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## **Social media applications in external B2B transactions: An empirical analysis of the Finnish technology industry**

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## **Structured Abstract**

Despite the popularity of the topic, social media research is still limited and focuses largely on the role of consumer-to-consumer (C2C) and business-to-consumer (B2C) domains (Volpentesta and Felicetti, 2012; Michaelidou et al., 2011). In many aspects, B2C social media practices are not directly useful for inter-organizational and business-to-business (B2B) purposes. The main aim of this paper is to increase the understanding of the current applications of social media in external B2B transactions. This is carried out through an extensive survey of companies in the technology industry which are operating purely in B2B markets, having only other companies as customers.

We wanted to understand how industrial B2B companies currently apply social media in their own inter-organizational applications, what potential they see for social media in this context, and what kind of support they need to better adopt social media together with their customers and partners. A population of 2488 Finnish decision makers from the Federation of Finnish Technology Industries were observed. Based on the answers of 143 different companies, 125 companies were found to wholly (100%) represent B2B markets, and these were chosen as the sample of this particular study.

Studies on social media, especially survey-based studies, have not focused solely on B2B companies, particularly on the inter-organizational applications of social media in B2Bs, except for the B2B-marketing oriented study of Michaelidou et al. (2011) and the study of social media utilization in B2B relationships by Pettersson et al. (2014). This study extends these previous studies by creating new understanding of the maturity of social media integration in businesses, organizational business problems that companies

perceive can be solved with social media, and approaches that can support social media adoption in B2B companies.

Managerially, the results can be used, for instance, to better understand the various possibilities of applying social media for inter-organizational use in B2Bs, which are currently only superficially understood by a significant portion of managers. This can help support and facilitate external social media use in B2Bs.

**Keywords** – Social media, business-to-business, inter-organizational, enterprise social, survey

**Paper type** – Academic Research Paper

## **1 Introduction**

The use of social media in enterprises is receiving increasing attention by large social media companies who are attempting to tackle the “enterprise social network” space by providing business-centric services, such as Microsoft’s Yammer, Slack, Convo, Socialcast, and more recently, Facebook at Work. Despite the popularity of the topic, social media research is limited and focuses largely on the consumer in a business-to-consumer (B2C) domain (Michaelidou et al., 2011; Volpentesta and Felicetti, 2012; Pettersson et al., 2014). Anecdotal evidence highlights the importance of social media for business-to-business (B2B) relationships (Kho, 2008; Barlow and Thomas, 2011; Gillin and Schwartzman, 2011). However, both the theoretical and empirical research on social media in B2B is quite fragmented, and the empirical research is mainly based on individual cases.

The main aim of this paper is to increase the understanding of the current areas of application of social media in external B2B transactions. This is carried out by an extensive survey of companies in the technology industry which are operating purely in B2B markets, having only other companies as customers. Social media has previously been studied extensively with regard to supporting business-to-consumer transactions, but the applications of social media in B2B transactions and their potential have been scarcely studied and are little understood.

On the basis of available literature, it can be presumed that the challenges and useful approaches of social media in the B2B sector are at least somewhat different from those of B2C companies (Lehtimäki et al., 2009; Nordlund et al., 2011; Kärkkäinen et al., 2013). While social media challenges and approaches may be rather similar in internal application areas in both B2B and B2C companies, external applications with customers and partners may have important differences due to the specific characteristics of B2B markets and products, and thus, this topic should be studied separately.

We find a clear need for research on social media in the B2B context, even if some practices might be transferrable from B2Cs to B2Bs. These specific B2B characteristics and the differences in practices are described and analysed in more detail later in this study.

## **2 Background**

### **2.1 Definition of social media**

Social media can be defined as a group of internet-based applications that build on the technological and ideological foundations of Web 2.0 and that enable the creation and sharing of user-generated content (Kaplan and Haenlein, 2010). Furthermore, social media is often referred to as applications that are either fully based on user-generated

content or in which user-generated content and the actions of users have a significant role in increasing the value of the application or the service (Kangas et al., 2007). A large number of social media application categories have been identified in the literature (Lietsala and Sirkkunen, 2008; Jussila et al., 2012; Pirkkalainen and Pawlowski, 2013): wikis (e.g., Wikia and Confluence), blogs (e.g., WordPress and Blogger), microblogs (e.g., Twitter), social networking sites (e.g., Facebook, LinkedIn, Yammer, Socialcast), discussion forums (e.g., phpBB), open or private communities (e.g., Jive, Lithium community platform), content-sharing sites (e.g., YouTube, SlideShare, Flickr, Pinterest), social office tools (e.g., Google Docs), social bookmarking (e.g., Delicious), mashups (e.g., Google Maps), and virtual social worlds (e.g., Second Life).

## 2.2 Social media in the B2B context

In a study by Coleman (2009), only 15% of the general population said they used social networks at work, while others used them only outside work. This seems to affect the adoption and attitudes towards social media in the business context; in practice, managers often seem to associate social media strongly with Facebook and Twitter, which are only a minor part of social media applications in business. In the B2B context, it has been commonly assumed that it is much more difficult to utilize social media in B2B relationships (Lehtimäki et al., 2009; Bengs and Wiklund-Engblom, 2012; Simula et al., 2012) because of the many significant differences in B2B products, markets, and product development. For instance, generally speaking, products produced by B2B organizations are more complex, the development of new products takes significantly more time, and the customers are larger organizations instead of single persons, than in the case of consumer (business-to-consumer) product sector. In industrial B2B markets, there are normally fewer customers compared to consumer markets (Geehan, 2011; Gillin and

Schwartzman, 2011), and the relationships tend to be deeper and long lasting, with a greater number of individuals with different organizational roles involved in the relationships (Snehota and Håkansson, 1995; Håkansson et al., 2009). Moreover, the recognition of the user is difficult in the B2B sector because the customer and the user are not necessarily the same actors. For example, the former might be the decision maker and the latter the operational user (Nordlund et al., 2011). In many B2B contexts, users also compete against other, which affects their willingness to share knowledge, leading to knowledge protection (Nordlund et al., 2011). The above factors lead us to believe that the usefulness and potential of social media should be studied empirically, especially in the context of B2B companies.

### **3 Research design**

We wanted to understand how industrial B2B companies currently apply social media in their own inter-organizational applications, what potential they see for social media in this context, and what kind of support they need to better adopt social media together with their customers and partners. We utilized research questions, generic social media related literature, survey-type empirical social media studies (e.g. Kärkkäinen et al., 2013), and expert interviews using a questionnaire structure and individual questions.

A population of 2488 Finnish decision makers from the Federation of Finnish Technology Industries (managing directors of small and medium-sized businesses and business development, product development, and communication managers of large companies) were surveyed. Based on answers from 143 different companies, 125 companies were found to wholly (100%) represent B2B markets, and these were chosen as the sample of this study.

Of the responding firms, 56% were from the metal products and machinery sector, 15% from electronics and electricity, 9% from business planning and consulting, 7% from metal refining, 9% were industries classified as “other”, and 5% of the respondents did not report their industry. The responses concerning the respondent’s position within the firm were management (66%), IT (18%), R&D (7%), marketing (6%), HR (2%), and a position classified as “other” (1%).

## **4 Results**

### **4.1 Extensiveness of social media use in B2B companies**

Chi-square tests were conducted to uncover any differences among companies in terms of external use of social media based on sales turnover and between small and medium and large sized businesses. No differences were found in the external use of social media based on sales turnover ( $\chi^2 = 2.62$ ,  $p > .005$ ) or between small and medium and large sized businesses ( $\chi^2 = 1.71$ ,  $p > .005$ ). The results highlight that the external use of social media does not differ, at least with this sample, with respect to small/medium vs. large size and sales turnover.

In all the studied B2B technology industry sectors, social media was used more internally than externally (Table 1). More than 50% of the industries categorized as other—mostly software development companies—used social media internally at least moderately. Social media was used internally almost as often in the electronics and electricity industry. Social media use in the customer interface and with partners was far less common; for example, 17% in the machinery and metal products sector used social media internally, but only 4% used social media with customers and 3% with partners. The ratio of internal vs. external use was similar in other industries as well.

**Table 1. Internal and external use of social media in technology industry firms (at least moderate use).**

| Industry                           | Use internally | Use in customer interface | Use with partners | Number and percentage of all answers |
|------------------------------------|----------------|---------------------------|-------------------|--------------------------------------|
| Electronics and electricity        | 47%            | 21%                       | 26 %              | n = 19 (15%)                         |
| Refining of metals                 | 36%            | 11%                       | 11 %              | n = 9 (7%)                           |
| Metal products and machinery       | 17%            | 4%                        | 3%                | n = 70 (56%)                         |
| Business planning and consulting   | 36%            | 0%                        | 27%               | n = 11 (9%)                          |
| Other (e.g., software development) | 54%            | 11%                       | 11%               | n = 11 (9%)                          |
| Undefined                          | 20%            | 0%                        | 0%                | n = 5 (4%)                           |

#### 4.2 Different social media functions in B2B transactions

The five most active types of current usage when measured by the percentage of respondents using social media at least to some degree in the customer interface were marketing, communications, employer branding and recruitment, sales support, and product demos, with more than a third of the companies using social media at least to some degree (Table 2). Only a very minor part of the B2Bs studied used social media actively or very actively in different business functions with customers.

**Table 2. Social media functions in the customer interface of technology industry firms.**

| Social media functions                | Use in customer interface (%) |
|---------------------------------------|-------------------------------|
| Marketing                             | 41.5%                         |
| Communications                        | 41.0%                         |
| Product demos (videos, photos, blogs) | 33.4%                         |
| Building thought leadership           | 18.4%                         |
| Gathering customer leads              | 13.6%                         |
| Sales support                         | 35.8%                         |
| Improving customer services           | 21.4%                         |



|                                   |       |
|-----------------------------------|-------|
| Discovering customer needs        | 25.3% |
| Customer participation in R&D     | 8.7%  |
| Employer branding and recruitment | 39.2% |

The three most active types of current usage of social media in the partner interface were general communication, communication and collaboration, and project communication, which were considered very important by about 15% of the B2Bs studied. In partner-oriented use, only one out of the eleven studied items (communication and collaboration) had at least some usage as perceived by more than 25% of the respondents.

**Table 3. Social media functions with partners.**

| Social media functions  | Use in partner interface (%) |
|---|------------------------------|
| Communication and collaboration   | 25.6%                        |
| Network management  | 11.5%                        |
| Induction and orientation to new work (e.g., new network members)         | 9.0%                         |
| Transfer of tacit knowledge   | 9.9%                         |
| Communication (e.g., network news)  | 18.1%                        |
| Project communication   | 16.5%                        |
| Improving efficiency of project work                                      | 12.4%                        |
| Preserving knowledge (e.g., in the event of a member leaving the network) | 11.5%                        |
| Utilizing expert know-how and reducing workload                           | 13.2%                        |
| Sharing best practices  | 13.2%                        |
| Change management and communication                                       | 11.5%                        |

#### 4.3. Maturity of social media integration in business

Almost a third of the respondents stated that the item “The use of social media is allowed in my company” describes the situation in the company well or very well. If including the responses that considered the above statement as describing the situation in

at least somewhat, three-quarters of the respondents agreed that the use of social media is at least somewhat allowed. This situation also reflects the other items related to the maturity of social media integration in business. Only 8% of the respondents felt that the item “My company has instructions for social media use that have been communicated to staff” describes the situation well or very well. Similarly, only 7% felt that the item “Management understands and supports social media implementation” describes the situation well or very well. For all the other maturity items, less than 5% of the respondents felt that the statements described the situation in the company well or very well.

**Table 4. Maturity of social media integration to business.**

| Statements about the current situation in the company  | Agreement to statement (describes the situation well or very in the company) |
|--|--|
| The use of social media is allowed in my company   | 27.2%  |
| My company has instructions for social media use that have been communicated to staff  | 8.0%   |
| Training has been provided or is provided for social media use   | 1.6%   |
| Management understands and supports social media implementation  | 7.2%   |
| Social media discussions about our company and product areas are followed regularly  | 4.0 %  |
| My company participates in discussions about our product outside our own web pages (e.g., blogs, discussion forums, Twitter) | 2.4%   |
| Social media monitoring is linked to other business processes (e.g., product development, customer service, marketing)       | 1.6%   |
| Social media use is linked to achieving business goals   | 3.2%   |
| Business metrics have been defined for social media projects and the metrics are monitored                                   | 0.0%   |
| My company has an internal social media plan or strategy   | 0.8%   |
| My company has a social media plan or strategy for customer interface  | 0.0%   |
| My company has a social media plan or strategy for partner use   | 0.8%   |

|  |      |
|--|------|
| Measurable business benefits have been achieved from social media projects | 0.8% |
|--|------|

#### 4.4. Organizational business problems that can be addressed by social media

Regarding the organizational business problems that the companies have, social media was perceived to most significantly help in 1) overcoming challenges related to the transfer of tacit knowledge (44.8%), 2) reducing the time spent answering to emails and enabling real conversations, and 3) improving knowledge sharing and collaboration with partners and subcontractors.

Table 5. **Organizational business problems that can be addressed by social media.**

|  | Perceived significance of the organizational business problem that can be addressed with social media |
|--|---|
| Experts in our company have to spend a lot of time on answering questions that are largely similar   | 22.6%   |
| We do not have sufficient tools to support project work  | 22.4%   |
| There are challenges in the transfer of tacit knowledge; the information is only in the heads of employees and emails  | 44.8%   |
| Collaboration and co-authoring of documents is a challenge; it is difficult to co-write documents, e.g. offers and quotations, because of versioning, commenting, and managing changes | 23.2%   |
| Too much email, too much time goes to answering to emails and it is difficult to make conversations in email   | 42.7%   |
| People meet with each other far too little, and it is difficult to get a big group together even if it would be useful   | 22.4%   |
| Organizing meeting times is difficult, can cause a lot of changes, and takes too much time   | 11.1%   |
| Customer services is overloaded with similar questions from customers by email and phone   | 10.5%   |
| Sharing knowledge on markets and customers is challenging, information is not transferred from marketing to production, and the sales personnel do not get information                 | 19.9%   |
| Getting feedback from customers is difficult; we do not get enough feedback or product development ideas from our customers, or the information does not reach product development     | 20.9%   |

|   |       |
|---|-------|
| Knowledge sharing and collaboration with our partners and subcontractors is challenging | 23.9% |
|---|-------|

#### 4.5. Approaches supporting application of social media

The three most useful approaches that were perceived to most support the application of social media in industrial B2B companies included case descriptions about social media use in industrial companies in Finland and elsewhere (perceived as useful or very useful by 58.4% of the respondents), benchmarking events with other industrial companies (40.7%), and information about different social media tools and their vendors (31.9%).

Table 6. **Approaches supporting the application of social media.**

|  | Useful or very useful approaches in supporting social media use |
|--|---|
| Seminars and other events to deal with social media use in industrial companies                          | 22.0%   |
| Studies and reports about the topic  | 25.8%   |
| Case descriptions about industrial companies in Finland and elsewhere                                    | 58.4%   |
| Benchmarking events with other industrial companies  | 40.7%   |
| Internet forums to provide information about the topic and to participate in discussions about the topic | 21.2%   |
| Supported company-specific consulting to make use of social media  | 22.2%   |
| Information about social media consulting companies and their offerings                                  | 12.9%   |
| Receiving information about different tools and their vendors  | 31.9%   |

## 5 Conclusions

Earlier academic social media related studies, particularly survey-based studies, have not focused on companies that operate wholly in B2B markets or on the more detailed external applications of social media in B2B transactions. In particular, studying the

external inter-organizational applications of social media by B2Bs is relevant because this topic is currently rather poorly understood by managers. In this study, this is demonstrated, for instance, by the lower use rate of external applications in relation to internal use. This study also demonstrates that the external inter-organizational applications of social media by B2Bs are, in many ways, very different from the internal use. Furthermore, the study demonstrates that many external applications of social media in B2Bs seem to be rather specific to B2Bs, and thus differ from mere B2C applications.

This study contributes to current literature by exploring and improving the understanding of B2B companies' external social media use, the maturity of social media integration in business, and the perceived potential and development needs of social media use in a customer- and partner-related context.

Overall 29.6% of the studied B2Bs used social media in business functions. Externally, social media was used 12.8 % in business functions. This is in line with the earlier presumptions that social media was used less actively externally than internally. Concerning the generic social media adoption process of B2Bs and other organizations, this is probably due to companies first testing and experimenting with novel technologies and practices internally, and only in the next stages expanding the use to customers or other external parties. This is supported at least partly by the fact that while there were fewer external users compared to internal users, practically all external social media users in the studied B2Bs were also using social media internally. One explanation is that external parties are, quite naturally, less easy to govern or motivate to use novel approaches. Secondly, any failures leading to customer dissatisfaction or the leakage of confidential information to external organizational parties might be fatal in the use of social media in the external B2B sector. The overall use rates are very close to the use rates reported in the only academic study found to survey the use of social media by

B2Bs, which indicated a 27% usage rate of social networking sites in branding by SME B2Bs. In our study, which also addressed SMEs, social networking sites (SNS) were clearly the most commonly used individual approach, with at least double the commonality compared to the next most popular approach. Our study contributes to the above and other earlier studies because it provides a more broad view to both social media genre than merely SNS, as well as its external use (not only branding and marketing). This enables managers to pinpoint potential use cases at larger scale in inter-organizational social media use.

Surprisingly, we found a similar current external social media use with regard to different company sizes and turnover (with statistical significance). This contradicts earlier studies on technology adoption (e.g., Del Aguila-Obra & Padilla-Melendez, 2006; Premkumar & Roberts, 1999) suggesting that firm size correlates positively with the use of technology. This could mean that the adoption of social media differs from the adoption of other internet-based technologies. Possible explanations for this include the relatively limited financial resources needed for the adoption (see e.g., Michaelidou et al., 2011) and the ease of adoption and the cost effectiveness of at least some social media approaches, such as SNS or one-way communication related approaches used, for example, in the marketing of smaller companies.

We found a number of external social media uses that were seen as important by at least a third of the companies with at least moderate experience in using social media externally. Two of these, employer branding and recruitment (in customer interface) and general communication (in partner interface), were seen as important applications of social media by as many half of the companies.

Academically, we have achieved a new understanding of the usage, perceived potential, and challenges of social media use in B2Bs, the external use of which, to the

best of our knowledge, has been little studied academically with survey approaches, and in the study of Michaelidou et al. (2011), only very narrowly from a branding and social network site perspective, which is only a small part of social media use.

Managerially, the results can be used, for instance, to better understand the various possibilities of inter-organizational social media use in B2Bs, which are currently only superficially understood by a significant portion of managers.

This study opens up several areas for further research. First, in order to facilitate the adoption of social media and to fill the gap between perceived social media potential and the actual use in B2Bs discovered in this study, it seems apparent that academic and pragmatic research should be carried out. This research provides important starting points for such further research. Most importantly, the academic research should focus on gathering and organizing the fragmented empirical research to provide a systematic and holistic picture of the possibilities of social media use in B2Bs, developing ways to present a better analysed picture of the financial benefits of social media use, and gathering more organized and varied types of case studies, examples, and case evidence into a good overall picture of how social media may facilitate B2B business.

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