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Abstract

Purpose – The purpose of this paper is to create an organized picture of the current understanding of social media-based value creation and business models.

Design/methodology/approach – Following the process model presented by Fink (2005), a systematic literature review of academic journal articles published between 2005 and 2014 was conducted. The research was grounded on the theoretical foundations of service-dominant logic.

Findings – This study offers detailed descriptions and analyses of the major social media mechanisms affecting how value is created in social media-based value networks and the kinds of impact social media can have on present and future business models.

Research limitations/implications – The study is limited to academic research literature on business organizations, excluding all studies related to public and non-profit organizations.

Practical implications – Attention is given to developing an in-depth understanding of the functions and concrete value creation mechanisms of social media-based co-creation within the different organizational processes (e.g. in product and service development and customer services) and to updating the related practices and knowledge.

Originality/value – This study provides new insight into the challenges related to research models and frameworks commonly used for observing value creation, thus highlighting the need for further studies and updates.

Keywords Value co-creation, Social media, Value creation, Value capture, Service-dominant logic, Business model

Paper type Literature review

Introduction

The rapid growth of Web 2.0 technologies and the breakthrough of social media applications (Kaplan and Haenlein, 2010; Singaraju *et al.*, 2016), in particular, have undoubtedly revolutionized the ways in which individuals share content and interact in various previously unreachable and globally distributed social communities and networks. Moreover, recently developed methods of collecting, monitoring, analyzing, and visualizing social media-related conversations and interactions have created a number of new research opportunities and challenges, resulting in huge possibilities for organizations interested in transforming their businesses or pursuing new innovations and services using social media data (Jussila, 2015; Mayer-Schönberger and Cukier, 2013; Mithas *et al.*, 2013). For example, the use of advanced social media analytics tools and analysis techniques has enabled companies to access real-time data, which can then be used to extract useful patterns and intelligence on, for example, customer behavior (see Fan and Yan, 2015; He *et al.*, 2015; Hussain and Vatrapu, 2014).

As a result of these advances, the boundary between the users and producers of value has grown increasingly blurred (Bechmann and Lomborg, 2013), and the roles and impacts of actors in value networks (see Frow *et al.*, 2015; Palo and Tähtinen, 2013) have changed accordingly. Many past and present management concepts have been widely criticized, and the need for new kinds of socio-technological business model

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concepts has been recognized (Kitchin, 2014; Singaraju *et al.*, 2016; Vatrapu, 2013). At its simplest, human interaction is applied in social commerce, which refers to social networks that influence the making of shopping decisions (Wang and Zhang, 2012).

The challenge is getting even bigger as companies need to manage the growing shift from product-based to service-based business strategies (see e.g. Grönroos and Voima, 2012; Maglio and Spohrer, 2013; Nilsson and Ballantyne, 2014; Vargo *et al.*, 2008). Although promising results have been made in, for example, the automotive industry (see Godlevskaja *et al.*, 2011), industrial engineering (see Ketonen-Oksi *et al.*, 2016), and retail (He *et al.*, 2015), a lot of companies are still struggling in deploying and managing their social media interactions and networks (Frow *et al.*, 2015; Singaraju *et al.*, 2016). It seems that the uncertainties of investment returns on social media activities (Tørning *et al.*, 2015) hinder companies from realizing the fundamental changes of how the real-time flows of social media networks can (should) be used for nowcasting (Choi and Varian, 2012; Lampos and Cristianini, 2012; An and Weber, 2015) and predicting customer and market behaviors and expectations (Lazer *et al.*, 2009; Tuarob and Tucker, 2013).

However, little is known about the processes, mechanisms, and methods having an impact on social media-enabled value co-creation in practice (Singaraju *et al.*, 2016). The research literature is still fragmented into case studies of various micro-level study contexts and thus fails to offer a generalizable, in-depth understanding of how companies with different business logics and alternative markets can create value through social media. A huge gap exists between potential and actual use of social media for real-time business and competitive analysis (He *et al.*, 2015; Kietzmann *et al.*, 2011; Spaulding, 2010; Wang *et al.*, 2015).

In order to gain a comprehensive understanding of the major social media mechanisms affecting how value is created in social media-based value networks and the kinds of impacts social media can have on present and future business models, this paper addresses the research gap by providing a systematic literature review of social media-based value creation and business models. The research question was defined as follows:

RQ1. What are the roles and impacts of social media in novel business-related value co-creation and business models, and in what ways does the current academic literature address these roles and impacts?

Considering the growing interest in service-based business strategies and by thus adopting business models as an umbrella concept under which value is both created and consumed, this study grounds itself in the theoretical foundations of service-dominant logic. That is, the research was constructed based on the idea of perceiving value creation as a process in which companies, customers, and organizations are seen as interdependent actors that change their roles from one situation to another and in which the value of services is uniquely determined by the beneficiary (see Vargo and Lusch, 2004, 2008, 2009). Due to the differences between the various social media-related approaches and potentials for value creation of business organizations and public organizations, the research was limited to business organizations only.

The structure of the paper is divided into five main sections. First, we introduce and define the theoretical grounds and central concepts of the study. Second, we describe research methodology, including the literature review approach we used to collect our review articles. Third, we introduce our study results and analysis of the current use of different methods and theories in generating knowledge about the use of social media in value creation and business modeling. Fourth, we present the major conclusions of

the study and provide guidelines for future research, thus enhancing our understanding of the roles, impacts, and potential of social media use in business-related value creation and business model innovations.

Background and key concepts

The service-dominant logic perspective of value creation

Strongly based on the notion of companies as value creators and customers as value users, many past and present business models have been developed from the viewpoints of significantly product-oriented companies. The value creation activities have been developed accordingly to include several independent functions, such as articulating the contents of the value propositions, identifying proper market segments, specifying revenue generation mechanisms, defining the structures of the required value chains, and distributing the complementary assets needed to support the company's position in the value chain. The focus has been on estimating cost structures and potential profits, as well as on gaining and maintaining competitive advantage over rivals (Chesbrough, 2010; Chesbrough and Rosenbloom, 2002).

Instead of seeing companies solely as the producers of tangible goods, the service-dominant logic seeks to understand the logic and well-being of the entire service ecosystem. Based on ecosystem level actor-to-actor networks, the value is dynamically co-created through closely collaborating networks, which are filled with weak and often invisible ties (see Granovetter, 1983) among the different network members. Hence, the actual value co-creation takes place within the different resource-integrating processes and activities, emphasizing the role of resource integrators as the creators of intangible resources that are beneficial for the entire value network. The resources can be either tangible or intangible and internally controlled or externally drawn on for support, thus never highlighting the role of any particular member of the value networks. (Lusch and Nambisan, 2015; Vargo, 2009; Vargo and Lusch, 2014; Vargo *et al.*, 2008).

Although service-dominant logic, often referred to as a mindset rather than a model or a theory, could serve as a concrete tool for supporting both managers and employees in their search for new customer-based approaches to value creation, it is often discarded due to various organizational barriers (e.g. an inability to sufficiently or appropriately change management practices). However, as this new thinking and behavior emerge, companies should learn how to devote less effort to producing goods (products) and devote more effort to building value relationships. (Nuutinen and Lappalainen, 2012). In so doing, the service-dominant logic offers a great stepping-stone for creating a better understanding of the roles and impacts of social media tools and methods in value creation and business modeling. In fact, the service-dominant logic clearly reflects each of the three key concepts of our study: value creation, value capture, and business models.

Value creation and value co-creation

In academic literature, value creation most often refers to the value created for either users or companies. Bechmann and Lomborg (2013), for instance, describe several ways that companies can benefit and create value from user participation in social media, including through networking, updating, and content contribution; by contributing to company development and innovation; and by selling the data gained from users' digital information profiles.

The service-dominant logic type of value creation represents another stream of literature that emphasizes that value is always jointly and reciprocally co-created

(see e.g. Hirvonen and Helander, 2001; Prahalad and Ramaswamy, 2004; Vargo and Lusch, 2004). Value co-creation is, thus, conceptualized to take place between service systems, such that service system 1 (company) and service system 2 (customer) are connected by value propositions (Spohrer *et al.*, 2008; Vargo *et al.*, 2008) and such that they both derive value (i.e. value-in-use) by integrating resources from their service systems.

Social media settings offer a fruitful basis for observing the changes emerging in value creation and value co-creation activities. Like the use of the service-dominant logic, the use of social media platforms and tools is based on an idea of continuously evolving and non-hierarchical collaboration among stakeholders, which may enhance new kinds of resource-integrating actions among companies, their suppliers, and their customers (users). Hence, the major difference between value creation and value co-creation does not involve technology, but rather the strengthening of the interdependences among different actors so as to benefit them all. Unfortunately, value co-creation is often misleadingly used as a hypernym for all value creation activities.

Business models and value capture

Unlike value creation, which describes the overall aspects of a company´s value-creating processes and networks, the definition of value capture is restricted to the measured monetary benefits of a company's value-creating actions. Business models play a key role in determining how a company performs. A business model encases the resources and the entire architecture of a value proposition, which is the actual value proposition for the client, the description of a company's position in the value network, and the company's revenue model (Chanal and Caron-Fasan, 2008; Zott *et al.*, 2011). Accordingly, a company cannot sustainably capture value unless it understands its entire value creation process.

Instead of explaining business models solely through individual activities (e.g. for marketing and R&D) or through mechanisms influencing business model outcomes (e.g. value chain, pricing, and networks), the recent research on business models highlights the development of holistic, multi-dimensional, system-level business model frameworks (Zott *et al.*, 2011). Indeed, the shift from product-based thinking towards services and company networks also applies to business models. Furthermore, in more recent literature, these business models are often related to such areas as company-related processes and strategies (Wirtz *et al.*, 2016). However, an urgent need for an in-depth understanding of the impacts of social media on business model development still exists (Klang *et al.*, 2014).

Adopting the new forms of social business modeling, which refers to the utilization of social media tools and social value networks in all business domains of a company, demands a completely new kind of consciousness and activeness in the use of social value networks both inside and outside company borders. The service-dominant logic is certainly one good way to approach the analysis of social media-based mechanisms for value capturing and business modeling recently highlighted by both researchers and practitioners (Kunz and Werning, 2013; Sigala *et al.*, 2012).

The methodology

Processing the literature review

Following Fink's (2005) process model for a systematic literature review, this literature review was accomplished in seven stages: selecting research questions,

selecting the bibliographic or article database, choosing search terms, applying practical screening criteria, applying methodological screening criteria, doing the review, and synthesizing the results.

First, we defined the research questions. Second, we selected the appropriate databases and chose the type of literature in which we were interested. To guarantee a comprehensive sample covering the most important data related to our research objectives, we used three large interdisciplinary databases: Scopus, EBSCO, and ABI-Inform. In our understanding, the combination of the chosen databases was diverse and multilayered, covering both business- and technology-related academic journals. As such, the review covered all of the different types of major journals affiliated with social media-related management issues, such as value creation and business models.

Third, we used three groups of search terms to find the most appropriate articles on social media-based business and/or value creation models: "social media" and "value creation;" "social media" and "value capture;" and "social media" and "business models." When translating these terms into search strings, we used several keywords to cover "social media," as perceived in earlier literature: "social media," "Web 2.0," and "enterprise 2.0." To capture spelling differences, we also included the different ways of spelling these terms: namely, "Web 2.0" and "Web 2.0" and "enterprise 2.0" and "enterprise 2.0." Similarly, to cover various ways of spelling "value creation," we used the following search strings: "value*" and "creat*" or "creat*" and "value*." Likewise, we used the following search strings for "value capture:" 'value*" and "capt*" or "capt*' and "value*." For "business model," we used one search string: "business model."

Fourth, we applied the practical screening criteria outlined in Table I, including only those studies that matched the inclusion criteria. We thus excluded a total of 92 articles that referred to social media and the other inclusion criteria but did not show evidence of studying and addressing these criteria as a central goal. We excluded studies that focused on public or non-profit organizations (e.g. public services ranging from higher education and e-learning to e-health, e-libraries, and politics). Of the 92 excluded articles, 87 were identified as meeting the selection criteria during the practical screening, and the last five were identified when the articles from Scopus, EBSCO, and ABI-Inform were combined. The most common research settings that were excluded were related to e-learning and higher education or to e-libraries (including, in particular, studies published from 2007 to 2009).

Fifth, we applied the methodological screening criteria as follows: all possible research designs (i.e. empirical, conceptual, and theoretical academic research papers)

Table I. Practical screening criteria

	Type
Inclusion criteria	
Include only studies written in English	Publication language
Include studies focused on social media, web 2.0, or enterprise 2.0	Content
Include studies focused on value creation, value capture, or business models	Content
Include studies conducted from January 2005 through the end of 2014	Duration of data collection
Exclusion criteria	
Exclude studies focused on public or non-profit organizations	Setting
Exclude duplicates	Content

were included, thus ensuring a plausible and holistic view of the different aspects of the existing studies contributing to our research questions. Only conference proceedings, expert interviews, and non-academic research papers were excluded from this study. In total, 13 papers, including conference proceedings (three), papers based solely on expert interviews (two), and papers with non-scientific approaches to our research targets (eight), were excluded during the practical screening of articles.

Sixth, due to differences between the search engines' functional characteristics, the Scopus search strings were effectuated in two sections and the EBSCO and ABI-Inform search strings were effectuated in four sections. As a result, we collected 125 articles from Scopus, 230 articles from EBSCO, and 194 articles from ABI-Inform, for a total of 549 articles. These articles were then screened, and the number of papers decreased to 276: 125 from Scopus, 101 from EBSCO, and 50 from ABI-Inform. However, when the articles from the different search engines were combined through a number of separate search sections, it became clear that our data included several duplicates. Removing these duplicates resulted in 117 papers.

The in-depth examination of the remaining articles was based on titles, abstracts, and keywords. During this more intensive examination, some articles were determined to not fit our research focus (e.g. some focussed on public or non-profit organizations). As a result, the number of articles again decreased, this time to 26 research papers. After thoroughly reading these 26 papers in full, we further excluded four papers, which did not match the inclusion criteria when examined in more detail. The final number of articles for our review was thus reduced to 23 research papers. Most of the selected papers were published between 2010 and 2014.

The synthesis of the results was developed to describe current knowledge about a topic or body of research, support the need for and significance of new research, explain research findings, and describe the quality of a body of research. The methods and data sources used in the studies are described in Table III, and the research findings are explained in Tables IV and V. Table IV compares the various ways researchers studied the mechanisms behind social media-based value creation. Table V compares the papers' investigations of the business models. The need for and significance of new research are discussed in the final chapter, which presents the discussions and further research directions.

The 5C framework model

In order to find ways to organize the reviewed literature and to enable the drawing of conclusions about our current understanding of value creation, several options were considered: according to the type of business organization, in terms of possible revenue models (see Lee, 2011), or according to the various mechanisms for creating, capturing, and sharing value.

A framework adapting the 5C model (see Table II) by Vuori (2011) was developed, thus allowing us to observe whether or not an organization has adopted service-based thinking. The 5C model facilitated the identification of five different social media functions within the studied organizations. Separate columns for value creation and value co-creation were added to Vuori's (2011) model to serve as analysis dimensions to position existing studies based on their emphasis on product-oriented and/or service-oriented thinking (see Table IV).

It can be assumed that some of the functions of social media, such as communicating, collaborating, and completing, are better aligned with value co-creation, whereas other social media functions, such as connecting and combining, are more typical of value creation. However, there are differences in how companies make use of these social

Table II.
Examples of social media applications based on a 5C categorization

5C function	Typical social media applications providing functionality	Purpose	
Collaborating: collectively creating content	Wikis, shared workspaces	Create content together, collaborate, produsage	Web 2.0
Communicating: publishing and sharing content	Blogs, media sharing systems, discussion forums, micro blogs, instant messaging	Publish, discuss, express oneself, show opinions, share, influence, store	
Completing: adding, describing, and filtering	Tagging, social bookmarking, syndications, add-ons	Add metadata, describe content, subscribe to updates, combine, experience serendipity	➔➔➔
Connecting: networking	Social networks, communities, virtual worlds	Socialize, network, connect (sometimes also play, entertain)	Web 1.0
Combining: mixing and matching	Mash-ups, platforms	Combine other tools and technologies according to situations and needs	

Source: Adapted from Vuori (2011)

media functions. For instance, some companies may only use social media for one-way communications with customers (e.g. through broadcasting marketing material), whereas others may, for example, become engaged in dialogue with their customers in order to solve customer problems.

Results

General remarks

A wide variety of theoretical approaches and models were found among the reviewed studies. The emphasis was on empirical knowledge and approaches, with snapshot-like analyses of experienced value(s) in certain moments of time. Most of the studies analyzed areas offering easy access to empirical data, such as social media platform providers (e.g. LinkedIn, WordPress), content intermediaries and selling companies, and individually important business model parts, particularly the revenue models of related business models. Interestingly, the business model analyses were based solely on models that existed before the reign of social media, or even before the internet.

About half of the studied articles (12 out of 23) focused on social media-based value creation, while the other half focused on social media business models (11 out of 23). Most focused on business-to-consumer markets, and many did not focus on any specific market. Only one study focused on a business-to-business market: namely, Baghdadi's (2013) study of social commerce-oriented businesses.

Most of the articles were either theoretical or conceptual papers that lacked empirical data. The theories and models used in the studies varied greatly, ranging from task-technology fit and the long-tail concept to the resource-based view and the theory of planned behavior. No single theory was emphasized in the results; however, slight differences were observed in the methods and data used (see Table III). Whereas the majority (9 out of 11) of the empirical studies were grounded on qualitative research data, the majority (8 out of 12) of theoretical studies focused on the qualitative aspects of their research targets: that is, on identifying and describing the tools, theories, and assumptions related to social media use in organizational settings.

The most common methods used were literature reviews, interviews, and case studies, which complemented data from online communities, websites, company

	n	Authors
Methods		
Literature-based model or concept development	12	Agnihotri *et al.* (2012), Baghdadi (2013), Bechmann and Lomborg (2013), Chen (2009), vanDijk and Nieborg (2009), Hajli and Hajli (2013), Kaplan and Haenlein (2011), Lee (2011), Merigó *et al.* (2013), Nath *et al.* (2010), Roblek *et al.* (2013) and Yuan *et al.* (2014)
Statistical survey	2	Cortimiglia *et al.* (2011) and Horng (2012)
Qualitative survey	1	Bjørn-Andersen *et al.* (2009)
Netnography	1	Pihl and Sandström (2013)
Multiple case study	7	Bjørn-Andersen *et al.* (2009), Cortimiglia *et al.* (2011), Enders *et al.* (2008), Pihl and Sandström (2013), Wikström and Ellonen (2012), Wirtz *et al.* (2010) and Yuan *et al.* (2014)
Single case study	3	Lehmkuhl and Jung (2013), Ramdani and Rajwani (2010) and Shih *et al.* (2014)
Data sources		
Interview	6	Cortimiglia *et al.* (2011), Enders *et al.* (2008), Lehmkuhl and Jung (2013), Ramdani and Rajwani (2010), Wikström and Ellonen (2012) and Wirtz *et al.* (2010)
Online communities and platforms, blogs	6	Enders *et al.* (2008), Kaplan and Haenlein (2011), Lee (2011), Lehmkuhl and Jung (2013), Pihl and Sandström (2013) and Yuan *et al.* (2014)
Websites (incl. YouTube)	5	Bjørn-Andersen *et al.* (2009), Cortimiglia *et al.* (2011), Lehmkuhl and Jung (2013), Wielki (2010), Wirtz *et al.* (2010) and Wikström and Ellonen (2012)
Reports, statistics	4	Enders *et al.* (2008), Lehmkuhl and Jung (2013), Ramdani and Rajwani (2010) and Wikström and Ellonen (2012)
News, press articles, public documents	4	Bjørn-Andersen *et al.* (2009), Cortimiglia *et al.* (2011), Enders *et al.* (2008) and Ramdani and Rajwani (2010)
Databases	1	Ramdani and Rajwani (2010)

Table III.
Methods and data sources used in the studies

reports, and the news. The case study samples varied from one to four case companies (Ramdani and Rajwani, 2010; Wikström and Ellonen, 2012) to 15 to 20 websites or platforms (Bjørn-Andersen *et al.*, 2009; Enders *et al.*, 2008). Both single and multiple case studies were represented. Only two studies (Cortimiglia *et al.*, 2011; Horng, 2012) applied quantitative methods. Research methods specifically designed for studying social media and online communities, such as netnography and online observations, were rarely used (Cortimiglia *et al.*, 2011; Pihl and Sandström, 2013; Wikström and Ellonen, 2012). The lack of consensus in terms of theories and models indicates the novelty of the studies' research themes.

Altogether, 13 of the 23 articles focused either significantly or in essential areas on business models. The research interests varied from business and revenue model-related frameworks (Cortimiglia *et al.*, 2011; Enders *et al.*, 2008; Horng, 2012; Wirtz *et al.*, 2010) and the creation of social commerce-oriented business model frameworks (Baghdadi, 2013) to existing business model frameworks, such as Osterwalder's (2004, 2008) business model ontology or Wirtz's 4C business model (see Wirtz *et al.*, 2010).

Various types of business models, either facilitated or enabled by social media, were recognized and analyzed in the studies. Most of the observed business models had existed before the reign of Web 2.0 technologies or even before the rise of the internet. Only Lee (2011) and Wielki (2010) identified business models that were either significantly social media-specific or that could not have existed without social media.

Significantly, both of these authors also identified the existence of business-to-business-related business models, providing examples such as Dell's and PSP Audioware's business models.

The emergence of value creation and value co-creation through social media activities

As shown in Table IV, the value creation and value co-creation aspects of the articles were analyzed in two different ways: First, they were based on the degree to which the articles described the social media mechanisms of value creation and value co-creation and the extent to which the articles recognized the different roles of social media. Second, the 5C framework (see Vuori, 2011) was adapted to analyze the social media functions in more detail and to determine whether they showed any evidence of a company's level of service orientation.

The symbol "•" was used to indicate those studies that described the various social media roles and mechanisms of value creation or value co-creation in detail. The symbol "○" was used to indicate studies in which the mechanisms of value co-creation or the roles of social media were mentioned, but not specifically described. The symbol "?" was used to indicate studies in which the social media-related value co-creation mechanisms and their corresponding social media roles were either ambiguously stated or open to various interpretations. Finally, the symbol "-" was used to indicate studies in which social media-based value creation or value co-creation mechanisms and their corresponding social media roles were not explicitly described.

Although value creation was extensively discussed in many of the articles, we noticed that the roles of value-related social media use were often analyzed in relation to communication (publishing and sharing content) and connection (networking with people). Only one study (Lee, 2011) was related to collaborative content creation (collaborating), with reference to a case in which Second Life was used for company-customer co-creation. Further, only a few studies analyzed the roles of social media in completion (connecting people and content) and combination (combining different types of content) (Enders *et al.*, 2008; Lee, 2011; Lehmkuhl and Jung, 2013).

The studied themes related to research areas like value creation characteristics (e.g. in terms of efficiency, novelty, and complementarity), the phenomenon of social media-mediated lock-in effects (Lehmkuhl and Jung, 2013), the conceptualization of customer-perceived value (Agnihotri *et al.*, 2012), social media's relationship-related benefits (Möller and Törrönen, 2003; Walter *et al.*, 2001), social media's value creation potential for small- to medium-sized enterprises (Lehmkuhl and Jung, 2013), the effects of social media on business model components in traditional business organizations (Lee, 2011), and the business values associated with Web 2.0 technologies (Nath *et al.*, 2010). In addition, a preliminary framework for understanding the impacts of social media use in customer support services (Agnihotri *et al.*, 2012), an enterprise architecture for supporting social commerce through the actions of value co-creation (Baghdadi, 2013), and a 4C typology of internet business models involving examples of how to co-create value when providing services (Wirtz *et al.*, 2010) were presented. Finally, the importance of theoretical foundations and opportunities when co-creating value with customers in online communities was emphasized (Hajli and Hajli, 2013).

Overall, the value creation mechanisms of social media use were rarely analyzed, or, at least, these analyses were generic and superficial. The only exception was Yuan *et al.*'s (2014) introduction of a new resource mapping framework. This framework followed the principles of the service-dominant logic of Vargo *et al.* (2008) and included descriptions of company, customer, and encounter processes. It defined user-generated

Table IV.
The mechanisms behind social media-based value creation

	Analysis of social media mechanisms impacting value creation and co-creation		Detailed analysis of the 5C social media functions of value creation[a]				
	Value creation	Value co-creation	Communication	Collaborating	Connecting	Completing	Combining
Agnihotri *et al.* (2012)	●	○	●	–	●	–	–
Baghdadi (2013)	○	○	○	–	–	–	–
Bechmann and Lomborg (2013)	○	–	–	–	–	–	–
Bjørn-Andersen *et al.* (2009)	○	–	○	–	–	–	–
Chen (2009)	○	–	?	–	–	–	–
Cortimiglia *et al.* (2011)	○	–	○	–	○	–	–
vanDijk and Nieborg (2009)	–	–	–	–	–	–	–
Enders *et al.* (2008)	●	–	●	–	●	●	–
Hajli and Hajli (2013)	○	○	○	–	–	–	–
Horng (2012)	–	–	○	–	–	–	–
Kaplan and Haenlein (2011)	●	–	●	–	●	–	–
Lee (2011)	●	○	●	○	●	●	●
Lehmkuhl and Jung (2013)	●	○	○	–	○	○	○
Merigó *et al.* (2013)	●	–	●	–	●	–	–
Nath *et al.* (2010)	○	○	○	–	○	–	–
Pihl and Sandström (2013)	●	–	●	–	○	–	–
Ramdani and Rajwani (2010)	○	–	○	–	○	–	–
Roblek *et al.* (2013)	○	–	○	–	–	–	–
Shih *et al.* (2014)	○	–	○	–	○	–	–
Wielki (2010)	–	–	○	–	○	–	–
Wikström and Ellonen (2012)	○	–	○	–	–	–	–
Wirtz *et al.* (2010)	○	○	●	–	●	–	–
Yuan *et al.* (2014)	●	●	●	–	●	○	–

Source: [a]Adapted from Vuori (2011)

content as the primary resource of value co-creation and introduced a four-step pattern of value co-creation, demonstrating how the model reacted to negative word-of-mouth in customer service situations.

The appearance of social media-based, value-creating business models

As shown in Table V, we also reviewed how and to what extent social media supported and facilitated the business models represented in the articles. Whereas only four of the 13 business model papers (Baghdadi, 2013; Enders *et al.*, 2008; Ramdani and Rajwani, 2010; Wikström and Ellonen, 2012) executed in-depth analyses of actual social media mechanisms, most of the studies involved generic analyses from the specific standpoints of social media service provider companies. The descriptions of found revenue and business models included analyses of social media's roles in supporting the major building blocks of business models (Ramdani and Rajwani, 2010; Wikström and Ellonen, 2012), analyses of the social media mechanisms specifically supporting the revenue models of social networking sites (Enders *et al.*, 2008) and concepts and frameworks for social commerce enabled by social media (Baghdadi, 2013). Only Lee (2011) incorporated the perspectives of both service providers and users.

Lee's (2011) categorization of six business model categories (i.e. the broad online community, the focused online community, social shopping, content intermediaries, the virtual world, and shared Web 2.0) emphasized the use of social media as the primary driver of revenue and, thus, corporate existence. According to Lee (2011), revenues are generated from different types of sources, such as subscriptions from premium services, banners, other advertisements, sponsors selling their products on the forum, sales commissions, and sales of virtual products. Altogether, Lee (2011) focused strongly on such service providers as Facebook, LinkedIn, Storenvy, eBay, Second Life, and Google Apps.

Wielki (2010) also recognized six business models that were at least partly based on and facilitated by social media. The first was characterized as a variation of the "long-tail" concept (see Anderson, 2006) allowing for the feasible delivery of products (e.g. Amazon or eBay) or software (e.g. Apple's iTunes or AppStore) to small customer segments or even individual customers. The second was more clearly based on the essential features of social media and engaging users through the freemium model (i.e. getting a basic product or service for free, but paying for extended or enriched versions). As a result of these studies, Wirtz *et al.* (2010) proposed a framework of four broad factors (the 4Cs) fundamental to social media and the impacts of value creation: namely, social networking, interaction orientation, customization, and user-added value. This framework was illustrated with cases from MySpace and Wikipedia.

In studying the various parts of the business model, Cortimiglia *et al.* (2011) concluded that there is a clear link between the technological delivery channel and the preferable revenue channel; that is, the web channel is more appropriate for advertisement-based revenue models, while mobile technology opens up new and relevant opportunities for value appropriation. In accordance with the results of Cortimiglia *et al.* (2011), Kaplan and Haenlein (2011) explored how applications like Twitter can generate value for companies during the three stages of the marketing process (i.e. pre-purchase, purchase, and post-purchase) and provided detailed analyses of their five case companies (i.e. Google, Dell, Whole Foods Market, Zappos.com, JetBlue Airways). For example, Twitter was used to generate value by collecting feedback from customers (e.g. Dell), promoting products (e.g. Google, Whole Foods Market, JetBlue Airways), improving customer service and complaint management processes

Table V.
Business models and business model parts or frameworks related to social media

Author(s)	Levels of analysis: Whole business model(s) • Business model parts (which) ○ Other: what	Name(s) of social media based business model(s)	Analysis of social media mechanisms impacting business models
Baghdadi (2013)	Other: factors that need to be taken into consideration when building business models	–	•
Bjørn-Andersen *et al.* (2009)	Other: theoretical, implicating a need for new business model frameworks in the social media context	–	○
Chen (2009)	•	–	–
Cortimiglia *et al.* (2011)	○ (revenue models)	–	○
Enders *et al.* (2008)	○ (special focus on revenue models)	Not named	•
Horng (2012)	○ (subscription models)	–	○
Lee (2011)	• (focus on revenue models)	1. Broad online community, 2. focussed online community, 3. social shopping, 4. content intermediary, 5. virtual world, 6. shared web 2.0	○
Lehmkuhl and Jung (2013)	•	–	○
Ramdani and Rajwani (2010)	•	–	•
Shih *et al.* (2014)	Other: Causalities behind increased cash flows and revenues from fan base and loyalty	Fan-centric social media business model based on Berthon *et al.* (2012)	○
Wielki (2010)	•	Not named	○
Wikström and Ellonen (2012)	•	Not named	•
Wirtz *et al.* (2010)	• (special focus on value propositions and revenue models)	–	○

(e.g. Whole Foods Market, Dell, and JetBlue Airways), and enhancing internal communication (e.g. Zappos.com).

In the most recent papers, value creation was first analyzed in the context of fashion blogging (Pihl and Sandström, 2013), in which the focus was on the value relationships between fashion bloggers and end consumers. Second, it was analyzed in the context of microblogging and pharmaceutical services (see Yuan *et al.'s* (2014) resource mapping framework for value co-creation in social media).

Discussion and conclusions

Various types of business models and revenue models were recognized and analyzed throughout the papers forming this literature review. Only two research papers (Lee, 2011; Wielki, 2010) identified significantly social media-specific business models, and the actual co-creation of value, as well as the potential roles and impacts of social media in new business model creation, was also largely unexamined. This strongly supports the findings of Gassman *et al.* (2015), who, after reviewing several hundreds of business model innovations, found that only about 10 percent of the innovations represented genuinely novel concepts.

Empirical findings and framework analysis

The most concrete and valuable finding of our study was the developed understanding that the commonly used research models and frameworks for observing the value creation mechanisms of Web 2.0 and social media applications are partially incomplete and fallacious. Indeed, we found that the 5C and 4C frameworks (see Vuori, 2011; Wirtz *et al.*, 2010), for example, were unable to distinguish or provide any in-depth analysis of the differences between the Web 1.0 and Web 2.0 elements of actual value co-creation activities. Given this observation, it seems necessary to reframe existing research models and frameworks and to add more descriptive elements to broaden their scope of analysis in order to better understand all of the various Web 2.0 and social media implications to the collaborative value networks that connect companies, customers, and their stakeholders.

Updating the research models and frameworks for value (co-)creation will certainly shed new light on the research into the different bonds between revenue models and business model-related value networks. Furthermore, it is essential to understand that the social media approaches used in business-to-consumer contexts are largely different from those used in business-to-business industries (Gillin and Schwartzman, 2010).

Only one study applying the service-dominant logic of thinking and acting was found (see Yuan *et al.*, 2014). The understanding of the self-contained, self-adjusting service ecosystems (see Lusch and Nambisan, 2015) seems thus almost non-existing in the current value creation and business model literature. Considering the common understanding of social media as a tool for community-based many-to-many collaborations, the scarcity of service-based thinking and the use of service-dominant logic even in the more recent studies was somewhat surprising. In particular, more research studying social media-based value creation and business model impacts on industrial companies and business-to-business manufacturers, in particular, is needed.

Scientific implications and limitations of the study

The lack of large-scale empirical studies limits our understanding of the differences and challenges related to inter-personal and inter-company networks and interactions, leading to a superficial view of the roles and impacts of social media on value

co-creation and future business models. Including conference papers in our data search might have generated a more up-to-date understanding of current research topics; however, it can be argued that the literature review does provide a comprehensive picture of the state-of-the-art.

The roles of various technologies in social media-based value creation should be further studied. For example, the combined roles of social media and mobile technologies, service-oriented architectures, and cloud computing in value creation should be investigated. Mobility can offer significant opportunities related to social media-related value creation, with an emphasis on the characteristics of non-traditional interactions among the members of value networks affected by social media.

The use of novel research approaches, such as agent-based or system dynamics simulations (see e.g. Okada and Yamamoto, 2011), as well as the use of longitudinal data and mixed methods, should also be encouraged. The use of research approaches directly designed to study social media and related communities, such as netnographic methods (see Kozinets, 2010) and social network analyses (e.g. Hansen *et al.*, 2012; Wasserman, 1994), together with managerial interviews, should be encouraged, especially when studying the data-driven viewpoints of social media-based value creation. When combined with real-world empirical data, the use of novel approaches might provide more in-depth understanding of the major social media-related cause-and-effect relationships, ultimately leading to increased business value, revenue, or cost savings in the long run.

In addition, more research should be conducted within different types of companies and industries. In particular, the development of more and more complex digital business ecosystems and their related value co-creation processes might benefit from the study of the effects of the service-dominant logic type of thinking on the adoption of new mindsets and concepts. Above all, the existing models and frameworks studying the impacts of Web 2.0 and social media (see e.g. 5C and 4C) should be revised in order to reflect the service-dominant logic type of thinking.

Implications for managers

More attention should be given to developing an in-depth understanding of the functions and concrete value creation mechanisms of social media-based co-creation within the different organizational processes (e.g. in product and service development and customer services). Giving more attention to emergent, but evolving theoretical approaches, such as the service-dominant logic, might offer a good starting point to companies interested in adopting new, innovative, social media-based value (co)-creation tools and operation models.

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