



Author(s) Jussila, Jari J.; Kärkkäinen, Hannu; Aramo-Immonen, Heli

Title Social media utilization in business-to-business relationships of technology industry firms

Citation Jussila, Jari, J.; Kärkkäinen, Hannu; Aramo-Immonen, Heli 2014. Social media utilization in business-to-business relationships of technology industry firms. Computers in Human Behavior vol. 30, 606-613.

Year 2014

DOI <http://dx.doi.org/10.1016/j.chb.2013.07.047>

Version Post-print

URN <http://URN.fi/URN:NBN:fi:ty-201407101352>

Copyright NOTICE: this is the author's version of a work that was accepted for publication in Computers in Human Behavior. Changes resulting from the publishing process, such as peer review, editing, corrections, structural formatting, and other quality control mechanisms may not be reflected in this document. Changes may have been made to this work since it was submitted for publication. A definitive version was subsequently published in Computers in Human Behavior, Vol. 30, January 2014, DOI: 10.1016/j.chb.2013.07.047.

All material supplied via TUT DPub is protected by copyright and other intellectual property rights, and duplication or sale of all or part of any of the repository collections is not permitted, except that material may be duplicated by you for your research use or educational purposes in electronic or print form. You must obtain permission for any other use. Electronic or print copies may not be offered, whether for sale or otherwise to anyone who is not an authorized user.

Social media utilization in business-to-business relationships of technology industry firms

Jari J. Jussila¹, Hannu Kärkkäinen¹, Heli Aramo-Immonen²

¹Tampere University of Technology, Department of Information Management and Logistics, Korkeakoulunkatu 10, 33720 Tampere, Finland

²Tampere University of Technology, Department of Industrial Management, Pohjoisranta 11, 28100 Pori, Finland

Abstract. Even today, it is a fairly common argument in business-to-business companies, especially in traditional industrial companies, that social media is only useful in the business-to-consumer sector. The perceived challenges, opportunities and social media use cases in business-to-business sector have received little attention in the literature. Therefore, this paper focuses on bridging this gap with a survey of social media use cases, opportunities and challenges in industrial business-to-business companies. The study also examines the essential differences between business-to-consumer and business-to-business in these respects. The paper starts by defining social media and Web 2.0, and then characterizes social media in business, and social media in business-to-business. Finally, we present and analyze the results of our empirical survey of 125 business-to-business companies in the Finnish technology industry sector. This paper suggests that there is a significant gap between the perceived potential of social media and social media use with customers and partners in business-to-business companies, and identifies potentially effective ways to reduce the gap.

Keywords: Social media, business-to-business, customer interface, partner interface, technology industry, survey

1 Introduction

Social media utilization in enterprises is a current and popular research topic. 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, Siamagka, & Christodoulides, 2011). Even though anecdotal evidence about the importance of social media for B2B companies exist (e.g. Shih, 2009; Safko, 2010; Wollan & Smith, 2010; Barlow & Thomas, 2011; Hinchcliffe & Kim, 2012), the interest in and adoption of social media by B2B organizations has been slow compared to B2C organizations (Michaelidou et al., 2011). Both the theoretical and empirical research is quite fragmented and the empirical research is mainly based on individual, often not too systematically and analytically reported cases. Furthermore, the use of social media in different specific contexts, such as the business-to-business sector and in different types of industries, is not well understood. The aim of this research is to

illustrate both the current state and potential of social media use and challenges as perceived by Finnish industrial business-to-business (B2B) companies.

Despite the relative novelty of social media in business and lack of academic research, social media has already been demonstrated to open many new opportunities for the B2B sector due to its features that can enhance communication, interaction, learning and collaboration (see e.g. García-Crespo, Colomo-Palacios, Gómez-Berbís, & Ruiz-Mezcua, 2010; García-Peñalvo, Colomo-Palacios, & Lytras, 2012; Jahn & Nielsen, 2011), which can bring significant benefits to organizations. For instance, according to a study by McKinsey consultants (Bughin, Manyika, & Miller, 2009) “69 percent of respondents report that their companies have gained measurable business benefits, including more innovative products and services, more effective marketing, better access to knowledge, lower cost of doing business, and higher revenues.” According to a recent McKinsey study (McKinsey, 2013) the social media benefits from customer use include for example average improvement of 20% in increasing number of successful innovations, 20 % in reducing time to market, and 15% increase in revenue, and average improvement in partner use include e.g. 30 % in increasing speed to access external knowledge and experts, 20 % in increasing number of successful innovations, reducing time to market, reducing product development costs and in increasing revenue.

Further, social media can be utilized to identify new business opportunities and new product ideas, to deepen relationships with customers and to enhance collaboration not only inside but also between companies and other parties (Barker, 2008; Lehtimäki, Salo, Hiltula, & Lankinen, 2009; Hoffman & Fodor, 2010; Gillin & Schwartzman, 2011).

On the basis of available literature, it can be presumed that the challenges and useful approaches of social media in B2B sector are at least somewhat different from those of business-to-consumer (B2C) companies (Lehtimäki et al., 2009; Gillin & Schwartzman, 2011; Geehan, 2011). Even though social media challenges and approaches may be rather similar in internal use between B2B and B2C companies, especially the external use with customers and partners has supposedly important differences due to many special characteristics of B2B markets and products, and should be studied separately. It has been a relatively common assumption (e.g. Eskelinen, 2009; Lehtimäki et al., 2009) that it is much more difficult to utilize social media in business-to-business relationships for instance because of the many significant differences in the business-to-business products, markets and product development. Concerning the above reasoning, thus, we find a clear need for research of social media in the specific context of business-to-business, even if some practices might be transferrable from B2C's to B2B's. These B2B characteristics and differences are described and analyzed later in this study in more detail.

2 Definitions of Web 2.0 and Social Media

Although the concepts Web 2.0 and social media are often used synonymously, it is useful to differentiate them from each other (Kaplan & Haenlein, 2010). Web 2.0 can be defined as technologies that enable users to communicate, create content and share

it with each other via communities, social networks and virtual worlds more easily than before. Such tools and technologies emphasize the power of users to select, filter, publish and edit information (Tredinnick, 2006) as well as to participate in the creation of content in social media. Social media can be defined as “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of user-generated content” (Kaplan & Haenlein, 2010). Taking this one step further, social media are often referred to as applications that are either fully based on user-created content, or in which user-created content or user activity have a significant role in increasing the value of the application or the service (Kangas, Toivonen, & Bäck, 2007).

Social media are certainly not a unified and well-defined set of approaches, and thus, this should be taken into consideration when studying the use and potential of social media in selected contexts, such as in our study. From a technology perspective, the platforms vary and, correspondingly, so do the rules of utilization and functionality (e.g., Twitter tweets/posts can be no more than 140 characters). In turn, there is variation in how people use these platforms and/or associated applications (e.g. bloggers tend to post at most once per day, and their posts tend to be up to one page in length). A large number of generic different types of social media related applications can be identified (Cooke & Buckley, 2008; Warr, 2008) such as wikis (e.g. Wikipedia), blogs (e.g. company newsrooms), microblogs (e.g. Twitter, Yammer), social networking sites (e.g. LinkedIn, Facebook), social content communities (e.g. YouTube, SlideShare, Flickr), intermediaries (e.g. InnoCentive), and virtual social worlds (e.g. Second Life).

Lietsala and Sirkkunen (2008) suggest using social media as an umbrella term, under which various and very different types of cultural practices take place related to the online content and the people who are involved with that content. Some of the practices are relatively stable, such as participating in wikis, blogging, and social networking, and some are still developing, such as microblogging, or using add-ons to build new types of hybrid sites.

2.1 Social Media in Business

Social media is a relatively novel concept, and its fast wider adoption and public interest has its roots at least partly in the originally non-commercial public social media applications such as Facebook and blogs. In the white paper study by Coleman (2009), only 15% of the general population said they used social networks (technologies) at work, while others used them merely outside the work. The adoption and attitudes towards social media in the business context seem to be affected by the above phenomena: in practice, managers often seem to associate social media strongly with especially Facebook and Twitter, which are only a very minor part of the social media genre in business.

Even if some individual Web 2.0 tools, such as wikis, have been used to some extent in the business context for almost a decade, the general adoption and understanding of social media in the business context is still quite low. In a Finland-based survey (Helfenstein & Penttilä, 2008) targeted mainly at CEOs, CIOs and strategic management, 25.4% stated that Web 2.0 applications and services were in active use

in their organizations, and 16.4% said they would adopt them somewhere in the near future, while the remainder had no plans or no resources to adopt them, or thought it was better to wait before making adoption decisions. Adoption of social media may be very fast in certain business areas, and there are significant differences in adoption depending on the business or function surveyed: contrary to the previous research, e.g. in the white paper by Stelzner (2009), as many as 88% of surveyed marketers were using social media in their marketing, but 72% had been doing so only for a few months or less. These rapid changes emphasize the need for monitoring and studying the social media possibilities and adoption rates in various business contexts. Very few recent academic studies were found that studied the adoption of social media in organizations in general, or in different business functions. The academic survey-type studies that were found reported practically no recent studied adoption rates especially in the industrial business-to-business context.

2.2 Social Media in the Business-to-Business sector

Characteristics of the Business-to-Business Sector

The markets, products and product development exhibit significant differences between the business-to-business and consumer product sectors (Holt, Geschka, & Peterlongo, 1984; Kotler, 1996; Urban & Hauser, 1993; Webster, 1995). For instance, generally speaking, products produced by business-to-business organizations are more complex, the development of new products takes significantly more time, and the customers are large organizations instead of single persons, which is the case in the consumer (business-to-consumer) product sector. In industrial business-to-business markets, there are normally fewer customers compared to consumer markets, and the co-operation with customers is generally more direct and more intense than in the consumer sector. Industrial products are usually purchased by professional purchasing personnel who consider a large number of different criteria when making buying decisions. They tend to acquire plenty of information about the industrial products to be purchased, and they normally evaluate the different alternatives objectively. The demand for industrial products is derived from the demand for the company's industrial customers' products and finally end-user demand (Kotler, 1996; Webster, 1995). In industrial products, there is more emphasis on physical performance and personal selling than in consumer products, where psychological attributes and advertising are critical for success (Urban & Hauser, 1993).

Challenges for Social Media Use in Business-to-Business Interrelationships

Taking the above differences into consideration, it is fair to presume that the various types of managerial approaches, such as those carried out by means of social media, should also take these differences into account carefully when planning and implementing practices, especially for inter-organizational use and for more specific use in B2B interrelationships. For instance, it can be presumed that the incentives that motivate individual consumers or hobbyists to participate in social media based user communities may, despite some possible similarities, be very different from those of

professional (B2B sector) customers: for instance, while the aspects of recognition and sense of community or self-esteem are undoubtedly important also for employees in business-to-business sector firms, it is doubtful whether they are, as such, sufficiently important incentives to become drivers for them to act as a user-innovator for the benefit of other companies, for example. On the other hand, in the context of such innovation, legal contracts and IPR issues can become challenges in the free disclosure of product or business ideas in inter-organizational innovation collaboration (e.g. Nordlund, Lempiala, & Holopainen, 2011) and may thus seriously limit the usability of social media between B2B companies, their customers and partners. Furthermore, various issues concerning information security have already been raised in individuals' use of social media, but due to the nature of business-to-business communication, the B2B context includes severe information security risks, potentially limiting the use of social media in ways that are not necessarily similarly problematic in B2C social media applications.

The above factors lead us to believe that the usefulness and potential of social media should be studied empirically, especially in the context of business-to-business companies, in an attempt to assess the significance of the expected challenges and benefits of social media use with customers and partners from the specific standpoint of B2B companies. Even though most of the available empirical studies are clearly carried out from either the B2C standpoint or quite a generic standpoint, some empirical social media studies have noticed and taken into consideration the specific nature of business-to-business (Carabiner, 2009; Lehtimäki et al., 2009; eMarketer, 2010; BtoB magazine, 2011).

3 Research Design

We wished to study how industrial B2B companies perceive the potential, opportunities and challenges in using social media with customers and partners. In addition, our aim was to gain further understanding from the technological and organizational points of view of how B2B organizations currently utilize social media. We utilized research questions, the generic social media related literature, the survey-type of empirical social media studies (e.g. Kärkkäinen, Jussila, & Väisänen, 2010), as well as expert interviews in the design of the questionnaire structure and individual questions.

3.1 Questionnaire

First of all, the respondents were given a brief definition of the social media utilizing the available common definitions found in the literature. The definition was a relatively brief one: "Social media in this study refers to the use of social tools in the customer interface, internally and with partners. Social tools are for example wikis, blogs and discussion forums." This definition was complemented at the beginning of the questionnaire by providing the respondent with a list of social tool-based application categories.

In order to obtain the necessary background information about the respondents which might affect their opinions, the respondents were first asked about their age and the function they belong to. To obtain the necessary background information about the companies being studied, the respondents were asked to choose the class they belong to regarding turnover, number of employees and industry type from the classifications defined by the Federation of Finnish Technology Industries. We clarified the emphasis on the market, the alternatives being 0%, 25%, 75%, or 100% business-to-business (company as customer).

In order to orient the respondents to think about social media holistically, as well as to give a better picture of social media, we first asked how active their use of social tools is in the customer interface, internally and with partners in relation to predefined application categories (blogs, microblogs, wikis, discussion forums, social office tools, social networking sites, social bookmarking sites, video sharing services, photo sharing services, presentation sharing services, and social extranet sites). We also asked the respondents to evaluate how much social media was used in different business functions in the customer interface (marketing, communications, product demos, building thought leadership, gaining customer leads, sales support, finding out customer needs, customer participation in product development, employer branding and recruitment), in internal use and with partners (communication and collaboration, management, induction, transfer of tacit knowledge, communications, project communication, improving the efficiency of project work, preserving information, utilizing expert know-how and reducing workload, sharing best practices, and change management and communication).

Social media potential was evaluated in terms of the opportunities it offers for various business functions in the customer interface, internally and with partners.

3.2 Sample

A sample of 2488 Finnish decision-makers were surveyed from the Federation of Finnish Technology Industries. The survey was sent to managing directors of small- and medium-sized businesses and to business development, product development and communication managers in large companies. A total of 151 responses to the Internet-based survey were received, of which 143 came from separate companies. Duplicate answers from the same company were removed on the basis of the completeness of the answers. The effective response rate was thus 6% (143/2488). From the answers of 143 different companies, 125 companies represented wholly (100%) business-to-business markets, which were chosen as the focus of this study. The survey was carried out in May 2011.

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

Table 1. B2B firm characteristics.

	N	%
Industry		
Metal products and machinery	70	56
Electronics and electricity	19	15
Business planning and consulting	11	9
Refining of metals	9	7
Other	11	9
Undefined	4	5
Size (sales turnover)		
<€ 2 m	17	13
€ 2-10 m	42	34
€ 11-50 m	44	35
>€ 50 m	21	17
Size (number of employees)		
Small (N<50)	60	48
Medium (50<N<250)	48	38
Large (>250)	17	14

4 Results - Social Media Use, Functions, Potential and Challenges in Business-to-Business

4.1 Extensiveness of social media use in different B2B's

Chi-square tests were conducted to uncover any differences among companies in terms of external utilization of social media based on sales turnover and between small and medium and large sized businesses. No differences were found in the external utilization of social media based on sales turnover ($\chi^2 = 2.62$, $p > .005$) and 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 size, with respect to small/medium vs. large size and sales turnover.

In all of the studied B2B technology industry sectors, social media was used more internally than externally (Table 2). More than 50 percent 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 percent in machinery and metal products used social media internally, but only 4 percent used social media with customers and 3 percent with partners. The ratio of internal vs. external use was similar in other industries, as well.

Table 2. Social media internal and external use 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 %)

The most commonly used social tools in the customer interface were, in order of popularity (percentage of at least moderate use), social networking sites (8.8%), discussion forums (4.8%), blogs (3.2%) and microblogs (3.2%) (Figure 1). Social networking sites were clearly the most commonly used approach, with at least double the commonality compared to the next most popular approach.

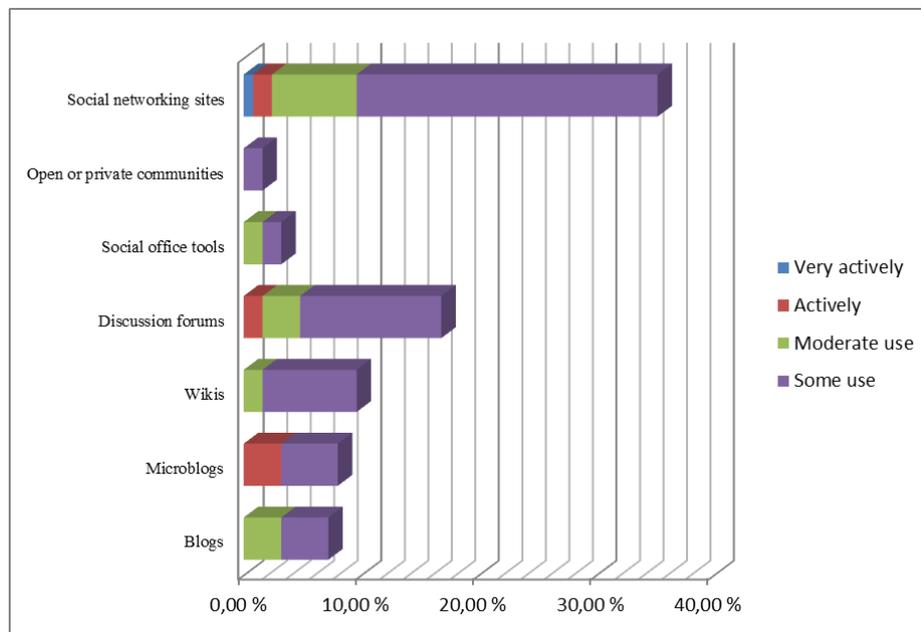


Figure. 1. Use of social tools in the customer interface in technology industry firms.

The top most commonly used approaches in the partner interface were, similarly to the customer interface, social networking sites and discussion forums, which were used at least moderately by about 5% of the responding firms (Figure 1). The pattern of use with partners was similar to customer interface, but in general used less in each category.

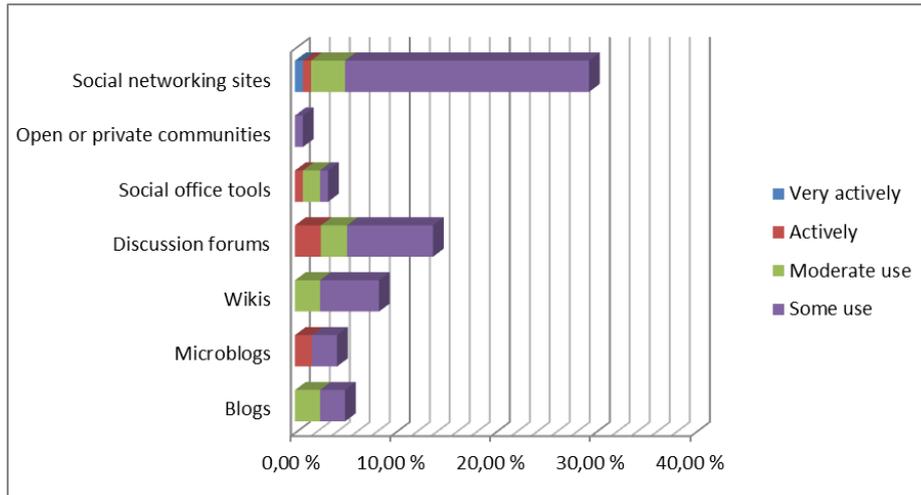


Figure 2. Use of social tools with partners in technology industry firms.

4.2 Purposes that social media was currently used for in business-to-business relationships

The three most active types of current usage when measured by percentage of respondents using social media at least to some degree in the customer interface were communications, marketing, and employer branding and recruitment with around 40% usage (Figure 2). Only a very minor part of the B2Bs studied used social media actively or very actively in different business functions with customers. Social media was used actively or very actively in employer branding (4%), communication (3.2%), sales support (3.2%), and customer participation in R&D (3.2%).

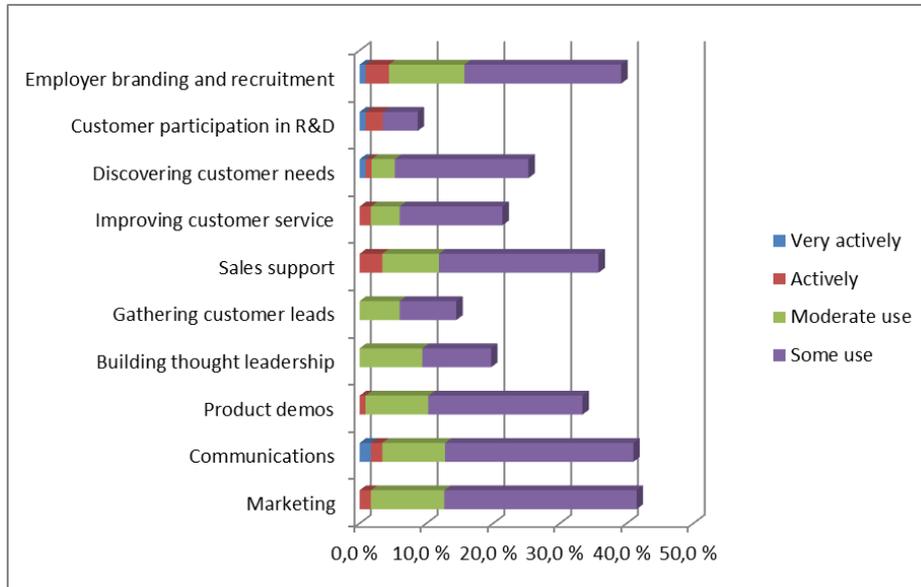


Figure 3. Social media functions in the customer interface of technology industry firms.

The three items in the partner interface most commonly perceived as very important were communication and collaboration, general communication, and change management and related communication, which were considered very important by about 15% of the B2Bs studied (Figure 3). Partner-oriented use was even less active than in the case of customer interface use, with a maximum of 1.7% of very active users (using social media in partner network management). In the customer interface, seven out of ten studied use items had at least some usage by more than 20%, while in partner-oriented use, only two out of eleven studied items (communication and collaboration, and general communication) had at least some usage by more than 20%.

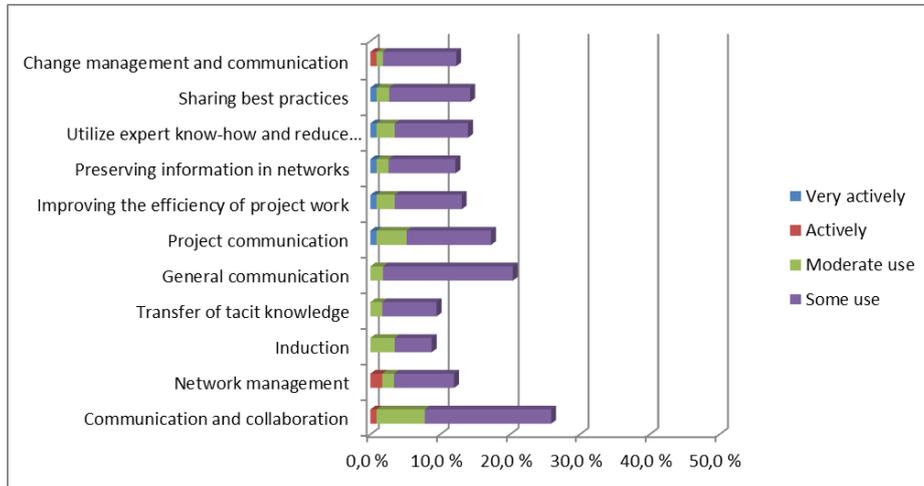


Figure 4. Social media functions with partners.

4.3 Experienced potential of social media use in business-to-business interrelationships

We analysed the use and perceived social media potential in the customer interface by performing a non-parametric Kendal rank correlation coefficient test using variable pairs of use and perceived potential to determine whether social media use in the customer interface correlates with the perceived potential in the customer interface (Table 3). The test produced statistically significant correlations (Sig. 0.000).

Table 3. Correlation between social media use and potential in the customer interface.

Variable pairs	Correlation Coefficient	Sig. (2-tailed)	N
Use in marketing * potential in marketing	0.519	0.000	116
Use in communication * potential in communications	0.480	0.000	116
Use in finding out customer needs * potential in finding out customer needs	0.468	0.000	113
Use in sales support * potential in sales support	0.431	0.000	116
Use in building thought leadership * potential in building thought leadership	0.401	0.401	115
Use in gathering customer leads * potential in	0.397	0.000	114

gathering customer leads			
Use in improving customer service * potential in improving customer service	0.339	0.000	116
Use in customer participations in R&D * potential in customer participations in R&D	0.309	0.000	115

Strong positive correlation (0.519) was found between social media use and perceived potential in marketing. Moderate correlation (0.309 – 0.480) was found between all the other variables that were used to evaluate social media use and perceived potential in various business functions in the customer interface. It is debatable whether the use of social media in the customer interface has a positive influence on the perceived potential or the other way round, nor we can rule out other variables that can influence both variables. Nevertheless, the results seem to indicate a possible causality between the use and the perceived potential of social media in the customer interface.

We carried out the same correlation analysis with external social media use with partners in different business functions and found slightly smaller correlations in results compared to customer interface. Moderate positive correlation (0.398) was found between partner use and potential in network management, partner use and potential in change management and communication (0.384), partner use and potential in communication and collaboration (0.363), partner use and potential in project communication (0.327) and general communication (0.310). Some weaker correlations (at 0.01 and 0.05 significance levels) were found for instance between partner use and potential in improving efficiency of project work (0.296) as well as between partner use and potential in sharing best practices (0.292). See Table 4 for more results.

Table 4. Correlation between social media use and potential with partners.

Variable pairs	Correlation Coefficient	Sig. (2-tailed)	N
Partner use in network management * partner potential in network management	0.398	0.000	114
Partner use in change management and communication * partner potential in change management and communication	0.384	0.000	110
Partner use in communication and collaboration * partner potential in communication and collaboration	0.363	0.000	114
Partner use in project communication * partner potential in project communication	0.327	0.000	114

Partner use in general communication * partner potential in general communication	0.310	0.000	111
Partner use in improving efficiency of project work * partner potential in improving efficiency of project work	0.296	0.000	112
Partner use in sharing best practices * partner potential in sharing best practices	0.292	0.001	109
Partner use in induction * partner potential in induction	0.276	0.001	111
Partner use in transfer of tacit knowledge * partner potential in transfer of tacit knowledge	0.248	0.001	111
Partner use in utilizing expert know-how and reducing workload * partner potential in utilizing expert know-how and reducing workload	0.249	0.003	109
Partner use in preserving information * partner potential in preserving information	0.178	0.033	113

While it can be presumed that understanding the true potential of social media- like novel collaboration and communication approaches requires earlier use experience in similar purposes, we analysed the perceived potential for external uses of social media in external use by only such companies that used social media themselves externally at least moderately. Concerning the perceived potential experienced in studied external social media use options, on the basis of the most experienced companies in social media external use, the B2Bs studied perceived much and very much potential most commonly in Employer branding and recruitment, General communication (with partners), Communications (with customers), Sales support and Project communication, with over 40% of the experienced users perceiving much or very much potential. The most perceived potential, perceived by at least a third of the most experienced users is further illustrated in Table 5.

Table 5. Most important external social media uses as perceived by companies that have used social media externally (at least moderately) (CP=external Customer Potential related uses; PP=external Partner Potential- related uses).

EXTERNAL SOCIAL MEDIA USES	Perceived potential (much or very much)
Employer branding and recruitment (CP)	56,2 %
General communication (PP)	46,6 %
Communications (CP)	43,8 %
Sales support (CP)	43,8 %

Project communication (PP)	40,0 %
Finding out customer needs (CP)	37,4 %
Improving the efficiency of project work (PP)	35,7 %
Marketing (CP)	33,3 %

4.4. Barriers against using social media by studied B2Bs

The most common reasons for not using social media were, in order of popularity other projects being more important and the companies not being able to measure or assess the benefits for business. Both were deemed very important by well above half of the respondents. Other reasons with a popularity of more than 40% were a lack of good case studies, lack of understanding of the opportunities, and lack of resources (Table 6).

Table 6. The most common barriers against using social media.

Barriers	N	%
Other projects are more important or urgent	67	56.8
No ability to evaluate the benefits for business	64	54.7
Lack of relevant case studies	54	45.8
Lack of understanding the possibilities	51	43.3
Lack of resources	49	41.9
Difficulties in adopting new approaches and ways of thinking related to social media	42	35.9
Information security problems	39	33.0
No need – things are done with emails and by meetings	39	33.0

4 Conclusions

Earlier academic social media –related studies, especially survey-based studies, have not focused particularly on B2B companies or the external use of social media in B2B's at large. Studying particularly the external use by B2B's is relevant, because it is poorly understood by managers, external use lags clearly behind internal use in B2B's, and because especially the external inter-organizational use of social media by B2B's is, in many ways, very different from external B2C use, which has been covered quite extensively in academic research compared to B2B social media use. Major reasons for such differences between B2B and B2C use were explained earlier in this study. This study contributes to current literature by exploring and improving the understanding of B2B companies' external social media use, perceived potential and barriers against social media use in especially external (customer- and partner-related) use context.

29.6% of the studied B2B's used social media in overall (internally 28.8%), and externally social media was used by less than half of the overall and internal use,

12.8% (partner/customer use). This is in line with the earlier presumptions about the clearly less active use of social media externally than internally. Concerning the generic social media adoption process of B2B's 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 external users were few compared to internal users, practically all external social media users in studied B2Bs were using social media also 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 external B2B sector social media use. The overall use rates are very close to the use rates reported in the only found academic study to survey the use of social media by B2B's, which indicated a 27% usage rate of social networking sites in branding by SME B2B's. In our study, which also addressed for the major part 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. Considering the adoption literature, LinkedIn-or Facebook- like SNS are a natural choice for beginning social media adoption because of their relative ease of use, ease of trialability, perceived advantages, and compatibility to current user needs and systems, which are major factors in organizational adoption of innovations (e.g. Rogers, 1995). Our study, however, 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) and use barriers. This enables managers to pinpoint potential uses and use barriers at large in inter-organizational social media use. This is necessary, because currently, only a very minor part of studied B2B's used social media actively, despite the relatively common moderate use, in different external business functions or purposes. Both the current use and the seen potential seemed to be clearly higher in the customer interface than in partner use.

Surprisingly, we found the current external social media use between different company sizes and turnover similar (with statistical significance). This contradicts to earlier studies of 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 refer to the adoption of social media to differ from other internet- based technologies' adoption. 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 e.g. in marketing of smaller companies.

We found a number of external social media uses that were seen as important by at least a third of those companies with at least moderate experience of 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 as around half of the companies.

In addition, we found both strong and moderate statistically significant correlations between current social media use and perceived potential for external use.

Correlations were there for both customer and partner use and perceived potential, even if we found slightly smaller correlations in results compared to customer interface. Thus, the less the companies used social media externally, the less potential they perceived with it in various external potential uses, and vice versa. One explanation for this is, rather easy to accept by anyone that has used various social media approaches, is that it is often very difficult to understand the true potential of these types of really novel and complex organizational innovations and technologies, and to really appreciate them, before you have at least some earlier use experience about them (Fulk, Steinfield, Schmitz, & Power, 1987; Rogers, 2003; Lee & Ma, 2011). This can be detected by users of e.g. Facebook-type of social media applications as well as in the use of social office tools such as GoogleDocs, to mention a few. It can be debated whether the use of social media in customer or partner interface influences positively the perceived potential, or the other way round. We cannot either rule out other variables that can influence both variables. Nevertheless, the results raise up a possible causality between use and perceived potential of social media in customer interface.

Our study discovered several potential factors at least partly explaining the limited use, which were deemed very often, by about half or more of the respondents, important reasons for not utilizing social media. The most common reasons for the reluctance against adopting social media practices were, in the order of the commonality of very important challenges were other projects being more important, and the companies not being able to measure or assess the benefits for business. Both were deemed very important by clearly more than half of the respondents. Other reasons with the commonality of more than 40% were lack of good case studies, lack of understanding the possibilities, and lack of resources. The results concerning the most common important barriers are somewhat in line with an earlier generic higher management-oriented social media survey by Helfenstein (2008), which found lack of know-how to be clearly the most important barrier (48.8% of respondents) to the adoption of Enterprise 2.0. For comparison, the four most common barriers in the found generic management or marketing-oriented survey –based studies (BtoB magazine, 2011; Growth Lab Consulting, 2010; Helfenstein & Penttilä, 2008; Ramsey, 2010) were lack of knowledge or understanding, measurement of ROI or performance, and lack of generic resources or time. Thus, lack of understanding the benefits and possibilities, as well as the incapability of measuring the benefits seem common both in our study and the other found studies that did not focus on B2B use of social media. Failed experiments or bad experiences were not deemed very important challenges impeding the adoption of social media, which can be explained, of course, at least partly by the generally rare use and related experiments.

To increase social media use in B2B context, at least the above-mentioned most important social media adoption barriers should be addressed in companies, and academic research should be carried out to produce a more systematically organized, more holistic and less fragmented picture of the above issues.

Academically, we have achieved new understanding about the usage, perceived potential and challenges of social media in especially in B2Bs, the external use of which to the best of our knowledge has so far been studied academically with survey approaches very scarcely, and in the found study of Michaelidou et al. (2011) , very

narrowly from branding and social network sites' perspective, which is only a small part of social media genre.

Managerially, the results can be used, for instance, to better understand the special challenges and features of B2B-related social media, and especially the various types of possibilities of social media to support and facilitate external social media use in B2Bs, which are currently only superficially understood by a significant part of managers. In addition, the social media uses seen as most important by more experienced external users give ideas for a faster adoption of social media. Also, due to the relatively low current active usage of social media implied by the results, the companies that first experiment with and develop social media-based ways to support B2B social media use might benefit greatly from these investments. In addition, consultants might benefit from these results by developing ways to avoid the important social media adoption challenges and facilitate the adoption.

This study opens up several areas for further research. First of all, in order to facilitate the adoption of social media and to fill the gap between perceived social media potential and actual use in B2Bs discovered in this study, it seems apparent that academic as well as 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 in B2B, developing ways to present a better analyzed picture of the financial benefits of social media, as well as to gather 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.

References

- Barker, P. (2008). How social media is transforming employee communications at Sun Microsystems. *Global Business and Organizational Excellence*, 27(4), 6–14.
- Barlow, M., & Thomas, D. B. (2011). *The Executive's Guide to Enterprise Social Media Strategy: How Social Networks Are Radically Transforming Your Business* (Vol. 42). Wiley.
- BtoB magazine. (2011). *Emerging Trends in B2B Social Marketing*.
- Bughin, J., Manyika, J., & Miller, A. (2009). How companies are benefiting from Web 2.0. *McKinsey Quarterly*, 9, 2009.
- Carabiner. (2009). Social media: How B2B Companies Can Connect. Carabiner. Retrieved from http://www.carabinerpr.com/docs/pdf/Carabiner_White_Paper-Social_Media.pdf
- Coleman, D. (2009). *Enterprise Social Collaboration Research Study*. B2B Media Co. LLC.
- Cooke, M., & Buckley, N. (2008). Web 2.0, social networks and the future of market research. *International Journal of Market Research*, 50(2), 267 – 292.
- Del Aguila-Obra, A. R., & Padilla-Melendez, A. (2006). Organizational factors affecting Internet technology adoption. *Internet Research*, 16(1), 94–110.

Lehtimäki, T., Salo, J., Hiltula, H., & Lankinen, M. (2009). Harnessing web 2.0 for business to business marketing-Literature review and an empirical perspective from Finland. *Faculty of Economics and Business Administration*, 2009(29), 76.

Lietsala, K., & Sirkkunen, E. (2008). *Social Media: Introduction to the Tools and Processes of Participatory Economy* (1st ed.). Tampere, Finland: University of Tampere.

McKinsey. (2013). Business and Web 2.0: An interactive feature. *Explore, track, and customize six years of survey results on how businesses use new Web technologies and tools*. Retrieved from http://www.mckinsey.com/insights/business_technology/business_and_web_20_an_interactive_feature

Michaelidou, N., Siamagka, N. T., & Christodoulides, G. (2011). Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands. *Industrial Marketing Management*, 40(7), 1153–1159.

Nordlund, H., Lempiala, T., & Holopainen, M. (2011). Openness of innovating: the new roles of customers and users in business-to-business context. *International Journal of Entrepreneurship and Innovation Management*, 14(4), 282–297.

Premkumar, G., & Roberts, M. (1999). Adoption of new information technologies in rural small businesses. *Omega*, 27(4), 467–484.

Ramsey, G. (2010). *Seven Guidelines for Achieving ROI from Social Media* (p. 11). eMarketer. Retrieved from http://static2.social-touch.com/download/eMarketer_Social_Media_ROI.pdf

Rogers, E. M. (2003). *Diffusion of innovations*. Free Press.

Safko, L. (2010). *The Social Media Bible: Tactics, Tools, and Strategies for Business Success*. Wiley.

Shih, C. C. (2009). *The Facebook era: Tapping online social networks to build better products, reach new audiences, and sell more stuff*. Prentice-Hall PTR.

Stelzner, M. . (2009). *Social media marketing industry* (p. 26).

Tredinnick, L. (2006). Web 2.0 and business. *Business Information Review*, 23(4), 228–234.

Urban, G. L., & Hauser, J. R. (1993). *Design and Marketing Of New Products* (2nd ed.). Prentice Hall.

Warr, W. A. (2008). Social software: fun and games, or business tools? *Journal of Information Science*, 34(4), 591–604.

Webster, F. E. (1995). *Industrial marketing strategy*. John Wiley & Sons Inc.

Wollan, R., & Smith, N. (2010). *The Social Media Management Handbook: Everything You Need To Know To Get Social Media Working In Your Business*. John Wiley & Sons.