

PDF hosted at the Radboud Repository of the Radboud University Nijmegen

The following full text is a preprint version which may differ from the publisher's version.

For additional information about this publication click this link.

<http://hdl.handle.net/2066/112203>

Please be advised that this information was generated on 2017-12-06 and may be subject to change.

Article Title Page

Value Fusion: The Blending of Consumer and Firm Value in the Distinct Context of Mobile Technologies and Social Media

Author Details

Bart Larivière
Center for Service Intelligence, Ghent University, Ghent, Belgium

Herm Joosten
Institute for Management Research, Radboud University Nijmegen, Nijmegen, The Netherlands

Edward C. Malthouse
Integrated Marketing Communications, Northwestern University, Evanston, IL, USA

Marcel Van Birgelen
Institute for Management Research, Radboud University Nijmegen, Nijmegen, The Netherlands

Pelin Aksoy
Department of Electrical and Computer Engineering, George Mason University, Fairfax, Virginia, USA

Werner H. Kunz
College of Management, University of Massachusetts Boston, Massachusetts, USA

Ming-Hui Huang
Department of Information Management, College of Management, National Taiwan University, Taipei, Taiwan

Corresponding author: Bart Larivière
Corresponding Author's Email: Bart.Lariviere@UGent.be

Acknowledgments: This article is the result of the Thought Leadership Conference on "Connections, Communities, and Collaboration: Service Sustainability in the Digital Age" hosted by Radboud University, in Nijmegen, The Netherlands during June 2012. The authors would like to thank Arne De Keyser, Ashlee Humphreys, Parsu Parasuraman and the participants in the conference for their valuable comments and inspiration.

Biographical Details:

Bart Larivière is Assistant Professor of Service Management at Ghent University, where he is founder and Executive Director of the Center for Service Intelligence. His research focuses on customer loyalty, servitization, servicescape, consumer well-being, and multichannel management. He intensively collaborates with Belgian companies bridging the gap between practice and academia. His research has been published in Journal of Service Research, Journal of Service Management, Journal of Interactive Marketing, the European Journal of Operational Research, and Expert Systems with Applications. He was finalist for best paper in Journal of Service Research, and his research won the Best Practitioner Presentation Award (twice) at the Frontiers in Service Conference.

Herm Joosten is Assistant Professor of Marketing at Radboud University Nijmegen. His current research interests are in consumer behavior, complaint management, relationship management and research methodology.

Edward C. Malthouse is the Theodore R and Annie Laurie Sills Professor of Integrated Marketing Communications at Northwestern University and was the co-editor of the Journal of Interactive Marketing between 2005-2011. His research interests center on media marketing, database marketing, advertising, new media, and integrated marketing communications. He is the co-editor of Medill on Media Engagement, and has extensively published on these topics, with his work appearing in Journal of Service Research, Journal of Consumer Psychology, Journal of Interactive Marketing, Expert Systems with Applications, Data Mining and Knowledge Discovery, IEEE Transactions on Neural Networks, Computers in Chemical Engineering, Journal of Advertising, Journal of Advertising Research, Journal of Broadcasting and Electronic Media, International Journal of Market Research, Journal of Media Business Studies, International Journal of Media Management, and others.



Marcel van Birgelen is Associate Professor of Marketing at the Institute for Management Research of Radboud University Nijmegen. The Ph.D. research of Marcel van Birgelen at Maastricht University focused on the effectiveness of international service intelligence. His research interests include consumer behavior, services marketing, multi-channel marketing, and relationship management. His work has been published in various academic journals, such as the Journal of Retailing, International Journal of Research in Marketing, Journal of Service Research, Journal of Service Management, Managing Service Quality, Journal of Economic Psychology, European Journal of Marketing, Journal of Air Transport Management, and Environment and Behavior.

Pelin Aksoy is Associate Professor of Electrical and Computer Engineering at George Mason University. She is also the Associate Chair of the Electrical and Computer Engineering department where she serves as director of undergraduate studies. Her publications encompass various research interests including photonics, undergraduate education, and applications of Information Technology (IT) in services. Her research has been published in journals such as the Journal of Service Management and the Journal of Interactive Marketing. Before joining the Electrical and Computer Engineering department, she was Assistant Professor of Applied Information Technology at the same university. She is co-author of the textbook titled "Information Technology in Theory" which has been adopted into the curriculum by various universities in the United States.

Werner Kunz is Assistant Professor of Marketing at the University of Massachusetts Boston. He received his doctorate from Ludwig-Maximilians-University Munich. His research interests are in social media, consumer networks, innovation, and service marketing. He has published in the International Journal of Research in Marketing, Journal of Business Research, Journal of Service Management (formerly International Journal of Service Industry Management), Managing Service Quality, International Journal of Integrated Marketing Communications and Computational Statistics and is a member of the editorial board of the Journal of Service Management, Journal of Business Market Management and International Journal of Marketing Studies.

Ming-Hui Huang is Distinguished Professor of Electronic Commerce in the Department of Information Management at National Taiwan University. She specializes in interdisciplinary research, with publications encompassing journals in Marketing and Information Systems, such as the Journal of Marketing, Harvard Business Review, Journal of Management Information Systems, Journal of the Academy of Marketing Science, Decision Sciences, Journal of Consumer Psychology, Journal of Business Ethics, and Information & Management. She has served as special issue editor of the Journal of Service Research and Psychology & Marketing, and serves on the editorial boards of the Journal of Service Research, International Journal of Electronic Commerce, Psychology & Marketing and Information & Management.

Structured Abstract:

Purpose: In this article, we introduce the concept of Value Fusion to describe how value can emerge from the use of mobile, networked technology by consumers, firms, and entities such as non-consumers, a firm's competitors, and others simultaneously.

Design/methodology/approach: We discuss the combination of characteristics of mobile devices that enable Value Fusion. We discuss specific value and benefits to consumers and firms of being mobile and networked. We introduce and define Value Fusion and set it apart from related, other conceptualizations of value. We provide examples of Value Fusion and discuss the necessary conditions for Value Fusion to occur. We discuss under which conditions the use of mobile, networked technology by consumers and firms may lead to Value Confusion instead of Value Fusion. We end with several research questions, proposed to further enhance the understanding and management of Value Fusion.

Findings: The combination of portable, personal, networked, textual/visual and converged characteristics of mobile devices enables firms and consumers to interact and communicate, produce and consume benefits, and create value in new ways that have not been captured by popular conceptualizations of value. These traditional conceptualizations include customer value, experiential value, customer lifetime value, and customer engagement value. Value Fusion is defined as value that can be achieved for the entire network of consumers and firms simultaneously, just by being on the mobile network. Value Fusion results from producers and consumers (i) individually or collectively, (ii) actively and passively, (iii) concurrently, (iv) interactively or in aggregation contributing to a mobile network (v) in real time and (vi) just-in-time.

Implications: Mobile devices have revolutionized the way we live, and there is widespread expectation that they will have "game-changing" implications for marketing in the near future (MSI, 2012). Therefore, research is needed to help us understand how mobile technologies are likely to change conventional wisdom about how customers and firms connect, interact and do business, and finally culminate in mutual, synergistic value; a phenomenon which we label Value Fusion.

Originality: This paper synthesizes insights from the extant value literature that by and large has focused on either the customer's or the firm's perspective, but rarely blended the two. The contribution of this paper is that the Value Fusion concept achieves such a blending in the distinct context of mobile technologies and social media. Value should be considered more holistically, and value to the consumer and firm should be jointly optimized (i.e., Value Fusion) rather than managed in isolation. In addition, both active and passive participation should be valued. This paper calls for a more holistic approach to conceptualize value and identifies unanswered questions about value in the distinct context of mobile technology and social media.

Keywords: Value Fusion, Mobile Technologies, Firm Value, Customer Value, Experiential Value, Customer Lifetime Value, Customer Engagement Value, Social Media.

Type header information here

Article Classification: Conceptual Paper

For internal production use only

Running Heads:

Type footer information here

© Emerald Group Publishing Limited

This is a pre-print of a paper and is subject to change before publication. This pre-print is made available with the understanding that it will not be reproduced or stored in a retrieval system without the permission of Emerald Group Publishing Limited.

1. Introduction

On August 18th 2011, a thunderstorm battered the opening day of the Pukkelpop festival in Hasselt, Belgium. Torrential rain and strong winds toppled several concert tents and knocked down festival light towers. The storm killed 5 people and injured 140 more (Flock, 2011; Van Peteghem and Caudron, 2011). Within minutes, news of the event spread throughout the country. Organizers, visitors, friends, family, people living nearby, and emergency services, all used their mobile devices and apps (applications) such as Twitter, Facebook and YouTube to communicate. Several hashtags which are keywords or acronyms prefixed with the symbol # were created, mainly on Twitter and these were used by members in the network to search for events. *Hashtag #pp11* was used to track the unraveling of events in real time, *hashtag #ppok* was used by visitors to inform friends and family that they were unharmed, and several others were used by people living nearby to offer help, transportation, dry clothes and accommodation to those in need. On Facebook, pages were created to pay tribute to those affected by the incident, or to reconnect with friends and those who were missing. Many people *actively* contributed with video clips, tweets, retweets, comments, likes and shares, but many more also just *passively* read about, or observed the ongoing events (Van Peteghem and Caudron, 2011). Similarly, during late October 2012, the Hurricane Sandy, a hurricane that devastated portions of the Caribbean and the Mid-Atlantic and Northeastern United States, caused “a perfect social media storm” (Coscarelli, 2012).

Although the circumstances pertaining to the thunderstorm and its devastating effects are exceptional, it is just one example of how mobile devices like smartphones, laptops and tablets have become omnipresent, pervading our lives. This example illustrates how the active and passive, individual and collective use of these devices has multiple and different benefits and value for different parties, and how these benefits and value are achieved simultaneously and in real time.

In this paper, we argue that the combination of the unique characteristics of mobile devices enables firms and consumers to interact and communicate, produce and consume benefits and value in new ways that have not been captured by previous popular conceptualizations of value including customer value, experiential value, customer lifetime value, and total customer engagement value. We label this phenomenon *Value Fusion*.

2. Characteristics of Mobile Devices

Smartphones, tablets, and laptops are examples of mobile, networked devices. They combine hardware, software and network technologies within a relatively small product. Their small size enables users to carry them everywhere (portable) and connect to the Internet through a cellular or Wi-Fi network (networked) and thus perform a variety of activities. Although history is marked by many inventions that have enabled communication, entertainment or information dissemination, it is the combination of all these functions in a single, small and connected device, ready to be used anywhere and anytime that sets mobile devices apart from previous inventions. Just as the value of a car is in the combination of its multiple features, the value of mobile devices is in the combination of its unique characteristics. In the context of how customers and firms connect and interact, and in turn create value, five characteristics of mobile devices are relevant: portable, personal, networked, textual/visual and converged.

Portable. Portability is the enabling aspect of mobile computing platforms (MobileMAN Glossary) where a device can be practically carried anywhere and used whenever it is needed. The degree of portability inherently depends on the size and weight of the device. Smartphones are more portable than tablets, and laptops are the least portable. During the last

decade, consumers have placed a higher value on portability and many companies are starting to interact with their customers through mobile platforms. One example that serves as an indicator of the importance of mobile platforms is that according to the Facebook newsroom, out of the one billion monthly active users of Facebook, 600 million of them use Facebook mobile products (Facebook Inc., 2012).

Personal. Mobile devices have positioned themselves into the lives of consumers as highly personal assets. They have the ability to store increasingly large amounts of personal information for their users and those who own such devices tend to use them on a constant basis. Furthermore, personalizing mobile devices is a highly popular practice, demonstrated by the existence of a multi-million dollar industry for accessories such as cases and skins. This aspect also significantly impacts the usage scenarios for consumers, resulting in a large number of apps and app stores flourishing for an assortment of needs and types of customers. Tim Cook, the current CEO of Apple Inc. announced in June 2012 that their App Store had 650,000 apps that have been downloaded more than 30 billion times (Satariano, 2012). The personal differences do not end at which accessories or apps people use, but also on which platforms they use them (iOS vs. Android vs. BlackBerry vs. Windows Mobile). Furthermore, some customers are so much attached to their device, that they actually give it a name. Marketers have introduced the endearing label *companion device* to describe the often intimate relationship between owners and their mobile devices (Fallahkhair *et al.*, 2007).

Networked. One of the most important aspects of a mobile device is its increasingly faster connectivity to the Internet and therefore to a vast array of information sources. A wireless connection enables individuals to benefit from their online network immediately. For example, customers can instantly learn about competitors' offerings and prices while shopping in a store using their smartphones, or they can share their shopping experience using their social accounts while the encounter is taking place, as opposed to waiting until they get home. Being networked inherently implies anytime, anywhere, but also just-in-time (when there is a need to produce or consume) and in real time (without any delays).

Textual/Visual. The ability to communicate with textual or visual content, in addition to the audio exchange enabled by traditional telephony, is another important characteristic of mobile devices. Consider for instance the popularity of Instagram, with over 100 million users sharing photos worldwide (Taylor, 2012). Being able to access, receive and share visual data using mobile devices has yielded many possibilities. Note that such information can be substantial (e.g., browsing product and price information on multiple websites, online reviews and forums while being at a particular shop), and is not limited to SMS. Other examples of visual information include sharing pictures of yourself while using the product or experiencing the service (and perhaps having friends "vote" on the product even before it has been purchased) and searching for pictures or product demos when needed.

Converged. Convergence of technologies has enabled users to own a single device to access a wide array of functions and services. For example, consumers can make phone calls, check emails, locate themselves on a map, watch videos, and complete their shopping from their mobile device. Hence, individuals do not need to adopt and pay for an assortment of equipment and/or services, but rather can just pick and choose what they need on a single device they already own. This produces a unique and challenging opportunity for companies since it enables multichannel relationships with their customers.

In sum, the combination of characteristics of mobile devices enables users to carry them anywhere and everywhere and use them anytime and all the time (portable), to connect to or communicate with anyone or everyone (networked), exchange different types of information (textual & visual) for their own specific purpose (personal), or a combination of purposes (converged). Essentially, these devices enable users to easily connect to the outside world whenever they want. This makes the mobile device truly unique.

3. The value of being mobile and networked

In this section, we introduce and define the concept of Value Fusion and we discuss how it differs from related concepts such as customer value (CV), experiential value (EV), customer lifetime value (CLV) and total customer engagement value (CEV).

Table 1 provides an overview of the value concepts to be discussed in sections 3.1, 3.2 and 3.3.

INSERT TABLE 1 ABOUT HERE.

3.1 Value to Consumers

We use the term “consumers” in a broad way to include both consumers of a focal brand as well as consumers of competitive products and even consumers at large. Those who join the discussion about a particular brand do not necessarily have to own or consume the product (e.g., Diamond *et al.*, 2009; Thompson *et al.*, 2006). Many people join the online discussion about the 4x4 Porsche Cayenne with positive or negative comments (and hence co-create the brand’s image), but only a few actually own a Porsche or a Cayenne.

The notion of “value” and the “value proposition” is central to services marketing, as well as most other areas of marketing. Kotler (2000) defines value from the perspective of the customer. He posits that CV is the result of customers’ assessment in weighing the bundle of benefits against the bundle of costs they expect to incur in evaluating, obtaining, and using the product or service (Kotler, 2000). The value proposition is a core component of a brand’s positioning, which “articulates the goal that a consumer will achieve by using the brand and explains why it is superior to other means of accomplishing this goal” (Tybout and Sternthal, 2005, p. 11). One role of marketing is to understand and explain the value an intended consumer derives from the product or service.

This article focuses on mobile and social media, and we therefore concentrate our discussion on the value consumers derive specifically from engaging with these media forms. Understanding how consumers derive value from mobile and social media will help firms create experiences for consumers that are engaging and meaningful. Different streams of research categorize the value derived by consumers from media in different ways. The social psychology and communication literature has attempted to explain media consumption in general by assuming consumers are *active* agents who make purposeful, rational decisions to gratify individual needs with media. “Uses and gratifications” research posits four main areas (e.g., McQuail, 1983, pp. 82-3):

- *Information*—finding out about relevant events and conditions in immediate surroundings, society and the world; seeking advice on practical matters or opinion and decision choices; satisfying curiosity and general interest; learning, self-education; gaining a sense of security through knowledge.
- *Personal Identity*—finding reinforcement for personal values; finding models of behaviour [sic]; identifying with valued others (in the media); gaining insight into one’s self.
- *Integration and Social Interaction*—gaining insight into the circumstances of others: social empathy; identifying with others and gaining a sense of belonging; finding a basis for conversation and social interaction; having a substitute for real-life companionship; helping to carry out social roles; enabling one to connect with family, friends and society.
- *Entertainment*—escaping, or being diverted, from problems; relaxing; getting intrinsic cultural or aesthetic enjoyment; filling time; emotional release; sexual arousal.”

In the following section, we present different types of value that consumers may derive from mobile devices, but possible values for consumers are not limited to that list, nor are the values in the list mutually exclusive.

Informational Value: Mobile technology offers the customer the opportunity to search for and find information that is relevant in making consumption decisions. Mobile users routinely obtain information from product reviews, mapping and navigation apps, and company websites. If desired, the customer can be as knowledgeable as the salesperson, and can verify or refute any claims made by service personnel or salespeople. The customer feels empowered in making consumption decisions. For instance, while on the premises of a retailer one could check the price of a competitor or investigate alternative products or services. The customer is able to get a second opinion (or even a thousand second opinions) about any decision by screening online reviews: which one to buy? A woman, for instance, may take a picture of herself with the red dress and one with the blue one using her mobile phone, send it off to her friend, and ask: “Which one should I buy: the red one or the blue one? Bank account holders may request their account’s balance anytime and travelers may subscribe to SMS-alerts notifying them of changes in the departure time or gate of their flight.

Identity Value: Mobile services are a way to express personality, status and image in a public context (Leung and Wei, 2000; Moon 2002). Many of the branding strategies of smartphones focus on identity with, for example, an iPhone projecting a different identity than an Android or Blackberry. The act of “liking” some product or band affirms one’s membership in a “club” and also projects identity (e.g., Algesheimer *et al.*, 2005). Mersey (2011, ch. 7) discusses the “identity experience” with media.

Social Value: Mobile devices and social media facilitate social interactions. Mobile devices can also be used to gain social approval and enhance self-image among other individuals (Bearden and Netemeyer, 1999). Apps and services such as Facebook and Twitter enable customers to upload and share pictures, thoughts and experiences anywhere, anytime with other people. Media can also be used to identify with others, to express empathy and to gain a sense of belonging (McQuail, 1983). A discussion of the social-interactive engagement in Calder *et al.* (2009) and the “talk about and share experience” in Peck and Malthouse (2011, ch. 14) covers these issues.

Entertainment and Emotional Value: Entertainment value has many hedonic aspects. The mobile device can amuse users through streaming music or video, playing (online) games (e.g. the immensely popular game app Angry Birds), or glancing through the news headlines. Often, people just browse through web pages on their mobile device to kill time while waiting for the bus. See discussion of the “timeout” (ch. 11) and “entertainment and diversion” (ch. 12) experiences in Peck and Malthouse (2011). Another aspect of “entertainment” is “emotional release.” Emotional Value is the value derived from feelings or affective states that a product generates (Sweeney and Soutar, 2001). Many users of mobile, networked technology experience immediate pleasure from using the technology, apart from the instrumental or functional value of the technology (Kim *et al.*, 2007; Leung and Wei, 2000). Emotional value may also be related to avoiding negative feelings and solving problem situations while “on the move” (Pura, 2005). Mobile networked services offer the location and route to the nearest police station or hospital. The feeling of security derived from being able to call a relative in case of an emergency has emotional value.

Convenience Value: Convenience value is the value of achieving a task easily, speedily and effectively (Pura, 2005; Mathwick *et al.*, 2001; Anderson and Srinivasan, 2003). Yale and Venkatesh (in 1986, before the introduction of mobile technology) identified six dimensions of convenience: time utilization (time saving or time buying), accessibility (available whenever desired), portability (available wherever desired), appropriateness (fitting to

specific needs), handiness (effort saving capability) and avoidance of unpleasantness (allowing the consumer to avoid displeasing activities). Berry et al. (2002) proposed a comprehensive model of service convenience including six types that reflect consumers' perceived time and effort expenditures during different stages of activities related to buying or using a service: decision convenience, access convenience, transaction convenience, benefit convenience, and postbenefit convenience. Convenience can also be seen as ease of use, whether using the system free of physical, mental or learning effort (Davis, 1989). Mobile technology offers customers convenience value because it facilitates customers to find relevant, targeted, location-based and timely information, enabling them to compare offers and make purchases anytime and anywhere.

Another aspect of convenience is that mobile devices enable customers to achieve multiple tasks simultaneously (multitasking convenience). Mobile devices are also convenient because they facilitate ordering and paying for goods and services (transactional convenience). Customers may download and pay for apps or games to be used on their mobile device and they may also pay for goods or services not delivered through the mobile device. Mobile Commerce (M-commerce) enables customers to contact commercial systems of manufacturers, retailers and service providers anytime, anywhere. Mobile technology is also able to deliver different types of value depending on customer desires in any specific context. For instance, augmented reality apps like Layar provide information about one's immediate physical context (buildings, shops, restaurants, etc.) by pointing the lens of the mobile device in any direction.

A last aspect of convenience is personalization, which includes adapting the mobile device's services to the customer's style and needs. Most mobile networked devices allow users to personalize ring tones, phone interface, style, and background. Personalization is also possible by linking diverse networked services. A customer may, for example, plan automated purchase and delivery of flowers to anyone in a calendar celebrating a birthday (Sigala, 2006). Research suggests that customers perceive personalization as having aesthetic, functional, and emotional/symbolic value (Piller *et al.*, 2004; Abidi, 2003; Sigala, 2006; Moon, 2002).

Monetary Value (discount opportunities): Mobile devices offer the opportunity to choose between competing offers and select the alternative that is superior with regard to price or another characteristic like reliability and durability. A good example of the monetary value of mobile devices is location-based services, offers, or promotions such as those offered by geo-coupon apps. Owing to Global Positioning System (GPS) technology on mobile devices, companies are able to locate where customers are, such that they can send them relevant information whenever they are in close proximity to the company's or advertiser's location.

In sum, the four uses-and-gratifications areas capture four different types of value consumers derive from mobile, social, and traditional media. In addition to these four general areas, we discussed how mobile devices provide a fifth type of value to consumers due to convenience, and a sixth type of value due to monetary benefits.

3.2 Value to firms

We also interpret "firms" broadly, since many different companies are part of the mobile ecosystem. For instance, consumers who buy an Apple iPad or a Google Nexus, also use other services that are offered by application providers (van Riel *et al.*, 2013). The list of stakeholders begins with the owner of a brand that is purchased by the "consumers" discussed in the previous section. It also may include intermediaries such as retailers, e.g., an electronics brand such as Sony which may be distributed, in part, through independent retailers such as Amazon or Best Buy. Platform owners such as Facebook or Apple can also play a role.

Other scholars interpret CV as the value that is generated for the sake of the company instead of the customer. Indeed, as Baird and Parasnis (2012, p. 1) point out, “CRM strategy, enabled by processes and technologies, is architected to manage customer relationships as a means for extracting the greatest value from customers over the lifetime of the relationship.” This is quantified by customer lifetime value (CLV), which “is the present value of the future cash flows attributed to the customer relationship (Pfeifer *et al.*, 2005, p. 17).” In other words, the CLV estimates the discounted profit that a firm will earn from a customer in the future. It measures only the value derived by the firm from a customer relationship and does not consider the value derived by a customer.

We present different types of value that firms may derive from mobile technologies below. Again, the list is not comprehensive and the values are not mutually exclusive.

Additional revenue through deeper relationships: Real-time, location-based promotions can be used to drive incremental purchases. Geo-location enables firms to create relevant, customized promotions (Dickinger and Kleijnen, 2008; Shankar and Balasubramanian, 2009). Firms can use other customer information from a Facebook account or address book information to personalize offers based on their interests, geographic profile, etc. (Varnali and Toker, 2010). In recent years, social login, which allows website visitors to log in using their Facebook, Google, Twitter or other social media account instead of creating a specific one for that website (Drebes, 2011), has gained attention among e-businesses. Social Login provides online retailers access to rich demographic and psychographic data based on the users social media account(s) (e.g. user’s location, interests, hobbies, etc.) allowing them to develop a better view of the customer and to optimize customized offerings. The window for these revenue opportunities increases (Shankar *et al.*, 2010) because the customer is always online. Firms can send promotions at any time, and customers can satisfy their needs and wants at any time. If customers realize a need, they can instantly order the product or service to meet this need. Mobile apps offer companies more connection points and service delivery episodes with the customer. These can be used to build a stronger relationship with the customer and strengthen brand loyalty (Bellman *et al.*, 2011).

Reducing costs: Text messages and emails (targeted at consumers who have opted in) can be substantially less expensive than other media (e.g. catalogs), reducing the costs of marketing to customers. Mobile technology can also reduce the cost of serving customers, e.g., with mobile boarding passes for airplanes, which are less expensive than having a customer check in at a service desk with a flight agent.

Customer co-creation: A customer who posts reviews of a product or service on a mobile is contributing to the promotion of it and to the meaning of the brand. Customers usually carry their mobile device with them, mobile apps offer companies the possibility to integrate the customer into central elements of the service delivery process (e.g. mobile self-check-in).

Market insight and customer knowledge: When mobile devices are connected to the network, they provide positional and usage data to the mobile service and apps provider. The explosion of data represents new opportunities to be explored (Kumar *et al.*, 2013) and may contribute to the company’s market intelligence (Kleijnen *et al.*, 2009). In particular, the capacity of devices to collect instant consumer feedback to an experience may provide valuable information to firms, and its competitors (e.g., at some Aveda spas in the US, they have a sign in the dressing room that invites consumers to send instant feedback on their massage, etc. via text messages).

Real-time tracking/control: The information transfer from mobile device is implemented in real time (Hennig-Thurau *et al.*, 2010). This presents opportunities for companies to receive information about the current status of their customers’ mobile app activities, but also enables them to react just in time on consumer activities.

Customer influence: Mobile devices facilitate the sharing of content. Firms can profit from the effect of reviews, referrals, likes, and other types of recommendations posted by existing customers. Facilitated by the increasing customer connectedness through online platforms and mobile technologies, customers influence each other (Blazevic *et al.*, 2013)

3.3. Defining Value Fusion

The geo-coupon example presented in sections 3.1 and 3.2 demonstrates that value can be achieved for both firms and consumers simultaneously, through both active and passive participation. For the customer, the coupons may induce informational value, monetary value, and convenience. At the same time, they offer an opportunity for firms to track potential customers in real time, generate additional sales via an additional communication channel that might be more effective and cost-efficient than other promotion channels.

Generally, we posit that the richest value, such as in the geo-coupon app example is one that ideally encompasses all four dimensions of value depicted in Figure 1 (that is, active versus passive participation on the one hand, and consumers versus firms on the other), forming a spot around the area where the spectra meet. We label this spot or phenomenon Value Fusion.

INSERT FIGURE 1 ABOUT HERE.

Value Fusion is defined as:

Value that can be achieved for the entire network of consumers and firms simultaneously, just by being on the mobile network. Value Fusion results from producers and consumers (i) individually or collectively, (ii) actively and passively, (iii) concurrently, (iv) interactively or in aggregation contributing to a mobile network (v) in real time and (vi) just-in-time.

More precisely, value in a mobile network may be produced by an individual consumer (writing a hotel review on a travel website) or by consumers collectively (ranking restaurants on a culinary website based on combined customer ratings); by a single firm (putting information about products on their own website) or by firms collectively (all merchants present in the online store). Contributions can be active (uploading information online), passive (reading information online), interactive (responding to earlier contributions) or aggregated (like the most popular searches, top tweets of the day or trending topics). Since there is virtually no time delay, all benefits can be experienced at the same time (concurrently), just-in-time (when there is a need to produce or consume) and in real time (without any delays).

The concept of Value Fusion emphasizes that, in a mobile network, it is increasingly difficult to meaningfully distinguish between production and consumption or between active and passive engagement (Pagani *et al.*, 2011; Jahn and Kunz, 2012). Furthermore, the distinction between active and passive engagement becomes less meaningful, since users, by merely carrying their mobile devices provide locational data to platform owners, network operators and app developers which can be used to track and target users. Just by being on the network, parties may be conscious or unknowing participants in the process of creating Value Fusion. Even by typing in a search word in Google, a customer provides data, which, in aggregated form, is information to the platform owner, other customers or the firm.

Popular conceptualizations of value in the current literature such as CV, CLV, EV, and CEV (See Table 1) are one-sided concepts. In other terms, they focus on capturing either the value derived by the customer from the interactions with the firm, or the value derived by the

firm from their interactions with the customer. Hence, marketers have traditionally thought of value in a compartmentalized way, focusing on either the value derived by the consumer or the value accrued to the firm. Schultz *et al.* (2011) have also noted this limitation and called for measures that capture “reciprocal relationship outcomes.” We see the way value emerges from a mobile network as different from earlier conceptualizations of value. Value Fusion is the synergetic result of consumers and firms being intertwined via mobile technologies, as opposed to value to firms *or* value to consumers in isolation. More precisely, a product or service must provide value to both the firm and consumer, and perhaps other stakeholders; one that fails to provide value for both is unsustainable. Value should be considered more holistically, and value to the consumer and firm should be jointly optimized rather than managed in isolation.

The concept of Value Fusion builds on the customer engagement literature, but takes it one step further. We adopt a similar perspective as Kumar *et al.* (2010) regarding the need to capture *total* value which goes beyond purchases. However, our conceptualization of Value Fusion is different from the notion of total customer engagement value (CEV) in two important ways: First, as aforementioned, Value Fusion is embedded in a much broader network of constituents, and is not restricted to the value that customers add to the firm. It also embodies the value that customers gain from the firm, and from other members in the network including other consumers, non-consumers and even the firm’s competitors. Second, value is also produced through *passive engagement* (e.g., consuming content that is generated by others) without a brand or firm focus, by many participants in the network, for themselves and for others, simultaneously, just-in-time and in real time. Hence, value is not just produced by “*active engagement of a customer*” through “*behavioral manifestations that have a brand or firm focus*”. This is in line with the principles of the experience economy (Pine and Gilmore, 1998), and literature on customers’ experiential value (Holbrook, 1994; Mathwick *et al.*, 2001) that distinguishes between passive customer value (i.e., value derived from the consumer’s comprehension of, appreciation for, or response to a consumption object or experience) and active customer value (i.e., value derived from a heightened collaboration between the consumer and the marketing entity).

4. Examples of Value Fusion

In addition to the Pukkelpop example provided in the introduction section, and the geocoupon app in the former section, this section exemplifies five other cases on how Value Fusion may emerge from mobile networks. Table 2 summarizes the types of value that are discussed below. Note that all potential types of value in each case are not necessarily limited to the ones that are discussed. It is, for instance, possible that someone likes, comments, or recommends a particular app, tweets about it, and shares his/her experiences via Facebook (i.e., social value), and as such influences many other potential users to adopt both the app and the product/service (i.e., customer influence). In a similar vein, using an app, can help someone to express identity (i.e., identity value) and provides knowledge and information to companies (i.e., market insights & customer knowledge, respectively).

INSERT TABLE 2 ABOUT HERE.

Case 1: Location Based Services Apps. The first example of how Value Fusion can be attained is through the usage of a location-based services app for large scale events with multiple points of interest. These may include theme parks, festivals, and concerts. The main problem with large events is generally not the significant number of visitors, but the fact that they are unevenly distributed among the (numerous points of interest. Many visitors typically

follow the same route through the venue, crowding specific points of interest while others receive less attention, or are equally crowded at a later time. This poses a problem for the event managers, because it creates an under-utilization of resources (such as personnel) at certain locations, while resources become over-burdened at others. This situation is undesirable for the visitors because they spend most of their day standing in line. Location-based services can provide a solution to this problem. Visitors can download an app which gives permission to communicate the exact location of the visitor to the events management unit. The management knows at any time how visitors are distributed between the points of interest in the park. This information can be communicated to the visitors, who now can make an informed choice on which point of interest to visit next. Alternatively, the management may make suggestions to visitors through push-notification: “You are just 100 meters away from the amphitheater, where the next dolphin show starts in 5 minutes and three front-row seats are still available”. At a more personalized level, the app can ask visitors for their preferences, which the app can take into account when making suggestions. Similarly, the app may facilitate driving to and finding the nearest spot to park one’s car, paying for the parking space (through mobile billing or Radio Frequency Identification (RFID)), paying the entrance fee, and finding the shortest route back to the car. Visitors can share their experiences with their friends using Twitter or Facebook while experiencing the service and atmosphere, and recommend them to visit this theme park. While exiting the venue, the customer may collect and pay for a personalized photo-album of the visit, and be requested to complete a small satisfaction survey via the mobile device.

In this example, there is value of being in the network for both firms and customers at the same time and in the same location. Almost all types of value discussed in the previous sections are recognizable in this example. The event management gains benefits from market insights, real-time tracking, additional revenue, additional communication, customized solutions, real-time promotion, customer co-production, deeper relationships, and customer influence. Use of the mobile technology enables managers to make their event a more enjoyable experience for both their personnel as well as their visitors. For the visitors, the value is in convenience and monetary, emotional, social and informational value.

Case 2: Local Business Apps. Another example that can create Value Fusion is the use of local business apps. Such apps can use existing information on the mobile device to offer consumers better solutions. Of central importance in this context is the geo-location of the consumer and access to a mobile payment system (which can be based on a hardware extension as well as stored account information or credit card information on the device). The combination of these technologies enable local businesses to send nearby customers immediate offers and make the payment process as effortless as possible (Mrozek *et al.*, 2012). Popular examples of apps and services that serve this purpose include Groupon, Living Social, Gilt, Passbook and Four Square.

Local business apps are mutually beneficial for businesses and customers. Businesses gain extra revenue from nearby customers, who might not have found their business otherwise. Furthermore, the app opens a communication channel to a promising customer and starts a relationship history. Moreover, the company gets more control over the payment process from the order to the final purchase, which means more security and planning stability for them. For customers, local business apps are attractive, because they offer solutions to current consumption needs. It gives consumers a good overview of the local options in the palm of their hand even if they are not familiar with the neighborhood. Local business apps are therefore convenient and offer informational, transactional, and monetary value.

Case 3: Spacial Coordination/Service Ordering Apps. Another area where Value Fusion is created, includes Spacial Coordination / Service Ordering Apps. Examples are the car coordination service by Uber and the “TaxiMagic” app that tell cabs where the customers are

and tell customers where the cabs are. The app also offers customers the possibility to note specific needs (e.g., big cab, credit card payment). Based on the location of the customer, the app determines which taxi agency serves the area. The customer books the cab for a particular time and gets immediate feedback such as where the cab currently is on a map, who the driver is, and what the telephone number is, what the expected fare price is, and when the taxi will arrive. Payment and evaluation of the ride is also facilitated by the same app.

For customers, service-ordering apps are beneficial, because they provide an all-in-one solution. There is no need to get further information (e.g., telephone numbers, prices, travel times, etc.). They are provided with a convenient overview of the process, which increases their perception of control and security. The app is convenient and informational and it offers transactional benefits. Such an app is beneficial for businesses because they get more control of the complete ordering and service delivery process. Because of these different types of value, the app increases customer loyalty and the company has an extra communication channel to reach the customer.

Case 4: Charity/Crowdfunding Apps. Orange, a European mobile services company, initiated a mobile micro-charity volunteering initiative called “Do Some Good” (<http://www.dosomegood.orange.co.uk>). Mobile users are invited to download the app and contribute to a charity in less than five minutes.

Flattr, a social micropayments app facilitates customers to make small donations to anyone who has contributed to something on the web they like. In Flattr, customers deposit a small amount of money in an account, and reward websites, musicians, photographers or any other online contributors with a small donation. This approach is typically referred to as “crowdfunding”. Donations are made by clicking a Flattr-button such as that on, a photographer’s website. The customer’s money is divided by the number of times a Flattr-button is clicked: if the customer clicked 5 times, the money is divided between five people.

These apps produce value for the companies and mobile service provider, for the charities partnering in the project and for the participating citizens. The company image gets a boost for facilitating this charitable endeavor, the charities benefit from monetary contributions or information and the customer feels good about himself/herself (emotional value) and is valued by others (social value) through their contribution.

Case 5: Co-Creation / Crowdsourcing Apps. There are a number of mobile apps which create value for both customers (in this case: citizens) and firms (in this case: public services) by collecting incidents or events from many users and combining them to produce information that can be used to benefit both citizens and public services.

For instance, Wikicrimes (www.wikicrimes.org, 2012) offers mobile users the opportunity to report or view any crimes in their area. Visitors and future homeowners can find out types and rates of specific crimes in any area. Citizens are better informed about the risk of crime in their neighborhoods, and can take preventive action.

CNN’s iReport (www.iReport.cnn.com, 2012) invites people from around the world to upload stories, photos, and videos that they think deserve attention from a wider audience. iReport enables CNN to benefit from points of view, photos, videos and reports from many more people than just their own staff. Readers benefit from stories, pictures and points of view that would perhaps otherwise have remained unnoticed.

These apps generate multiple types of value for many constituents. Citizens co-create information for the benefit of themselves, the public service and others. They can get involved in contributing to something good, which may produce both emotional and social value. For public services, the information provides market insights and perhaps leads to a better relationship with the public.

5. Essential Conditions for Value Fusion

The likelihood of Value Fusion to occur within mobile social networks hinges on various factors. Constituents need to embrace mobile devices and their apps. The decision to adopt and use mobile devices may, however, depend on several factors.

First, the privacy-versus-relevance trade-off is not the same for every individual. Customers may perceive benefits and value from their mobile device, but they may also have concerns about privacy and trust. In addition, an individual's privacy and trust perceptions are not necessarily the same for all firms, since some firms may, for instance, have built a good reputation for trustworthiness and having high privacy standards. Each individual will need to find his or her own optimal balance, but platform owners and app developers may help them by being clear about which information is collected by whom for what purpose. Also the reputation and trustworthiness of these intermediate platforms will play an increasingly important role in the value fusion process between firms and customers.

Second, as with the use of other technologies, perceived ease of use, usefulness, social norms, the diffusion of innovations, constituents' need for personal interaction, technological self-efficacy and readiness including role clarity, role ability, and role motivation (Dabholkar and Bagozzi, 2002; Meuter *et al.*, 2005; Rogers, 1962; Venkatesh and Bala, 2008; Venkatesh and Davis, 2000) are likely to play an important role in the adoption of mobile technology.

Third, some individuals are innovators or early adopters of mobile devices and their apps, whereas others will never adopt them (e.g., Lassar *et al.*, 2005). The readiness to embrace new technologies is different among individuals (Parasuraman, 2000) since distinct segments of customers with different propensities (and motivations) for using technology-based offerings are likely to exist (Parasuraman and Colby, 2001). It is also important to acknowledge the heterogeneity between constituents at a more aggregate level including different generations (Bolton *et al.*, 2013). Some generations grew up with typing machines, others with desktops, laptops, and/or mobile devices. For instance, emotional value was found to have a stronger effect on satisfaction with mobile services for Gen Y (born between 1980 and 1994), whereas economic value was more influential for baby boomers (between 1946 and 1964) (Kumar and Lim, 2008). Similarly, the value in use of mobile devices may be different for individuals. Baird and Parasnis (2012) found that 70% of respondents want to connect with family and friends, 49% want to access news, 46% want to access entertainment, 42% want to share opinions, 39% want to access reviews, 38% want to meet people and 23% want to interact with brands. Consequently, mobile service/platform providers "need to forego their one-service-fits-all attitude" (Kumar and Lim, 2008, p. 574) and adjust mobile strategies and apps' design to their respective target segment(s) of customers, which are themselves changing.

Fourth, the usage of mobile devices and its apps varies across countries and cultures since penetration rates, available apps, preferred/available operating systems, and other aspects differ. Indeed, national culture has been found to moderate the perceived (after-sales) service quality-satisfaction relationship particularly when a service contact mode is mediated by technology (van Birgelen *et al.*, 2002). Differences in cultural dimensions, such as power distance, individualism, masculinity, and uncertainty avoidance (Hofstede, 1980, 1991) are likely to cause customers to evaluate and behave differently with respect to mobile technology across countries. Lee *et al.* (2007, p. 16) confirm such differences using the concept of culture-technology fit being "the degree of congruence between the features of an IT (here, the mobile Internet) and a user's individual cultural characteristics". Overall, this implies that culture is a factor that also needs to be taken into consideration when investigating the adoption of mobile technology across and within countries.

Fifth, for Value Fusion to occur, the mobile network not only needs "passive" constituents, but also "active" constituents. Being an active or passive member of the network is, however, not a pure and fixed constituent characteristic; businesses and consumers may change roles in their network activities (Pagani *et al.*, 2011; Jahn and Kunz, 2012). The same

constituent may switch between being active and passive for a particular product, service, or brand over time (longitudinal heterogeneity) and at the same time (cross-sectional heterogeneity). For instance, a customer may initially just consume other user-generated content or browse different company websites, such that better decisions on what to buy and from whom can be made. Later, when the customer has gained more experience with the product or service, has built a relationship with a specific firm or brand, and becomes more involved, that same person can decide to write online reviews himself/herself. Factors such as trust in and commitment toward the product/service/brand, as well as reputational and privacy concerns can be expected to be strong determinants of this longitudinal shift in online consumer behavior (Eastlick *et al.*, 2006), such as choosing to become active in mobile social networks (or not). Similarly, it is likely that some individuals feed brand communities, e.g., as a result of their social identity (Algesheimer *et al.*, 2005), whereas at the same time they do not want any social and public association with other brands or companies they are doing business with. This may be closely related to the strength of a particular brand.

The same heterogeneity holds for business members of social networks; some firms may create a business Facebook page and just observe their number of fans, number of likes, and shares. In contrast, other companies try to actively feed the community and keep it alive through active participation or closely monitoring the online buzz and react promptly to it.

6. Negative Value Fusion: Value Confusion

Having associated Value Fusion with positive outcomes for network constituents, there may also be a negative side to the use of mobile technology. Since the co-creation of value requires constituents to bring in emotional and cognitive capabilities (Payne *et al.*, 2008) joint efforts in value co-creation may increase the perceived level of complexity (Hoyer *et al.*, 2010). When information provided through mobile technology is perceived to be overwhelming or perhaps even conflicting, due to cognitive limitations this is likely to result in a phenomenon that we refer to as *Value Confusion* (or Negative Value Fusion). Indeed, information overload, information dissimilarity, and information ambiguity can result in confusion (Kasper *et al.*, 2010; Mitchell *et al.*, 2005). Obviously, massive amounts of information are available via the Internet. Through a mobile technology network constituents can access this information anytime and anywhere they want, but at the same time they need to screen it, select the most relevant parts, and summarize it in the format they want. Aggregating and forming an opinion regarding the available information becomes even more complex if the information is conflicted, something that is more likely to occur when a network increases in size. For instance, when screening online reviews of some hotels in a certain city, individuals can be confronted with both positive and negative feedback about the same hotel. The result of this will be reduced value, both for customers (e.g., getting confused, annoyed, frustrated) and businesses (e.g., defecting customers, negative word-of-mouth).

Overwhelming and conflicting information can also result in negative consequences for firms. For instance, not all firms are ready to handle big data that is generated via mobile technologies and social media; especially in these situations when a reaction from the firm seems warranted. Customers may, for instance, tweet about a negative service experience without formulating a complaint directly to the firm itself. In light of this, some companies have started so-called 'webcare'-initiatives (Van Noort and Willemsen, 2012), tracking and responding successfully to such harmful feedback, whereas other firms don't know (yet) how to trace such information or to respond. Being connected all the time with customers and other stakeholders, and the need respond properly and quickly (i.e., through active participation in the network) might have implications for a firm's employees who need to learn how to deal with it (e.g., role clarity, ability, motivation, and stress). Suggestions about a

firm's or its competitors' products/services provided by consumers can also be overwhelming, too diverse and even contradictory such that it becomes more difficult for a firm to deal with it. Moreover, the different types of data are typically available in formats that are difficult to analyze with conventional analysis tools and practices that are familiar to firms. Some firms seize the opportunities of the recent advances in mobile technologies and are able to create competitive advantages successfully, whereas others are confused and not ready yet, or even not fully aware of its potential benefits or drawbacks.

Value Confusion (or Negative Value Fusion) is defined as:

Negative consequences that result from the mobile network as caused by, for example, information overload, ambiguity, or the stress of being "connected" all the time. These negative consequences can be experienced by both consumers and firms and are heterogeneous (i.e., the extent of confusion is depending on individual differences between constituents). Negative Value Fusion is also present in networks that fail to provide value for both consumers and firms, and hence, do not create mutual value.

Furthermore, privacy and security related concerns possibly inhibit the occurrence of Value Fusion in mobile networks. As mentioned before, firms can accurately trace where potential customers are located and target them with offers using GPS technology. In addition, mobile platform owners may collect a vast array of information about their users and sell these to the highest bidder who in turn can offer personalized ads to platform members. In line with other Internet channels, security becomes particularly important when making transactions and transferring money via a mobile device. It is clear that such practices raise some ethical and privacy concerns, likely to harm the Value Fusion potential of mobile networks. As also discussed in the previous section, the willingness to give up one's personal privacy in order to retrieve information and thus value from the network is heterogeneous. Network members may be willing to provide personal information, but at the same time they may be concerned about the security of the respective platform.

7. Research Questions

Mobile devices have revolutionized the way we live, and there is widespread expectation that they will have "game-changing" implications for marketing in the near future (MSI, 2012). Therefore, research is needed to help us understand how mobile technologies are likely to change conventional wisdom about how customers and firms connect, interact and do business, and finally culminate in mutual, synergetic value, a phenomenon we label as Value Fusion. In this section, we propose some avenues for further research. Note, however, that this list of open research questions is not intended to be comprehensive.

First, striking a balance between creating value for the consumer and creating value for the firm, offers a first important research question. The central Value Fusion concept of this paper argues that the two components do not form a zero-sum game. There is the opportunity for synergy between the two, where creating additional value for the consumer also creates more value for the firm. If such synergy exists, the firm will still have to manage trade-offs between the two. Also, while metrics already exist to measure value to the consumer and value to the firm, we need new metrics to capture the synergy between the two. In addition, one challenge to calculating value holistically is the fact that constituents (e.g., consumers) can have multiple goals and there are many different types of consumers with different goals. Hence, for future research it will be important to find ways to deal with such heterogeneity in value maximization.

Second, what types of conditions and phenomena would lead to a tipping point at which Value Fusion can transition into Value Confusion? What circumstances can impact the “rate” at which this change occurs? What kind of effective measures can be taken to prevent or hinder the occurrence of confusion? How can confusion be effectively monitored? If and when it occurs, what immediate actions, if feasible, can be taken by various entities to counter-act this negative effect (or at least slow it down/keep it under control)?

Third, the role of platforms owners (e.g., app developers, social media networks, etc.) in generating Value Fusion represents another avenue for research. To what extent will these constituents determine the Value Fusion landscape as intermediate partners that promote mutual customer-firm relationships while at the same time striving for own profit?

A fourth research question concerns the relationship between different types of consumer value and future purchase behaviors: which types of value cause higher purchasing levels (and other relevant outcomes such as affective loyalty), or other outcomes such as well-being? For example, how effective are interactions delivering tangible value such as discounts and coupons in driving future purchases relative to interactions that do not provide tangible value? We conjecture that social media activities that promote engagement with the brand would cause larger increases in future purchases of the brand than activities that are not related to the brand, but this conjecture should be tested (Wirtz *et al.*, 2013). If it is true, then companies would seem to have a more difficult task in creating contact points in social media, since Baird and Parasnis (2012, p 7) find that consumers are much more likely to use social media to “connect with friends and family” than to “interact with brands.” Marketers could find themselves in a difficult position, where interactions that are not focused on the brand have no effect on future purchase behavior, while consumers refuse to participate in brand-focused activities.

Fifth, what type of advertising campaigns or other efforts can be put into effect to enhance the degree by which various entities contribute to the creation of Value Fusion, both actively and passively? Conversely, what changes do businesses need to undergo in their management processes to fully leverage this new concept to the fullest extent? Is there a need to stimulate active participation, and how? For instance, what are the benefits of “webcare” activities (e.g., Van Noort and Willemsen, 2012)?

Sixth, which forthcoming mobile technologies on the horizon will likely have the most impact on the concept of Value Fusion? Which of those technologies will exacerbate the existing degree of confusion? The technological development of mobile devices will continue and expand the scope of apps. For instance, mobile payment systems are in the process of replacing the personal wallet of the customer and more research is needed as to what kind of value is generated by such technology extensions for consumers as well as businesses. Further, what do firms need to consider to ensure that such technological extensions lead to Value Fusion?

Seventh, what type of new apps and technologies can be created to specifically serve the purpose of creating/enhancing/sustaining Value Fusion? For instance, in addition to being portable, personal, networked, textual/visual and converged, what kind of sixth new feature of mobile technologies can contribute to Value Fusion? In addition, the different types of value discussed in section 3.1 and 3.2 of this paper are not exhaustive. New and other types of value are likely to be identified, especially when new mobile technologies and apps unfold over time.

Eighth, customers may use different channels and devices to search, order, track, and deliver goods and services. It is unclear whether they expect similar or different functionalities and levels of service from each of these channels. More research is needed on how customers choose, adopt, use, experience and evaluate different channels including the

mobile device and its apps. Is mobile a distinct channel and does it subsume others? How do we embed it in an integrated multichannel strategy?

Finally, every constituent in a mobile technology-facilitated network needs to find the optimal balance between privacy and security concerns on the one hand and the potential for Value Fusion on the other. Whether the impact of mobile devices is in a positive or negative way (i.e., Value Fusion versus Value Confusion) is personal and depends on constituent and situational heterogeneity. Future research efforts should be directed at constituent heterogeneity and situation-related contingencies causing Value Fusion to convert into Value Confusion, using cross-sectional and longitudinal research designs.

8. References

- Abidi, A. (2003), "Customer relationship personalization on the Internet: A conceptual framework", paper presented at the 2nd International Conference on Mass Customization and Personalization, 6-8 October, Munich.
- Algesheimer, R., Dholakia, U.M. and Herrman, A. (2005), "The social influence of brand community: evidence from European car clubs", *Journal of Marketing*, Vol. 69 No. 3, pp. 19-34.
- Anderson, R.E. and Srinivasan, S.S. (2003), "E-satisfaction and e-loyalty: a contingency framework", *Psychology & Marketing*, Vol. 20 No. 2, pp. 123-138.
- Baird, C. H. and Parasnis, G. (2012), *From Social Media to Social CRM*, IBM, IBM Global Services, Somers, NY.
- Bearden, W. and Netemeyer, R. (1999), *Handbook of Marketing Scales: Multi-Item Measures for Marketing and Consumer Behavior Research*, 2nd ed., Sage, London.
- Bellman, S., Potter, R. F., Treleaven-Hassard, S., Robinson, J. A. and Varan, D. (2011), "The Effectiveness of Branded Mobile Phone Apps", *Journal of Interactive Marketing*, Vol. 25 No. 4, pp. 191-200.
- Berry, L.L., Seiders, K., and Grewal, D. (2002), "Understanding Service Convenience", *Journal of Marketing*, Vol. 66 No. 3, pp. 1-17.
- Blazevic, V., Hammedi, W., Garnefeld, I., Rust, R.T., Keiningham, T.L., Andreassen, T.W., Donthu, N. and Carl, W. (2013), "Beyond Traditional Word-of-Mouth: An Expanded Model of Customer-Driven Influence", *Journal of Service Management*, Vol. 24 No.3, pp.
- Bolton, R.N., Parasuraman, A., Hoefnagels, A., Migchels, N., Kabadayi, S., Gruber, T., Komarova Loureiro, Y. and Solnet, D. (2013), "Understanding Generation Y and their use of social media: A review and research agenda", *Journal of Service Management*, Vol. 24 No.3, pp.
- Calder, B J., Malthouse, E. C., and Schaedel, U. (2009), "Engagement with Online Media and Advertising Effectiveness", *Journal of Interactive Marketing*, Vol. 69 No. 1, pp. 321-331.
- CNN iReport (2012), available at: <http://ireport.cnn.com/> (accessed 20 October 2012).
- Coscarelli, J. (2012), "Hurricane Sandy: A Perfect Social Media Storm", available at: <http://nymag.com/daily/intelligencer/2012/10/hurricane-sandy-perfect-social-media-storm.html> (accessed 12 December 2012).
- Dabholkar, P.A. and Bagozzi, R.P. (2002), "An attitudinal model of technology-based self-service: moderating effects of consumer traits and situational factors", *Journal of the Academy of Marketing Science*, Vol. 30 No. 3, pp. 184-201.
- Davis, F.D. (1989), "Perceived usefulness, perceived ease of use, and user acceptance of information technology", *MIS Quarterly*, Vol. 13, No. 3, pp. 319-340.
- Diamond, N., Sherry, Jr., J.F., Muñiz, Jr., A.M., McGrath, M.A., Kozinets, R.V., and

- Borghini, S. (2009), "American Girl and the Brand Gestalt: Closing the Loop on Sociocultural Branding Research", *Journal of Marketing*, Vol. 73 No. 3, pp. 118 - 134.
- Dickinger, A. and Kleijnen, M. (2008), "Coupons going wireless: Determinants of consumer intentions to redeem mobile coupons", *Journal of Interactive Marketing*, Vol. 22 No. 3, pp. 23–39.
- Drebes, L. (2011), "Social Login Offers New ROI from Social Media", available at: http://blogs.hbr.org/cs/2011/10/social_login_offers_new_roi_fr.html, Harvard Business Review Blog Online (accessed 21 January 2013).
- Eastlick, M.A., Lotz, S.L. and Warrington, P. (2006), "Understanding online B-to-C relationships: an integrated model of privacy concerns, trust, and commitment", *Journal of Business Research*, Vol. 59 No. 8, pp. 877-886.
- Facebook Inc. (2012), "Facebook Key Facts", available at: <http://newsroom.fb.com/content/default.aspx?NewsAreaId=22> (accessed 20 October 2012).
- Fallahkhair, S., Pemberton, L. and Griffiths, R. (2007), "Development of a cross-platform ubiquitous language learning service via mobile phone and interactive television", *Journal of Computer Assisted Learning*, Vol. 23 No. 4, pp. 312–325.
- Flock, E. (2011), "Pukkelpop stage collapses, kills one, injures 40", available at: http://www.washingtonpost.com/blogs/blogpost/post/pukkelpop-stage-collapses-kills-one-injures-40-video/2011/08/18/gIQAt7l8NJ_blog.html (accessed 4 July 2012).
- Hennig-Thurau, T., Malthouse, E., Friege, C., Gensler, S., Lobschat, L., Rangaswamy, A., and Skiera, B. (2010), "The Impact of New Media on Customer Relationships", *Journal of Service Research*, Vol. 13 No. 3, pp. 311–330.
- Hofstede, G. (1980), *Culture's Consequences: International Differences in Work-related Values*, Sage Publications, Beverly Hills, CA.
- Hofstede, G. (1991), *Cultures and Organizations: Software of the Mind*, McGraw-Hill, London.
- Holbrook, M. B. (1994), "The Nature of Customer Value: An Axiology of Services in the Consumption Experience", in Rust, R. and Oliver, R.L. (Eds.), *Service Quality: New Directions in Theory and Practice*, Sage, Newbury Park, pp. 21-71.
- Hoyer, W.D., Chandy, R., Dorotic, M., Krafft, M. and Singh, S.S. (2010), "Consumer cocreation in new product development", *Journal of Service Research*, Vol. 13 No. 3, pp. 283-296.
- Jahn, B. and Kunz, W. (2012), "How to Transform Consumers into Fans of Your Brand", *Journal of Service Management*, Vol. 23 No. 3, pp. 344-361.
- Kasper, H., Bloemer, J. and Driessen, P.H. (2010), "Coping with confusion: the case of the Dutch mobile phone market", *Managing Service Quality*, Vol. 20 No. 2, pp. 140-160.
- Kim, H-W., Chan, H.C. and Gupta, S. (2007). "Value-based Adoption of Mobile Internet: An Empirical Investigation", *Decision Support Systems*, Vol. 43, No. 1, pp. 111-126.
- Kleijnen, M., Lievens, A., de Ruyter, K. and Wetzels, M. (2009), "Knowledge creation through mobile social networks and its impact on intentions to use innovative mobile services", *Journal of Service Research*, Vol. 12 No.1, pp. 15-35.
- Kotler, P. (2000), *Marketing Management*, Prentice Hall, N.J.
- Kumar, A. and Lim, H. (2008), "Age differences in mobile service perceptions: comparison of Generation Y and baby boomers", *Journal of Services Marketing*, Vol. 22 No. 7, pp. 568-577.
- Kumar, V., Aksoy, L., Donkers, B., Venkatesan, R., Wiesel, T. and Tillmans, S. (2010), "Undervalued or Overvalued Customers: Capturing Total Customer Engagement Value", *Journal of Service Research*, Vol. 13 No. 3, pp. 297-310.
- Kumar, V., Chattaraman, V., Neghina, C., Skiera, B., Aksoy, L., Buoye, A. and

- Henseler, J. (2013), "Data-Driven Services Marketing in a Connected World", *Journal of Service Management*, Vol. 24 No.3, pp.
- Lassar, W.M., Manolis, C. and Lassar, S.S. (2005), "The relationship between consumer innovativeness, personal characteristics, and online banking adoption", *International Journal of Bank Marketing*, Vol. 23 No. 2, pp. 176-199.
- Lee, I., Choi, B., Kim, J. and Hong, S.-J. (2007), "Culture-technology fit: effects of cultural characteristics on the post-adoption beliefs of mobile Internet users", *International Journal of Electronic Commerce*, Vol. 11 No. 4, pp. 11-51.
- Leung, L. and Wei, R. (2000), "More than just talk on the move: uses and gratifications of the cellular phone", *Journalism and Mass Communication Quarterly*, Vol. 77 No. 2, pp. 308-320.
- Mathwick, C., Malhotra, N. and Rigdon, E. (2001), "Experiential value: conceptualization, measurement and application in the catalogue and Internet shopping environment", *Journal of Retailing*, Vol. 77 No. 1, pp. 39-56.
- McQuail, D. (1983), *Mass Communication Theory, an Introduction*, London: Sage.
- Mersey, R.D. (2011), "The Identity Experience" in Peck, A. and Malthouse, E. (Eds.), *Medill on Media Engagement*, Hampton Press, Cresskill, NJ, pp. 81-94.
- Meuter, M.L., Bitner, M.J., Ostrom, A.L. and Brown, S.W. (2005), "Choosing among alternative service delivery modes: an investigation of customer trial of self-service technologies", *Journal of Marketing*, Vol. 69 No. 2, pp. 61-83.
- Mitchell, V.W., Walsh, G. and Yamin, M. (2005), "Towards a conceptual model of consumer confusion", *Advances in Consumer Research*, Vol. 32, pp. 143-150.
- MobileMAN Glossary, available at: <http://mobileman.projects.supsi.ch/index.html> (Accessed 10 July 2012).
- Moon, Y. (2002), "Personalization and personality: some effects of customizing message style based on customer personalities", *Journal of Consumer Psychology*, Vol. 12 No. 4, pp. 313-326.
- Mrozek, A., Falk, T. and Kunz, W. (2012), "Cash, card, and mobile payments and their effect on overall store price image and willingness to pay", unpublished working paper, EBS: Wiesbaden.
- MSI (2012), *MSI Research Priorities 2012-2014*, Marketing Science Institute, Boston.
- Pagani, M., Hofacker, C. F. and Goldsmith, R. E. (2011), "The influence of personality on active and passive use of social networking sites", *Psychology and Marketing*, Vol. 28 No. 5, pp. 441-456.
- Parasuraman, A. (2000), "Technology Readiness Index (TRI): A Multiple-Item Scale to Measure Readiness to Embrace New Technologies", *Journal of Service Research*, 2000, Vol. 2 No. 4, pp. 307-320.
- Parasuraman, A. and Colby, C.L. (2001), *Techno-Ready Marketing: How and Why Your Customers Adopt Technology*, The Free Press, New York
- Payne, A.F., Storbacka, K. and Frow, P. (2008), "Managing the co-creation of value", *Journal of the Academy of Marketing Science*, Vol. 36 No. 1, pp. 83-96.
- Peck, A. and Malthouse, E. (2011), *Medill on Media Engagement*, Hampton Press, Cresskill, NJ.
- Pfeifer, P., Haskins, M., and Conroy, R. (2005), "Customer Lifetime Value, Customer Profitability, and the Treatment of Acquisition Spending", *Journal of Managerial Issues*, Vol. XVII No. 1, pp. 11-25.
- Piller, F., Moeslein, K. and Stotko, C. (2004), "Does mass customisation pay? An economic approach to evaluate customer integration", *Production & Planning*, Vol. 15 No. 4, pp. 435-444.

- Pine, B.J. and Gilmore, J.H. (1998), "Welcome to the experience economy", *Harvard Business Review*, Vol. 76 No. 4, pp. 97-105.
- Pura, M. (2005), "Linking perceived value and loyalty in location-based mobile services", *Managing Service Quality*, Vol. 15 No. 6, pp. 509-38.
- Rogers, E.M. (1962), *Diffusion of Innovations*, The Free Press, New York.
- Satariano, A. (2012), "Apple Has Paid Developers \$5 Billion Amid 30 Billion Downloads", available at: <http://www.bloomberg.com/news/2012-06-11/apple-has-paid-developers-5-billion-amid-30-billion-downloads.html> (accessed 20 October 2012).
- Schultz, Malthouse and Pick (2011), "From CM to CRM to CN2: A Research Agenda for the Marketing Communications Transition", paper presented at the Academy of Marketing Sciences, 19-23 July, Reims, France.
- Shankar, V. and Balasubramanian, S. (2009), "Mobile Marketing: A Synthesis and Prognosis", *Journal of Interactive Marketing*, Vol. 23 No. 2, pp. 118-129.
- Shankar, V., Venkatesh, A., Hofacker, C. and Naik, P. (2010), "Mobile Marketing in the Retailing Environment: Current Insights and Future Research Avenues", *Journal of Interactive Marketing*, Vol. 24 No. 2, pp. 111-120.
- Sigala, M. (2006), "A framework for developing and evaluating mass customization strategies for online travel companies", paper presented at the 13th ENTER Annual Conference, organized by IFITT, 18-20 January, Lausanne.
- Sweeney, J.C. and Soutar, G.N. (2001), "Consumer perceived value: the development of a multiple item scale", *Journal of Retailing*, Vol. 77 No. 2, pp. 203-220.
- Taylor, C. (2012), "Instagram Has 100 Million Users, Says Zuckerberg", available at: <http://mashable.com/2012/09/11/instagram-100-million/> (accessed 21 January 2013)
- Thompson, C.J., Rindfleisch, A., and Arsel, Z. (2006), "Emotional Branding and the Strategic Value of the Doppelgänger Brand Image", *Journal of Marketing*, Vol. 70 No. 1, pp. 50-64.
- Tybout, A. and Sternthal, B. (2005), "Brand Positioning", in Calkins, T. and Tybout, A. (Eds.), *Kellogg on Branding*, Wiley, New York, pp. 11-26.
- Van Birgelen, M., De Ruyter, K., De Jong, A. and Wetzels, M. (2002), "Customer evaluations of after-sales service contact modes: an empirical analysis of national culture's consequences", *International Journal of Research in Marketing*, Vol. 19 No. 1, pp. 43-64.
- Van Peteghem, D. and Caudron, J. (2011), "Hoe het Pukkelpop-drama de echte kracht toont van social media", available at: <http://www.dearmedia.be/2011/08/19/ho-e-het-pukkelpop-drama-de-echte-kracht-toont-van-%E2%80%99sociale%E2%80%99-media/> (accessed 4 July 2012).
- Van Noort, G. and Willemsen, L.M. (2012), "Online Damage Control: The effects of proactive versus reactive webcare interventions in consumer-generated and brand-generated platforms", *Journal of Interactive Marketing*, Vol. 26 No. 3, pp. 131-140.
- van Riel, A.C.R., Calabretta, G., Driessen, P.H., Hillebrand, B., Humphreys, A., Krafft, M. and Beckers, S.F.M. (2013), "Consumer perceptions of service constellations: Implications for service innovation", *Journal of Service Management*, Vol. 24 No.3, pp.
- Varnali, K. and Toker, A. (2010), "Mobile marketing research: The-state-of-the-art", *International Journal of Information Management*, Vol. 30 No. 2, pp. 144-151.
- Venkatesh, V. and Bala, H. (2008), "Technology Acceptance Model 3 and a research agenda on interventions", *Decision Sciences*, Vol. 39 No. 2, pp. 273-315.
- Venkatesh, V. and Davis, F. (2000), "A theoretical extension of the Technology Acceptance Model: four longitudinal field studies", *Management Science*, Vol. 46 No. 2, pp. 186-204.
- Wikicrimes (2012), available at: <http://www.wikicrimes.org/main.html> (accessed 20 October

2012).

- Wirtz, J., den Ambtman, A., Bloemer, J., Horvath, C., Ramaseshan, B., Van De Klundert, J., Gurhan Canli, Z. and Kandampully, J. (2013), "Managing brands and customer engagement in online brand communities", *Journal of Service Management*, Vol. 24 No.3, pp.
- Yale, L. and Venkatesh, A. (1986), "Toward the construct of convenience in consumer research", *Advances in Consumer Research*, Vol. 13, pp. 403-408.

Figure 1: The Value Sphere of Constituents by Mobile Technology

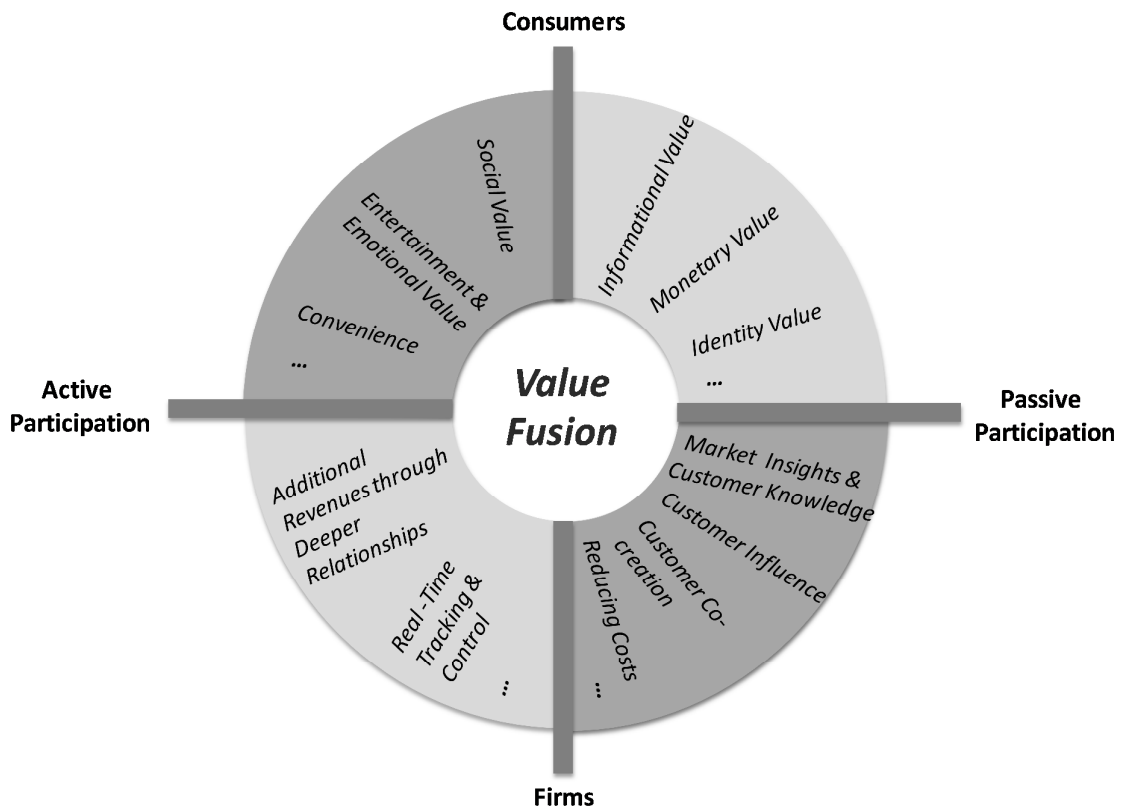


Table 1: Conceptualizations of Value

Conceptualizations of Value	Definition	To whom: The constituent that experiences value			How value is created	
		Consumer	Firm	A broad network of consumers, firms and other stakeholders	Through active participation	Through passive participation
Experiential Value (EV)	The typology of experiential value (which is considered as a subset of the consumer value domain) (Holbrook, 1994) suggests a value landscape divided into four quadrants framed by intrinsic/extrinsic sources of value on one axis and active/passive value on the other (Holbrook, 1994; Mathwick <i>et al.</i> , 2001).	X			X	X
Customer Value (CV)	Kotler (2000) posits that CV is the result of customers' assessment in weighing the bundle of benefits against the bundle of costs they expect to incur in evaluating, obtaining, and using the product or service.	X			X	
Customer Value (CV) / Customer Lifetime Value (CLV)	Baird and Parasnis (2012) point out, "CRM strategy, enabled by processes and technologies, is architected to manage customer relationships as a means for extracting the greatest value from customers over the lifetime of the relationship." This is quantified by customer lifetime value (CLV), which "is the present value of the future cash flows attributed to the customer relationship (Pfeifer <i>et al.</i> , 2005)."		X		X	
Total Customer Engagement Value (CEV)	Kumar <i>et al.</i> (2010) propose a new perspective on assessing the total value customers represent for a firm, which they refer to as "total customer engagement value (CEV)", and therefore supplement the popular CLV metric with three other components: customer referral value (as it relates to incentivized referral of new customers), customer influencer value (which includes the customer's behavior to influence other customers and prospects through word-of-mouth), and customer knowledge value (the value added to the firm by feedback from the customer).		X		X	
Value Fusion	We define Value Fusion as value that can be achieved for the entire network of consumers and firms simultaneously, just by being on the mobile network. Value Fusion results from producers and consumers (i) individually or collectively, (ii) actively and passively, (iii) concurrently, (iv) interactively or in aggregation contributing to a mobile network (v) in real time and (vi) just-in-time.			X	X	X

Table 2: Summarizing the Different Types of Value Discussed in the Five Cases

Cases: Discussed Types of Value ¹	Value to Consumers					Value to Firms						
	Convenience	Entertainment & Emotional Value	Social Value	Informational Value	Monetary Value	Identity Value	Additional Revenues through Deeper Relationships	Real-Time Tracking & Control	Reducing Costs	Customer Co-creation	Customer Influence	Market Insights & Customer Knowledge
Case 1: Location Based Services Apps.	x	x	x	x	x		x	x	x	x	x	x
Case 2: Local Business Apps.	x			x	x		x					
Case 3: Spatial Coordination / Service Ordering Apps.	x			x			x			x		
Case 4: Charity/Crowdfunding Apps.		x	x				x					x
Case 5: Co-Creation / Crowdsourcing Apps.		x	x	x						x		x

¹ This table presents the types of value that are discussed in each of the cases. Note that the potential types of value that may result from a particular app are not necessarily restricted to the ones that are discussed in the text, and hence, summarized in this table.