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Innovation- related Benefits of Social Media in Business-to-Business Customer Relationships

Abstract: The aim of this research is to explore social media and its benefits and impacts especially from business-to-business innovation and customer interface perspective, and to create a more comprehensive picture of the possibilities of social media for the business-to-business sector. Business-to-business (B2B) context was chosen because it is in many ways a very different environment for social media than business-to-consumer (B2C) context, and is currently very little academically studied. A systematic literature review on B2B use of social media and achieved benefits and impacts in the innovation context was performed to answer the questions above and achieve the research goals. The study clearly demonstrates that not merely B2C's, as commonly believed, but also B2B's can benefit from involving customers in innovation by social media in a variety of ways. Concerning the broader classes of innovation –related benefits, the reported benefits of social media use referred to increased customer focus and understanding, increased level of customer service, and decreased time-to-market. The study contributes to the existing social media –related literature, because there were no found earlier comprehensive academic studies on the use of social media in the innovation process in the context of B2B customer interface.

Keywords: social media; web 2.0; business-to-business; B2B; benefits; impacts; customer interface; innovation; co-creation.

1 Introduction

Despite the growing amount of company experimenting and academic studies, social media is still new to many businesses. Its real opportunities and benefits are not well understood in many business contexts, such as the B2B context, and despite the grown recent interest in the use of social media in B2B marketing applications, the adoption of social media in B2B innovation [e.g. 42] and involving customers in innovation [e.g. 35] is still currently quite low. In addition, in B2B environment, currently the innovation perspective seems clearly lacking in academic research and well-reported case studies, which would enable companies to better adopt social media.

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 and collaboration, which can bring significant benefits to organizations. For instance, 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 [3, 25, 27, 43].

Concerning the challenges related to adoption, according to for instance a recent survey, lack of understanding of the possibilities of social media in innovation, difficulties in assessing its financial gains and lack of suitable case evidence are among the most important reasons for B2B- companies not adopting social media in their innovation [42]. Thus, academic studies utilizing case material are needed in researching the above areas to improve the understanding of social media in B2B context, as well as to enable companies to better adopt new social media practices.

On the basis of available literature, it can be presumed that the challenges, benefits and useful approaches of social media in B2B sector are at least somewhat different from those of B2C companies [25, 43]. It has been a relatively common assumption (e.g. [18, 43]) that it is much more difficult to utilize social media in business-to-business innovation and customer interface for instance because of the many significant differences in the business-to-business products, markets and product development. By “business-to-business” we mean transactions between businesses, such as between a manufacturer and a wholesaler. Differing from B2C products, B2B products and services are sold from one company to another, not directly to end-users or consumers. Most B2B products are purchased by companies to be used in their own production of goods and services to be sold on to further customers. By business-to-business innovation we refer to the development of new commercially successful products, services and other innovations for other companies, and by business-to-business customers not only the direct customers that directly pay for the developed products but also other organizations and parties (such as dealers, customers’ customers, end-users, and consumers) that are a part of the customer chain towards the end-users and consumers of final products, and may thus help to understand the needs of direct customers. For instance Juran [33] has extended the concept of a ‘customer’ to include not only the direct users, customers or consumers, but everyone who is impacted by the product. Thus, it is apparent that in the industrial markets, the number of those ‘customers’ of various types and of different levels that are impacted by a product is generally much larger than in the consumer markets. In this study, we exclude internal customers, and focus on social media use in external customer relationships.

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. For instance, internal social media use and practices may be very similar in B2B’s and B2C’s. However, we limit this study to external use of social media with customers, where differences between B2B’s and B2C’s are significant, explaining the differences in this study in more detail. In addition, since major part of the recent existing very few B2B social media studies discuss social media from merely the marketing

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perspective, there is clearly a need for innovation related research.

Utilizing social media tools can lead to significant benefits for the company, but without a set of concrete objectives and related measurable results, there is no certainty that social media process is efficiently employed [48]. Setting useful objectives for social media efforts that are based on business goals, as well as followingly evaluating and measuring the benefits helps organization to keep on track on its position, communicate its position internally and externally, confirm priorities and direct the progress of its activities [9, 52].

Even though the adoption of social media tools in organizations has spread in last few years [32], evaluating and measuring the benefits of social media approaches has not been much investigated. Organizations are spending more and more on social media applications, but there is no clear view or consensus on what should be strived for with social media efforts and how to evaluate the benefits of social media [27]. Also, social media is a large umbrella term for various very different types of approaches with different purposes and benefits, and the various approaches are often utilized in very different ways. This should also be taken into consideration when evaluating and measuring the benefits, but a large part of existing benefit-exploring studies either discuss social media as a very broad concept, or discuss individual social media case studies from a very narrow perspective. In this study, we try to get a more comprehensive picture of the benefits with making a review to existing B2B research on the benefits of social media in the customer interface of the innovation process, while maintaining the more concrete insights from individual cases.

Evaluating and measuring social media benefits is a very topical issue in general social media research, and it has been a subject of many studies in recent years (e.g. [27, 48]). However, there are only few studies that discuss the various different benefits and the evaluation of benefits of social media from the perspective of B2B companies. According to a study of Finnish Business and Policy Forum EVA B2B companies typically see social media as something belonging to consumer business, and that it has little or nothing to offer in improving the effectiveness of business between business companies [30]. This highlights the importance of evaluating and measuring the benefits that specifically companies operating in B2B sector and B2B relationships can gain from social media.

The aim of this research is to explore social media and its benefits and impacts especially from B2B innovation and related customer interface perspective, and to create a more comprehensive picture of the possibilities of social media for the B2B sector. We also examine the challenges of evaluating social media benefits in this context. In this way, we hope to enable managers to better understand the broad possibilities of social media in B2B context, to set realistic objectives and to create related useful measures for social media use. In this way, we intend to help companies to adopt social media in a faster and more planned manner.

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 [36]. The concept 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, making it easier than before. 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”[36]. Furthering this, 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.

Social media can be used as an umbrella term, under which various and very different types of

cultural practices take place related to the online content and people who are involved with that content [47]. A large number of generic different types of social media application categories can be identified [12, 17, 63], such as wikis, blogs, microblogs, social networking sites, social content, mashups, and virtual social worlds. Social media are certainly not a unified and well-defined set of approaches, and despite some broad common characteristics described above, their benefits and measurement should be analysed in more detail considering the specific social media types and the context of use [27, 64]. Indeed, not all social media are the same [6, 50]. From a technology perspective, the platforms vary and, along with that, 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).

3. Social media objectives and roles in the customer interface of B2B innovation

When social media benefits are tried to be understood properly, we should first understand some major social media objectives and specific roles it can play in achieving those objectives. In addition, when beginning social media activities in business, it is necessary to make clear what the objectives of the company for operating in social media environment are.

The question is not whether to blog or tweet, but what objectives need to be achieved and also which set of tools can best achieve them [27]. It is impossible to evaluate the success and benefits of social media without knowing what the actual objectives are [21, 59]. Being active in social media in itself is not an actual useful objective, because the activity without a purpose doesn't necessarily bring value to an organization, or the value might turn out to be even negative due to e.g. information leakages, or inferior handling of received feedback. Social media objectives also need to be aligned with the goals of the firm to focus on those social media activities that will best facilitate the needs of its business [39].

3.1 Customer roles in the innovation process phases

In the strategic management literature and quality management literature five main roles have been identified for customers in value creation: resource, co-producer, buyer, user and product [19, 37, 44].

In several studies in the innovation management literature, the authors have found it useful to divide the innovation process into three parts, especially regarding the viewpoint of innovation process -related customer roles, analyzing them accordingly: the front end (phases before product concept), the product development phase (phases between concept and launch), and the commercialization (phases during / after launch) phase [16, 23, 46, 51]. Thus, we find it necessary to analyze the social media benefits in the customer interface of the innovation process in more detail from the perspective of the different customer roles and the different innovation process phases. We have not been able to find earlier B2B- related studies that have carried out such analysis, and will take this into consideration in our own analysis.

In the first innovation process phase customers can be regarded as a resource, i.e. the source of ideas or need -related information, in the second phase customers can be regarded as co-creators (or co-producers), and in the final phase customers can be regarded as buyers and/or (end)users [5, 10, 23, 51], or as product. Co-creation can include for example validation of product architectural choices, design and prioritization of product features, specification of product interface requirements and establishment of development process priorities and metrics with customers [51]. When regarding the customer's role as a buyer, the focus is on converting potential customers into actual customers [44]. Customers as users role suggests that companies can receive valuable contributions in product testing and product support

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from customers [44, 51]. Regarding customer as product implies that the ultimate outcome of the innovation process or the following transformation process is change in behavior or condition of the customer, that is the customer both experiences transformation activities and becomes the final stage of the transformation process [44]. These roles bear a very close resemblance to the afore-described three main phases of the innovation process, and support the division of the innovation process accordingly in the context of this study. This enables us to better analyse the different roles and benefits of social media in the creation of new customer insights, understanding and knowledge in more detail than has been achieved so far.

According to Nambisan, of the above roles, three (resource, co-producer, user) are most relevant for specifically the innovation process [51]. For the above reasons, we decided to focus study on these roles.

3.2 Possibilities of social media in different customer roles

The possibilities of social media in the customer interface vary significantly in the different phases of the innovation process. First, because the patterns of interaction between a firm and its customers vary with the roles the customers are playing in the development process [37, 45, 46]. Second, the knowledge creation activities vary depending on the nature of knowledge to be created, e.g. knowledge acquisition about product from different sources or knowledge conversion of factual knowledge about a product to experimental knowledge about its usage in specific context [51]. Third, customer's motivation to participate or be involved in the innovation process varies greatly depending on the innovation process activity, for example there are different motivations to participate in the actual product development activities than there are in participating in product support.

Social media can provide new possibilities and novel types of business benefits concerning all the above mentioned innovation process phases and the related customer roles. Social media can for instance provide quite novel community-oriented and social ways of receiving and giving feedback from new products and concepts [3, 35, 55], as well as providing a useful platform for inter-organizational co-creation [65]. Some forms of social media, such as virtual worlds, can also enable customers and companies to receive a real-world experience from products, as well as experiment with novel concepts [35, 41, 49]. Not only one-sided but even mutual learning can be achieved for instance by means of co-development and co-creation [see e.g. 54, 57, 60], for instance in a common development project. In such a case, the supplier would probably learn from its customer's needs, and correspondingly, the customer would learn about technological ways to solve its own needs.

However, the roles and objectives of social media can be presumed to have different generic emphases in B2B's compared to B2C's, which is briefly explained next. This explains for instance that many B2C practices used in the customer interface are not transferrable easily, or even at all, to B2B's.

3.3 Generic social media objectives in business-to-business customer interface

As mentioned earlier in this paper, doing business in B2B's differs from doing business in the B2C sector. This should mean that also the social media objectives differ. When considering the objectives of improving business processes, the generic objectives can be partly the same in B2B and B2C companies, for example to enhance co-operation by connecting all parties together [25, 43] or to shorten solving time of customer problems[7].

From the customer interface perspective, while the B2C objectives are often concerned with understanding the customers' needs as larger entities (whole markets or larger customer segments), the B2B objectives are commonly focused on deepening and on timewise extending the personal

relationships with the generally relatively few customers that a B2B company has [4, 24, 31, 43] to enhance the company's credibility in business relationships, or to improve responsiveness to customer feedback [38].

Social media objectives for innovation, for example a higher level of product innovation [48] can be related to both B2B and B2C companies but the objective might be reached differently. When B2C companies usually have a large number of customers, the goal may be for instance to have plenty of product ideas from customers as a large crowd, without aiming to understand each and every customer's detailed needs. Contrary to this, in B2B companies the role of individual customers or sometimes even one single customer, and their better understanding, can be very important. Thus, it seems evident that in many cases, the benefits of social media should be evaluated and measured differently in B2C versus B2B use. To successfully set targets for social media use and to evaluate the social media activities the objectives must be first understood and clarified [7].

4 Evaluating and measuring the benefits of social media in innovation

Social media benefits have been studied from a variety of perspectives. Concerning the benefits of social media in innovation, there are studies that consider individual social media approaches, such as wikis (e.g. [62]), blogs (e.g. [61]), virtual worlds (e.g. [40]) or customer communities (e.g. [2]), in the customer interaction and the creation of understanding about customer needs. The clear majority of existing studies on the roles of social media in innovation are case study based, they view the benefits from merely individual social media approaches' (such as wikis) perspective, and they do not specifically address the perspective and the benefits of B2B companies. Although social media benefits in innovation from B2C companies and from consumers' point of view are relatively well understood, several studies point out that B2B companies do not yet fully understand the potential of social media and find it difficult to evaluate and measure the benefits of social media [31, 42].

Often the evaluation and measurement of benefits might be quite challenging, especially in the case of applying novel technologies which are not thoroughly understood yet, or aiming to facilitate complex processes such as innovation and product development, which in addition to their complexity involve long time periods between the investment decision and its actual impacts. The above types of challenges cannot, still, justify not evaluating or measuring the impacts of social media efforts. Sometimes the task might, however, require even novel approaches and ways to measure and evaluate the impacts, as seems to be the way with social media [27].

Evaluation of social media benefits can be done at different levels: process, output and outcome [8, 52]. Process measures evaluate the effectiveness of the transfer of inputs to outputs, e.g. % products developed on time and turn-around time for support requests [56]. Outputs are the results or deliverables of the process [15], for example number of new product ideas that have been submitted by customers. Outcomes can be divided into financial outcomes and non-financial outcomes [7]. Financial outcomes are ultimately either increased revenue or cost reductions, that can be measured for example by decreases in the technology costs, and savings in the costs of customer support services [7, 25, 28, 48]. Non-financial outcomes are everything else, for example, more than 50 % customers interacting with each other [7, 48, 53].

Regarding innovation, perhaps due to the complexity of the issue, as well as the fragmented and various approaches proposed, many organizations tend to focus only on the measurement of innovation inputs and outputs in terms of spend, speed to market and numbers of new products, and ignore the processes in-between [1, 13]. In addition, Adams et al. [1] make a point that there is an over-reliance on financial measures rather than process measures, a similar reliance on for instance

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codified knowledge such as patents to the exclusion of more intangible measures such as tacit knowledge, and furthermore, an over-reliance on quantitative or dichotomous yes/no measures instead of measuring the quality of actions and results.

5 Research approach

A systematic literature review was performed using the following databases Scirus, ABI, Emerald, ScienceDirect and EBSCO with the following search term combinations: impact and social media, impact and social media and B2B, value and social media, value and social media and B2B, value of social media, measurement and social media and B2B, measurement of social media, ROI and social media, ROI and social media and B2B, ROI of social media.

A total of 414 of articles were found as a result, of which 43 were selected for more detailed analysis on the basis of their relevance. In addition, we made searches concerning individual Web 2.0 -related tools, such as wikis, blogs, Twitter, LinkedIn, etc. in the specific context of B2B, using various combinations of search terms and above research databases. We searched and discovered some additional references by searching forward and backward referencing of the most relevant discovered articles. Six books were used as additional sources to extend the literature review to cover more B2B examples that were relatively scarcely presented in the existing academic literature.

The relevance of each discovered article was judged by first examining whether the articles discuss social media use specifically in business-to-business context (not e.g. business-to-consumer or internal use). Out of the remaining articles, second, we reviewed whether benefits and impacts had been evaluated empirically, and whether they were achieved in the context of the customer interface (with customers or/and end users). Those articles that matched these criteria were chosen for a more detailed analysis.

We summarized the information from the discovered articles, books and blog articles in the form of table (Table 1) describing the found benefits and impacts of social media categorized by innovation process phases and different social media applications.

6 Results

Through literature review we were able to find more than twenty studies or cases that reported benefits of using social media in innovation of business-to-business companies. There were eight journal articles, out of which almost all, seven were peer-reviewed academic ones. We were also able to find five authoritative books, one authoritative research report, and three blog articles which brought additional understanding to this little academically studied and reported area. Despite the so-far relatively few academic studies, we believe that the analysis of the more than twenty authoritative sources does bring new broader understanding of the wide usefulness of social media in the specific context of B2B companies and innovation.

In addition to the results represented in Table 1, some studies described social media benefits in B2B companies on a general level of broad “social media”, but did not state clearly what the benefits were from any recognizable social media approaches, and to what degree the reported benefits were even attributable to the companies’ social media efforts distinguished from other business development investments, for example traditional marketing campaigns. Because we wanted to understand specifically how certain social media approaches contributed to benefits, these were decided not to be included in the resulting table.

The results of the literature review and the observed online community platforms are summarized on

Table 1. The table illustrates the customer interface –related benefits in using certain social media applications in different phases of innovation process from B2B companies’ perspective. Those academic sources mentioning benefits and found positive impacts in B2B context are indicated by symbol (1), symbol (2) indicates identified B2B benefits found from authoritative blogs, books and white papers or other reports as sources of information, and symbol * is used to indicate that innovation process phase where the benefits are realized is not explicitly described. Customer roles in innovation process phases are indicated by the following symbols: (R) resource, (C) co-producer, and (U) user.

We were able to find social media –related benefits of the above three customer roles. Benefits were found in almost all the individual categories of the resulting table (Table 1). However, in the front-end phase, three approaches lacked concrete case evidence on benefits in academic literature. We did find social media cases also in these categories, however, that did not explicitly state the context or applicability to include B2B, or this context could not be clearly concluded from the case material. Concerning the development phase of innovation process, customers did not always operate as co-creators, but also as resources, which contrasted to the categorization implied by Nambisan [51].

Majority of the reported benefits were qualitative, non-quantified benefits of using social media, such as better feedback, increased customer service, gaining more detailed information about customers and customer needs. However, in almost half of the cases, the benefits were tried to be quantified at least on the general level (as outputs), such as more than 14 000 ideas from customers, and with more than 89 000 comments on the created product ideas. Interesting further output-related benefits dealing with the core of social media, the increased enabling of interaction, included benefits such as over 1 000 employee-customer interactions being recorded, and more than 50 % of the customers starting interaction with each other. Actual outcome- related reported benefits were quite few, including benefits such as improved solving time of customer problems by 22 %. Especially rare were instances that tried to quantify actual financial benefits gained from social media, including benefits like increased customer interaction with 75 % lower costs.

7 Discussion and conclusions

We were able to find benefits and positive impacts of social media in a large variety of different application areas in the B2B companies’ customer interface. In this way, the study clearly demonstrates that not only B2C’s but also the companies of the B2B sector can benefit from involving their customers into innovation by social media in variety of ways. This contributes to the existing social media –related literature, because there are no found earlier academic studies on the use of social media in the innovation process in the context of B2B customer interface, evaluating in a more comprehensive way the benefits of social media, in addition to the few academic studies focusing on individual related cases and examples.

Despite the special characteristics of the B2B sector, such as the commonly relatively small amount of customers compared to B2C’s, often believed to negatively affect the usability and benefits of social media in B2B companies, and restricting the use of social media especially in the B2B customer interface, according to our results, in all recognized and described cases the studied B2B’s have benefited from social media in the customer interface in a variety of ways. In several cases, the B2B’s seemed to benefit quite considerably from social media use. In addition, the B2B companies benefiting from social media represented different types of industries (e.g. software, ICT, pharmaceuticals, consulting and various types of B2B services) with different business logics and models, and their size varied from small to very large companies like Cisco.

Concerning the above, the usability and usefulness of social media seems to be generalizable also

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more commonly to different types of B2B's, not only e.g. ICT and software companies, which are among the most often referred companies as social media exploiters in B2B sector. Major part of reported benefits was output- related benefits, but these did not directly address the actual business –related outcomes. This is understandable, since it is quite difficult to evaluate and measure which are the actual effects of social media investments, and separate these from the effects of e.g. other investments, internal changes and changes in the business environment. In addition, the complex cause-effect chains from social media use to financial savings or gains are, like in the case of all complex customer interface – related processes such as the innovation process, very difficult to describe and verify. Even though some studies reported outcome- related benefits, it is difficult to analyse how credible the studies are, because the related causal chains and the separation of social media investments from other possible investments and explanations were generally not reported in any useful way to allow the objective evaluation of the reliability and validity of the reported benefits. Despite the difficulty, future studies should at least attempt to report and analyse how the reported benefits were arrived at.

From the standpoint of the innovation process, the studied B2B's were able to derive social media and customer interface -related benefits in all three major phases of the innovation process.

The applications which the benefits were derived from included almost all the major types of social media categories, including blogs, microblogs, wikis, mashups, social networking tools and online community platforms. However, we were not able to come up with reported B2B- cases and related benefits and impacts in the category of virtual worlds. We did find some cases that reported social media use and benefits in this category on a very generic level [e.g. 58, 40], but it was not possible to say explicitly whether the cases and examples referred to B2C or B2B- companies, or even whether the results would have been generalizable to business-to-business context.

Concerning the broader classes of innovation –related benefits, the reported benefits of social media use referred to increased customer focus and understanding, increased level of customer service, and decreased time-to-market. Many studied cases reported benefits related to the core of B2B customer relationships, the deepening of customer relationships, such as increased customer interaction with and between customers, but no benefits or impacts were found that directly addressed the potential benefits concerning the timewise extensions of customer relationships. Still, future research should be carried out to understand better in which different specific ways and in which specific contexts social media can actually deepen and extend customer relationships. For instance, while some companies such as National Instruments attempted to deepen their B2B customer relationships by extensive open professional communities, some companies aim to learn, in a more focused way, from their key B2B customers by putting together small closed LinkedIn customer focus groups. Different types of community logics and participation incentives have also been reported in B2Bs: while some B2B companies use social media to organize innovation competitions, others arrange community events, and others prefer social media-supported market places and communities. By different contexts we refer to e.g. different industries with different business logics. All the above require in-depth analyses for optimal B2B social media use, approach selection, and expectable benefits from their use in different contexts.

	<i>Front end</i>	<i>Development phase</i>	<i>Commercialization</i>
Blogs		Obtained customer feedback and customer need data more favorably than by traditional methods, also in the case of anonymous blogs it was possible to receive unfiltered information from customers [61](1)[3](1)(R)	Cisco achieved 75 % cost savings and increased customer interaction by virtual product launches through blogs [4](2)(U). Real time user feedback concerning products [61](1)(U)
Micro-blogs		Obtained real time and honest feedback [22](2)(R). Increased level of co-creation with customers [20](1)(C)	Faster communications with customers [38](1)*(U)
Wikis	Quicker capture of ideas, also enabled asynchronous distributed brainstorming [62](1)(R)	GoodWater Inc achieved 85 % ROI while investing in blogging, wiki and asocial networking platform for internal collaboration. By means of the wikis, over 400 product features were described as a response to customers' requests [48](1)(R)	Sharing ideas on commercialization and obtaining feedback from customer [62](1)(U). OSIssoft improved the solving time of customer problems by 22 % by sharing customer service info using Wikis [30](2)(U)
Mashups	Mashups in improving customer enhancement requests. [53](2)(R)		Mashups in improving, customer service and product trials. Significant savings in product deployment. [53](2)(U)
Social networking sites		Obtained customer feedback that helped to accelerate product refinement [29](2)*(R)	Over 300 customers had joined the GoodWater social network, giving valuable feedback, with over 1 000 employee-customer interactions being recorded, with more than 50 % of the customers started interacting with each other, [48](1)(U)
Online community platforms	Dell IdeaStorm had achieved in gathering more than 17 000 ideas from B2B and B2C customers, with more than 96 000 comments, of which Dell has implemented over 517 ideas [34](1)[25](2)(R); e.g. Storm Session on development of B2B-product (developer laptop) gathered 153 ideas from customers during an event lasting from May 6 2012 to Sep 16 2012. [34](1)(R) Cisco I-Prize competition, aimed at identifying new business ideas (both B2B and B2C-related), gathered 824 ideas from a total of 2 900 participants [34](1)(R).	Reduced time-to-market and NPD budgets by engaging customers as innovation agents [11](1), LabVIEW Idea Exchange helped R&D to prioritize B2B product ideas submitted by customers and users [25](2)[34](1)(C). TechSmith received hundreds of product development ideas to their B2B product Camtasia with over 700 actively engaged users [34](1)(C). The SAP Community Network had achieved more than 2 million users to participate in sharing and co-creating knowledge on SAP's B2B products and services. [14](1)(C), Innovation contest by Bombardier, aimed at identifying new interior designs for trains, resulted in a total number of 2 232 participants, these including end-users and professional designers, and 4 298 designs, 26 617 ratings and 8 562 comments. [26](1)(R)(C)	Intuit TurboTax user forum enabled solving of users problems by users that often were more knowledgeable than company's own agents, this also speeding up the customer service process. Intuit founder Cook noted that internal experts were pleased with the quality of the answers, which seemed to be also self-correcting as other users refined them. [66](2)[34](1)(U)

Table 1. Benefits and impacts in using social media approaches in the customer relationships of different innovation process phases from B2B companies' perspective.

References

- [1] Adams, R., Bessant, J. and Phelps, R. 2006. Innovation management measurement: A review. *International Journal of Management Reviews*. 8, 1 (2006), 21–47.
- [2] Antikainen, M., Mäkipää, M. and Ahonen, M. 2010. Motivating and supporting collaboration in open innovation. *European Journal of Innovation Management*. 13, 1 (2010), 100–119.
- [3] Barker, P. 2008. How social media is transforming employee communications at Sun Microsystems. *Global Business and Organizational Excellence*. 27, 4 (2008), 6–14.
- [4] Barlow, M. and Thomas, D.B. 2011. *The Executive's Guide to Enterprise Social Media Strategy: How Social Networks Are Radically Transforming Your Business*. John Wiley and Sons.
- [5] Bartl, M., Jawecki, G. and Wiegandt, P. 2010. Co-Creation in New Product Development: Conceptual Framework and Application in the Automotive Industry. *Conference Proceedings R&D Management Conference—Information, Imagination and Intelligence, Manchester* (2010).
- [6] Bernoff, J. and Li, C. 2008. Harnessing the power of the oh-so-social web. *MIT Sloan Management Review*. 49, 3 (2008), 36.
- [7] Blanchard, O. 2011. *Social Media ROI: Managing and Measuring Social Media Efforts in Your Organization*. Que.
- [8] Brown, D. 2008. Influencer marketing and word of mouth. *Influencer Marketing*. Elsevier. 138–146.
- [9] Carlucci, D. and Schiuma, G. 2010. Determining Key Performance Indicators: An Analytical Network approach. *Handbook on Business Information Systems*. World Scientific Publishing Company. 515–536.
- [10] Chan, T.Y. and Lee, J.F. 2004. A comparative study of online user communities involvement in product innovation and development. *13th International Conference on Management of Technology IAMOT, Washington DC, April* (2004), 4–7.
- [11] Constantinides, E., Romero, C.L. and Boria, M. 2008. Social media: A new frontier for retailers??. *European Retail Research*. 22, (2008), 1–28.
- [12] Cooke, M. and Buckley, N. 2008. Web 2.0, social networks and the future of market research. *International Journal of Market Research*. 50, 2 (2008), 267 – 292.
- [13] Cordero, R. 1990. The measurement of innovation performance in the firm: an overview. *Research Policy*. 19, 2 (1990), 185–192.
- [14] Demetriou, G. and Kawalek, P. Benefit-driven participation in open organizational social media platforms: the case of the SAP Community Network. *Issues in Information Systems*. XI, 1.
- [15] Deragon, J. 2009. Is ROI Input, Process Or Output? - LearnTrends. *LearnTrends*.
- [16] Desouza, K.C., Awazu, Y., Jha, S., Dombrowski, C., Papagari, S., Baloh, P. and Kim, J.Y. 2008. Customer-driven innovation. *Research-Technology Management*. 51, 3 (2008), 35–44.
- [17] Dewing, M. 2010. Social Media 1. An Introduction. Library of Parliament.
- [18] Eskelinen, M. 2009. Sosiaalinen media business to business -markkinoinnissa. (2009).
- [19] Finch, B.J. 1999. Internet discussions as a source for consumer product customer involvement and quality information: an exploratory study. *Journal of Operations Management*. 17, 5 (1999), 535–556.
- [20] Fischer, E. and Reuber, A.R. 2011. Social interaction via new social media:(How) can interactions on Twitter affect effectual thinking and behavior? *Journal of business venturing*. 26, 1 (2011), 1–18.
- [21] Fisher, T. 2009. ROI in social media: A look at the arguments. *Journal of Database Marketing & Customer Strategy Management*. 16, 3 (Sep. 2009), 189–195.
- [22] Franklin, A., Clavaud, C., Cheung, D. and Baril, M. 2009. Social Media Cost vs Benefit Analysis. Simon Fraser University.
- [23] Fuller, J. and Matzler, K. 2007. Virtual product experience and customer participation—A chance for customer-centred, really new products. *Technovation*. 27, 6-7 (2007), 378–387.
- [24] Geehan, S. 2011. *The B2B Executive Playbook: How Winning B2B Companies Achieve Sustainable, Predictable, and Profitable Growth*. Clerisy Press.
- [25] Gillin, P. and Schwartzman, E. 2011. *Social Marketing to the Business Customer: Listen to Your B2B Market, Generate Major Account Leads, and Build Client Relationships*. Wiley.
- [26] Haller, J.B., Bullinger, A.C. and Möslin, K.M. 2011. Innovation Contests. *Business & Information Systems Engineering*. (2011), 1–4.
- [27] Hoffman, D.L. and Fodor, M. 2010. Can You Measure the ROI of Your Social Media Marketing? *MIT Sloan Management Review*. 52, 1 (2010).

- [28] Hoyer, W.D., Chandy, R., Dorotic, M., Krafft, M. and Singh, S.S. 2010. Consumer cocreation in new product development. *Journal of Service Research*. 13, 3 (2010), 283.
- [29] IBM 2007. *Achieving tangible business benefits with social computing*.
- [30] Isokangas, A. and Kankkunen, P. 2011. *Suora yhteys – näin sosiaalinen media muuttaa yritykset*. Finnish Business and Policy Forum EVA.
- [31] Isokangas, A. and Kankkunen, P. 2011. *Suora yhteys – näin sosiaalinen media muuttaa yritykset*. Finnish Business and Policy Forum EVA.
- [32] Jefferies, A. 2008. *Customer 2.0 Business Implications of Social Media*. Aberdeen Group.
- [33] Juran, J.M. 1988. *Juran on planning for quality*. Free Press.
- [34] Jussila, J.J., Kärkkäinen, H. and Leino, M. 2011. Benefits of social media in business-to-business customer interface in innovation. *Proceedings of the 15th International Academic MindTrek Conference: Envisioning Future Media Environments* (2011), 167–174.
- [35] Jussila, J.J., Kärkkäinen, H. and Leino, M. 2012. Learning from and with Customers with Social Media: A Model for Social Customer Learning. *International Journal of Management, Knowledge and Learning*. 1, 1 (2012), 5–25.
- [36] Kaplan, A.M. and Haenlein, M. 2010. Users of the world, unite! The challenges and opportunities of Social Media. *Business Horizons*. 53, 1 (Jan. 2010), 59–68.
- [37] Kaulio, M.A. 1998. Customer, consumer and user involvement in product development: A framework and a review of selected methods. *Total Quality Management & Business Excellence*. 9, 1 (1998), 141–149.
- [38] Kho, N.D. 2008. B2B gets social media. *EContent*. 31, 3 (2008), 26–30.
- [39] Kietzmann, J.H., Hermkens, K., McCarthy, I.P. and Silvestre, B.S. May. Social media? Get serious! Understanding the functional building blocks of social media. *Business Horizons*. 54, 3 (May), 241–251.
- [40] Kohler, T., Matzler, K. and Füller, J. 2009. Avatar-based innovation: Using virtual worlds for real-world innovation. *Technovation*. 29, 6-7 (2009), 395–407.
- [41] Kohler, T., Matzler, K. and Füller, J. 2009. Avatar-based innovation: Using virtual worlds for real-world innovation. *Technovation*. 29, 6-7 (2009), 395–407.
- [42] Kärkkäinen, H., Jussila, J. and Väisänen, J. 2010. Social media use and potential in business-to-business companies' innovation. *Proceedings of the 14th International Academic MindTrek Conference: Envisioning Future Media Environments* (2010), 228–236.
- [43] Lehtimäki, T., Salo, J., Hiltula, H. and 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 (2009), 76.
- [44] Lengnick-Hall, C.A. 1996. Customer contributions to quality: a different view of the customer-oriented firm. *The Academy of Management Review*. 21, 3 (1996), 791–824.
- [45] Leonard-Barton, D. and Leonard, D. 1998. *Wellsprings of Knowledge: Building and Sustaining the Sources of Innovation*. Harvard Business Press.
- [46] Lettl, C. 2007. User involvement competence for radical innovation. *Journal of Engineering and Technology Management*. 24, 1-2 (2007), 53–75.
- [47] Lietsala, K. and Sirkkunen, E. 2008. *Social Media: Introduction to the Tools and Processes of Participatory Economy*. University of Tampere.
- [48] Mangiuc, D.M. 2009. Measuring Web 2.0 Efficiency. *Annales Universitatis Apulensis Series Oeconomica*. 1, 11 (2009).
- [49] Messinger, P.R., Stroulia, E., Lyons, K., Bone, M., Niu, R.H., Smirnov, K. and Perelgut, S. 2009. Virtual worlds—past, present, and future: New directions in social computing. *Decision Support Systems*. 47, 3 (2009), 204–228.
- [50] Nair, M. 2011. Understanding and measuring the value of social media. *Journal of Corporate*

Innovation- related Benefits of Social Media in Business-to-Business

- Accounting & Finance*. 22, 3 (Mar. 2011), 45–51.
- [51] Nambisan, S. 2002. Designing virtual customer environments for new product development: Toward a theory. *The Academy of Management review*. 27, 3 (2002), 392–413.
- [52] Neely, A., Mills, J., Platts, K., Richards, H., Gregory, M., Bourne, M. and Kennerley, M. 2000. Performance measurement system design: developing and testing a process-based approach. *International Journal of Operations & Production Management*. 20, 10 (2000), 1119–1145.
- [53] Ogrinz, M. 2009. *Mashup Patterns: Designs and Examples for the Modern Enterprise*. Addison-Wesley Professional.
- [54] Payne, A.F., Storbacka, K. and Frow, P. 2008. Managing the co-creation of value. *Journal of the Academy of Marketing Science*. 36, 1 (2008), 83–96.
- [55] Peppler, K.A. and Solomou, M. 2011. Building creativity: collaborative learning and creativity in social media environments. *On the Horizon*. 19, 1 (2011), 13–23.
- [56] Phillips, M.R. and Paine, K.D. Doing Measurement Right: One Organization's Experience Creating a Best-In-Class Measurement Program from Scratch. *that Matters to the Practice*. 534.
- [57] Prahalad, C.K. and Ramaswamy, V. 2004. Co-creation experiences: The next practice in value creation. *Journal of interactive marketing*. 18, 3 (2004), 5–14.
- [58] Prandelli, E., Verona, G. and Raccagni, D. 2006. Diffusion of Web-based product innovation. *California Management Review*. 48, 4 (2006), 109–135.
- [59] Ramsey, G. 2010. *Seven Guidelines for Achieving ROI from Social Media*. eMarketer.
- [60] Rowley, J., Kupiec-Teahan, B. and Leeming, E. 2007. Customer community and co-creation: a case study. *Marketing Intelligence & Planning*. 25, 2 (2007), 136–146.
- [61] Singh, T., Veron-Jackson, L. and Cullinane, J. 2008. Blogging: A new play in your marketing game plan. *Business Horizons*. 51, 4 (2008), 281–292.
- [62] Standing, C. and Kiniti, S. 2011. How can organizations use wikis for innovation? *Technovation*. (2011), 287–295.
- [63] Warr, W.A. 2008. Social software: fun and games, or business tools? *Journal of Information Science*. 34, 4 (2008), 591–604.
- [64] Weinberg, B.D. and Pehlivan, E. 2011. Social spending: Managing the social media mix. *Business Horizons*. 54, 3 (May. 2011), 275–282.
- [65] Verona, G., Prandelli, E. and Sawhney, M. 2006. Innovation and virtual environments: towards virtual knowledge brokers. *Organization Studies*. 27, 6 (2006), 765–788.
- [66] Wollan, R. and Smith, N. 2010. *The Social Media Management Handbook: Everything You Need To Know To Get Social Media Working In Your Business*. John Wiley & Sons.