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Social media capability in B2B marketing: toward a definition and a

research model

Abstract

Purpose – The purpose of this study is to explore organizational social media capability in B2B marketing, by focusing on what social media capability is in a B2B marketing context and how it is developed in firms engaged in B2B marketing.

Design/methodology/approach – This is a thematic literature review, drawing on both B2B marketing and Information Systems literature. In total, 112 academic articles from 9 journals were identified and analyzed. The findings were synthesized and compiled to provide answers to the predefined research questions.

Findings – The results suggest that organizational social media capability is dependent on a deep understanding of a firm's technological capability, i.e., recognizing the key features and categories of social media and dynamically upgrading the recognition in respond to the environmental change. A four-level Social Media Capability Maturity Model (technological, operational, managed, and strategic level) that collectively transfers social media's technological capability to dynamic organizational capability is proposed.

Originality/value – This study contributes to an understanding of the use of social media in the context of B2B marketing from an organizational dynamic capability perspective. The model is particularly relevant to organizations that have adopted or plan to adopt a B2B social media strategy and is relevant for B2B researchers who are interested in social media research.

Keywords Social media capability, B2B marketing, Information Systems, Literature review

Paper type Research paper

1. Introduction

Social media research in the business-to-business (B2B) context has enjoyed relatively less attention compared to business-to-consumer social media research (Aral et al., 2013; Kane et al., 2014). Although social media has been increasingly adopted in some industrial marketing activities, academics argue that firms engaged in B2B marketing have not used social media to its full potential (Michaelidou et al., 2011; Karjaluoto et al., 2015), and firms continue to encounter problems in integrating social media technologies into their firm's marketing efforts (Järvinen & Karjaluoto, 2015). Most of the time, this is due to the lack of a clear and systematic understanding of social media (Ngai et al., 2015). Research has indicated that, knowing how (i.e., how to integrate social media technology into firm's operations and strategies) is more important than knowing what (i.e., what social media has been used for) (Nguyen et al., 2015). The aim of this paper is to explore how firms can develop an organizational capability that enables the stable and smooth alignment between social media and B2B marketing. Specifically, in this paper, we attempt to answer two research questions:

- What is social media capability in a B2B marketing context?
- How can social media capability be developed in firms engaged in B2B marketing?

Through an interdisciplinary research lens, we conduct a thematic literature review on social media research in the B2B Marketing and Information Systems areas. Based on the review, we propose a definition and a maturity model of social media capability that specifically applies to B2B marketing. This paper has several implications. First, the social media capability definition and the social media capability maturity model developed in this paper provide a systematic approach to conceptualize the use of social media in B2B marketing. Second, the social media capability maturity model could be used by practitioners to assess and guide their B2B marketing practices. Third, our review identifies some research gaps in studies of social media in B2B marketing and indicates many directions for future research. The remainder of the paper is organized as follows. Section 2 explains our research methodology. Section 3 presents the literature review results and our findings regarding the two research questions. The theoretical and empirical implications of this paper are discussed in Section 4. Section 5 presents the conclusion.

2. Methodology

To address the research questions, we conducted a thematic literature review. Thematic analysis is one of the most common analysis methods in qualitative research with an emphasis on identifying patterns (or "themes") within a set of data (Braun & Clarke, 2006; Guest, MacQueen, & Namey, 2011) which is consistent with the aims of this paper.

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We also grounded this research in multiple disciplines (i.e., Marketing and Information Systems) to embrace the premise of interdisciplinary research involving integrated insights gaining, 'boundary crossing', and 'bridge building' (Repko, 2008). Both marketing and information systems (IS) have a long tradition of social medial research. While marketing research emphasizes applying social media technologies in various marketing domains and understanding the impacts of social media on consumer behavior, IS research mainly focuses on use, impact, and management of social media technologies (SMT) by individuals, groups, and organizations, improving social media design, explaining social media adoption, and promoting the alignment between social media and business. We believe that the two areas together provide us with a comprehensive basis for answering our research questions. Therefore, we draw on social media research in B2B Marketing and IS in this paper.

To identify related research, we did a preliminary search in *Web of Science* and *Business Source Complete*. First, we searched the *Web of Science* using Boolean operators, "TS= ('B2B marketing') AND TS= ('social media' OR 'enterprise social media' OR 'enterprise 2.0' OR 'web 2.0' OR 'social network' OR 'online community' OR 'web' OR 'internet')". Then, we did an abstract search in the *Business Source Complete* using the same keywords. In total, the preliminary search resulted in the identification of 20 papers. To expand our sample, we adopted a purposeful sampling method. We selected five Marketing journals that focus on B2B marketing based on LaPlaca and Katricbis's research (2009) and four top Information Systems journals from the *Senior IS Scholars' Basket of Journals* (Association for Information Systems, 2011). The five marketing journals are *Industrial Marketing Management (IMM)*, *Journal of Business and Industrial Marketing (JBIM)*, *Journal of Business to Business Marketing (JBBM)*, *Journal of Business Market Management (JBMM)*, and *Journal of Relationship Marketing (JRM)*, and the four Information Systems journals are *MIS Quarterly (MISQ)*, *Information Systems Research (ISR)*, *Information Systems Journal (ISJ)*, and *European Journal of Information Systems (EJIS)*. Then, we searched the nine journals in *Web of Science* using Boolean operators, "TS= ('social media' OR 'enterprise social media' OR 'enterprise 2.0' OR 'web 2.0' OR 'social network' OR 'online community' OR 'web' OR 'internet')" and identified 598 papers. We examined the titles and abstracts of these papers and excluded those unrelated to B2B /industrial marketing and social media capability. This resulted in a total of 112 papers remaining in our sample (See Table I). Our subsequent review was based on these 112 papers.

{Insert Table I here}

3. Findings

3.1 What is 'social media capability' in B2B marketing?

To answer the question of 'what', we first reviewed how researchers conceptualized social media capability in prior research. Of the 112 papers, only 4 explicitly mentioned the concept of 'social media capability' (see Table II). Table II reveals two patterns in the conceptualization of social media capability in previous research. First, social media capability was conceptualized based on many seminal concepts, such as, organizational capability (Bolat et al., 2016; Nguyen et al., 2015), media capability (Wang et al., 2016), and information technology capability (Subramaniam et al., 2013), and defined from many perspectives, such as technological features (Subramaniam et al., 2013; Wang et al., 2016), strategic functions (Nguyen et al., 2015), and marketing practices (Bolat et al., 2016). Second, researchers viewed social media capability as a single-level concept. The papers in our review investigated social media capability in a fragmented manner, often one level at a time, such as operational level (routine-based) (Bolat et al., 2016), strategic level (resource alignment) (Nguyen et al., 2015), or technological level (the IT features of social media) (Wang et al., 2016; Subramaniam et al., 2013). Given the specific aims of this previous research, a focus on one level is understandable. However, such conceptualizations of social media capability do not comprehensively draw from these seminal concepts; thus, our understanding is still limited.

{Insert Table II here}

The multi-level notions of organizational capability and IT capability have been applied in much marketing research. For example, according to Eltantawy (2016), the organizational capability is a multi-level concept that includes routine-based capabilities (operational level), first-order capabilities (managed level), and higher-order multifaceted capabilities (strategic level). Derived from IT capability, Trainor et al. (2011) conceptualized e-Marketing capability as a multidimensional construct comprised of three resources: IT resources (technological level), human resources (managed level) and business resources (strategic level). Therefore, we propose that social media capability should be conceptualized as a multi-level concept comprised of different perspectives of social media application in B2B marketing. Combining the research on organizational capability and IT capability, we propose four levels of social media capability: technological, operational, managed, and strategic level. Usually, organizational capability research does not include a technological level. Here, we include a technological level because we agree with Wang et al. (2016) and Subramaniam et al. (2013) that, in the special case of social media capability, we need to consider not only

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the multiple organizational capabilities needed in management but also the technological capability needed to clearly understand the IT aspects of social media.

After determining the structural elements, we further introduce a key characteristic in our conceptualization of social media capability, that is, the dynamic capability. The concept of dynamic capability was firstly introduced by Teece et al. (1997) in the strategic management literature. It emphasizes the key role of management to appropriately adapt, integrate and reshape organizational skills and assets (Trainor et al., 2011). We view social media capability as a dynamic capability for three reasons. Firstly, social media is an ever-changing technology that evolves with rapidly updated features and fast-growing categories (Kane et al., 2014). To comply with the extremely dynamic nature of social media, firms have to cultivate dynamic capabilities to integrate, build, and reconfigure internal and external competences to address rapidly chaning environments (Teece et al., 1997). Secondly, the dynamic capability has been emphasized by B2B researchers as the pivotal point for developing and sustaining competitive advantages (Bolat et al., 2016). Previous research suggests that, to generate and sustain a competitive advantage, marketing capabilities must be combined and integrated with other complementary capabilities (Eltantawy, 2016). Besides, the alignment between IT capability and business strategy is one of the main determinants of IT success (Ullah & Lai, 2013). Incorporating dynamic features in the conceptualization of social media capability could help with its integration with other organizational capabilities. Thirdly, social media is a compound term that consists of "social" and "media". Social media capability is built in the process of individuals' social behaviors and the operation of web-based platforms, as well as their interaction (Ngai et al., 2015). Therefore, it is important that we assume a dynamic perspective to understand the social aspects of social media since it is the very dynamics that constitute and perpetuate organizations (Leonardi, 2014). In conclusion, drawing on an organizational dynamic capability view and relevant social media research, we define social media capability as follows:

Social media capability is a dynamic organizational capability that consists of four levels (i.e., technological, operational, managed, and strategic) and helps a firm deploy and integrate social media applications to generate and sustain the firm's competitive advantage.

In next section, we present a level-by-level explanation on how firms can develop a dynamic social media capability in B2B marketing. Specifically, we provide detailed dimensions for each level of capability, present the concrete examples of social media use in B2B marketing, and suggest solutions for potential problems in the social media development.

3.2 How to develop social media capability in B2B marketing?

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In this section, we summarize and synthesize the dimensions and guidelines for developing social media capability in B2B marketing. To review with a specific purpose, a set of clear and suitable guiding questions are helpful. Aral et al.'s (2013) social media research framework identified four broad thematic areas of research (i.e., design and features, strategy and tactics, management and organization, and measurement and value) across three levels (i.e., users and society, platforms and intermediaries, and firms and industries) by listing several research questions for each level. The research questions for the firm and industry level cover the four levels of social media capability and indicate many important agendas for developing social media capability, therefore, are adapted and adopted as our guiding questions (Table III). In the following section, we first address these guiding questions and then illustrate how firms can develop social media capability based on the elaboration of guiding questions.

{Insert Table III here}

3.2.1 Technological level of social media capability

Based on our review, three key features of social media emerged: 1) Web 2.0-based technology (Brennan & Croft, 2012); 2) creation and exchange of user-generated-content (Kaplan, 2012); and 3) networking (Hemsley & Mason, 2013). Web 2.0 represents the technological foundation of social media, which includes 1) basic internet technologies for publishing static web pages and 2) interactive internet technologies for creating dynamic web environment (Ngai et al., 2015). User-generated-content is applied to describe the various forms of media content that are publicly available and created by end-users (Kaplan & Haenlein, 2010). Networking represents the social aspect of social media, referring to socio-psychological behavior of social media users (Ngai et al., 2015).

As to the categorization, our review reveals that social media is comprised of a wide range of applications, and different research categorized social media in different ways (see Kaplan & Haenlein, 2010; Rollins et al., 2014; Michaelidou et al., 2011). Our synthesis shows that, social media could be categorized into public social media and enterprise social media according to its ownership and use boundary (McAfee, 2006). More specifically, public social media includes three categories, namely, social networking site (e.g., Facebook, Twitter, and LinkedIn), web-based community (e.g., brand community, discussion boards, chat room, and content community) and virtual world (e.g., Second Life and World of Warcraft); while enterprise social media includes three categories, namely enterprise-owned social media (e.g., firm blog, firm website, inter-organizational systems and intranet communication tools), enterprise social bookmarking systems, and enterprise wikis.

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Two patterns emerged in our review. First, some social media categories (i.e., social networking sites, web-based communities, and enterprise-owned social media) are widely addressed, while others (i.e., virtual world, enterprise social bookmarking sites, and enterprise wikis are rarely studied) are ignored. However, the overlooked social media technologies can play an important role in facilitating knowledge management, collaborative projects, and innovation; and such role had not been noticed by B2B researchers until 2011 (Gray et al., 2011; McAfee, 2006). Second, B2B marketing research has mainly addressed public social media and overlooked enterprise social media. Electronic data interchange (EDI) systems and intra-organizational communication tools are not even considered as a part of social media realm (see Salo & Wendelin, 2013). What leads to the two patterns? Our review reveals that this is perhaps due to the influence of B2C marketing research that concentrates on public social media (see Bolat & Kooli, 2016; Nguyen et al., 2015). We have seen that Kaplan & Haenlein's (2010) definition and classification of social media, which are based on B2C marketing, are prevalently adopted (Keinänen & Kuivalainen, 2015). However, B2C marketing research focuses more on advertising and word-of-mouth and targets public audiences. Thus, with social media in B2B contexts, the networking feature is amplified while the user-generated-content feature is under-emphasized; the public social media platforms are widely promoted whereas enterprise social media tools are absent.

To overcome this problem, we suggest that firms engaged in B2B marketing develop a dynamic technological capability of social media that particularly applies to B2B marketing. Because social media is an umbrella term that involves a large set of applications, and these applications are evolving rapidly with new functions and add-ons (Kane et al., 2014), organizations could maximize their social media capability only when they truly grasp the core features of social media technology (Kaplan, 2012). Therefore, we propose two elements for the technological level of social media capability: 1) recognizing the key features and categories of social media and 2) dynamically upgrading the recognition in respond to the environmental change. In so doing, they would promptly recognize the importance of user-generated-content in B2B marketing and the value of emerging applications (Gray et al., 2011). Moreover, they would know how to leverage different social media features to accomplish specific marketing purposes. For example, the networking feature could be employed to develop channel relationships and facilitate distribution (see Moreno & Terwiesch, 2014); and the user-generated-content feature could be used to build cyber-intermediaries or e-marketplace (see Muzellec et al., 2015). In addition, firms could dynamically upgrade their existing information systems by integrating social media features. For example, traditional enterprise information systems (e.g., electronic data interchange, Yammer, and Jive) could be evolved by including more social media features such as networking and creation/exchange of information (see Salo & Wendelin, 2013).

3.2.2 Operational level of social media capability

We next describe the operational level by answering the two guiding questions centered on daily interactions and platform design. As for routine interactions within social media, posts and individuals' participation are found to be the main concerns. Posts are the indispensable part of social media routines that disseminate messages and create discussions (Leek et al., 2016). Two things about the posts are addressed in previous research: content and frequency. Regarding content, there is a fit between the purpose of the posted content and the feature of specific social media (Ling-yee, 2010). For example, Leek et al. (2016) developed a Task Media Fit model for the use of Twitter. They argue that, with the function of a Twitter message to be information sharing, problem-solving, or public relations, business marketers could use different embedded media/links accordingly (Leek et al., 2016). Also addressing Twitter, Swani et al. (2014) discussed the use of cues, links, and hashtags in B2B tweets and found that emotional appeals are more influential than functional appeals for branding. Regarding frequency, research has examined its effects on the quantity/quality of the posts (Miller & Tucker, 2013) and its effects on credibility trust between two transacting parties in e-marketplaces (Ba & Pavlou, 2002). However, more research is needed to provide specific guidelines for determining the content and frequency of posts that are suitable for different marketing sub-domains.

Research suggests that firms assume an individual socio-cognitive perspective. Social media are not only the technology that supports the actions for engagement but also the people and behaviors that constitute its community (Germonprez & Hovorka, 2013). Hence, organizational use of social media depends largely on the active individual participation (Huotari et al., 2015; Keinänen & Kuivalainen, 2015). The active individual participation is influenced by users' perceptions of social media benefits (Lacoste, 2016) and their trust in online communities (O'Reilly & Eckert, 2014), and more widely, by their technological background (Nguyen et al., 2015) and personal attributes (Rishika et al., 2013). Considering the significant effects of individuals' behavior on organizational outcomes such as cost reduction and partner's future intention (MacDonald & Smith, 2004), firms need to understand the underlying mechanism of individuals' participation from socio-cognitive perspectives such as social comparison and social identity theory (Wang et al., 2016) to learn how to motivate their social media behaviour by stimulating their good emotion (Koch et al., 2012) and maximizing their functional, experiential, and symbolic benefits (Rollins et al., 2014).

As for the design of social media, previous research suggests the following. First, an iterative design-redesign process is necessary (Linvill et al., 2015). This is a neglected but important aspect due to the ever-changing characteristics of social media and the fact that it is often collectively inhabited by many members (Aral et al., 2013). Second, social media design is based on the aims toward user end-states (Bolat et al., 2016). Research

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finds that different features (e.g., structure, tie strength, 'thumbs-up' and comments) designed into social media could activate users' different end-states (see Wang et al., 2013). Firms need to know how specific social media features affect users' end-states and then design these features into their social media platforms based on their specific objectives. Third, social media represents not just a social-technical artifact but also a community (Germonprez & Hovorka, 2013). Communities in B2B contexts may take on a different role from those in B2C communities because they involve a range of activities in relation to both internal and external actors (Andersen, 2005). Individuals' sense of "presence" (Subramaniam & Nandhakumar, 2013) and communicative styles (Moser et al., 2013) may be affected by the structure of the community. Hence, firms need to incorporate community building as part of the social media design (Aral et al., 2013).

3.2.3 Managed level of social media capability

We next introduce the managed level of social media capability by focusing on the questions around social media adoption, maintenance, and evaluation. Regarding adoption, the most critical factor is marketing purpose, namely, to which marketing sub-domain that social media applies (Bolat et al., 2016). To reveal the application of the six social media categories across marketing, we summarize four marketing sub-domains, 1) market relations, 2) channels/intermediaries, 3) branding, and 4) knowledge management, based on LaPlaca & Katrichis (2009), Young et al. (2015), and JBBM's subject listing (2009). The matches between social media categories and marketing sub-domains are shown in Appendix I. As Appendix I illustrates, there are some fixed matches: 1) social networking sites, web-based communities are often used in market relations, branding, and channel development; 2) virtual world and wikis are mainly used for knowledge management. To better develop the managed level of social media capability, firms need to understand the matches between social media categories and marketing sub-domains and employ the appropriate social media technology to fulfill different marketing purposes. Besides, to incorporate the dynamic feature at this level, we argue that firms also need to pay attention to the previous unmatched combinations based on a well-developed technological and operational social media capability. For example, equipped with a complete understanding of features/types of social media, firms can be made aware of the user-generated-content of social networking sites or blogs that can be used in knowledge management such as market sensing (Bolat et al., 2016) and salesforce training (Rollins et al., 2014). Traditional enterprise systems such as EDI and intra-organizational communication tools can be evolved to include networking features that act as effective social media systems for marketing purposes (Salo & Wendelin, 2013).

Regarding maintenance stage, barriers and problems are examined. Previous research has identified some tensions in the maintenance of social media technology, such as tensions between individual practice and social media features (Quinton & Wilson, 2016),

tensions around the blurring of work/non-work boundary (Dery et al., 2014), and tensions between organizational and IT culture (Koch et al., 2013). Research indicates that firms need to employ organizational coordination mechanisms, which consist of policy-based, socialization-based and leadership-based mechanisms, to overcome these tensions (Avgerou & Li, 2013). In addition, platform security issues (Mueller et al., 2011) and privacy issues (Dery et al., 2014) are potential problems possibly met by firms. With such considerations, enterprise social media that selectively open to targeted audiences may suit firms' B2B marketing needs better than public social media (McAfee, 2006).

Regarding evaluation, we found that measurement of social media value is one of the most under-researched areas. An urgent question researchers need to address is how to quantify the intangible value created by social media. Only three studies tackle this issue. Clickstream data and Web Analytics are recommended to measure social media performance (see Järvinen & Karjaluoto, 2015). Indeed, the development and wide adoption of social media analytics seem to provide an existing direction. However, more solid evidence is still necessary for determining the intangible value of social media. As we see in our review, the realization of social media value is a complex problem and determined by many factors, such as IT and business alignment, and corresponding business change. Adopting a capability approach, we propose that developing a dynamic social media capability could provide a basis for the value realization.

3.2.4 Strategic level of social media capability
In this section, we explore the strategic level of social media capability based on the last two guiding questions. We summarize the literature that helps firms integrate their lower-levels of social media capabilities into a strategic level. First, as we discussed under the question of 'what', firms need to strategically integrate a dynamic view into their social media capabilities. Integrated into the technological level of social media capability, the dynamic view indicates that the ever-changing social media technology requires firms to keep a dynamic learning orientation (Kane & Fichman, 2009). Integrated into the operational level of social media capability, it fits the need to iteratively design--redesign social media applications and the need to adjust routines in rapidly-changing environments (Germonprez & Hovorka, 2013). Integrated into the managed level of social media capability, it enables firms to make flexible decisions on social media adoption (Nguyen et al., 2015).

Second, firms need to adopt a holistic view that treats all organizational resources as a whole. Adopting a holistic view facilitates the integration of social media technology to organization through internal alignment within marketing department (Chung et al., 2012) and through cross-functional collaborations (Aral et al., 2013). Third, firms need to embrace a paradigm /cultural change (Felix, Rauschnabel, & Hinsch, 2017). In the era of social networking, it is imperative for firms to transform from a transaction-focused

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paradigm to a networking-focused paradigm, and from a value output tendency to value input/share tendency (e.g., Standing & Standing, 2015). In this way, firms can focus on psycho-social concepts such as trust and commitment, which facilitate individual's active participation (Moreno & Terwiesch, 2014). It is also imperative for firms to shift to a community-embedded organizational culture. Social embeddedness of economic activity has largely changed the behavioral norms of local culture (Avgerou & Li, 2013), and social media have the potential to dramatically change organizational culture by building communities, promoting information sharing and fostering collaboration (Koch et al., 2013). The cultural change will help resolve IT-culture conflict and align user's workplace value with online community value, to overcome management issues of social media.

3.2.5 Social media capability maturity model

Based on the previous discussion, we propose a social media capability maturity model (SMCMM) in this section (see Figure 1). The SMCMM consists of four interdependent levels; namely, technological, operational, managed, and strategic levels. To explicate the model further, three features need to be addressed. First, the four levels of social media capability are interdependent. The development of the low-level capabilities is the basis of the development of the high-level capabilities. Second, we name the model using "maturity" because we believe that the social media capability becomes mature as the organization moves up these four levels. Our model suggests that firms can build a technological capability first to use the core features of social media, and then move to operational capability to apply social media in daily marketing practices and routines, and then move to managed capability level, to monitor social media alternatives and evaluate the social media values in an organized and managed way, and lastly to, develop strategic approaches and paradigms to dynamically guide the lower levels of social media capabilities. Third, the four levels of social media capability are inter-constrained. To our understanding, the four levels should be aligned with each other to maximize a firm's social media capability. We believe that less developed levels, no matter high-levels or low-levels, would limit the value of the highly developed levels. Therefore, to maximize the social media capability, firms need to balance the development of four levels and pay attention to the alignment between each other.

{Insert Figure I here}

4. Discussion

In this paper, existing knowledge on social media use in B2B marketing is reviewed in the context of specific questions. We propose a SMCMM that consists of four levels,

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namely, technological, operational, managed, and strategic level. The findings of this paper have several implications.

4.1 Theoretical implications for B2B researchers

4.1.1 Technology is the foundation of corporate social media capability

On the technological aspect of social media capability, B2B researchers seem to be influenced by B2C social media research that has focused more on public social networking platforms, and certain features of social media such as networking. Therefore, specific enterprise social media applications and potential social media features are ignored. Kane et al. (2014) emphasizes the importance of understanding social media technologies regarding their key features of networking and user-generated-content. Based on the integration of Marketing and IS literature, this research suggests that B2B researchers can build a technological understanding first to use the core features of social media. This is the foundation of achieving and maintaining the advantages of social media and responding to the changes in competitive environments.

4.1.2 An individual socio-cognitive perspective

To the best of our knowledge, the present research is the first that proposes a relatively complete model for social media capability that specifically applies to B2B marketing. We suggest that an individual level socio-cognitive perspective is a critical thread throughout the maturity model. Since it has been shown that individual's emotion, perception, and cognition significantly affect their social media behavior, and in turn, affect the achievement of organizational goals, our review reveals that employing a socio-cognitive perspective has two major implications. The first is to optimize individual's social media behavior and benefits so as to optimize organizational benefits; the second is to help uncover the underlying mechanisms behind social media communities inside/outside organizations, to reveal the fundamental factors affecting the transition from social media's technological capability to organizational strategic capability.

4.1.3 A knowledge management perspective

This research has implications for B2B social media research that advocates a knowledge management perspective. Social media, as a technology focusing on the creation and exchange of user-generated-content, has largely changed individual's information-seeking behavior, and has become a powerful platform for knowledge accumulation, storage, and dissemination (Ford & Mason, 2013). It is imperative for academics to realize the importance of a knowledge management perspective, which emphasizes the dynamics of online interaction and learning orientations.

4.2 Managerial implications for firms engaged in B2B marketing

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Several managerial implications of this study can be made for B2B marketing. First, this study clarifies what social media capability in B2B marketing is and provides firms with some tactical guidelines on how could they develop such a capability. For example, understanding the key features of social media and the categorizations of social media are beneficial for managers, as it will enable them to identify suitable social media initiatives and decide on appropriate social media applications (e.g., branding, channel development, customer relationships, and knowledge management). Moreover, it helps managers identify potential solutions for overcoming the challenges they may face in social media adoption, maintenance, and evaluation. Second, it provides B2B marketers with a set of strategic level considerations to support social media activities, such as intra-functional and extra-functional resource alignment, and cultural adjustment (e.g., the tension between local culture/organizational culture and social media/online community culture). This study indicates that social media capability consists of four levels, 1) technological level, 2) operational level, 3) managed level, and 4) strategic level, and the four levels should be aligned with each other to maximize one firm's social media capability. In addition, it emphasizes an organizational dynamic capability and a knowledge management capability that may help managers acquire, integrate, and apply knowledge from social media to organizational practices. These suggestions will enable firms to be alert to the opportunities and threats, to accumulate the collective value of all social networks, and to make strategic decisions more efficiently in maintaining competitiveness.

5. Conclusion

To conclude, we propose a SMCMM based on a thematic review of 112 academic articles in marketing and IS publications. We summarize the present use of social media in B2B marketing and suggest potential solutions for better use of social media. We hope that our proposed model will result in a shift of emphasis in the B2B literature away from the platform-dependent social media activities and towards the strategic, holistic, and dynamic processes that social media capability implies. It is our hope that this paper will foster more research into social media capability in B2B marketing. That said, this study and its findings are limited by the scope of the literature reviewed and the data source. As mentioned, the articles included in the literature review on which the study is based were limited to secondary data in nine English academic journals. The research (model) is based on a single framework adapted from the Information Systems discipline. Future research can further address the research questions by 1) broadening the literature reviews by including more sources such as additional relevant journals, conference proceedings, and books; 2) formulating a research model drawing on other theories; and 3) testing the model with primary data.

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{Insert Appendix I here}

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Figure 1 Social media capability maturity model

Level 1	Level 2	Level 3	Level 4
Technological Level	Operational Level	Managed Level	Strategic Level

Level 1 — Technological Level

❖ Issues
- Features
- Categories

❖ Capability
- Recognize social media features and categories
- Dynamically upgrade existing recognition in respond to environment

Level 2 — Operational Level

❖ Issues
- Daily Interaction
- Platform Design

❖ Capability
- Understand underlying mechanism of user participation
- Learn how to manage users' end-states
- Know impacts of specific social media design features
- Incorporate community building as part of social media design

Level 3 — Managed Level

❖ Issues
- Adoption
- Maintenance
- Evaluation

❖ Capability
- Understand and explore new matches between social media categories and B2B marketing sub-domains
- Employ policy-based, socialization-based, and leadership-based organizational coordination mechanisms to resolve tensions
- Assess intangible value of social media

Level 4 — Strategic Level

❖ Issues
- Dynamic view
- Holistic view
- Paradigm and cultural change orientation

❖ Capability
- Integrate a dynamic view into each level of social media capability
- Facilitate the integration of social media capability to organization through internal alignment and cross-functional collaboration
- Change to networking-focused paradigm and community-embedded organizational culture

Social Media Capability Maturity

Table I Articles included in this study

	Total articles	Articles in five periods				
		2001-2003	2004-2006	2007-2009	2010-2012	2013-2016
IMM	37	5	4	5	4	19
JBIM	20	1	2	2	2	13
JBBM	7	0	2	0	2	3
JRM	9	0	2	2	0	5
JBMM	3	/	/	2	0	1
MISQ	12	1	0	1	3	7
ISR	9	0	0	0	1	8
EJIS	5	1	0	1	2	1
ISJ	10	0	0	0	1	9
TOTAL	112	8	10	13	15	66

Table II Studies that explicitly propose social media capability

Citation	Seminal concept	How is social media capability conceptualized?
Bolat et al. (2016)	Organizational dynamic capability	• Mobile social media capability is "a system consisting of four interrelated practices, namely, market sensing, managing relations, branding, and developing content" (p. 9). • Mobile social media capability includes three dimensions: 1) routines, 2) skills and knowledge, and 3) with co-ordination mechanisms. • Mobile social media capability is "developed as a result of the overlap between individuals' and organizational knowledge and memory" (p. 20).
Nguyen et al. (2015)	Organizational strategic capability	• Social media strategic capability is "the ability to acquire, integrate, and apply knowledge from social media to organizational resources in alignment with an organization's strategic directions and choices, thus enabling the capabilities to be swift and flexible" (p. 15).
Subramaniam et al. (2013)	Information Technological capability	• Social media capability in enterprise systems includes three perspectives: 1) afforded virtual co-presence, 2) afforded focused interactions, and 3) afforded the formation of interaction order.
Wang et al. (2016)	Media capability	• Social media capability includes transmission velocity, parallelism, symbol sets, rehearsability, reprocessability, and information security and control.

Table III Guiding questions for answering the question of 'how'

SMC Level	Guiding Research Questions
Technological level	• What are the key features of social media technology? • What are the categories of social media applications?
Operational level	• How should firms interact with platform features to maximize their benefits? • What features should firm design into their enterprise social media?
Managed level	• How to evaluate the social media alternatives and determine which one works best for the firm? • What are the potential issues when maintaining social media? • How to measure the outcomes and value of social media?
Strategic level	• How should firms manage, support, and evolve their social media capabilities? • What are the skills, resources, and cultural changes that are needed to best adapt to a social world?

*Adapted from *Aral et al. (2013)*

Appendix I Social media use in B2B marketing sub-domains

Types of social media	Sub-domains	Applications & Citations
Social networking sites	Market relations	Barreda et al. (2015); Guesalaga (2016); Huotari et al. (2015); Järvinen & Karjaluoto (2015); Koch et al. (2012); Lacoste (2016); Linvill et al. (2015); Miller & Tucker (2013); O'Reilly & Eckert (2014); Quinton & Wilson (2016); Román & Rodríguez (2015); Wongsansukcharoen et al. (2015)
	Branding	Green & Hartley (2015); Lipiäinen & Karjaluoto (2015); Michaelidou et al. (2011); Swani et al. (2014)
	Channel development	Muzellec et al. (2015)
	Knowledge management	Germonprez & Hovorka (2013); Nguyen et al. (2015)
Web-based communities	Market relations	Linvill et al. (2015); Mishra & Li (2008)
	Branding	Andersen (2005); Mehmet & Clarke (2016); Swani et al. (2014); Wang et al. (2016)
	Channel development	Ba & Pavlou (2002); Chung et al. (2012); Harrison & Waite (2005); Luo & Donthu (2007); Moreno & Terwiesch (2014); Muzellec et al. (2015); Sila & Dobni (2012)
	Knowledge management	Moser et al. (2013); Rollins et al. (2014)

Virtual world	Knowledge management	Mueller et al. (2011)
Enterprise-owned social media	Market relations	Rishika et al. (2013); Standing & Standing (2015); Winsor et al. (2004)
	Branding	Chakraborty et al. (2005); Ling-yee (2010); Lipiäinen & Karjaluoto (2015); Wilson (2010)
	Channel development	Chung et al. (2012); MacDonald & Smith (2004); Salo & Wendelin (2013)
	Knowledge management	Leonardi (2014, 2015); Lin & Huang (2012); Subramaniam et al. (2013); Wang et al. (2013)
Enterprise social bookmarking sites	Knowledge management	Gray et al. (2011); Leonardi (2014, 2015)
Enterprise Wikis	Knowledge management	Kane & Fichman (2009); Koch et al. (2013); Xu & Zhang (2013)