

DIGITAL AND SOCIAL MEDIA MARKETING USAGE IN B2B INDUSTRIAL SECTION

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This study contributes to the emerging B2B digital marketing literature by providing a realistic overview of the usage, measurement practices, and barriers surrounding digital marketing in the era of social media. Investigating 145 B2B firms from various industries reveals that despite the interest in social media, companies continue to focus on one-directional communications with established digital tools. Furthermore, the results indicate that the advances in digital measurement tools remain largely unexploited, and the firms lack the human resources and know-how to make the most of opportunities provided by the developing digital environment. The implications of the study suggest that B2B companies should update their capabilities with respect to digital marketing usage and measurement in order to adapt current practices to fit the characteristics of today's digital media landscape.

INTRODUCTION

We are living in the midst of a new communications landscape (Kietzmann, Hermkens, McCarthy & Silvestre, 2011) as the roles of customer interaction and user-generated content are emphasized in marketing communications facilitated by the digital environment and social media platforms (Dennis, Merrilees, Jayawardhena, & Wright, 2009; Hennig-Thurau et al., 2010; Liu, Karahanna, & Watson, 2011). From the marketing perspective, the expanding role of the digital environment has created two important opportunities for companies of all kinds: Firstly, firms now have access to a vast array of new digital tools that can be utilized for marketing purposes, and secondly, the digital environment has made marketing more measurable by improving marketers' ability to access, collect, process, and report data on marketing activities (e.g., Pauwels et al., 2009; Pickton, 2005; Russell, 2010).

It is often noted that personal face-to-face selling works best in complex and long-lasting B2B buying processes, while non-personal communications channels, such as advertising and digital channels, play supportive roles by creating synergies in achieving sales objectives (e.g., Ballantyne & Aiken, 2007; Long, Tellefsen, & Lichtenthal, 2007; Rosenbloom, 2007; Singha & Koshyb, 2011). While this statement is still likely to hold true in the majority of B2B companies, only a proportion of communication can happen face-to-face, and personal selling is not the most suitable tool to deliver marketing objectives other than those around generating direct sales, such as branding. Unquestionably, the role of digital channels has increased over the years to support traditional offline marketing in the B2B sector, but B2B marketers have still encountered problems in integrating the newly emerged social media tools as part of a firm's marketing efforts. Jussila, Kärkkäinen, and Leino (2011) state that a great gap remains between the potential and actual use of social media by B2B firms, and academic research is limited in terms of the use of social media in the B2B sector.

The emergence of social media has highlighted the role of objectives related to enhancing

customer relationships, and ideally, social media tools should be used to generate viral effects, consumer evangelism and positive word-of-mouth (WOM) advocacy (Bernoff & Li, 2008; Hanna, Rohm, & Crittenden, 2011; Mangold & Faulds, 2009; Weinberg & Pehlivan, 2011). Even though these objectives might be ideal for social media, they may be difficult to achieve in the B2B sector, because B2B firms tend to have fewer customers and enthusiasts to share WOM or create viral effects. Consequently, there is a lack of clarity regarding what the ideal business goals for social media in the B2B sector may be, and more importantly, regarding how the emergence of social media has affected digital marketing objectives as a whole.

One of digital marketing's major advantages over offline marketing is that its impact is more easily measured. Measurability has been improved by the advent of visible and traceable digital communications (Hennig-Thurau et al., 2010). Moreover, the advances in technology have largely automated data collection and distribution within an organization (Pauwels et al., 2009). Subsequently, marketers are in a better position to measure the effectiveness of their marketing activities in the digital environment. Again, however, there can be no certainty regarding the extent to which B2B firms that usually sell their products only following lengthy negotiations may be able to exploit digital measurement solutions.

Finally, because many digital marketing initiatives fail (Weber, 2009), it is vital to understand the underlying reasons for failure. Earlier research lists various barriers that have compromised the benefits expected from digital marketing in the B2B sector. These barriers have been related to poorly defined goals and a lack of expertise, resources, and management support to complement the use of digital tools (e.g., Ahearne, Jelinek, & Rapp, 2005; Avlonitis & Panagopoulos, 2005; Buehrer, Senecal, & Pullins, 2005). Moreover, since B2B firms have been slower to adopt digital tools than B2C firms (Michaelidou, Siamagka, & Christodoulides, 2011), it is likely that B2B

companies encounter particularly daunting barriers to the utilization of digital marketing.

To sum up, the literature to date has largely discussed the opportunities brought by the digital environment in the era of social media from the B2C perspective. Consequently, the extent to which B2B companies have successfully exploited the advances in digital media remains unclear. Against this backdrop, this study attempts to contribute to the emerging B2B digital marketing literature by providing an overview of digital marketing tools, objectives, measurement solutions and barriers to usage. To achieve the objectives of the study, the following four research questions are proposed:

How widely are social media tools used in the B2B sector as part of the digital marketing mix? (RQ1); What are the most important objectives of digital marketing for B2B firms in the era of social media? (RQ2); How widely are digital measurement solutions utilized by B2B firms? (RQ3); What are the major barriers to the utilization of digital marketing in the B2B sector? (RQ4)

This paper proceeds as follows: In the next section, we discuss the use of digital and social media tools and review the literature on the setting of objectives, the measurement of and the associated barriers to digital marketing. This will be followed by a discussion of the study methodology and presentation of the results of the empirical study. Finally, we draw conclusions, present the limitations of the study, and suggest avenues of future research.

LITERATURE REVIEW

Digital Marketing Tools in the Social Media Era

Digital marketing and its related terms, such as Internet/online marketing, are commonly used to describe the use of technologies in marketing efforts. However, there is no agreement on what is encapsulated in each term, and in

practice the terms are often used interchangeably. For example, Farrah (2010) discusses Internet marketing under the topic "Understanding digital marketing," whereas Melewar and Smith (2003) present the barriers of Internet usage under the topic "The contentious issues with online marketing." In this study, *digital marketing* is used as an umbrella term, while admitting that the concepts are tightly related and intertwined. The reason for the selection is that the concept of digital marketing is arguably the most comprehensive. As Wymbs (2011) notes, digital marketing is much more than merely communication through the Internet. Digital marketing includes a wide range of digital channels, including the Internet, mobile, and wireless communications, as well as digital television (c.f. Li, Li, He, Ward, & Davies, 2011).

In addition to the challenge of differentiating digital, Internet, and online marketing from each other, it is difficult to draw a clear line between digital and social media concepts, as the social elements are increasingly integrated into the established interactive digital media environment (e.g., discussion forums, sharing buttons, and blogs embedded on websites). In fact, social elements of digital marketing, such as growing interactivity and fostering conversations via the Internet, were discussed long before the emergence of the term *social media* (see, e.g., Sharma, 2002). Therefore, we consider social media to represent an enhancement to, rather than a replacement for, other digital media, and accordingly, we regard social media as integrated elements, platforms, and tools of digital marketing that facilitate social interaction between businesses and customer networks. Accordingly, *digital marketing* refers to the use of all kinds of digital and social media tools that allow companies to foster interactions with customers.

Although B2C firms have been faster adopters of digital marketing tools, B2B firms' investments in digital marketing have surpassed those of B2C firms for some considerable time

(Barwise & Farley, 2005; Sharma, 2002). Subsequently, it is clear that the longer-established digital marketing tools, such as e-mail marketing, digital newsletters, and sales support materials, have found a place in the B2B sector. However, B2B companies often find it difficult to identify tools appropriate to their digital marketing mix among the host of newly available social media tools. The well-documented social media successes of certain B2C companies (e.g., Blendtec, Dunkin' Donuts, Ford Motor Company, KLM, Procter & Gamble, Starbucks) are of limited help to B2B marketers wondering how they might exploit social media to support the achievement of B2B firms' business goals. In order to illustrate the potential of social media tools for marketing purposes in the B2B sector, Table 1 lists a number of examples of social media tools which B2B firms have utilized successfully in their digital marketing. It is notable that the examples do not offer an exhaustive categorization of B2B social media tools, but rather an illustration of the platforms that have attracted attention in the B2B social media literature (e.g., Bodnar & Cohen, 2012; Gillin & Schwartzman, 2011; Handley & Chapman, 2011; Powell, Greves, & Dimos, 2011).

Social media tools are utilized for various B2B marketing objectives (see Table 1). In addition to the marketing objectives recorded in the table, B2B companies utilize social media to deliver search engine optimization benefits and drive traffic to their homepages and/or landing pages. In particular, the tools provide novel ways to attract new customers and to keep the conversation active with the existing customer base. For example, Indium Corporation and Cree have attracted an active reader base for their blogs, which are interactive and full of balanced content in different forms (text, video, and graphics). Once the customers are comfortable with active interaction, the tools offer opportunities to improve customer engagement, customer service, and lead generation. Besides blogging, the likes of Salesforce.com, Cisco, and HP utilize Facebook, Flickr, and open discussion forums/communities to achieve these objectives. IT

TABLE 1:

Social Media Tool Usage by B2B Companies

Social media tool	Examples of marketing objectives	Company
Blog	Increasing awareness, showing expertise, lead generation	Cree, Indium Corporation, The Switch
Facebook	Customer engagement, branding	Cisco, Ernst & Young, Neenah Paper, Salesforce.com, SteelMaster Buildings
Flickr	Customer engagement, branding	Cisco
Open discussion forums/communities	Crowdsourcing, customer engagement	Dell, GE, HP
Twitter	Customer service, PR, sales generation	Avaya, Dell, Intel, Oracle
YouTube	Increasing awareness, branding	Corning Incorporated, Microsoft, Salesforce.com, Wärtsilä
Webinars	Customer service, lead generation, showing expertise	Professional service providers (Accenture, eMarketer, Forrester Research, HubSpot)

giants, Dell, Intel, and Oracle actively use Twitter for customer service, PR, and to generate sales. Many B2B firms use YouTube as a platform for webpage video integration and as a channel to boost viral marketing effects. One good example of viral-oriented usage is provided by Corning Incorporated and their video series *A Day Made of Glass... Made Possible by Corning*, which, as of October 2012, has attracted more than 20 million views on YouTube.

As the examples show, B2B firms from various industries are able to exploit social media tools as part of their digital marketing mix. However, it is not clear how widely the tools have been adopted and how important their role in the B2B sector is perceived to be. B2B companies, with a few exceptions such as the IT industry and professional service providers, are slower to adopt social media tools (Michaelidou et al., 2011). We would anticipate that the more established digital tools, such as newsletters, e-mail marketing, and digital customer magazines, are still regarded as more important than social media tools by B2B firms of all sizes. However, as large companies are more likely to have adequate resources to exploit social media, and the majority of success stories regarding B2B firms' social media usage are linked with them, we presume that company

size affects the use of social media tools. On this basis, we propose that:

Proposition 1: B2B firms perceive the use of longer-established digital tools, such as newsletters, e-mail marketing, and digital customer magazines, to be more important than social media tools.

Proposition 2: Social media tools are more important for large-sized B2B companies.

Business Objectives of Digital Marketing

Prior research has shown that the digital environment can be used to achieve a variety of goals in the B2B sector. First, the digital environment allows B2B firms to decrease costs by increasing the efficiency of exchanges in terms of communications and transactions (Sharma, 2002; Walters, 2008). Second, digital tools enable B2B companies to provide brand and product-related information (Berthon, Lane, Pitt, & Watson, 1998; Welling & White, 2006), and in that way, digital marketing can be used to build brands in terms of creating awareness, improving brand attitude, and increasing purchase intentions (Drèze & Hussherr, 2003; Manchanda, Dubé, Goh, & Chintagunta, 2006). Certainly, increasing sales is another possible goal of the digital marketing efforts made by B2B firms. Sales to existing

customers can be increased, for example, by facilitating the transaction process (Sharma, 2002), whereas sales to new customers can be boosted by driving traffic to a website and thereby generating sales leads (Welling & White, 2006). Finally, the digital channels have created new platforms through which to interact with customers and develop customer relationships (Bauer, Grether, & Leach 2002).

Recently, literature on B2C marketing has discussed the role of social media tools in the marketing mix and the marketing objectives that these new interactive instruments might advance. Compared to the other, more established forms of digital marketing, social media tools are better for having conversations with customers and strengthening and enhancing customer relationships (e.g., Bernoff & Li, 2008; Mangold & Faulds, 2009; Weinberg & Pehlivan, 2011). The major rationale behind this idea is that social media has induced a new trend in marketing communications that considers customers active participants in the communication process (Hennig-Thurau et al., 2010). For this reason, social media is not regarded as an effective tool for broadcasting one-directional messages to wide audiences, but rather is seen as useful for attracting customers into interactions around brands and then maintaining their activity level (Weinberg & Pehlivan, 2011). Ideally, the interaction would be prompted by first listening to and monitoring, and then participating in, relevant discussions (Bernoff & Li, 2011; Töllinen, Järvinen, & Karjaluo, 2012).

With respect to B2B marketing, Kho (2008) suggests that B2B companies might pursue many similar objectives to B2C firms. Specifically, social media can work for B2B companies in strengthening and enhancing customer relationships through fostering meaningful interactions between the company and its customers. Listening to customer concerns and responding to them will certainly intensify customer dialogue, and resolving customer concerns and problems improves customer satisfaction and enhances customer

loyalty. Michaelidou et al. (2011) similarly find that cultivating customer relationships is one of B2B firms' key goals in using social networking sites (others being attracting new customers and increasing brand awareness). Furthermore, in contrast to discussion around social media opportunities, which has been brand-centered, Bodnar and Cohen (2012) state that the B2B sector's social media utilization should focus more on generating leads and moving customers along the sales funnel.

In summary, it seems that B2B companies' objectives for employing digital marketing and social media are in line with the general objectives of marketing, namely acquiring new customers and enhancing current customer relationships. However, literature regarding digital marketing objectives has largely been published either before or in the early phases of the emerging social media environment, and it is not clear whether the wider adoption of social media has altered the main purposes for which B2B organizations utilize digital marketing. Social media has instigated a new trend in marketing communications that focuses more on developing customer relationships by engaging them in interactive discussions over brands and products than on attempting to directly drive sales (Hennig-Thurau et al., 2010; Kho, 2008; Michaelidou et al., 2011). On this basis, we propose that the main objectives of B2B digital marketing in the social media era are related to the "soft" side of general marketing objectives, namely creating awareness and enhancing brand image:

Proposition 3: The main digital marketing objectives pursued by B2B firms in the social media era relate more to enhancing brand image and creating awareness than to driving direct sales.

Measurement of Digital Marketing

There is widespread agreement that performance measurement should always be based on pre-defined strategic objectives (Kaplan & Norton, 1996; McCunn, 1998; Neely & Bourne, 2000). Similarly, marketing

performance measurement must track the progress of the objectives set for marketing (Clark, 2001; Clark, Abela, & Ambler, 2006). With respect to measuring digital marketing performance against objectives, advances in technology have provided companies with new digital solutions which are likely to outstrip traditional measurement techniques, such as surveys and interviews. Indeed, as the importance of digital marketing grows in the B2B sector and firms shift investment from traditional marketing communications to digital channels, they have to update measurement practices accordingly to be able to measure digital marketing efforts' contributions to meeting objectives.

The measurement of digital marketing performance can be improved through at least two distinct digital solutions: Web analytics (WA) and social media monitoring (SMM) software. First, WA software can be used to track visitor behavior on a company website via click-stream data. Click-stream data enables firms to track how exposure to a specific digital marketing action on a particular platform contributes to website traffic generation and customer actions, such as a decision to purchase, downloading a brochure, or abandoning the visit (Wilson, 2010). In this way, firms are able to assess the short-term outcomes of a specific digital marketing campaign; in addition, by analyzing visitors' navigation paths, companies are better able to optimize their website structure and content. Finally, if firms have the means to couple the click-stream data with personal information (e.g., via registration or subscription), they can follow interactions with a specific visitor over time, assess his/her engagement and plan further precise marketing actions directed at the visitor in question (Phippen, Sheppard, & Furnell, 2004).

To complete the information generated by WA, software developers have devised SMM tools which allow automated tracking and analysis of digital conversations (eWOM) with regard to specific keywords (Pang & Lee, 2008; Sponder, 2012). In practical business usage, SMM can be

used for mining and listening to customer opinions related to relevant themes, such as the company itself, its products and brands, a specific marketing campaign, competitors, or an industry as a whole (Blanchard, 2011; Godes & Mayzlin, 2004; Thomas & Barlow, 2011). Opinion mining by SMM has become more feasible owing to the increasing amount of company-related eWOM which allows the tracking and collection of actual exchanges of information between individuals (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004; Liu, 2006), and the options for monitoring and analyzing have significantly expanded in the past few years (Sharma, 2011), leading to firms reportedly becoming increasingly interested in opportunities to mine Internet users' opinions on a particular company and its products (Bautin, Vijayarenu, & Skiena, 2008).

The advances in technology offer new effective ways to measure marketing performance. Nevertheless, as B2B companies have fewer customers, fewer transactions, and longer purchase decision cycles, they have typically struggled in their attempts to demonstrate the relationship between marketing and any resulting impact (Webster, Malter, & Ganesan, 2005). It is unclear if this situation has changed as a result of the emergence of the most recent digital measurement solutions. Preliminary research findings indicate that although the benefits brought about by WA and SMM are industry and product-category specific, even B2B companies from manufacturing industries have been able to improve their measurement ability with digital solutions (Järvinen, Töllinen, Karjaluo, & Platzer, 2012). Therefore, we expect digital measurement solutions to be quite widely used in the B2B sector. Still, it is evident that firms selling products online are better able to track the route from marketing action exposure to transaction, and consumer products are more likely to be discussed by a wider audience. Consequently, even though we presume that usage level of digital measurement tools is relatively high, we propose that the ability of firms in the B2B sector to gain measurable benefits from the use

of digital marketing is limited. In this light, we propose that:

Proposition 4: The usage of digital measurement solutions is relatively high in the B2B sector. However, the ability of B2B firms to gain measurable benefits from the use of digital marketing is limited.

Barriers to Digital Marketing

A notable number of digital marketing initiatives fail to reach their objectives and deliver the benefits expected of them (Weber, 2009). As the emergence of new digital tools accelerates, it is no wonder that B2B firms need time to comprehend which tools are apt for their industries and how they might best be utilized for marketing purposes. For instance, Michaelidou et al. (2011) report that a large portion of B2B firms views the use of social networking sites as irrelevant to the firm's particular industry. This finding indicates that the benefits derived from at least a part of the mainstream social media tools in the B2C sector are still unclear to various B2B firms. In particular, the difficulty of determining return on investment (ROI) has been noted as one of the major barriers to investing in digital marketing (Marshall, Sor, & McKay, 2000). Another issue closely related to obscure benefits derives from the perceived risks. In particular, the lack of control of marketing messages and their distribution is considered a major risk when using social media tools as part of the digital marketing mix (Cruz & Fill, 2008).

In addition to the risks arising from lack of control of the social media environment, companies might perceive risks connected to the expertise they have available to harness the new digital tools for marketing. As technology develops quickly, it is evident that many employees will have difficulty keeping pace with it. In fact, research has shown that one significant barrier to technology adoption is a lack of general technical knowledge and personal innovativeness among personnel (Avlonitis & Panagopoulos, 2005; Frambach &

Schillewaert, 2002; Mehrrens, Cragg, & Mills, 2001; Schillewaert, Ahearne, Frambach, & Moenaert, 2005). As the use of social media tools, such as blogs, open discussion forums, and social networking sites, requires new kinds of conversational approaches rather than one-directional marketing messages (Weinberg & Pehlivan, 2011), it therefore follows that companies from various industries are likely to encounter severe challenges in their ability to create proper content for social media.

When employees have limited capability to use digital and social media tools, the role of management is emphasized. Indeed, the lack of technical or management support has been highlighted as an important barrier to usage in several studies (Ahearne et al., 2005; Avlonitis & Panagopoulos, 2005). Managers need to set accurate expectations with regard to the use of a particular technology (Avlonitis & Panagopoulos, 2005) and clarify the responsibilities of each individual user to reduce role overload and stress (Honeycutt, Thelen, Thelen, & Hodge, 2005). The role overload and stress are further increased if the employees are not provided with adequate resources; research has indicated that the major barriers to technology use stem from a lack of resources (e.g., time, money, and workforce) to fully exploit the new technology (Buehrer et al., 2005; Mehrrens et al., 2001).

Judging from the wide range of barriers to digital marketing and technology use encountered by firms, we expect to find several important barriers that hinder the use of digital marketing in the B2B sector. However, since B2B companies have been reported to be slower to adopt new digital marketing tools, we propose that those barriers related to the firm's resources, expertise, and the perception that digital marketing does not drive business outcomes in the relevant industry are particularly important:

Proposition 5: The firm's resources, expertise, and perception that digital marketing does not support its business objectives are the major barriers to

*digital marketing utilization in the B2B sector.***Methodology**

Data was collected from a random sample of Finnish B2B companies drawn from a Finnish contact information database. A link to the online survey was sent via e-mail to the general manager or marketing director of each B2B firm in the sample. To incentivize participation, we offered access to the survey results and the opportunity to participate anonymously in a lottery.

A total of 145 completed questionnaires were received, all representing different companies. To calculate the response rate, we compared the number of people who had opened the survey but not completed it to the number who had completed the survey. This process produced an incidence rate of 70%. Respondents represented various industries (e.g., engineering, metal, pulp and paper, energy, electricity, construction) and their firms varied in terms of employee numbers from 1 to 37,000 (median 25; mean 596), with a median turnover of EUR 3.5 million. The characteristics of the sample are illustrated in Table 2.

TABLE 2:
Sample Characteristics

Industry	<i>n</i>	% ^a
Services	26	18.2
Industrial commodities	25	17.5
Machinery and equipment	50	35.0
Components	42	29.4
Size (number of employees)		
Micro (<i>n</i> < 10)	54	37.5
Small (10 < <i>n</i> < 50)	36	25.0
Medium (50 < <i>n</i> < 250)	30	20.8
Large (<i>n</i> > 250)	24	16.7
Size (sales turnover)		
<€1 m	50	36.8
€1–10 m	36	26.5
€11–100 m	39	28.7
>€100 m	11	8.1

^a Missing values; valid percentages used

The questionnaire had three main sections. The first inquired about the utilization and objectives of digital marketing in the respondent's company. The second part consisted of questions related to content development in various digital marketing applications such as social media tools, newsletters and e-mail marketing, and sales support materials. The third section focused on the barriers and measurement of digital marketing practices in the respondent's company. Thus, the unit of analysis is the company level. The items measuring the extent of B2B firms' digital marketing usage, objectives, barriers, and measurable benefits were derived from the literature (e.g., Buehrer et al., 2005; Michaelidou et al., 2011). A five-point Likert scale anchored at 1 (not at all important) and 5 (extremely important) was used. In measuring the activity of digital marketing and barriers to utilization, the anchors were 1 (strongly disagree) and 5 (strongly agree).

Results and Analysis

Almost half of the respondents (43%) worked in a leading position in their firm (as general manager/chairman of the board); around a quarter (23%) were marketing or communications managers; 18% were production managers and 10% were sales managers.

In line with the first proposition, Table 3 shows that the most important digital marketing tools for B2B companies remain newsletters and e-mail marketing. The findings further suggest, irrespective of firm size, that the use of other long-established digital marketing tools, such as sales support materials, e-mail and SMS service alerts and notifications, and digital customer magazines, are perceived to be more important than social media tools. Our second proposition, that social media tools are more important for large-sized B2B companies, is also supported. Larger companies perceive YouTube, blogs, webinars, Twitter, and Wikis, in particular, to be more important than SMEs do.

In line with our third proposition the two most important objectives of digital marketing in the era of social media are related to the soft side of marketing: creating awareness and enhancing brand image (Table 4). Both objectives received a mean score of above 4.1 on a scale ranging from 1 (not at all important) to 5 (extremely important). Specifically, over 75% of the respondents regarded creating awareness and enhancing brand image as "important" or "extremely important." Thus, the third proposition is confirmed.

Our fourth proposition states that the usage of digital measurement solutions would be relatively high in the B2B sector, but that the measurable benefits gained from digital marketing would be limited. Our results (Tables 5 and 6) partly confirm this. B2B companies are not actively measuring digital marketing performance, measurement is not considered to be important, and the firms' ability to gain measurable benefits from the use of digital marketing is limited in the B2B sector. However, the results are dependent on firm

TABLE 3:
The Perceived Importance of Digital and Social Media Tools by Firm Size

	Mean					sig.
	All	Micro	Small	Medium	Large	
Newsletters and e-mail marketing	3.18	2.57	3.39	3.40	3.88	.000
Sales support materials (e.g., white papers, digital product brochure)	2.95	2.32	2.94	3.57	3.54	.000
E-mail/SMS service alerts and notifications	2.89	2.61	2.92	2.77	3.54	.029
Digital customer magazine	2.57	1.89	2.72	3.00	3.33	.000
YouTube (or other video service)	2.15	1.76	1.56	1.77	2.37	.000
Open discussion forums	2.12	1.91	2.08	2.23	2.54	.153
Facebook	2.01	1.89	1.94	1.90	2.50	.115
Blogs	1.97	1.72	1.86	2.00	2.71	.003
Webinars, podcasts and live casts	1.90	1.46	1.75	2.23	2.75	.000
Twitter	1.69	1.44	1.56	1.77	2.38	.000
Flickr (or other photo service)	1.63	1.46	1.56	1.83	1.92	.091
Wikis	1.63	1.44	1.42	1.73	2.29	.000

Note: Scale ranging from 1=not at all important to 5=extremely important

TABLE 4:
The Main Objectives of Digital Marketing

	Mean					sig.
	All	Micro	Small	Medium	Large	
Creating awareness	4.15	3.96	4.14	4.30	4.42	.167
Enhancing brand image	4.12	3.83	4.17	4.33	4.42	.054
Growing sales/new customers	3.82	3.70	4.06	3.67	3.88	.470
Improving customer service	3.81	3.83	3.58	4.00	3.92	.412
Enhancing customer loyalty	3.78	3.70	3.75	3.73	4.04	.646
Improving customer satisfaction	3.77	3.76	3.64	3.97	3.79	.632
Growing sales/existing customers	3.57	3.35	3.75	3.37	4.00	.081
Decreasing costs	3.46	3.30	3.31	3.70	3.71	.242

Note: Scale ranging from 1=not at all important to 5=extremely important

size, as large firms are more active users of digital measurement solutions. Specifically, using a tool for following online discussions and news is a more common practice in large firms than in smaller firms.

In line with the fifth proposition, lack of resources and expertise were considered major barriers to the utilization of B2B digital marketing (Table 7). However, contrary to our proposition, the data reveal that the proportion of companies that think digital marketing an inappropriate means to deliver business objectives is a great deal smaller than expected.

The only statistically significant difference between firm sizes is management resistance, with micro firms perceiving the least management resistance. Management resistance is a noticeably more influential barrier in medium-sized firms than in others.

CONCLUSIONS

The objective of the study was to investigate B2B firms' digital marketing tools, objectives, measurement solutions and barriers of utilization. A thorough literature review of B2B digital marketing was conducted to provide

TABLE 5:
The Measurement of Digital Marketing by Firm Size

	Mean					
	All	Micro	Small	Medium	Large	sig.
Measurement of digital marketing is perceived as important in our firm	2.53	2.37	2.42	2.50	3.13	.060
Our firm measures the results of digital marketing against objectives	2.40	2.22	2.53	2.23	2.83	.105
The use of digital marketing has changed the measurement practice of our marketing communications effectiveness	2.12	1.78	2.14	2.07	2.92	.000
Our firm has obtained measurable benefits from the use of digital marketing	2.01	1.76	2.00	2.03	2.54	.024

Note: Scale ranging from 1=not at all important to 5=extremely important

TABLE 6:
The Measurement Activities of Digital Marketing by Firm Size

	Mean					
	All	Micro	Small	Medium	Large	sig.
We receive useful information from our website visitor analytics	3.16	2.93	3.28	2.80	3.96	.001
We follow online discussions about our industry sector	2.60	2.48	2.36	2.33	3.54	.001
We follow online discussions about our firm, our products and services	2.45	2.24	2.31	2.07	3.63	.000
We utilize web analytics (e.g., Google Analytics, Snoobi) to acquire new customers	2.35	2.30	2.47	2.13	2.58	.535
We use a tool (e.g., GoogleAlerts, Hootsuite, Radian6, Meltwater, mBrain) to follow online news and discussions	1.97	1.67	1.64	1.77	3.38	.000

Note: Scale ranging from 1=strongly disagree to 5=strongly agree

TABLE 7:
The Barriers to Digital Marketing Utilization by Firm Size

	Mean					sig.
	All	Micro	Small	Medium	Large	
Lack of human resources	3.70	3.65	3.64	3.80	3.79	.904
Lack of time	3.37	3.54	3.44	2.93	3.42	.240
Lack of know-how	3.34	3.46	3.25	3.67	3.17	.734
Challenges in content creation	3.10	3.00	3.22	3.33	2.88	.415
Unclear ROI	2.95	2.91	2.92	3.03	3.00	.969
Uncontrollability	2.91	3.07	2.86	2.93	2.58	.413
Lack of money	2.83	2.94	2.75	2.77	2.75	.864
Does not support the objectives of our business	2.63	2.74	2.44	2.70	2.54	.771
Lack of technical support	2.58	2.67	2.39	2.57	2.67	.674
Management resistance	2.03	1.74	2.03	2.63	1.96	.007

Note: Scale ranging from 1=strongly disagree to 5=strongly agree

answers to the research questions and meet the study objective. On the basis of the literature review, five propositions were developed to guide the analysis of study data. The propositions were tested in an empirical investigation of B2B firms (N=145). The empirical data provides support for most of the propositions.

Theoretical Contributions

The first proposition, that traditional digital marketing tools, such as newsletters and e-mail marketing, would be considered more important than social media tools, was confirmed. B2B marketers prefer to use one-directional and push-oriented digital channels like e-mail marketing, white papers, and digital customer magazines in their marketing communication. Furthermore, our study confirms the findings of a recent study (Michaelidou et al., 2011) which showed that B2B companies are slow to adopt social media. We did not find much evidence for collaborative marketing tactics or customers acting as content creators in the B2B sector, as the literature had suggested we would (Dennis et al., 2009; Hennig-Thurau et al., 2010; Kietzmann et al., 2011; Liu et al., 2011; Mangold & Faulds, 2009). Marketing communications in the digital world should ideally be based on a two-way dialogue and

aimed at creating a presence, relationships, and mutual value with customers and other stakeholders (Rowley, 2004; Wertime & Fenwick, 2008), but our findings imply that B2B sector is still some way from that ideal.

We were able to find support for our second proposition arguing that social media tools are more important for large-sized B2B companies, this being in line with the success stories of social media utilization from the B2B sector (Bodnar & Cohen, 2012; Gillin & Schwartzman, 2011; Handley & Chapman, 2011; Powell et al., 2011). It is noteworthy that none of the social media tools were seen as important, and even the long-established digital tools were not seen as crucial, regardless of firm size. This suggests that digital channels still play a supportive role in lengthy and complex B2B buying processes (Long et al., 2007).

We contribute to the literature by showing that the most important objectives of B2B digital marketing (Proposition 3) are related to creating awareness and enhancing brand image (Hennig-Thurau et al., 2010; Kho, 2008; Michaelidou et al., 2011). Kho (2008) stated that social media can work for B2B companies by strengthening and enhancing customer relationships, through fostering meaningful interactions between a

company and its customers. Our study partly confirms this, but at the same time suggests that B2B companies are primarily concentrating on attracting new customers rather than enhancing existing customer relationships. It seems that B2B firms have not fully realized and leveraged the interactive nature of the digital media environment, which arguably offers great opportunities for cultivating existing customer relationships and enhancing customer engagement (Weinberg & Pehlivan, 2011). As an aside, one interesting observation was that the respondents considered decreasing costs the least important objective. It appears that despite digital channels offering notable cost efficiencies (Sharma, 2002; Walters, 2008) other objectives are perceived to be more important than cost saving.

In testing our fourth proposition, we add to the literature on the measurement of the effectiveness of digital marketing by showing that digital measurement solutions are not widely used and the measurable benefits gained from digital marketing are limited in the B2B sector. Contrary to our expectations, the usage of digital measurement solutions was not high. However, we found that larger firms are significantly more active in tracking website visitor behavior and following online discussions about the company, its products, and its industry sector. While the majority of large firms track online discussions and website visitor behavior, considerably fewer use specific software (WA and SMM) for this purpose. This might be due to unfamiliarity with the software or a lack of resources available to buy it. Although the digital environment has offered new opportunities to measure the effectiveness of marketing (Hennig-Thurau et al., 2010; Phippen et al., 2004; Wilson, 2010) and brought new ways to listen to customer opinions (Blanchard, 2011; Godes & Mayzlin, 2004; Thomas & Barlow, 2011), the study results indicate that B2B companies have not widely exploited these developments. Indeed, digitalization has not significantly reformed measurement practices, and moreover, the measurement of digital marketing is not set against objectives or even

considered important. However, judging from the limited use of WA and SMM tools, it may be that the companies have not fully understood the opportunities offered by digital measurement solutions and are still seeking new ways to measure the effectiveness of digital marketing. Another possible explanation stems from the notion that B2B firms with fewer customers, fewer transactions, and longer purchase decision cycles find it still difficult to demonstrate the relationship between marketing and its resulting impact (Webster et al., 2005). Therefore, B2B firms may not consider measurement to be worth the effort.

Finally, we show that a lack of resources is seen as the largest barrier to B2B digital marketing usage, a finding that partly confirms our fifth proposition. Resources were seen as inadequate in terms of human resources, time, and expertise, which have been noted as major barriers (Buehrer et al., 2005; Mehrtens et al., 2001). Contrary to our expectations, however, remarkably few B2B firms consider that digital marketing does not support their business objectives. Together, these findings indicate that there is a belief that B2B digital marketing offers opportunities to drive business outcomes, but a lack of resources restricts the B2B firms' ability to harness them. Management resistance and a lack of technical support were not perceived as significant barriers to digital marketing usage, a finding that contrasts with those of several other studies on technology adoption (Ahearne et al., 2005; Avlonitis & Panagopoulos, 2005; Marshall et al., 2000). However, this finding might relate to the fact that almost half of the respondents occupied senior management positions in their firms.

Managerial Contributions

Our study offers three suggestions to improve the use and measurement of B2B digital marketing. First, as we found that B2B firms still prefer using one-directional communications with digital tools, such as e-mail marketing and newsletters, we argue that companies should move towards more collaborative communications in the social

media era. Our suggestion is supported by literature according to which today's communications landscape is better suited to bi-directional information exchanges and interactive conversations with customers (e.g., Bernoff & Li, 2008; Mangold & Faulds, 2009; Weinberg & Pehlivan, 2011). Moreover, digital marketing content must be customer-driven, responding to customers' needs and offering solutions to their problems. For instance, customer feedback, inquiries, and frequently asked questions are good sources for the creation of relevant and interesting content that supports the customers' own business. It is noteworthy that marketing content must be available when a customer is willing to receive and respond to it, not when a firm wants to produce and communicate it. When a company is able to create relevant content for customer needs, social media tools can be effective channels to drive traffic to a company website and eventually generate leads.

Second, B2B companies should invest in acquiring human resources with the capability to utilize digital marketing tools; that might be through training or recruiting or, indeed, may involve outsourcing to expert agencies. Our study clearly shows that B2B firms lack people with expertise in the effective use of digital marketing. This is likely to be one important explanation for the minor role played by social media tools in the digital marketing mix.

Finally, B2B companies should update their knowledge with respect to marketing performance measurement and the opportunities provided by digital measurement solutions so as to be able to assess the effectiveness of digital marketing. As the findings reveal, companies do not have the requisite capabilities to measure digital marketing performance, and advances in digital measurement solutions, such as WA and SMM software, are not yet being widely exploited in B2B firms. Furthermore, it is remarkable that the findings indicated that companies have set high-priority goals connected to their digital marketing, but they do not measure the results against those goals. In line with performance

measurement literature (see, e.g., Kaplan & Norton, 1996; McCunn, 1998; Neely & Bourne, 2000), we suggest that marketing performance measurement should always start with the setting of measurable goals. Subsequently, WA and SMM can provide ways to evaluate the effectiveness of different digital marketing tools at driving traffic, increasing interactivity, and generating leads. Naturally, the digital measurement solutions should be linked with the firm's CRM system in order to form a complete picture of digital marketing effectiveness.

Limitations and Further Research

In any research project, with the benefit of hindsight, it is prudent to consider limitations and potential improvements. As the data were collected at one point in time, common method bias might be present. While attempts were made to mitigate the common method variance problem through our survey design and within the analysis, its impact could only be conclusively ruled out if data were collected from different sources or via longitudinal methods. Furthermore, although the respondents were from different firms, the sample size was relatively small ($N=145$) and geographically restricted to a single country. Future research could focus on international comparisons of digital marketing usage in B2B firms and enhance our knowledge by commissioning longitudinal investigations of B2B companies' adoption and actual use of digital marketing.

In addition, as research in this area is in its infancy, our scale development relied heavily on two literature sources, both of which used single item scales to assess the extent to which B2B firms use digital marketing and social media, and related questions. Therefore, future research should focus on multi-item scale development and the factor analysis approach to enhance knowledge in this area.

Attitudes towards technology are constantly changing in B2B firms due to consumerism and new generations entering the business. Thus, as

Michaelidou et al. (2011) suggest, future research could also examine the link between attitudes to technology and the adoption of digital marketing in B2B firms.

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