric	1	21.3	11	17.6	11	14.3	7	12.0	7	10.4	9	8.4	13	7	13	10
9-Parameter Models																
Zipf–AE	9	20.8	5	17.1	4	14.1	4	11.9	4	10.3	4	7.8	3	3	5	4
Zipf–PM	9	20.9	9	17.3	8	14.3	8	12.0	6	10.4	7	7.9	6	6	9	7.5
WAR	9	20.8	5	17.4	10	14.4	11	12.2	11	10.6	12	7.9	8	5	12	10.5
Truncated Geometric	9	20.8	5	17.2	6	14.2	6	12.1	9	10.4	8	7.9	5	5	9	6
Hierarchical Regression																
Logit(SOW_{ij})=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank), 1 Class	4	21.9	12	17.0	2	13.9	2	11.7	2	10.1	2	8.2	12	2	12	2
Logit(SOW_{ij})=β_0 + β_1Satisfaction +β_2(Total Brands), 1 Class	4	23.5	14	18.4	14	15.1	14	12.4	14	10.4	10	8.0	9	9	14	14
Logit(SOW_{ij})=β_0 + β_1Log(Rank)+ β_2Log(Total Brands+1-Rank), 9 Classes	36	20.6	3	16.9	1	13.8	1	11.5	1	9.8	1	7.4	1	1	3	1
Logit(SOW_{ij})=β_0 + β_1Satisfaction, 9 Classes	27	22.5	13	18.2	13	14.6	13	12.1	10	10.4	6	7.5	2	2	13	11.5

(MAD is measured in Percent of Total SOW)

Notes: There are 258,743 observations and 79,543 Customers. The regression models use an additional hierarchical parameter for the additional customer level standard error. The 9-class models are fit separately to 9 groups defined by the number of Total Brands, and they include one additional hierarchical parameter per group

TABLE 3.6: Correlations Between Change in SOW and Changes in Rank, Satisfaction and Model Estimates of SOW

Change in SOW		Change in Logit(SOW)	
With Change in		With Changes in	
		Logit of	
Fixed Parameter		Fixed Parameter	
Zipf–AE, s=1	0.403	Attitudinal Equity(AE), s=1	0.379
Zipf–PM, s=1	0.393	Conversion, s=1	0.374
WAR, p = 2/[(Total Brands)+1]	0.407	WAR, p = 2/[(Total Brands)+1]	0.381
1- Parameter		1- Parameter	
Zipf–AE	0.400	Attitudinal Equity	0.376
Zipf–PM	0.404	Conversion Model	0.383
Truncated Geometric	0.401	Truncated Geometric	0.365
9-Parameter		9-Parameter	
Zipf–AE	0.401	Attitudinal Equity	0.381
Zipf–PM	0.403	Conversion	0.384
WAR	0.403	WAR	0.380
Truncated Geometric	0.371	Truncated Geometric	0.344
SOW as predicted from:		Logit(SOW) predicted as:	
$Logit(SOW_{ij})=\beta_0 + \beta_1 Log(Rank)$ $+ \beta_2 LN(\text{Total Brands}+1-Rank)$, 1 Class	0.364	$Logit(SOW_{ij})=\beta_0 + \beta_1 Log(Rank)$ $+ \beta_2 LN(\text{Total Brands}+1-Rank)$, 1 Class	0.341
$Logit(SOW_{ij})=\beta_0 + \beta_1 Satisfaction +\beta_2(\text{Total Brands})$, 1 Class	0.315	$Logit(SOW_{ij})=\beta_0 + \beta_1 Satisfaction +\beta_2(\text{Total Brands})$, 1 Class	0.293
$Logit(SOW_{ij})=\beta_0 + \beta_1 Log(Rank)$ $+ \beta_2 Log(\text{Total Brands}+1-Rank)$, 9 Classes	0.366	$Logit(SOW_{ij})=\beta_0 + \beta_1 Log(Rank)$ $+ \beta_2 Log(\text{Total Brands}+1-Rank)$, 9 Classes	0.358
$Logit(SOW_{ij})=\beta_0 + \beta_1 Satisfaction$, 9 Classes	0.098	$Logit(SOW_{ij})=\beta_0 + \beta_1 Satisfaction$, 9 Classes	0.108
Rank	-0.285	Rank	-0.278
Log(Rank)	-0.332	Log(Rank)	-0.328
Satisfaction	0.066	Satisfaction	0.111
Log(Satisfaction)	0.078	Log(Satisfaction)	0.098
Log((Total Brands) +1 –Rank)	-0.038 [a]	Log((Total Brands) +1 –Rank)	-0.010 [a]
Logit(Rank/(Total Brands +1))	-0.133	Logit(Rank/(Total Brands +1))	-0.180
Logit(Satisfaction/(Maximum(Satisfaction)+1))	0.069	Logit(Satisfaction/(Maximum(Satisfaction)+1))	0.112
Recommend Intention	0.065	Recommend Intention	0.070
Log(Recommend Intention)	0.056 [a]	Log(Recommend Intention)	0.061 [a]
Net Promoter	0.067	Net Promoter	0.073
Log(Net Promoter)	0.068	Log(Net Promoter)	0.073

Notes: $N \geq 2686$ for each correlation.

[a] All correlations are significant at the level $p< 0.001$, except for the correlations of change in Log((Total Brands) +1 –Rank) with change in SOW and Change in Logit(SOW)(where $p=0.050$, and $p=0.608$, respectively), and the correlations of change in Log(Recommend Intention) with change in SOW and Change in Logit(SOW)(where $p=0.004$, and $p=0.001$, respectively).

11. ENDNOTES

[1] At its core, Zipf's Law states that the frequency an event is inversely proportional to its rank. Many types of data studied in the physical and social sciences have been shown to be inversely proportional to rank. Of importance to this investigation, Zipf's Law has been shown to apply to market share (Kohli and Sah 2006), corporation sizes (Ramsden and Kiss-Haypal 2000), and the income distribution of companies (Okuyama, Takayasu and Takayasu 1999).

[2] Note, Hofmeyr et al. (2008) modeled separate Zipf Distributions for each brand usage size.

[3] Although the logit transformation is the standard link function used when general linear models are applied to binomial data, it is used here, and in the models introduced later, to provide as an unbounded and relatively familiar dependent variable for linear regression.

[4] The 9-class models are fit separately to 9 groups defined by the number of Total Brands, and they include one additional hierarchical parameter per group.

[5] In the regression models that use satisfaction, total brands does not need to be used as a predictor, because a separate intercept is fit within each total brand category.

12. REFERENCES

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CHAPTER 4:

Multichannel Customer Segmentation:

Does the After-Sales Channel Matter? A Replication and Extension

1. STRUCTURED ABSTRACT

Purpose – Customer segmentation is critical in developing a successful multichannel customer management strategy. Multiple researchers recognized the need to segment based on a multi-stage customer journey perspective, taking into account the channels used for information search and product purchase. This paper aims to replicate and extend previous research in this area. Specifically, we refine and extend Konuş, Verhoef and Neslin's (2008) seminal study in four ways: we include (i) the after-sales service stage and (ii) the often overlooked, yet important call-center channel in the segmentation scheme. We (iii) utilize actual channel usage data instead of measures of channel appropriateness, and (iv) investigate the value of previously ignored covariates, such as product complexity, to predict segment memberschip.

Design/Methodology/Approach – Using survey responses from 314 customers of a Dutch telecom retailer, we employ Latent Class Cluster Analysis (LCCA) to distinguish meaningful and managerially relevant customer segments based on actual channel usage data. Specifically, we compare findings of a two-stage segmentation model (i.e., information search and purchase – as in Konuş, Verhoef and Neslin (2008)) versus a three-stage segmentation model (i.e., information search, purchase and after-sales).

Findings – In line with previous research, our initial two-stage solution finds evidence for the existence of store-focused shoppers, web-focused shoppers, and research shoppers. We also reveal the existence of a small call-center prone segment. Including after-sales channel usage to the segmentation scheme, we are able to refine the two-stage solution of Konuş, Verhoef and Neslin (2008) and extend the segmentation outcome to six different, meaningful customer segments that all have significant managerial value.

Originality/Value – Our findings show that understanding channel usage and its covariates across all stages of the customer journey is extremely important for designing marketing strategies.

2. SETTING THE SCENE

Offering multiple channels to meet changing customer needs and preferences along the customer journey of information search, purchase, and after-sales service poses severe challenges for marketing managers (Verhoef, Kannan and Inman 2015). Central to delivering a unified customer experience is a thorough understanding of different customer segments and their unique characteristics. In their seminal paper, Konuş, Verhoef and Neslin (2008) provide a clear case for multichannel segmentation and demonstrate its managerial value in developing tailor-made strategies that serve distinct customer segments. Based on scores of channel appropriateness in the information search and purchase stages of the customer journey, their results indicate the existence of three segments – multichannel enthusiasts, uninvolved shoppers, and store-focused customers. They also identify multiple covariates, such as shopper innovativeness, to predict segment membership.

Nonetheless, three important untapped yet relevant issues remain. First, Konuş, Verhoef and Neslin (2008) did not consider the after-sales service stage and its channels. Marketing literature increasingly acknowledges the importance of this stage for understanding customer behavior and revenue streams though (Van Vaerenbergh, Lariviere and Vermeir 2012), and calls have been made to include after-sales channel usage in the segmentation scheme (e.g., Gensler, Verhoef and Bohm 2012).

Second, Konuş, Verhoef and Neslin (2008) segment customers based on their attitude towards using a specific channel in a specific stage (i.e., perceived channel appropriateness scores). However, as attitudes do not perfectly predict behavior, it has been suggested that the use of actual channel choice data better reflects reality and significantly increases the validity of multichannel segmentation research (e.g., Gensler, Verhoef and Bohm (2012)).

Third, while Konuş, Verhoef and Neslin (2008) explore a myriad of covariates in relationship to segment membership, Dholakia et al. (2010) note that much more research is needed to identify covariates that underlie channel choice.

This research aims to contribute to literature in several ways. To start, we replicate the study of Konuş, Verhoef and Neslin (2008). In line with their article, we investigate which customer segments can be discerned when a segmentation scheme considers the information

search and purchase stages of the customer journey. We derive this initial two-stage solution by employing actual channel use data rather than appropriateness scores.

In addition, we extend previous work by considering the after-sales stage in our analyses. We show that the resulting three-stage solution further improves and refines the two-stage solution.

We also consider the call-center channel, because it can be a key instrument for information provision, cross- and up-selling, and troubleshooting, but it is also a channel subject to cost-cutting initiatives (Aksin, Armony and Mehrotra 2007). Establishing the true value of the call-center is thus critical for many companies.

Finally, we provide new insights by exploring the value of underresearched yet actionable covariates in predicting segment membership, such as risk aversion and product complexity.

3. DATA COLLECTION AND MEASURES

We collected survey data among 314 customers of a large Dutch telecom retailer, selling mobile solutions, such as devices, their accessories, and subscriptions. Table 4.1 displays details on the sample respondents. The retailer has implemented a multichannel structure, offering customers the possibility to interact with the firm through three channels: brick-and-mortar stores, the Internet, and a call-center. We asked respondents to report what channel(s) they employed during the different stages of their most recent complete customer journey. Similar to Srinivasan and Ratchford (1991), the interval between purchase and study participation was limited to a maximum of four months to accurately remember channel usage. We include five latent variable covariates; their choice being inspired by previous research. All have been proven to characterize differential customer responses to marketing actions (e.g., Ailawadi, Neslin and Gedenk 2001; Verhoef, Neslin and Vroomen 2007), but they have been largely left unexplored in multichannel segmentation research. These covariates are operationalized using multi-item, seven-point Likert scales (1= fully disagree, 7 = fully agree).

Non-response bias. We compared early and late respondents on the study variables (Armstrong and Overton 1977). The t-tests of group means showed no significant differences between early and late responders.

TABLE 4.1: Sample Characteristics

Gender	%	Age	%
Female	48.7	<35 years	34.4
Male	51.3	35-45 years	29.3
		46-55 years	23.2
		>55 years	13.1

Nbr. of transactions	%	Avg. Revenue	%
1	60.2	< 100 EUR	77.1
2-5	20.7	101-200 EUR	15.6
6-10	8.6	> 200 EUR	7.3
>10	10.5		

Common method bias. We took several precautions to reduce the possibility of common method bias. We used multiple items per construct, presented in clearly separated subsections so respondents were forced to pause and read instructions for each. To reduce ambiguity, questions were kept simple and free of double-barreled items. Also, we performed a Harman single-factor test (Podsakoff et al. 2003), which easily rejected the one-factor model as an egregious indicator of common method variance. More importantly, the rotated factor-loading matrix demonstrated that the items for different constructs loaded on different factors, which alleviated our concerns over common method bias.

Reliability. After dropping two customer innovativeness items with low factor loadings (<.50), the alpha coefficients of all five covariates are above the commonly accepted threshold of .70. A confirmatory factor analysis in lavaan 0.5 (Rosseel 2012) indicated an acceptable fit between the measurement model and the data. Construct reliabilities were greater than .70 and all average variances extracted (AVEs) exceeded .50. Interpreting the confidence intervals of the factor correlations, all factors were significantly different from unity, and the AVEs for each construct exceeded the squared correlation between the factors. Table 4.2 reports individual items and item loadings. Table 4.3 reports internal consistency, reliability, and AVE, supplemented with the correlation matrix of the included covariates. Based on these results, mean scores for each of the constructs were used for further analysis[3].

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[3] Analyses with factor scores based on principal component analysis yielded similar results. Therefore, we only report results based on the mean scores.

Other. We also include age, gender, loyalty (i.e., total number of transactions in customer history) and average revenue (i.e., in current and past transactions) as covariates in our segmentation analyses.

TABLE 4.2: Constructs and Factor Loadings

Constructs and items	Factor Loading	Mean	Standard Deviation
Innovativeness (Konuş, Verhoef and Neslin 2008)		2.78	1.48
I regularly purchase different variants of a product just for a change	*		
I am one of those people who try a new product first, just after launch	.81		
I don't like to use the same product (or brand) repetitively	*		
I always have the newest gadgets	.89		
Risk Aversion (Mandrik and Bao 2005)		4.26	1.20
I do not feel comfortable about taking chances	.71		
I prefer situation that have foreseeable outcomes	.84		
Before I make a decision, I like to be absolutely sure how things will turn out	.72		
I don't feel comfortable improvising in new situations	.69		
Product Complexity (Burnham, Frels and Mahajan 2003)		3.20	1.23
I would have to know a lot to take full advantage of the options of the product/service	.76		
The product/service is difficult to understand	.80		
The product/service is complicated in nature	.65		
Perceived Price (Verhoef, Neslin and Vroomen 2007)		3.61	1.22
Compared to other products/service, the price is low	.83		
Compared to other products, buying this is cheap	.97		
Compared to other products, this is not expensive	.76		
Customer Involvement (Srinivasan and Ratchford 1991)		3.58	1.46
I like to engage in conversation about buying this product/service	.78		
I enjoy reading and talking about buying this product/service	.93		
I am interested in buying this product/service	.76		

Note: χ^2= 97.949, df=80, the comparative fit index (CFI) = 0.991, Tucker-Lewis index (TLI) = 0.989, root mean square error of approximation (RMSEA) = 0.027, and standardized root mean squared residual (sRMR) = 0.043, * = dropped item, factor loading < .50.

TABLE 4.3: Internal Consistency, Reliability, AVE, and Correlation Matrix

	M	SD	CR	Cronbach α	1	2	3	4	5
1. Innovativeness	2.78	1.48	.84	.83	.85				
2. Risk Aversion	4.26	1.20	.83	.82	-.080	.74			
3. Product Complexity	3.20	1.23	.78	.77	-.068	.231[**]	.74		
4. Perceived Price	3.61	1.22	.89	.89	.166[**]	-.011	.112[*]	.88	
5. Customer Involvement	3.58	1.46	.86	.86	.497[**]	.003	-.095	-.036	.82

Note: M=mean construct score (unweighted); SD=standard deviation; the diagonal (in italics) shows the square root of the AVE for each construct; the off-diagonal numbers represent the correlations among constructs; * p < .05, ** p < .01.

4. ANALYSIS AND RESULTS

4.1 Model and Analysis

Following Konuş, Verhoef and Neslin (2008) we employed Latent Class Cluster Analysis (LCCA) and posit that channel usage depends on the utility (i.e., cost-benefit considerations) the customer derives from a specific channel for a specific stage of the customer journey. Our utilities are reflected in the actual usage status (Yes/No). LCCA then segments respondents on the basis of their actual usage status for different channels (online, brick-and-mortar store, and call-center) and stages of the customer journey (information search, purchase and after-sales), while considering the impact of covariates on segment membership. We employ the following model specification:

$$f(y_i|z_i^{act\_cov}) = \sum_{x=i}^{K} P(x|z_i^{act\_cov}) \prod_{j=1}^{J} f(y_{ij}|x)$$

where y_i denotes a set of J response variables (indicators) that measure customer i's channel use, and y_j is an indicator of customers' usage status for three channels in three different stages. In LCCA indicators may be continuous, categorical (nominal or ordinal), or counts or

any combination of these (Vermunt and Magidson 2005). The latent variable (x) is categorical, with K segments. K is not predicted a priori, but determined by the model selection criteria (Vermunt and Magidson 2005). $z_i^{act\_cov}$ indicates the vector of active covariates that could affect the latent variable but have no direct influence on the response variables. Finally, $f(y_{ij}|x)$ represents the probability distribution of customer i's response to a particular indicator j, given that customer i belongs to segment x, and $f(y_i|z_i^{act\_cov})$ is the joint probability function of customer i's response to all indicators, as influenced by active covariates.

4.2 Results

We estimate our model for solutions from one to eight clusters and apply the adapted Akaike Information Criterion (AIC3) for model selection since simulation studies show it outperforms AIC and BIC (Andrews and Currim 2003). We use classification error and segment interpretability as supplementary selection criteria.

TABLE 4.4: Log-likelihood Statistics for Model Selection

		Two-Stage Model			Three-Stage Model		
		LL	AIC3(LL)	Class. Err.	LL	AIC3(LL)	Class. Err.
Model 1	1-Cluster	-858,4318	1734,8636	0	-1387,6759	2802,3519	0
Model 2	2-Cluster	-646,5201	1359,0402	0,0134	-1046,2881	2176,5761	0,0273
Model 3	3-Cluster	-602,5465	1319,0930	0,0467	-983,8703	2108,7406	0,0576
Model 4	4-Cluster	-569,3992	1300,7985	0,0141	-938,1452	2074,2905	0,0529
Model 5	5-Cluster	-550,4111	1310,8222	0,0205	-903,5298	2062,0597	0,0130
Model 6	6-Cluster	-526,842	1311,6840	0,0395	-874,4619	2060,9238	0,0208
Model 7	7-Cluster	-520,8901	1347,7803	0,0532	-856,5640	2082,1280	0,0609
Model 8	8-Cluster	-496,2577	1346,5154	0,0288	-819,6074	2065,2148	0,0564

4.2.1. Two-Stage Model

For the initial two-stage model, we obtain a minimum AIC3 (1300.80) and classification error (.0141) for a four-cluster solution with easy interpretability (see Table 4.4). Table 4.5 provides details on the four clusters. Cluster 1, which we label as Research Shoppers, displays a strong preference for using the Internet for information search, while purchases are made in store. Customers in Cluster 2, labeled as Web-Focused Shoppers, use the Internet in both the information search and purchase stage. Cluster 3, labeled as Store-Focused Shoppers, displays a

strong preference for using the physical store in both stages of the customer journey. Lastly, Cluster 4, Call-Center Prone Shoppers, shows a preference for online information search, followed by a strong orientation toward the call-center and Internet for purchasing.

Table 4.6 provides results on the covariates for the different clusters and includes the Wald test to test for significant differences across clusters. Perceived product complexity determines membership in Cluster 3 and Cluster 4, perhaps since customers who have difficulties to understand specific products often prefer channels that allow direct clarification from front-line employees. Furthermore, older customers tend to be store-focused (Cluster 3), while younger customers use a combination of the online and call-center channels (Cluster 4). Furthermore, Web-Focused Shoppers exhibit less loyalty; maybe they are transactional bargain-hunters. We find a lower average revenue for Call-Center Prone Customers, and a higher average revenue for Research Shoppers.

TABLE 4.5: Profile of the final segments (LCCA) (N=314) – Two-Stage Model

	Use: N/Y	Cluster 1	Cluster 2	Cluster 3	Cluster 4	p value
Cluster Name		Research Shoppers	Web-Focused Shoppers	Store-Focused Shoppers	Call-Center Prone Shoppers	
Cluster Size		46%	31%	19%	4%	
Internet (information search)	0	.0133	.0005	.9778	.0037	.00**
	1	**.9867**	**.9995**	.0222	**.9963**	
Store (information search)	0	.5048	.8503	.0023	.7529	.00**
	1	**.4952**	.1497	**.9977**	.2471	
Call-Center (information search)	0	.9726	.9897	.9999	.9997	.81
	1	.0274	.0103	.0001	.0003	
Internet (purchase)	0	.8955	.0016	.9807	.5661	.00**
	1	.1045	**.9984**	.0193	**.4339**	
Store (purchase)	0	.0006	.9800	.0185	.8258	.00**
	1	**.9994**	.0200	**.9815**	.1742	
Call-Center (purchase)	0	.9999	.9930	.9998	.0289	.04*
	1	.0001	.0070	.0002	**.9711**	

* p<.05; ** p<.01

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TABLE 4.6: Covariates – Two-Stage Model

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Wald	p value
Innovativeness	2.8137	2.7417	2.6142	3.345	4.9065	.180
Perceived Risk	4.1562	4.4054	4.2559	4.3683	1.8719	.600
Perceived Product Complexity	2.9814	3.2218	3.6053	3.5809	9.6239	.022*
Perceived Price	3.5811	3.6972	3.6342	3.1909	2.2364	.520
Involvement	3.686	3.5143	3.4576	3.4935	1.1157	.770
Age	38.3002	41.1873	44.3912	33.8118	8.8908	.031
Gender					1.1386	.770
Female	.4924	.4786	.5162	.3597		
Male	.5076	.5214	.4838	.6403		
Loyalty	4.6902	1.4371	6.2614	7.9522	22.908	.000**
Avg Revenue	101.2667	89.835	89.6453	60.3034	16.993	.000**

* p<.05; ** p<.01

4.2.2 Three-Stage Model

For the three-stage model, including the after-sales stage, we find a minimum AIC3 (2060.92) and a small classification error (.0208) for a six-cluster solution, which we also observe as the best option in terms of interpretability. Table 4.7 displays the channel usage in each cluster, while Table 4.8 shows how respondents move between clusters from the two-stage to the three-stage model.

Research Shoppers now represent two clusters: Cluster 1 and Cluster 4. They differentiate through their use of the after-sales channel: brick-and-mortar Store (Cluster 1, Research Shoppers – After Sales: Store) versus Internet (Cluster 4, Research Shoppers – After Sales: Internet/Store). Cluster 2 still features Web-Focused Shoppers, but a large portion of the two-stage web-focused cluster (29.17%) uses the call center for after-sales too, and is assigned to a new Cluster 5, Web-Focused Shoppers – After Sales: Store/Call-Center. Cluster 3, Store-Focused Shoppers and Cluster 6, Call-Center Prone Shoppers, remain largely stable compared to the initial two-stage solution.

Table 4.9 provides the results on the covariates for the different clusters. Customers in Cluster 4 tend to be young, have a high average revenue and, although not significant, a high level of involvement. Perhaps this category includes young customers purchasing products with consequences to their self-image (e.g., mobile phones). Given the importance of their purchase, they may employ many channels. Customers in Cluster 2 and Cluster 5 appear less loyal, especially compared to Call-Center Prone Customers in Cluster 6.

TABLE 4.7: Profile of the final segments (LCCA) (N=314) – Three-Stage Model

	Use: N/Y	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	p value
Cluster Name		Research Shoppers After Sales: Store	Web-Focused Shoppers	Store-Focused Shoppers	Research Shoppers After Sales Internet/ Store	Web-Focused Shoppers After Sales: Store/Call-Center	Call-Center Prone Shoppers	
Cluster Size		34%	22%	18%	11%	9%	6%	
Internet (information search)	0	.0181	.0005	.9797	.0339	.0011	.0517	.12
	1	**.9819**	**.9995**	.0203	**.9661**	**.9989**	**.9483**	
Store (information search)	0	.5240	.8731	.0016	.3700	.7730	.7869	.00**
	1	**.4760**	.1269	**.9984**	**.6300**	.2270	.2131	
Call-Center (information search)	0	.9625	.9854	.9999	.9999	.9999	.9999	.95
	1	.0375	.0146	.0001	.0001	.0001	.0001	
Internet (purchase)	0	.9452	.0016	.9804	.6887	.0037	.7678	.00**
	1	.0548	**.9984**	.0196	.3113	**.9963**	.2322	
Store (purchase)	0	.0006	.9984	.0188	.0018	.9883	.4835	.00**
	1	**.9994**	.0016	**.9812**	**.9982**	.0117	**.5165**	
Call-Center (purchase)	0	.9999	.9655	.9999	.9996	.9994	.4606	.03*
	1	.0001	.0345	.0001	.0004	.0006	**.5394**	
Internet (after-sales)	0	.9980	.0021	.9837	.0105	.8243	.8026	.01*
	1	.0020	**.9979**	.0163	**.9895**	.1757	.1974	
Store (after-sales)	0	.0005	.9921	.0013	.3137	.2683	.8348	.00**
	1	**.9995**	.0079	**.9987**	**.6863**	**.7317**	.1652	
Call-Center (after-sales)	0	.9813	.8993	.9816	.9142	.5890	.0633	.00**
	1	.0187	.1007	.0184	.0858	**.4110**	**.9367**	

* p<.05; ** p<.01

TABLE 4.8: Cluster Change from Two-Stage Clustering to Three-Stage Clustering

2-Stage Cluster Solution / 3-Stage Cluster Solution	1: Research Shopper	2: Web-Focused Shoppers	3: Store-Focused Shoppers	4: Call-Center Prone Shoppers
1: Research Shopper – After-Sales: Store	72.30%	.	.	.
2: Web-Focused Shoppers	.	69.79%	.	25.00%
3: Store-Focused Shoppers	.	.	96.55%	.
4: Research Shopper – After-Sales: Internet/Store	22.97%	.	1.72%	.
5: Web-Focused – After-Sales: Store/Call-Center	.	29.17%	.	.
6: Call-Center Prone Shoppers	4.73%	1.04%	1.72%	75.00%

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Wald	p value
Innovativeness	2.7937	2.9421	2.5741	3.1547	2.4264	2.494	5.1426	.400
Perceived Risk	4.2013	4.425	4.2451	4.02	4.3629	4.3324	3.1053	.680
Perceived Product Complexity	2.9923	3.2679	3.6056	2.8866	3.184	3.4459	7.7463	.170
Perceived Price	3.6183	3.6993	3.6523	3.5673	3.6452	3.1802	2.6065	.760
Involvement	3.7036	3.6098	3.5009	3.877	3.3579	2.8611	4.4129	.490
Age	39.7095	39.9297	44.5599	34.563	42.8164	36.8112	10.5114	.062*
Gender							1.0637	.960
Female	.4671	.4616	.5197	.5136	.4593	.5879		
Male	.5329	.5384	.4803	.4864	.5407	.4121		
Loyalty	5.2986	1.447	6.4656	2.2754	1.4046	7.2876	26.7974	.000***
Avg Revenue	98.2512	87.9064	89.3468	113.6113	93.8559	69.5276	15.8756	.007***

* p<.10; ** p<.05; *** p<.01

5. CONCLUSION

This study replicates, refines and extends the findings of the influential multichannel segmentation study by Konuş, Verhoef and Neslin (2008). First, we corroborate their results in identifying a store-focused customer segment. In contrast, we do not distinguish a segment of uninvolved shoppers as a consequence of employing actual channel usage in our analyses, rather than channel appropriateness scores. We also could not replicate the existence of a segment of multichannel enthusiasts. We do identify clusters in which customers use different channels in different stages of their customer journey. This is much in line with recent research suggesting that people often have favorite, yet differing channels they use interchangeably depending on the activity (Verhoef, Kannan and Inman 2015).

We further replicate Konuş, Verhoef and Neslin (2008) in finding evidence for the value of customer loyalty as an important covariate predicting segment membership. In contrast, innovativeness was not a significant covariate. Perhaps this is due to our research setting; innovation in mobile solutions has become more incremental over the past years, leading to less information asymmetry between innovators and followers.

Second, we confirm other multichannel segmentation research (Verhoef, Kannan and Inman 2015), because our two-stage solution identifies a research shopper segment and a web-focused customer segment. We provide new insights by identifying a small, yet important call-center prone segment.

Third, we extend previous research by adopting a three-stage segmentation scheme, including the call-center as a channel, and identifying six different, meaningful customer segments. Because we find significant differences in average revenues (a covariate not considered by Konuş, Verhoef and Neslin 2008) and customer loyalty between the clusters, our extended segmentation scheme has clear managerial value.

More specifically, our findings show that customers who search and buy online do not necessarily prefer online after-sales. About 30% of these customers prefer after-sales service through a physical retailer network. Retailers should decide whether this group is substantial enough in size, loyalty, and revenue, to provide such service. Similarly, retailers have to decide on their call-center strategy. Only 6% of the customers in our sample were classified as call-center prone; they were the most loyal, but had a low average revenue. This makes it an intriguing segment for deciding on a marketing strategy.

In sum, understanding channel usage and its covariates across all stages of the customer journey is extremely important for designing marketing strategies. Future research and management practice, therefore, should consider adopting our extended multi-stage segmentation approach.

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1. STRUCTURED ABSTRACT

Purpose – Many service providers feel confident about their service quality and thus offer service guarantees to their customers. Yet service failures are inevitable. As guarantees can only be invoked when customers report service failures, firms are given the opportunity to redress the original failure potentially influencing customer outcomes. This research provides the first empirical investigation of whether excellence in service recovery affects customers' intentions to invoke a service guarantee, thereby discriminating between conditional and unconditional guarantees and testing for the impact of customers' individualistic versus collectivistic cultural orientation.

Design/Methodology/Approach – 171 respondents from 4 continents (spanning 23 countries) were recruited to participate in a quasi-experimental study in a hotel setting. A three-way analysis of variance was used to test the hypotheses.

Findings – All customers are very likely to invoke the service guarantee after an unsatisfactory service recovery. When customers are satisfied with the service recovery, they report lower invoke intentions, except for collectivistic individuals who are still inclined to invoke an unconditional service guarantee after a satisfactory service recovery. This finding supports an in-group/out-group rationale, whereby collectivists tend to behave more opportunistically toward out-groups than individualistic customers.

Originality/Value – This study highlights the importance of excellence in service recovery, cultural differences and different types of service guarantees with respect to customers' intentions to invoke the guarantee. We demonstrate how service guarantees should be designed in conjunction with service recovery strategies. Also, we show that an unconditional service guarantee creates the condition in which collectivists might engage in opportunistic behavior. As such, global service providers concerned about opportunistic customer claiming behavior might benefit from using conditional service guarantees.

2. INTRODUCTION

A service guarantee is defined as "an explicit promise made by the service provider to (a) deliver a certain level of service to satisfy the customer and (b) remunerate the customer if the service is not sufficiently delivered" (Hogreve and Gremler 2009, p. 324). Service providers often use service guarantees to signal service quality, decrease the perceived risk of customers, increase satisfaction, and make customers more likely to purchase the service (Kandampully and Butler 2001; McCollough and Gremler 2004; Wu et al. 2012). For example, the Radisson Blu hotel, a worldwide hotel chain using a service guarantee, provides the following text on its website for hotel guests:

> "In our fiercely competitive industry, we stand apart from the rest thanks to our special Yes I Can! service spirit. We love what we do and as proof of that, we promise to deliver a 100% Guest Satisfaction Guarantee. Our staff will do everything to ensure that you leave our hotel happy, so if there is a complaint, it is addressed with the utmost of haste. If your complaint remains unresolved or you leave disappointed, any one of our staff can invoke the 100% Guest Satisfaction Guarantee. (www.radissonblu.com)"

Taking a closer look at Radisson Blu's service guarantee, we notice several issues that have remained unresolved in prior literature. First, the example shown above illustrates that service providers can develop service recovery strategies to offset customers' intention to invoke a service guarantee in case of a service failure. Yet to date, research has not combined service guarantees with excellence in service recovery (i.e., providing a satisfactory solution to the service failure). In contrast, research has mainly considered the mere payout (i.e., providing compensation) of the guarantee as part of the service recovery once the service failed, and not after the recovery, concretized as "All you have to do is ask, and we'll deliver it. No questions asked." (Wirtz and Kum 2001, p. 297). In their synthesis of 20 years of service guarantees research, Hogreve and Gremler (2009) note that surprisingly little is known about the interplay between service guarantees and service recovery, and their impact on invoke intentions. Second, Hogreve and Gremler (2009) note that only few studies examine service guarantee elements that affect the intention to invoke the guarantee, and more research on this issue is

warranted. One of the major decisions service providers need to make when designing service guarantees is whether to offer an unconditional or a conditional service guarantee (Jin and He 2013). While the Radisson Blu hotel offers an unconditional guarantee that assures the performance of all aspects of the service (Hart 1988), other service providers might offer a conditional guarantee that explicitly identifies what is covered (Wirtz and Kum 2001). Third, Radisson Blu is a global hotel chain, and their service guarantee is valid in any hotel across the globe. Yet so far, research on service guarantees does not take customers cultural orientations into account. Hogreve and Gremler (2009) specifically argue that customers' cultural orientation may influence a customer's intention to invoke the service guarantee. Current service guarantee research does not provide insights into the issues a multinational service provider needs to consider when implementing a service guarantee in different countries.

This study is designed to fill these voids left by the literature. To the best of our knowledge, this paper is the first to empirically examine whether the interaction amongst service recovery (unsatisfactory versus satisfactory), the type of service guarantee (conditional versus unconditional), and the customer's cultural orientation (individualistic versus collectivistic) predicts customers' intentions to invoke a service guarantee. More specifically, we propose that customers' intentions to invoke a service guarantee depend on the service provider's ability to remedy the problem, the use of a conditional or unconditional service guarantee, and customers' individualistic versus collectivistic orientation. Through this examination, this paper contributes to the literature in two ways. First, it increases our understanding of the interplay between service guarantees and excellence in service recovery. More specifically, whereas prior research assumes service guarantees to be part of service recovery, this paper shows that both are distinct yet interrelated. Second, it enriches our current knowledge of customers' service experiences across cultures, providing insights into which type of guarantee to offer across different cultures. As a consequence, this study addresses the calls for research by Zhang, Beatty and Walsh (2008) and Hogreve and Gremler (2009) on linking service guarantees to service recovery strategies across the globe.

3. THEORETICAL BACKGROUND

This paper utilizes three streams of literature: service recovery, design of service guarantees, and cultural orientation. The integration of these streams resulted in the conceptual framework of this study, as is depicted in Figure 5.1.

3.1 Excellence in Service Recovery and Intentions to Invoke Service Guarantees

Service guarantees are ought to have a positive effect on service recovery, since they communicate to customers that employees take responsibility for their failures and may show the customer that the service provider is willing to remedy the problem (Björlin Lidén and Skålén 2003). Service recovery is defined as the actions a service provider takes in response to customer complaints (Grönroos 1988). It represents a critical moment of truth for an organization, as an unsatisfactory response to a customer complaint might lead to losing the complaining customer (Michel, Bowen and Johnston 2009). The literature thus devotes considerable attention to this issue, and identifies the key ingredients of a satisfactory service recovery. This involves solving the customer's problem, offering an apology, being courteous and showing empathy, and providing a speedy recovery (Liao 2007; Ozgen and Kurt 2012).

FIGURE 5.1: Conceptual framework

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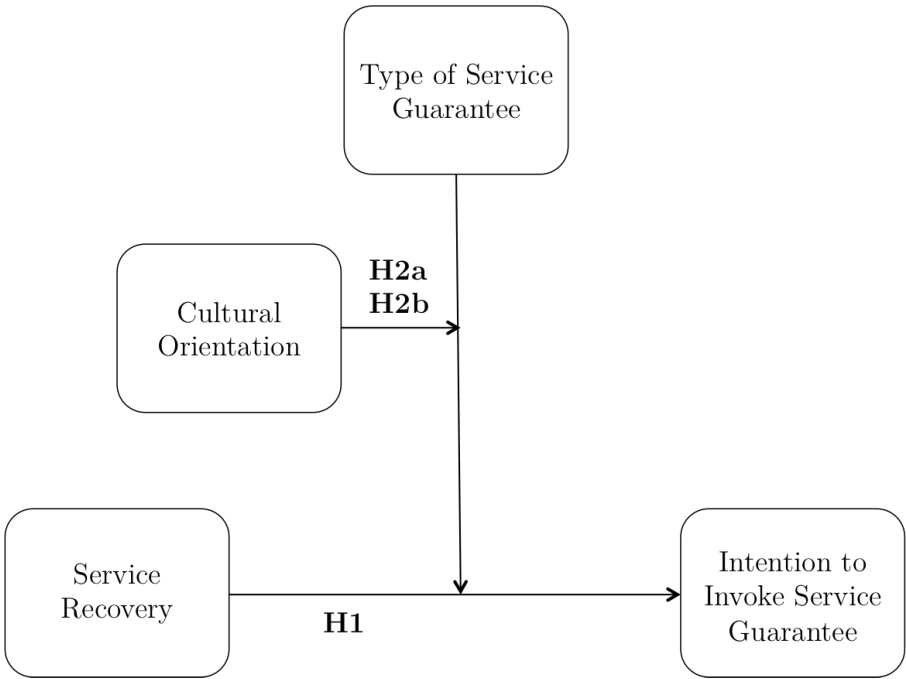
A satisfactory service recovery, in turn, has the potential to restore customer satisfaction and behavioral intentions (Orsingher, Valentini and de Angelis 2010; Van Vaerenbergh, Lariviere and Vermeir 2012). A satisfactory recovery also alleviates customers' feelings of betrayal and their subsequent desire to retaliate against the service provider. Along with a lowered desire for retaliation, a satisfactory service recovery is also associated with an increase in forgiving, making customers less likely to persist in demanding reparations (Gregoire and Fisher 2008). Wirtz and Mattila (2004) suggest that customers are less likely to demand compensation if the recovery process is well-executed. In a similar vein, Thwaites and Williams (2006) suggest that customers do not always seek financial compensation, especially if the failure can be corrected immediately.

Given that service guarantees offer customers a compensation in cases when the promised quality is not achieved (Hogreve and Gremler 2009), and a satisfactory service recovery might make customers less persistent to demand reparations, we expect that customers receiving a satisfactory service recovery are less likely to invoke their service guarantee than customers receiving an unsatisfactory service recovery. To illustrate this, one of the respondents in Björnlin Lidén and Skålén's study (2004), indeed indicated that he/she was not looking for compensation but for satisfaction. The customer was thus satisfied when the service provider was able to recover the problem well, and did not invoke the service guarantee. More specifically, we hypothesize:

H1: Customers will be more likely to invoke a service guarantee after experiencing an unsatisfactory service recovery compared to when they experience a satisfactory service recovery

3.2. The Moderating Influence of Type of Guarantee and Cultural Orientation

Service researchers have identified consumer opportunism as an impact factor linked to the use of service guarantees (e.g., Wirtz and McColl-Kennedy 2010). However, to date only few studies have empirically investigated drivers of opportunism in service guarantee/recovery research (Wirtz and McColl-Kennedy 2010). This topic is especially important, since many managers consider consumer opportunism as a key barrier to the implementation of service guarantees (Wirtz 1998; Wirtz and Kum 2004). Sakalaki, Kazi and Karamanoli (2007) argue

opportunism, amongst other factors, to be influenced by situational characteristics and prior conditioning by culture (e.g., Chen, Chen and Meindl 1998).

Drawing on opportunism literature, the following sections provide further insights into the case of satisfactory service recoveries. We believe this to be especially interesting, as even satisfactory recovery efforts (i.e. fixing the problem) can possibly lead to high invoke intentions. This study will specifically investigate the moderating influences of type of service guarantee (i.e. situational characteristic) and culture (i.e. personal characteristic) on the relationship between a satisfactory service recovery and invoke intentions.

3.2.1 Different types of service guarantees

Several studies have examined how service providers should design service guarantees. Researchers generally distinguish between unconditional and conditional service guarantees. Unconditional service guarantees have the coverage of the guarantee not explicitly specified, and customers can invoke the service guarantee whenever they experience dissatisfaction (Wirtz and Kum 2001). The problem with this type of service guarantees is that it offers customers a "blank check" that they can cash in when experiencing the slightest sense of dissatisfaction (Schmidt and Kernan 1985). Conditional service guarantees, on the other hand, are specific, and clearly indicate what is covered (Wirtz and Kum 2001).

Researchers have mixed opinions concerning the use of unconditional or conditional guarantees (Hogreve and Gremler 2009). While some studies advocate the use of an unconditional service guarantee (Hart 1988), others advocate the use of a conditional service guarantee (McDougall, Levesque and VanderPlaat 1998; Wirtz and Kum 2001). From a managerial perspective, service providers have refrained using unconditional service guarantees because they might trigger opportunistic behavior from customers (Wirtz and Kum 2001).

In recent years, an increasing number of scholars are investigating dysfunctional and deviant customer behaviors (e.g., Wirtz and Kum 2004; Wirtz and McColl-Kennedy 2010), including opportunistic claiming of service guarantees. Berry and Seiders (2008, p. 34) define an opportunist as someone who "may not be a chronic gold digger, but rather just someone who recognizes an opportunity to take financial advantage". Wirtz and McColl-Kennedy (2010) show that personal feelings of injustice (i.e. distributive, procedural and interactional) act as triggers of opportunistic claiming behavior and serve as a justification to support these claims.

Rather than always formulating legitimate claims, the customer may have self-serving fairness perceptions leading to opportunistic claiming (Wirtz and McColl-Kennedy 2010).

We propose that the type of service guarantee might play a role in determining customer's intentions to invoke the service guarantee following a satisfactory service recovery. Conditional service guarantees explicitly identify what is covered (Wirtz and Kum 2001), thus providing clear indications to customers when they can and cannot invoke the service guarantee (McDougall, Levesque and VanderPlaat 1998). In contrast, unconditional service guarantees promise full satisfaction to customers (Jin and He 2013); the service guarantee thus covers all aspects of a firm's service performance regardless of service failures. Such unconditional promise leaves more room for interpretation and (deliberate) differing feelings of fairness, potentially leading to more opportunistic claiming after a satisfactory service recovery. After an unsatisfactory service recovery, customers have a legitimation to invoke the service guarantee. As such, one might expect that customers will actually do so, regardless of whether it involves a conditional or unconditional service guarantee. Yet after a satisfactory service recovery, the type of service guarantee might influence customers' intentions to invoke a service guarantee. We thus expect that if customers want to engage in opportunistic behavior after a satisfactory service recovery, they are most likely to do so after an unconditional service guarantee. Yet not all customers are created equally, and we propose that customers' cultural orientation might influence whether customers will actually engage in invoking the unconditional service guarantee after a satisfactory service recovery.

3.2.2 Cultural orientation

Hofstede (1997) defines culture as "the collective programming of the mind which distinguishes the members of one group or category of people from another" (p.5). Many scholars have devoted attention to categorizing societies based on commonly shared values. Thomas (2008) reviews the major frameworks that have emerged out of these value studies. These five frameworks each allow categorizing and comparing national cultures: the Kluckhohn and Strodtbeck framework, Hofstede's model, the Schwartz Value Survey, Trompenaars's value dimensions, and the Global Leadership and Organizational Behavior Effectiveness (GLOBE) study. The number of dimensions in these frameworks ranges from four to nine, yet the only dimension appearing in all five frameworks is the individualism-collectivism dimension. Several

studies consider individualism – collectivism as the most prominent construct in cross-cultural psychology, if not the most important dimension of cultural differences in social behavior (Triandis 1995). This study focuses on individuals' individualism-collectivism orientation to better understand their intentions to invoke a service guarantee, and also controls for the other cultural dimensions by Hofstede. The individualism-collectivism dimension refers to how people define themselves and their relationships with others. The origin and characteristics of this dimension can be found in the differences in family units and their influence in people's everyday life and behavior (Schumann et al. 2010). Whereas individualists tend to focus on the difference between the 'self' and others, collectivists define the 'self' conditional upon social networks, and the main difference is that between the in-group and out-group (Triandis et al. 1988). Although the in-group/out-group distinction is present in both cultures, significant differences can be found (Gómez, Kirkman and Shapiro 2000). Collectivists tend be member of a limited amount of stable in-groups (e.g. family, band, tribe), subordinating personal goals to those of the collective (Triandis et al. 1988). Individualists, on the other hand, tend to belong to many in-groups (e.g. family, coworkers, fitness club) that can change rapidly over time depending on the demands of the in-groups. If demands are too strict and inconvenient, in-groups are dropped and replaced by new ones (Triandis et al. 1988). As such, the distinction between in- and out-group tends to be less clear for individualist cultures (Smith and Bond 1993). Importantly, one should note that, although not to the same extent, people in both collectivist and individualist cultures tend to conform with the in-group rather than to the out-group (Chen, Peng and Saparito 2002).

Williamson (1993, p. 476) argues "culture to serve as a check on opportunism" and hence influencing behavior towards out-groups. Some evidence suggests collectivist cultures to be more opportunistic toward out-groups than individualist cultures (Chen, Peng and Saparito 2002). First, intra-cultural research has found collectivists to be more likely to use particularistic norms and standards for treating in- and out-group people differently (Leung and Bond 1984; Redding and Wong 1986). Individualistic societies, on the other hand, deploy more universal ethical norms in dealing with out-group members (Waterman 1988), resulting in more restrained behavior in violating other groups' rights. Second is the so-called double-edged effect of social identification (Ashforth and Mael 1989, 1996). Given that self-gain is often used

to justify morally questionable actions; collectivists can appeal both to self-interest and in-group interest, whereas individualists can only appeal to the former (Chen, Peng and Saparito 2002). As self-sacrifice is highly esteemed in collectivistic cultures, acting opportunistically towards the out-group for the benefit of the in-group is considered less offensive to collectivists. Hence, the same self-collective dynamic forcing collectivists to feel morally obliged to the in-groups, allows a lower moral obligation to out-groups. On the other hand, individualists make less distinction between in-groups and out-groups, resulting in a lower negative attitude towards the out-groups (Chen, Peng and Saparito 2002). Triandis et al. (1988) and Koch and Koch (2007) confirm this by demonstrating that cooperation in collectivist cultures is higher with in-group members compared to individualist cultures, but lower with out-group members.

For this research, we argue that most service firms are being considered out-group members[1] (Swanson et al. 2011), consequently influencing resulting customer behaviors. Given the aforementioned reasoning, we might suggest collectivists to be more inclined to invoke the unconditional service guarantee in the event of a satisfactory service recovery and therefore act in an opportunistic manner towards the service provider (i.e. out-group).

However, contrary to above reasoning, some evidence points in the other direction by relating opportunistic behavior to individualist cultures rather than collectivist cultures. First the pursuit of self-interest is fundamental to the individualist culture. However, as conformity and harmony are highly valued in collectivist cultures, highly self-interested parties might feel hindered in a collectivist society as this behavior is more likely to bring shame (Steensma et al. 2000). Second, individualists were found more likely to engage in economic opportunism, because they have temporary relationships with the other persons (Sakalaki, Kazi and Karamanoli 2007). Third, studies in the complaint literature suggest that individualistic customers are more likely to complain than collectivist customers (Zhang, Beatty and Walsh 2008) and that individualists put more emphasis on compensation during service recovery (Matilla and Patterson 2004; Wong 2004). Therefore, individualists might be more likely to invoke the unconditional service guarantee following a satisfactory service recovery.

Taken together, the literature suggests that collectivists might be more likely to invoke an unconditional service guarantee after a satisfactory service recovery. Contrary, other evidence suggests that individualists might be more likely to invoke an unconditional service guarantee

after a satisfactory service recovery. Given this duality in the literature, we propose two rival hypotheses to address the effect of culture on the relationship between service recovery and invoke intentions.

H2a: Collectivistic oriented customers are more likely to invoke an unconditional service guarantee after a satisfactory service recovery than individualistic oriented customers.

H2b: Individualistic oriented customers are more likely to invoke an unconditional service guarantee after a satisfactory service recovery than collectivistic oriented customers.

4. METHOD

There were 171 adults who participated in this research in April 2011. The design of the research was a 2 (Service recovery: unsatisfactory versus satisfactory) by 2 (Type of service guarantee: unconditional versus conditional) by 3 (Culture: individualist, mixed, collectivist) between-subjects quasi-experimental design. The first two factors were manipulated using scenarios; the latter factor was measured among respondents. Similar to previous service research (Lii and Lee 2012; Van Vaerenbergh, Vermeir and Lariviere 2013), we used scenarios to test the hypotheses. Scenarios have the advantage of eliminating difficulties associated with observation or enactment of service recovery incidents in real life, such as the expense or time involved, managerial undesirability of imposing service failures on customers, and ethical considerations (Bitner 1990). Scenarios also have the advantage of reducing biases from memory retrieval when using recall-based designs (Smith, Bolton and Wagner 1999).

Participants were randomly assigned to one of the four scenarios. In line with prior research (e.g., Chu and Choi 2000), respondents were recruited at a European international airport, with direct connections to four of the five continents (Africa, America, Asia and Europe). There were no direct connections with the Australian continent. Data was collected in April, 2011 over a period of 7 days. Table 5.1 lists the sample characteristics. In total, respondents originated from 23 different countries, spanning 4 continents. Respondents were approached in the departure hall, while waiting for their flight. This allowed respondents to complete the questionnaire at their own pace. After completion, the questionnaires were

TABLE 5.1: Sample characteristics

Variable	Percent
Gender	
Male	72.2%
Female	27.8%
Age	
< 20	3.0%
20-30	39.3%
31-40	23.8%
41-50	19.0%
51-60	11.3%
> 60	3.6%
Continent of origin	
Africa	5.5%
America	43.9%
Asia	23.2%
Europe	27.4%

collected by the researchers. All questionnaires were administered in English. When inviting the respondents to participate, the researchers verified whether the respondents were proficient in English. If not, respondents were not allowed to participate in the research. Moreover, individuals' proficiency in English was questioned in the survey, and this serves as a control variable in our analyses.

Manipulations. The study was conducted in a hotel context; this context should be familiar to airport visitors. Respondents were asked to imagine going on a 3-day trip and staying at hotel A. They booked and paid U.S. $500 for their stay (at own expense). The customers then read a description of the service guarantee. In the unconditional guarantee condition, the respondents read: "At Hotel A, we strive for 100% guest satisfaction. If anything

goes wrong, please let us know! We will make it right, otherwise you will get a 20% refund". In the conditional guarantee, related to the service failure manipulation, respondents read "At Hotel A, we are committed to provide a clean and comfortable room. If this goes wrong, please let us know! We will make it right, otherwise you will get a 20% refund". We opted for a 20% refund for two main reasons. First, we wanted to stay in line with previous research examining the effects of different types of service guarantee designs (Wirtz and Kum 2001). Second, service providers are sometimes reluctant to offer a 100% money-back guarantee, as it involves a potential financial risk. For example, Hyatt offers a 20% refund if customers experience a service failure instead of a 100% refund.

Respondents then read that on the day of the arrival, a friendly porter greets them at the entrance and takes their luggage. At the check-in, a friendly receptionist immediately looks up all information, and delivers the keys to the respondent. Yet, when entering the room, the respondent notices that the room is still untidy. The bed isn't made-up properly and the furniture is dusty.

Afterwards, respondents were told they went back to the receptionist to report this failure. They then received a description of either a satisfactory or unsatisfactory service recovery. Prior studies provided input for the service recovery manipulations (Liao 2007; Van Vaerenbergh, Lariviere and Vermeir 2012). In the satisfactory service recovery scenarios, the customer receives an apology and the receptionist shows empathy. The receptionist assigns the customer to another room. When the customer enters the new room, he/she notices that it is clean and the bed is made up properly. In the unsatisfactory service recovery, the service provider tells the customer that he will send someone to clean the room. The customer goes for a walk; upon his/her return, he/she notices that nothing has been changed and clearly no one of the cleaning staff has been there.

Measures. Customers' intention to invoke the service guarantee was measured using a newly developed three-item seven-point Likert scale (α= .92; items: 'I would invoke the 20%-refund guarantee', 'I would do everything to obtain the 20% refund guarantee', and 'Other people in this situation are likely to invoke the 20%-refund guarantee'). Zhang, Beatty and Walsh (2008) note that "it is important for researchers to measure values and cultural orientations rather than assume differences based on where the data are collected" (p. 221).

Therefore, customers' individualistic - collectivistic orientation was measured using a six-item seven-point scale (α= .87) adopted from Schumann et al. (2010). The items were: 'Individuals should sacrifice self-interest for the group, either at school or the workplace', 'Group welfare is more important than individual rewards', 'Group welfare is more important than individual success', 'Individuals should only pursue their goals after considering the welfare of the group', and 'Group loyalty should be encouraged even if individual goals suffer'. The average values ranged between 1.2 and 7, indicating a wide spread in individualism and collectivism throughout our sample. In line with prior studies examining the moderating effects of individualism/collectivism at the individual level (e.g., Cowley 2005), we subdivided this variable into three groups: individualists, customers with mixed value orientations (both individualistic and collectivistic orientations), and collectivists. Maxham and Netemeyer's (2002) three-item seven-point Likert scale was used and assesses the manipulation of the level of service recovery (α= .73). In addition, a two-item seven-point Likert scale by Van Vaerenbergh, Vermeir and Lariviere (2013) measuring scenario realism was also presented (α= .81).The questionnaire also contained a number of filler items, such as customer satisfaction, loyalty, and emotions. This was done to disguise the purpose of the research project. Finally, the respondents provided demographic information.

5. RESULTS

5.1 Manipulation check

Before testing the hypotheses, we first examine whether the service recovery manipulation performs as intended. The results of an independent-samples t-test ($t(169)=8.20$, $p<.001$) indicate that the respondents reading a scenario in which the customer received an unsatisfactory service recovery report significantly lower satisfaction with service recovery ($M=3.1$; $SD=1.2$) than respondents reading the satisfactory service recovery scenario ($M=4.8$; $SD=1.4$). We also conducted a two-analysis of variance, with the level of service recovery and the type of service guarantee as independent variables. The results show a significant main effect of the level of service recovery ($F(1,167)=66.84$, $p < .001$), but no significant main effect of the type of service guarantee ($F(1,167)=0.59$, $p > .05$), and no significant interaction effect ($F(1,167)=0.003$, $p > .05$). These results suggest that the service recovery manipulation was

successful. Additionally, participants evaluate the scenarios as realistic (M=5.2, SD=1.6). An analysis of variance (ANOVA) test indicates that the mean realism scores do not differ across conditions (F(3,164)= 2.17; p > .05). Altogether, these findings suggest that the manipulations work as intended.

5.2 Findings

We first hypothesized that customers who received an unsatisfactory service recovery are more likely to invoke a service guarantee than customers who received a satisfactory service recovery (H1). We also hypothesized that culture influences customers' intentions to invoke an unconditional service guarantee after a satisfactory service recovery (H2a and H2b). In order to test these hypotheses, we conducted a three-way analysis of variance. Customers' intentions to invoke a service guarantee serves as dependent variable, the level of service recovery, the type of service guarantee, and cultural orientation serve as independent variables. Table 5.2 lists the results.

The results show a significant main effect of the level of service recovery (F(1,167)=68.35, p < .001). Customers who received an unsatisfactory service recovery are more likely to invoke the service guarantee (M= 6.1, SD= 1.4) than customers who received a satisfactory service recovery (M= 3.7, SD= 2.1). These findings support the first hypothesis.

TABLE 5.2: Analysis of variance results

	F	p	η^2
Level of service recovery (SR)	68.350	.000	.30
Type of guarantee (G)	.497	.482	.00
Individualism - Collectivism (IC)	1.064	.348	.01
SR*G	.523	.471	.00
SR*IC	2.646	.074	.03
G*IC	1.777	.172	.02
G*SR*IC	4.994	.008	.06

We also hypothesized that culture influences customers' intentions to invoke an unconditional service guarantee after a satisfactory service recovery. The analysis of variance results show a significant three-way interaction (p < .01, see Table 5.2). In order to facilitate the interpretation, we listed the cell means and standard deviations in Table 5.3, and plotted the interaction in Figure 5.2. The results show that all respondents have high intentions to invoke the service guarantee if they received an unsatisfactory service recovery. In case the service provider issues a conditional service guarantee, both individualistic and collectivistic customers are not likely to invoke the service guarantee after a satisfactory service recovery. In case the service provider uses an unconditional service guarantee, however, collectivistic customers are more likely to invoke the service guarantee after a satisfactory service recovery than individualistic customers. These findings support H2a, and do not support H2b. These results thus support the in-group/out-group explanation. This perspective suggests that collectivists tend to behave more opportunistically towards out-groups (in this case, the service provider) than individualistic customers, our findings corroborate with this view.

FIGURE 5.2: Three-way interaction effect
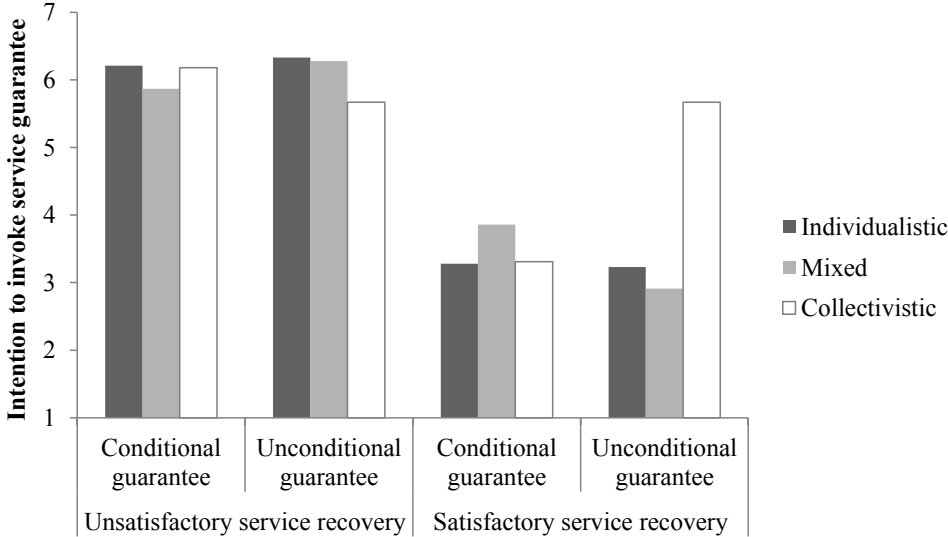
TABLE 5.3: Descriptive statistics

Level of service recovery	Type of guarantee	Cultural orientation	Intentions to invoke service guarantee	
			M	SD
Unsatisfactory	Conditional	Individualistic	6.21 [a]	1.60
		Mixed	5.87 [a]	1.60
		Collectivistic	6.18 [a]	1.31
	Unconditional	Individualistic	6.33 [a]	1.53
		Mixed	6.28 [a]	1.04
		Collectivistic	5.67 [a]	1.75
Satisfactory	Conditional	Individualistic	3.28 [b]	2.02
		Mixed	3.86 [b]	2.25
		Collectivistic	3.31 [b]	1.95
	Unconditional	Individualistic	3.23 [b]	1.78
		Mixed	2.91 [b]	2.40
		Collectivistic	5.67 [a]	1.21

Note: Cell means sharing the same letter (either [a] or [b]) are not significantly different from each other. Cell means having different letters are significantly different from each other.

5.3 Robustness tests

To rule out alternative explanations, several tests examined the robustness of our findings. Several candidate covariates are operationalized and added to the analysis of variance. Adding these covariates allows testing whether the significance of other effects holds and the findings are robust.

First, researchers indicate that response styles (i.e. responding to survey items regardless of content) might make cross-cultural comparisons more difficult. A recent review of the response styles literature (Van Vaerenbergh and Thomas 2013) suggests that individualists and collectivists might have a different extreme response style, that is, the tendency to use 1 and 7 as sole answering categories on a seven-point Likert scale. Individualists are more likely to use

the extreme response categories than collectivists. In addition, conducting a survey in a second language might make people more likely to use the middle option (i.e. answering four on a seven-point Likert scale). In order to overcome this limitation, we calculated respondents' extreme response styles and midpoint response styles using the count procedure outlined by Van Vaerenbergh and Thomas (2013). Adding respondents' extreme response styles and midpoint response styles to the analysis of variance does not change the significance of the three-way interaction effect.

In addition, we examine whether customers' other cultural orientations (uncertainty avoidance – five items - α = 0.89, power distance – five items - α = 0.77, masculinity – four items - α = 0.80 and long-term orientation – six items - α = 0.80, adopted from Schumann et al. (2010) and (Furrer, Liu and Sudharshan 2000)) influence the results. The results remain stable when adding customers' other cultural orientations (uncertainty avoidance, power distance, masculinity, and long-term orientation) as covariates.

Third, the scenario noted that the hotel stay would cost U.S. $500. Yet hotel rates might differ across countries, so respondents might have different brand equity perceptions. Research shows that customers respond differently to service guarantees depending on the service provider's brand equity (Wirtz and Kum, 2001). To rule out this alternative explanation, we measured to what extent respondents find a $500 rate expensive, measured on a seven-point Likert scale. We also measured whether $500 would be much less or much more than they would normally give on a five-point scale. Both variables are added as covariates to the analysis of variance; the results do not change.

Fourth, we measured respondents' proficiency in English using a three-item measure (α = 0.94) adopted from Van Vaerenbergh and Holmqvist (2013). The average self-reported English language proficiency is 6.3 on a seven-point scale, indicating high proficiency in English among respondents. In addition, the results remain stable after adding respondents' proficiency in English as a covariate to the analysis.

Fifth, the results do neither change when all these aforementioned covariates are introduced simultaneously to the analysis of variance. None of the covariates thus needed to be added to the analysis of variance.

Finally, carving up continuous data might lead to false interpretations (Irwin and McClelland 2003). In order to test whether this is the case in our study, we conduct a linear regression analysis using the continuous measure of individualism/collectivism, and compare the outcome with the analysis of variance results. The results remain stable when testing the hypotheses with linear regression analysis. Overall, all performed tests enhance the confidence in the robustness of our results.

6. DISCUSSION

This research expands the current knowledge on service guarantees and service recovery in several ways. The results reveal an important relationship between excellence in service recovery and customers' intentions to invoke a service guarantee. This paper shows that customers might invoke the service guarantee in case the service recovery fails. This finding suggests that service recovery and service guarantees should be considered as distinct concepts, and contrasts prior research that mainly considers service guarantees as part of a service recovery strategy (Björlin Lidén and Skålén 2003).

Furthermore, finding that customers are likely to invoke a service guarantee after an unsatisfactory service recovery also forms a contribution to the service recovery literature. Prior research examines the effects of double deviation, defined as customer dissatisfaction as a result of a failed recovery (Bitner 1990). Yet how service providers might recover from a double deviation received has received only scant attention in prior research (Edvardsson, Tronvoll and Höykinpuro 2011). While Edvardsson, Tronvoll and Höykinpuro (2011) focus on service provider resolutions to offset a double deviation, this study shows that customers might take an active stance and try to recover the double deviation themselves by invoking the service guarantee.

This study also outlines the conditions under which a customer might engage in opportunistic behavior following a satisfactory service recovery. The results indicate that an unconditional service guarantee shapes the conditions under which customers might engage in opportunistic behavior by invoking the service guarantee. This study thus adds to the debate whether service providers should use conditional or unconditional service guarantees (Hogreve and Gremler 2009). Conditional service guarantees might inhibit customers from engaging in

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opportunistic behaviors such as invoking the guarantee after a satisfactory service recovery, while an unconditional service guarantee might trigger opportunistic for some, yet not all, customers.

We show that customers with a collectivistic cultural orientation are more likely to invoke an unconditional service guarantee after a satisfactory service recovery. Hogreve and Gremler (2009) noted that more knowledge is needed about the impact of culture on customer service guarantees as it could assist in the design of service guarantees. This investigation is the first to examine cross-cultural differences in customers' intentions to invoke service guarantees, and therefore addresses calls for research in the service guarantee literature by Hogreve and Gremler (2009) and Zhang, Beatty and Walsh (2008). The specific role culture would play was first unclear as evidence was found supporting several directions. However the findings of this study seem to confirm the in-group/out-group rationale, whereby customers with collectivistic orientation tend to behave more opportunistically towards out-groups (i.e. the service provider) than customers with an individualistic orientation. A potential explanation for this effect might be that the respondents consider the hotel as an out-group (Swanson et al. 2011). The main conclusion is that global service providers might benefit from using conditional service guarantees; service providers only active in individualistic societies might use both conditional and unconditional service guarantees without evoking opportunistic behavior.

6.1 Implications for managers

The findings of this study carry important implications for managers, especially for cross-cultural management of service recovery. Next to preventing service failures at all times, this study underlines the need for a dual emphasis on the design of the service guarantee and excellence in service recovery. Given the significant relationship between customers' satisfaction with the service recovery and their intentions to invoke a service guarantee, it becomes crystal clear that managers cannot design a service guarantee in isolation, ignoring best service recovery practices. Service failures can always happen, even for companies with a reputation of world-class service (Zeithaml, Bitner and Gremler 2006). Focusing on service guarantees alone to recover from service failures can be harmful and costly. Service providers might benefit from including a service recovery statement in their service guarantee, and establishing a well-working complaint-handling department. This can be attained by training the frontline

employees who interact with customers. Employees play a crucial role, and will need the job resources (i.e., empowerment, rewards and training) and personal motivation (e.g., job resourcefulness) to perform successfully (Rod and Ashill 2009). If service providers succeed in providing a satisfactory service recovery, this can not only lead to a potential restore in customer satisfaction (Orsingher, Valentini and de Angelis 2010; Van Vaerenbergh, Lariviere and Vermeir 2012), but can also be considered as a money-saving operation as the customer will be less likely to invoke the money promised by the guarantee.

Our results also indicate that global service providers should be careful when using unconditional service guarantees. Our findings suggest that collectivistic customers might invoke the service guarantee even after the initial problem was resolved; this is less the case for individualistic customers. Hence, if service providers are concerned about opportunistic customer behavior, our research outcomes suggest that conditional guarantees might be the best solution. Nevertheless, it is important to note that this study focuses on these situations in which customers already decided to choose this particular service provider and evaluated its performance and promises (service guarantees) afterwards. As such, this study does not provide managerial insight into which type of guarantee performs best to attract potential customers in the first place. Further research on this issue seems warranted.

6.2 Limitations and further research

Several limitations in this study present opportunities for ongoing research. This study relies on a scenario-based experiment in a hotel setting, an approach with strong precedent in service research. However, while scenarios enhance internal validity, its external validity might be limited. Consequently, future research might use more settings and different methodologies, including longitudinal designs, to replicate and extend the current findings.

Note that the service guarantee used in our study promised a 20% refund to customers who experience a service failure. While a 20% refund is used in some hotels, other hotels sometimes offer a 100% refund. The 20% refund might be perceived as stingy or adding insult to the injury. Customers then might have strong emotional reactions, be more likely to retaliate against the service provider, and thus be more likely to invoke the service guarantee. On the other hand, in case of a 100% refund, customers might be more likely to invoke the service guarantee as it yields a larger gain. From that perspective, using a 20% service

guarantee is actually a more conservative examination of customers' intentions to invoke a service guarantee. Future research should examine this issue, and replicate our results using a 100% service guarantee.

This research studies customers who paid for their own expenses. In the context of this study (staying at a hotel), it is also plausible that the customer is travelling for business, and that his employer is covering the hotel costs. Therefore, future research might focus on other types of customers such as business customers, or accompanying family members / friends / colleagues and their perceptions about the service provider. Research on service level agreements (SLAs) in a business-to-business environment (e.g., Hogreve and Gremler 2009; Van Ossel and Gemmel 2003) with respect to invoke intentions and cultural differences offers a fruitful area for further investigation.

This study uses one specific service failure (a bed that isn't made up properly and a dusty room). Future research might replicate our findings using different types of service failures.

In addition, while this study focuses on the customers, it is clear that the employees play a crucial role in dealing with customer requests to invoke the guarantee, to restore the service failure satisfactory in the eyes of the customers, and to deal with opportunistic customers. More research is needed to understand the impact of such situations on employees' emotions and behavior.

Due to the study design, the hotel used can be considered to be part of the out-group. However, research has shown that people tend to differentiate brands in terms of in-group and out-group brands (Choi and Winterich 2013). Further research could investigate the difference between in-group and out-group brands and their effect on invoke intentions and other reactions to service failure/recovery events.

Finally, and in line with Hogreve and Gremler (2009), further research could adopt a more holistic and interdisciplinary view, investigating the effect of guarantee invoking behavior in situations of service failure on customers, employees, operational processes and the competitive environment all together.

7. ENDNOTES

[1] We thank an anonymous reviewer for drawing our attention to this point

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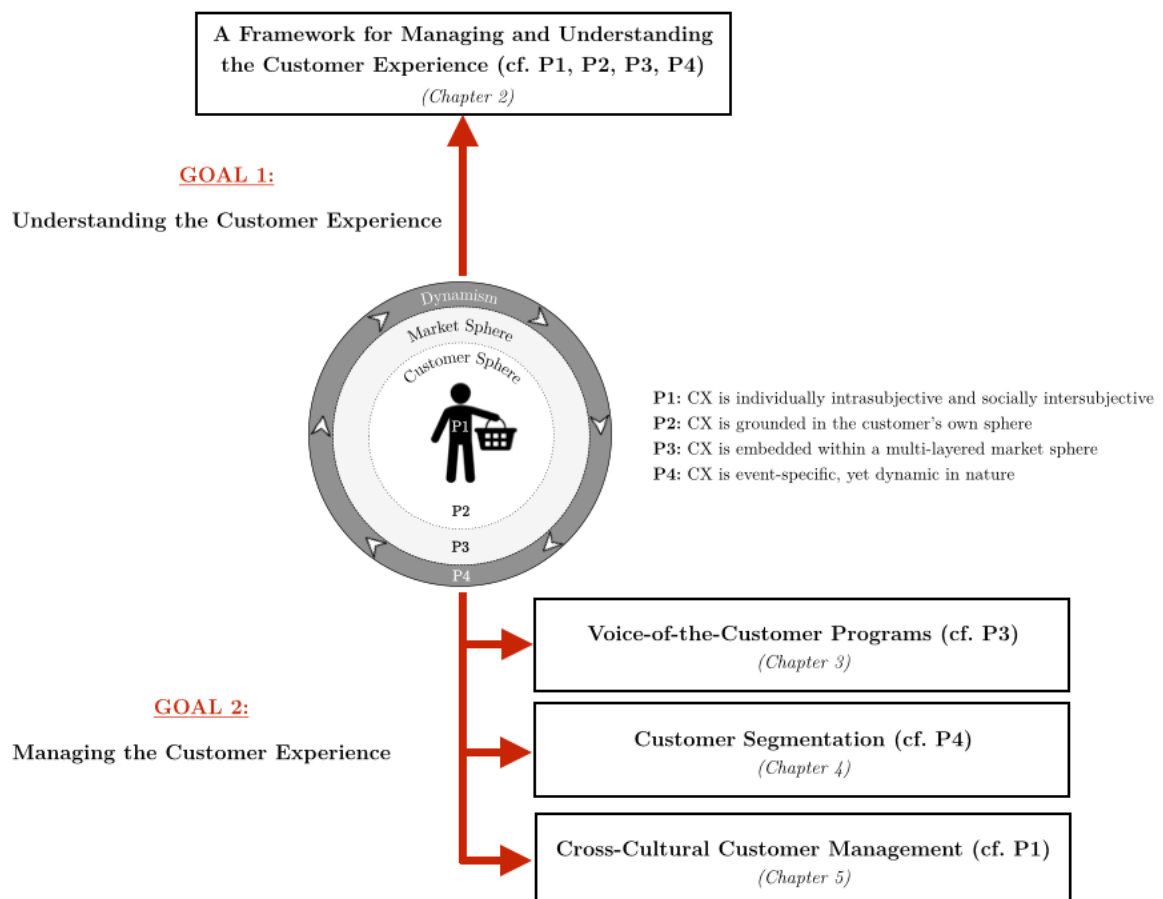
CHAPTER 6:

CONCLUDING REMARKS

1. STRUCTURE

The overall goal of this dissertation is to assist managers and scholars in (i) understanding and (ii) managing the CX. To help us achieve this goal, we conducted four different studies (chapter 2, 3, 4, 5 – see figure 6.1). This concluding chapter summarizes the overall findings and discusses the general contributions of this doctoral work. Additionally, we identify several limitations and suggest multiple promising avenues for future CX-research.

FIGURE 6.1: Dissertation Outline

2. SUMMARY OF THE FINDINGS

Chapter 2 of this dissertation is conceptual in nature, defining CX and providing an overarching framework that offers structure and guidance to the rapidly growing body of CX-literature. Following an interdisciplinary review and integration of the literature, CX is defined

as follows: "Customer Experience is comprised of the cognitive, emotional, physical, sensorial, and social elements that mark the customer's direct or indirect interaction with a (set of) market actor(s)" and is said to have three basic tenets: (i) CX is interactional in nature, (ii) CX is characterized by different levels of uniqueness and (iii) CX is multidimensional. It is further distinguished by four fundamental properties and found to be embedded within a multi-layered system: an individual, intrasubjective system encompassing the unique processing system and background of every individual customer (P1a – CX is individually intrasubjective); a social system that is composed of a multitude of social norms, institutions and practices that guide the CX (P1b – CX is socially intersubjective), a customer sphere that involves the immediate personal context of a customer that is outside the direct control of the firm (P2 – CX is grounded in the customer's own sphere), and a market sphere bringing together multiple interrelated (market) actors that influence CX (P3 – CX is embedded within a multi-layered market sphere). Importantly, this system is approached as being inherently dynamic and continuously changing over time, causing CX to be dynamic in nature (P4 – CX is event-specific, yet dynamic in nature). Further, CX is shown to relate to customer engagement and customer value by means of a three-stage cyclical process, comprised of an (i) anticipation, (ii) realization, and (iii) reflection phase. To conclude, this chapter demonstrated how business practice could benefit from the developed framework and put forth an agenda for future research.

Chapter 3 of this dissertation investigated how traditional VoC-programs and their power to predict SOW can be improved by accounting for competitive influence and the polygamous nature of customer loyalty. More specifically, we compared multiple methods that consider the relative preference (i.e., rank) for a focal company, including the Wallet Allocation Rule, Zipf–AE, and Zipf–PM, truncated geometric model, generalization of the Wallet Allocation Rule and hierarchical regression models. The findings clearly indicated the superiority of using a relative ranked approach to customer satisfaction measurement compared to absolute satisfaction when attempting to link to a customers' share of wallet. Furthermore, the results also showed that when linking changes in customers' satisfaction levels to changes in corresponding share of wallet over time, compared to absolute satisfaction, relative ranked satisfaction remained the more closely linked measure to share of wallet.

Chapter 4 showed how multichannel customer segmentation efforts can be improved by accounting for channel usage throughout the entire customer journey (i.e., information search, purchase and after-sales). More precisely, this work partially replicated, refined and extended the findings of Konuş, Verhoef and Neslin (2008) and confirmed the feasability of a channel-based segmentation scheme. We found evidence for the existence of multiple customer segments: store-focused shoppers, web-focused shoppers, call-center prone shoppers and research shoppers. By including after-sales channel usage to the segmentation scheme, however, we were able to refine the two-stage solution of Konuş, Verhoef and Neslin (2008) and extend the segmentation outcome to six different, meaningful customer segments that all have significant managerial value. Not taking into account after-sales channel usage would then lead to a sub-optimal solution and equal treatment of customers who differ in their after-sales channel usage, potentially endangering their long-term relationship with the firm.

Chapter 5 revealed an important relationship between excellence in service recovery and customers' intentions to invoke a service guarantee. More specifically, the results showed that customers most likely invoke a service guarantee in case an attempt of service recovery fails, leading us to conclude that service recovery and service guarantees should be considered as distinct concepts. Looking at moderating influences, we found that in case the service provider issued a conditional service guarantee, both individualistic and collectivistic customers were not likely to invoke the service guarantee after a satisfactory service recovery. In case the service provider used an unconditional service guarantee, however, collectivistic customers were more likely to invoke the service guarantee after a satisfactory service recovery than individualistic customers. This perspective suggests that collectivists tend to behave more opportunistically towards out-groups (in this case, the service provider) than individualistic customers.

3. CONTRIBUTIONS OF THE DISSERTATION

The following paragraphs will focus on the most important contributions of this doctoral work. We do so by describing four metaphorical roles that were adopted throughout this dissertation and discuss how each contributed to strengthen the academic and practical value of this thesis: the astronaut, the architect, the cartographer and the engineer (MacInnis 2011). Table 6.1 summarizes the different roles and describes their research-related goal.

TABLE 6.1: Typology of Metaphorical Roles (adapted from MacInnis 2011)

Metaphorical Role	Goal
Astronaut	Interdisciplinary review and summary of the literature on human/customer experience to distill a set a key takeaways
Architect	Synthesis of interdisciplinary insights in order to a create a conceptual framework of CX
Cartographer	Delineation of the CX domain and description of its conceptual landscape
Engineer	Application of the developed conceptual framework to managerially relevant topics

3.1 The Astronaut

The very first step of this dissertation involved seeing the CX-forest for the trees (Chapter 2). In other words, our first subgoal was to digest and summarize extant knowledge on CX and human experience in general. Therefore, we did not limit ourselves to marketing literature only. Rather, this dissertation adopted a broad perspective by considering multiple scientific disciplines (i.e., philosophy, psychology, sociology, neuroscience, design sciences, marketing and service research) and accounting for different paradigms (e.g., logical positivism, constructionism, behaviorism, phenomenology, etc.) to unravel existing knowledge on customer/human experience. This allowed us to move beyond the limited insights of the marketing field and extend to other domains that have given more thought to the experience concept. In this sense, we put ourselves in the metaphorical role of an astronaut whose view allows him/her to step back from the details (e.g., mountains, deserts, oceans, countries, cities, etc.) to consider the entirety of the Earth (MacInnis 2011).

Very much like the astronaut, the interdisciplinary literature review allowed us to take a step back and consider customer/human experience through different 'lenses'. Doing so helped us unravel the complex, multidimensional nature of the experience concept. By reviewing both marketing and other scientific disciplines, we make important contributions to the academic literature in at least two ways. First, this dissertation offers marketing researchers an overview of CX-thinking and its evolution in the marketing discipline since the '50s. For instance, we show how marketing researchers evolved from focusing on CX as a

purely rational concept (e.g., Howard and Sheth 1973), over highlighting its emotional side (e.g., Holbrook and Hirschman 1982) to considering the broader, holistic nature of CX in which multiple elements (i.e., cognitive, emotional, physical, sensorial and social) come together (e.g., Verhoef et al. 2009). This summary permits marketing academics to discover specific trends and get updated on the latest research streams within the CX-field. Also, our review uncovers the disharmony among marketing academics and shows the various ways in which CX has been interpreted and used. While many might not consider this a big contribution in itself, we feel confident that the marketing discipline benefits from reflecting upon its dominant, oftentimes contradicting foci that shaped the field over the course of several decades. To understand the current changes and forthcoming turning points in the marketing field, we believe it is critical to identify the causes responsible for the changes thus far (Kumar 2015).

Second, by reviewing scientific thought on human experience across disciplines, this dissertation has value outside the marketing community. Scholars in psychology, sociology and neuroscience, for instance, could potentially benefit from our comprehensive review of the experience literature. To our knowledge, we are the first to conduct such an extensive, interdisciplinary examination of the literature on human experience. While the main focus of this dissertation is on CX, the main characteristics of CX we put forth are applicable to any human experience outside of a commercial/market-related context.

3.2 The Architect

In a second step, and based upon the performed literature review, we sought to answer the following questions: (i) 'What is CX?', and (ii) 'What are the theoretical underpinnings of CX?' (Chapter 2). Therefore, this thesis not only summarized existing knowledge on CX and overall human experience, but also specifically integrated this knowledge to develop an overall theory-based framework that construes CX's theoretical underpinnings. We sought to draw connections between interdisciplinary insights, offering a unifying, higher-order perspective of CX (MacInnis 2011). Consequently, we took the role of an architect who seeks to create a new construction from a set of building materials (e.g., bricks, pipes, cement, wiring and windows), using an architectural plan that depicts the construction in its entirety and notes how the specific elements fit together to make the construction. In other words, this work involved synthesis, creating a bigger whole (i.e., CX) from the diverse parts that were available (i.e.,

interdisciplinary knowledge on CX). As a result, we provided a holistic, yet parsimonious perspective of CX that accommodated its complexity. This integrated view is highly significant to both academic and practitioner audiences for several reasons.

First, people "see and understand things according to the concepts they have … and filter their observations through concepts" (Niehoff 1998, p. 1-2). As a result, constructs have a critical role in knowledge representation, perspective taking and knowledge sharing (MacInnis 2011). An ill-defined construct, therefore, causes confusion amongst those who use it and questions its value and usability for both academic research and practice. Given the current ambiguous nature of CX in academic and business literature, the concept could easily become marginalized and lose its overall value. This, however, is unacceptable as CX can be considered a cornerstone of the marketing discipline. Simply put, if the customer would not experience anything upon interacting with a service provider, there would be hardly any requirement for marketing to exist as a scientific discipline. This dissertation, by integrating and translating fundamental insights on human experience back to the marketing discipline, brings clarity to the domain and offers academics and practitioners a common ground to discuss and advance the CX-field.

Second, by defining CX and describing its conceptual grounds, we give 'action significance' to CX (MacInnis 2011). More specifically, we do not only provide academics and managers with a definition, but also a framework that they can use to conduct research and develop new practices. The better marketers can understand what CX is, the more effectively they can deal with it. Therefore, this work is of great value to every practitioner responsible for managing the CX. It might not only lead to direct changes in daily practices, but also induce significant change of long-term strategic thinking at the executive levels of the firm (Jaworski 2011).

Lastly, on a broader level, we contribute to the academic marketing discipline in general. While conceptual work is most often at the basis of progress of any scientific discipline, the marketing discipline has seen a decline in the number of conceptual contributions to the field (Yadav 2010). Such a decay is detrimental to the field's advancement because conceptual contributions not only provide new ideas, they also prove to be more influential than empirical papers (MacInnis 2011). This dissertation, in laying out the conceptual foundations of CX,

adds to the conceptual advancement of the field and serves as a basis to expedite the next generation of knowledge development on CX.

3.3 The Cartographer

While defining and outlining CX are important objectives of this thesis, a third research challenge involved describing the CX 'landscape'. More specifically, we put forth the following questions, (i) 'How does CX relate to the broader conceptual world around it?' and more specifically 'How does CX link to and differ from other fundamental marketing concepts such as value and engagement?'. Much like a cartographer trying to gain better grounding of a specific entity (e.g., geographical region) by drawing precisely how it looks like and depicting how it links to other entities (e.g., other regions), our work details, defines and maps the specific grounds of the CX-construct and shows how it relates to both customer value and customer engagement. In doing so, we contribute directly in two ways.

First, while CX, engagement and value have all received significant attention in both academic and practitioner circles, no previous study has explicitly explained their interrelationship. As a result, many voices have questioned the value of the different concepts and their distinctiveness. While our work shows that all three are very closely interrelated and one goes not without the two others, we also show how they differ from one another. This way, we bring further conceptual clarity to an area where this is highly needed.

Second, this clarity is especially helpful for practice. Our framework, supplemented with insights from behavioral economics (Morewedge 2015), can help managers distinguish between the different dynamic states a customer finds him/herself in when trying to attain a specific consumption goal (e.g., anticipation, realization and reflection) and shows how each impacts the customer-firm relationship. For instance, companies that understand the importance of the anticipation phase in driving choice behaviors can develop several managerial practices aimed at positively influencing this process, both unconsciously and consciously. As a result, they might gain significant advantage over direct competitors (Kumar, Killingsworth and Gilovich 2014).

3.4 The Engineer

The last research challenge of this dissertation involved the practical translation of our conceptual thinking by means of multiple empirical studies (Chapter 3, 4, 5). The visual metaphor is that of an engineer who is concerned with applying theoretical knowledge, complex mathematics and downright ingenuity to develop practical solutions that solve specific technical, societal and commercial problems. Whereas 'engineer' is a generic term, multiple specializations exist that relate to different applications and industries (e.g., civil engineering, electrical engineering, chemical engineering, and environmental engineering). Similarly, we selected three distinct and managerially relevant subareas (i.e., specializations) upon which we (partly) applied our knowledge developed in the conceptual stage of this dissertation. First, we focused on VoC-programs and considered how adopting a competitive, relative view (i.e., network of competition) can help improve the predictive value of such programs (i.e., links to P3, cf. chapter 2). Second, we investigated to what extent customer segmentation can benefit from adopting a customer journey perspective and to what extent this helped refine the segmentation scheme (i.e., links to P4, cf. chapter 2). Third, we looked at the impact of culture on service guarantee invoke intentions following a service failure (i.e., links to P1, cf. chapter 2).

In taking up these specialized roles, we contribute to the field specifying clear ideas and tools that can have an immediate impact on the perspective and everyday actions of academics and managers (Jaworski 2011). Chapter 3, for instance, clearly demonstrates the usefulness of deploying relative metrics to predict customer's SOW. This has severe impact for both academics and practitioners. First, our results point to the need for new metrics in the customer satisfaction field. Most obviously, our study implies that the traditional view on the satisfaction-share of wallet relationship (e.g., non-linear, s-shaped relationship based on absolute metrics) is at best incomplete. Given the polygamous nature of customer loyalty and the inherently competitive context in which customer are embedded (i.e., P3: CX is embedded within a multi-layered market sphere surrounding the customer), our findings indicate that the satisfaction-share of wallet relationship is primarily driven by the relative fulfillment (i.e., focal company vs its competitors) customers perceive from the various brands they use. Hence, academics and managers concerned with satisfaction measurement would benefit shifting from

a focus on absolute satisfaction scores (i.e., absolute rating level of a focal company) to focusing on the rank to which these satisfaction levels correspond. Our results show that this does not necessarily complicate data collection and analysis. Existing satisfaction tracking programs can easily be adapted, adding questions about competitors in addition to the focal firm; while multiple 'simple' methods are available to approach traditional 'absolute' analyses in a relative manner. Taken together, we strongly feel ranks (i.e., relative positions) have an obvious appeal to managers, particularly since ranks are used in multiple aspects of our lives (sports, education, etc.) and quickly indicate how customers perceive a company.

Chapter 4 is beneficial for researchers and managers involved with customer segmentation efforts. It has value for academia in replicating previous research, thereby confirming the existence of specific shopper segments (cf. supra). Our work, however, adds new insights by extending the traditional two-stage segmentation scheme (i.e., channel usage in information search and purchase phase) to a three-stage solution, taking account of after-sales channel usage and incorporating call-center usage throughout the customer journey. Accounting for the full customer journey (i.e., P4: CX is event-specific, yet dynamic in nature: multiple touchpoints that together form a customer journey) leads to a more refined segmentation outcome (i.e., 2 additional clusters) with clear managerial value. Two findings were especially interesting for managers. First, our results show that customers who search and buy online do not necessarily prefer online after-sales. About 30% of these customers prefer after-sales service through a physical retailer network. Hence, seemingly web-only shoppers might have the need for physical interaction at some point in the customer-firm relationship. Given the importance of after-sales for future customer behavior (Van Vaerenbergh, Lariviere and Vermeir 2012), this finding holds great value. Similarly, the identification of a call-center prone segment calls for important managerial decisions. Only 6% of the customers in our sample were classified call-center prone; they were the most loyal, but had a low average revenue. This makes it an intriguing segment for deciding on a marketing strategy, and clearly questions whether or not managers should invest in call-centers.

Lastly, chapter 5 contributes to the field in multiple ways. This study clearly shows service recovery and service guarantees should be considered as distinct concepts and be managed as such. Whereas many academics and managers consider guarantees as an integral

part of service recovery, a good service recovery might actually prevent customers from invoking a service guarantee and save the company a lot of money. Managers should therefore not design service guarantees in isolation, ignoring best recovery practices, but stress the importance of a well-working complaint-handling department.

More importantly, our results urge researchers and managers to account for the impact of individual cultural orientations (i.e., collectivism vs individualism) on customer behaviors (i.e., P1b: CX is socially intersubjective: influenced by (cultural) institutions). This is especially important since service providers are increasingly confronted with a multicultural customer base. On the one hand, many Western societies are becoming more ethnically diverse, causing (local) service providers to deal with a plethora of customers with different cultural backgrounds (Lam, Lee and Mizerski 2009). On the other hand, many firms are investing to gain global market share, targeting rapidly growing emerging economies around the world (Kumar et al. 2013). Our research helps understand cross-cultural variation in customer behavior following a service failure. These insights can be used to manage and train frontline employees such that these exert greater cultural sensitivity and have a better chance of successful customer interactions. Specifically, our work shows that (global) service providers should be careful when using unconditional service guarantees. Collectivistic customers are found to have higher intentions to invoke such a guarantee, even after the initial problem gets resolved. While this adds to literature on opportunistic customer behavior and international marketing, it also has important managerial consequences. More specifically, service providers concerned about opportunistic customer behavior might be better off with conditional guarantees. For academics, this work is especially timely since several leading scholars of the field have identified "understanding service in a global context" as one of the top 12 research priorities for the coming decade. Our work helps advance this area and provides a basis for future culture-based research.

Overall, our empirical research helps bridge the historic academic-practitioner divide (Jaworski 2011). Chapter 3, for instance, heavily influenced the daily practices of Ipsos Loyalty, a global leading market research firm specialized in research on CX, satisfaction and loyalty. More precisely, our work led to the further development of the Wallet Allocation Rule as one of Ipsos's key tools to help businesses better map out their customers' share of spending.

Also, a New York Times bestselling book "The Wallet Allocation Rule: Winning the Battle for Share" followed this work (Keiningham et al. 2015). As a result, we demonstrate the importance and potential impact of academic research that intertwines academic rigor with managerial relevance.

4. LIMITATIONS

Although this dissertation has significant value to both academia and practice, several overall limitations remain.

First, given the broad definition of CX-management (i.e., "the collection of processes a company uses to track, oversee and organize every interaction between a customer and the organization throughout the customer lifecycle" (Rouse 2010, p. 1)) and the comprehensive nature of our CX-framework, three empirical studies (chapter 3,4,5) are not sufficient to answer all possible managerial questions relating to CX. While we have selected three managerial practices (i.e., VoC-Programs, Customer Segmentation and Cross-Cultural Customer Management) that receive significant attention from both academia and practice, multiple other topics could have been addressed as well (i.e., other 'engineering specializations'). These include, but are not limited to, the impact of technological advancement, the effects of service delivery networks, the value of neuroscientific tools in CX-measurement, the role of employees and the impact of service design tools on the customer journey.

Second, the methodological approach used to capture CX reflections in this dissertation is limited to traditional methods: survey-based (chapter 3, 4) and experimental designs (chapter 5). While this is in line with the majority of academic marketing research, this dissertation could have benefited from applying more recent research methods (e.g., neuroscientific techniques) that allow capturing CX and its value reflections at a more detailed level.

Third, while two out of three empirical studies involve multi-cultural data (Chapter 3 and 5), many countries and cultural profiles are still not included in the analysis samples that were used. This potentially questions the generalizability of our findings in other settings. Future research might consider including people with a different cultural background to replicate our research and overcome above limitation. Additionally, other research might consider replicating our work using different industries.

Lastly, only one empirical study (Chapter 3) deploys longitudinal data, while the other two (Chapter 4, 5) use cross-sectional data to provide an answer to some of our research questions. Given that CX is dynamic in nature and evolves over time as multiple event-specific experiences accumulate, future research might consider using longitudinal research designs. This way, the effects of managerial practices on changes in CX could be monitored and investigated.

5. FUTURE RESEARCH

We will discuss research directions within the CX-realm that we feel deserve more interest in general (i.e., other engineering roles)[4]. While discussing and writing-up all future research opportunities would easily make sufficient material for a next project, the following sections focus on the topics that we feel are most promising within the CX-domain: service ecosystems, new technologies and neuroscience.

5.1 The merits of adopting a networked-view on the CX

The importance of networks of different organizations and/or stakeholders – the so-called "service ecosystems" (Vargo and Lusch 2011), "service systems" (Chandler and Lusch 2015) and "service delivery systems" (Tax, McCutcheon and Wilkinson 2013) – to better meet complex service goals is increasingly emphasized, yet remains underresearched. In this area, more attention should be devoted to investigating the capabilities that are needed to build network collaborations and service systems that enhance CX and allow flexible change to respond and adapt to dynamic environments. Research could, for instance, focus on different types of networks (e.g., participant-governed, lead organization-governed, governance through network administrative organization (Provan and Kenis 2008)) and investigate how each impacts the CX and allows responding rapidly to changes in the environment. Other research could focus on investigating network constellations from a customer angle and see to what extent customers actually perceive the existence of networks, how the performance level of one network-member impacts the perceived performance level of other members and how customer judge the entirety of the network outcome. Lastly, marketing scholars interested in pursuing these questions could benefit from interdisciplinary insights and might want to draw on

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[4] The future research questions that follow from the individual studies of this dissertation can be found at the end of every chapter.

theories from sociology, operations management, design sciences, engineering and public administration literature.

5.2 Technology as a means to enhance CX-management

Rapidly evolving technologies (e.g., smart technologies and real-time analytics) offer new promising avenues that allow tracking the CX across consecutive touch points spanning multiple channels and create opportunities for more detailed, longitudinal research designs (Rust and Huang 2014). More research is needed to investigate how these technologies can be used to the benefit of the firm and the customer in optimizing CX. For instance, research could assess the value and applicability of (automated) context-aware technologies that enable service delivery tailored to an individual customer depending on his/her background and the context he/she finds him/herself in. Other studies could concentrate on the usage of smart services and how these benefit, but also potentially harm (e.g., privacy issues), the end-user. Also, this might be a fruitful area in the domain of elderly care, as many of these technologies are being integrated to help aged people stay at home for a longer time. A last topic of interest is the area of mobile, cloud-based and social network systems that allow users to be connected with others (e.g., family, friends, companies) virtually anywhere at anytime. While this may have significant advantages for the customer, many question the safety and obtrusive character of such service applications. As a result, future research might consider investigating the conditions under which firms can use these technologies to the benefit of the customer, without hampering with their feelings of privacy and freedom of choice. Again marketing scholars in this area might profit from interdisciplinary insights and find valuable information in other scientific domains such as IT and engineering.

5.3 Improving CX measurement through neuroscience

More recently, consumer neuroscience research, applying tools and theories from neuroscience to the marketing field, is increasingly gaining attention (e.g., Plassmann, Ramsoy and Milosavljevic 2012; Plassmann et al. 2015; Smidts et al. 2014; Venkatraman et al. 2012). CX researchers could especially benefit from these cross-disciplinary frames, applying neuroscientific methods such as biometrics (e.g., eye tracking, galvanic skin response, and facial coding) and direct neural measures (e.g., EEG, fMRI) to gain better insights into CX, engagement and value estimates/judgments. More specifically, consumer neuroscientists could

facilitate our understanding of the neural correlates that modulate contextual dependencies (e.g., memory and social comparisons) and drive choice behaviors; while these methods might also help us comprehend individual differences at multiple biological levels (Venkatraman et al. 2012). This could lead to the development of an accurate image of the individual CX and its underlying biological processes. Despite their high potential value, researchers and practitioners will first have to look for ways to make these techniques more accessible for a bigger audience. Only then can neuroscience truly become part of daily CX-practice and marketing research in general. Hence, in the short-term, research is needed developing best neuroscientific practices, offering guidance in selecting the correct methodologies and discussing their cost/benefit ratio.

6. CONCLUSION

Overall, this dissertation provides guidance to academics and practitioners in understanding and managing the CX. While many challenges remain, we firmly believe this doctoral thesis has the ability to guide and inspire future research in the CX domain.

Thank you very much for reading this work! We hope it was a pleasant experience!

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