

Joel Järvinen

The Use of Digital Analytics
for Measuring and Optimizing
Digital Marketing Performance



JYVÄSKYLÄ STUDIES IN BUSINESS AND ECONOMICS 170

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for Measuring and Optimizing
Digital Marketing Performance

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ABSTRACT

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Demonstrating the monetary outcomes of marketing is no longer considered a virtue but a necessity by the top management. Marketers are increasingly held accountable for their actions, yet most marketers struggle in their attempts to measure marketing performance. The emergence of digital analytics tools (e.g., Web analytics) has raised optimism of improved measurability due to its ability to track customer behavior in the digital environment. However, research lacks a clear understanding of the opportunities and limitations of digital analytics, and what it takes from an organization to make the most of its usage. The dissertation advances the knowledge in this area by investigating how industrial companies can use digital analytics for measuring and optimizing digital marketing performance.

The primary data of this dissertation come from three case studies that examine the use of digital analytics from different angles. The first case study explores the use of digital analytics for overcoming universal marketing performance measurement challenges; the second case study investigates the organizational processes for measuring digital marketing performance through the use of digital analytics; the third case study takes a step further and studies how digital analytics data can be harnessed for optimizing digital marketing performance.

The findings confirm that digital analytics produces data that can be used for measuring and optimizing digital marketing performance but its real value is determined by an organization's ability to process the data into meaningful insights and act upon those insights to continuously improve results. Overall, the findings suggest that the greater use of digital analytics can be seen as a movement toward data-driven marketing where marketing decisions are based on information rather than experience and intuition. While demonstrating the benefits that companies may gain from the use of digital analytics, the dissertation also discusses the dangers of relying on digital analytics data that may lead organizations to maximize short-term revenue generation at the expense of long-term marketing performance.

Keywords: analytics, business-to-business marketing, case study, data-driven marketing, digitalization, marketing performance measurement, organizational perspective

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FOREWORD AND ACKNOWLEDGEMENTS

*“Now this is not the end.
It is not even the beginning of the end.
But it is, perhaps, the end of the beginning.”*
(Winston Churchill, 1942)

It was somewhere in the southern part of Africa in 2010 when I took the first steps that eventually led to my dissertation journey. I sent an email to Professor Heikki Karjaluo and expressed my interest in a salaried Master’s thesis assignment that he was offering to marketing students. In reality, I had no interest in such an assignment. I was only interested in travelling and adventuring around the world. However, I was running out of money and thus forced to return home soon. I thought that the assignment would be a great opportunity to simultaneously get some money for new adventures and finalize my Master’s degree, just in case I would need one sometime in the future. To my surprise, Professor Karjaluo responded that he knows even a better assignment for me, starting from early 2011. The response caused a complex and lengthy chain of events that ended up being probably the greatest adventure of my life and resulted in publishing this doctoral dissertation six years later.

The dissertation journey has included all the sentiments of a great adventure – from excitement to frustration and from despair to delight. There have been countless setbacks, and more than once I have been ready to give in, quit and get a new life. Yet, there is nothing more rewarding than to snatch victory from the jaws of defeat. The way I see it, however, this dissertation thesis is not a *victory* as such but a reflection of the hard work and knowledge accumulated over the last few years. *The real victory* resides in the passion for learning that I have found during this journey because that is what fosters the attainment of future victories. In line with this thought, I find that the Finnish word for graduation, *valmistuminen*, is probably the most misleading and dangerous word of the dictionary because it implies that someone is *ready*. Despite my forthcoming graduation, I want to highlight that I am not ready and I do not want to be ready. Graduation is only *the end of the beginning* and I believe that the key to success in academia (and in life) is to keep on learning and continuously develop oneself. When you hear me saying “I am ready”, it means that I am ready to retire.

There are many individuals to whom I owe my deepest gratitude for their contribution to this dissertation project. First and foremost, I would like to thank my supervisor, Professor Heikki Karjaluo, who has been the mastermind, backbone and cornerstone of this dissertation. You are the one who persuaded me to start the doctoral studies in the first place; you are the one who acquired the funding for my dissertation project; you are the one who taught me the *rules and hidden rules of academia*; you are the one who pushed me forward in moments when I was ready to give up; you are also the one who has figured out a solution whenever there has been a work-related issue that is

bothering me. In short, there would be no dissertation story to share with anyone without you, and there are no words to describe my gratitude for all the support, encouragement and friendship that you have shown me.

I would like to thank all the co-authors of mine, Professor Heikki Karjaluo-to, Professor Chanaka Jayawardhena, Aarne Töllinen, Heini Taiminen, and Elisabeth Pergler, for their significant contribution to my dissertation articles. Special thanks to Aarne from whom I learned what it means to be genuinely curious, and who managed to transmit his passion for digital marketing to me. I also want to thank you for guiding me through the early phases of my dissertation project – thanks to you, I feel I got a head start to this journey. Special thanks also to Professor Chanaka Jayawardhena who hosted me at the University of Hull (UK) and to Professor Craig Standing who hosted me at the Edith Cowan University (Australia); I had the privilege of spending three months as a visiting scholar at each university, and I am indebted to both of you for your hospitality and scholarly advice.

I was honored to get feedback on my dissertation manuscript from distinguished scholars in the field of digital marketing, Professor Jari Salo and Professor Ashish Kumar, who served as the reviewers of this dissertation. Your comments and suggestions helped me greatly to improve the final manuscript. I would also like to thank all the anonymous reviewers for their valuable comments on my dissertation articles and all the scholars who I have met in various conferences (AMA, AMS, ANZMAC, Bled eConference, DMA, EMAC and HICSS) for their feedback on my work.

I am grateful for JSBE for providing me the funding and environment that has made this dissertation project possible. In particular, I appreciate the friendly working atmosphere at JSBE, not to mention all the leisure and sports activities organized by the staff. Hence, I want to thank all of my colleagues at JSBE who make it easy for me to wake up every morning and go to work with a smile on my face.

I owe my thanks to the financial supporters of this dissertation. Besides JSBE, I am beholden to the Jenny and Antti Wihuri Foundation as well as the Foundation for Economic Education (LSR) for generously supporting my dissertation project. I am also thankful for the Finnish Funding Agency for Innovation (TEKES) and all the corporate partners involved in the DIMAR and DIGA research projects for both funding my dissertation and providing practical insights. Special thanks to all those companies and interviewees who have participated in my dissertation research. Without you there would be no data, and without data there would be no dissertation.

I owe my deepest gratitude to my family and friends. I want to thank my parents for always allowing me to make my own choices in life and supporting me with any decision that I have made. I want to thank my elder brother for serving as a perfect role model for me and my younger sister for the positive attitude and energy that you bring to our family. I am grateful for all my friends for taking my thoughts away from work. In particular, I want to thank Markus Vehniäinen, the Manager of Fyysinen Preesens (FP), as well as all the members

of FP for significantly improving the quality of my social life and making my leisure time worth remembering.

Last but definitely not least, my greatest thanks belong to my dear Anne who has kept me together through all this and with whom I have been able share all the disappointments and successes along the journey. I am truly grateful to have you in my life.

Jyväskylä, September 2016, Joel Järvinen

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DISSERTATION ARTICLES

1 INTRODUCTION

1.1 Study background and research questions

Marketing managers are under increasing pressure to demonstrate the contribution of marketing activities to their firms' bottom line (Kumar & Shah, 2009; McDonald, 2010; O'Sullivan & Abela, 2007; Rust, Ambler, Carpenter, Kumar, & Srivastava, 2004; Rust, Lemon, & Zeithaml, 2004; Seggie, Cavusgil, & Phelan, 2007; Stewart, 2009). The lack of accountability has weakened the stature of marketing within firms, and the only way to regain its influence is to show the outcomes of marketing in monetary terms to top management (Homburg, Vomberg, Enke, & Grimm, 2015; Lehmann, 2004; Verhoef & Leeflang, 2009). Research shows that the ability to measure marketing performance has a significant effect on firm performance, profitability, stock returns, top management satisfaction with marketing, and marketers' reputation within an organization (Gök, Peker, & Hacıoglu, 2015; O'Sullivan, Abela, & Hutchinson, 2009; O'Sullivan & Abela, 2007; O'Sullivan & Butler, 2010).

The academic literature has advanced knowledge in the field of marketing performance measurement (MPM) by evaluating the metrics used by firms (Ambler & Roberts, 2008; Ambler, 2000; Barwise & Farley, 2004; Hacıoglu & Gök, 2013; Li, 2011; Sampaio, Simões, Perin, & Almeida, 2011) and building theoretical frameworks that link the multifaceted marketing impacts on market outcomes, financial value, and firm performance (Morgan, Clark, & Gooner, 2002; Rust, Ambler, et al., 2004; Srivastava, Shervani, & Fahey, 1998; Stewart, 2009). Despite the theoretical progress made over the years, there is no empirical evidence that marketers' ability to measure marketing performance has significantly improved. Consequently, MPM has remained as one of the research priorities of the Marketing Science Institute (MSI) since the beginning of this century. The implication is that the theoretical knowledge on MPM is difficult to transform into marketing practice, and more research is required to understand why marketers struggle in their attempts to show their contribution to business benefits.

Another major challenge encountered by marketing managers relates to the rapid digitalization that has revolutionized the marketing landscape. The media environment has become more fragmented, and media consumption patterns have shifted toward the greater use of digital media, making it more difficult for marketers to attract customers via traditional marketing activities (Valos, Ewing, & Powell, 2010; Webster & Ksiazek, 2012). Consequently, marketers must invent more innovative ways to influence customer behavior (Court, Elzinga, Mulder, & Vetvik, 2009; Lingqvist, Plotkin, & Stanley, 2015; Valos et al., 2010). The proliferation and variety of digital media also implies that marketing managers must make arduous decisions about how to allocate their marketing efforts and budget across different media to reach optimal outcomes.

Making justified decisions in this new marketing landscape calls for the combination of creativity and analytical approaches through the use of new technologies. Digital analytics has emerged as a promising technology for tackling measurability challenges by improving the traceability of customer behavior in the digital environment (Hennig-Thurau et al., 2010) and automatizing the collection of such data (Pauwels et al., 2009). Digital analytics provides marketers with a tremendous amount of data on the effects of marketing stimuli on customer behavior, and it is therefore argued that MPM in the digital space is not so much an issue of data and measurability, but is rather dependent on a firm's ability to process the data into actionable insights (Lavalle, Lesser, Shockley, Hopkins, & Kruschwitz, 2011). Given the magnitude of this problem, surprisingly few studies have delved into the organizational processes and practices needed to support the successful use of digital analytics. Accordingly, in their most recent research priorities report, MSI (2016) called for research on how to use digital data to accurately measure the impacts of digital marketing efforts and optimize the personalized delivery of marketing content through the use of technologies.

The context of this study is *industrial marketing*¹ (i.e., Business-to-Business or B2B marketing) which refers to the marketing of goods and services to industrial markets (i.e., business markets) (American Marketing Association, 2016). In comparison to consumer markets, the industrial markets are characterized by e.g., fewer customers, more technical value propositions, different marketing tactics in use, and more complex purchasing journeys (Lilien, 2016), which have important implications to the topic of this study. In particular, the measurability challenge is magnified in industrial marketing due to the complex and time-consuming selling processes (Swani, Brown, & Milne, 2014; Webster, Malter, & Ganesan, 2005). Since a business deal is typically an outcome of extensive negotiations between the sales and purchasing teams, it is difficult to evaluate the

¹ The terms industrial marketing and B2B marketing are often considered synonyms in the literature. However, I prefer to use the term industrial marketing in this dissertation because it better describes the case study companies under investigation that primarily produce industrial products that are destined to be sold for use in producing other goods (e.g., raw materials, machines and technological equipment) rather than business services (e.g., banking or consulting services).

effect of marketing activities on the final purchasing decision and financial outcomes.

Research shows that digitalization has significantly reshaped industrial purchasing journeys. A total of 94 percent of industrial buyers conduct online research before purchasing a product (Acquity Group, 2014) and complete nearly 60% of typical purchasing process activities (e.g., researching solutions, ranking options, benchmarking pricing) before contacting a seller (Adamson, Dixon, & Toman, 2012). Gillin and Schwartzman (2011) explain that industrial buyers rely on digital media in their purchasing journeys because searching solutions online is considered more efficient. Furthermore, since industrial buyers consider other industrial buyers to be their most important source of information, they are increasingly active to seek out each other in social media – social media allows industrial buyers to find recommendations and ask questions directly from their peers to get experiential advice (Gillin & Schwartzman, 2011).

From the industrial marketers' point of view, the buyers' greater reliance on digital media provides new opportunities to increase understanding of customers' purchasing journeys and measure the effects of digital marketing activities on those journeys. This is due to the advancements of digital analytics that enables industrial marketers to collect data on customer behavior as a result of digital marketing activities at different stages of their purchasing journeys. Nevertheless, the academic research on how industrial marketers manage to harness that data for improving MPM processes remains in its infancy. Against this backdrop, the goal of this dissertation is to advance our knowledge of the industrial marketers' use of digital analytics for measuring and optimizing digital marketing performance in ways that create business benefits. In order to reach the study goal, the dissertation attempts to answer three research questions, listed in FIGURE 1.

Research questions of the dissertation:

1. To what extent can industrial marketers overcome measurability challenges through the use of digital analytics?
2. Why do some industrial organizations gain measurable business benefits from using digital analytics while others do not?
3. How do industrial marketers deploy digital analytics in the execution and optimization of digital marketing strategies and tactics?

FIGURE 1 Research questions of the dissertation

1.2 Dissertation journey

As described in the previous section, the starting point of this dissertation is the notion that marketing functions must become more accountable in terms of showing their contribution to the bottom line in the current age of rapid digitalization, which further hinders the evaluation of marketing impacts on increasingly complex customer purchasing journeys. I started to immerse myself in the topic in a research project called *Digital Marketing Communications in Industrial Companies*. One of the key priorities of the participating industrial companies was to obtain a better understanding of how to measure marketing performance in the digitized environment. At the time, I had read much business literature extolling the opportunities of digital analytics and claiming that it would revolutionize the measurability of digital marketing. Since the literature was predominantly focused on consumer industries, I was intrigued to investigate how this “revolution” was perceived by industrial companies.

In the first phase of the research process, I aimed to obtain a snapshot of the state of digital marketing and the use of digital analytics in the Finnish industrial sector. The study was conducted via a survey ($N = 145$) and covered a variety of issues, including digital marketing goals, tactics, measurement practices, and barriers. The study findings contrasted sharply with the great enthusiasm for digital marketing found in the literature. On average, digital marketing and its performance measurement were not considered important by the respondents, and very few companies were actively using digital analytics. The surveyed companies did not measure the results of digital marketing against objectives, nor had they obtained measurable benefits from digital marketing activities. I wondered whether these results were due to a lack of understanding about the opportunities afforded by digital analytics, or whether the hype surrounding digital analytics was ultimately just another marketing fad. Once I had reconciled myself to the survey results, I reanalyzed the data and found that although the results represented pessimistic views on average, there were some companies that found digital marketing highly important and had made significant efforts to measure its performance through the use of digital analytics.

In general, the survey results raised more questions than they could sufficiently answer. It was at this point that I realized that qualitative approaches would provide more insights into the key question surrounding digital analytics: How and to what extent can companies use digital analytics to overcome MPM challenges? From that point on, I decided to change the survey method to a case study approach and focus on companies that had both considered digital marketing important and devoted time and effort to measuring digital marketing performance through the use of digital analytics. Thus, the primary data in this dissertation comes from three qualitative case studies.

The first case study focused on the opportunities and limitations of using digital analytics for overcoming MPM challenges. The findings of the first case

study suggest that digital analytics improves industrial firms' ability to measure digital marketing performance; however, the opportunities it presents were found to be greater than the marketers could capitalize on. I arrived at the conclusion that the benefits gained from digital analytics are largely dependent on a firm's ability to harness the analytics tools effectively. This conclusion motivated me to examine the organizational processes and contextual factors that influence the effective use of digital analytics, which in turn led to the second case study of this dissertation.

The second case study produced insights into a number of issues that influence a firm's ability to exploit digital analytics effectively. In short, when a company manages to design and implement a meaningful measurement process and metrics framework that demonstrates the link between marketing activities and business outcomes, it is possible to show the contribution of digital marketing to business benefits. While I was pleased to find strong support for my presumptions, I simultaneously began questioning the ultimate purpose of performance measurement. While demonstrating the contribution of marketing through the use of digital analytics is an important step toward justifying the marketing expenditure, I concluded that it is only the first step. The second step is to use the measurement data for making better marketing decisions and thus optimizing marketing performance. This realization led to the third case study, which focused on the use of digital analytics for optimizing digital marketing.

In line with the previous study, the third case study investigated the organizational processes that influence the effective use of digital analytics. However, the third study was more focused on the use of data in decision making than on just measurement practices. The findings strengthened the idea that digital analytics can be used for measuring and optimizing digital marketing performance *if* the company is equipped with the sufficient capabilities, proper mindset, and necessary devotion to do so.

As many dissertation research processes can be described as linear, the point I want to make here is that this dissertation is the outcome of a highly iterative research process, and I choose to be very transparent in this regard. The research questions evolved over the course of the dissertation process, as each study I conducted provoked new ideas and prompted further research questions.

1.3 Key concepts

Marketing is conceptualized in three different ways: (1) as an organizational process (i.e., corporate-wide activities related to understanding customer needs and satisfying them profitably), (2) as a function (i.e., activities performed by marketing departments), or (3) as a budgetary element (i.e., marketing activities with visible expenditures, such as advertising and promotion) (Ambler & Roberts, 2008; Ambler, 2000). This dissertation balances between the perspectives of marketing as an organizational process and as a function. That is, the

dissertation views marketing as an organizational process conducted by the marketing function. This approach is different from the functional approach because the focus is not on the marketing activities but rather on the processes of designing, implementing, and measuring them. It is also distinct from the organizational process perspective because marketing is not investigated as a “pan-company” process where the whole company is considered responsible for marketing (Ambler, 2000), but instead as a process conducted by marketers with collaboration with other functions.

Another point I would like to clarify is that the dissertation concentrates on the processes related to marketing communications because the marketing functions of the selected case study companies were almost exclusively responsible for marketing communications; as opposed to, for example, product development, customer relationships, pricing, or distribution decisions. As a result, unless otherwise specified, (digital) marketing refers to (digital) marketing communications and related organizational processes in this dissertation.

1.3.1 Digital marketing

As of today (June 11th, 2016), the search term “digital marketing” returns roughly 22,700 results in Google Scholar.² In comparison, the search term “definition of digital marketing” returns just 45 results and “digital marketing definition” returns only nine. These numbers illustrate that there is a growing body of academic literature on digital marketing, yet very few studies have explicitly defined what is meant by the term. In most studies, the meaning of digital marketing is implicitly described in terms of certain marketing tactics and technologies or characteristics of the digital environment, but these descriptions tend to be vague and varied, with each providing a slightly different perspective on digital marketing. Even those studies that explicitly provide a definition for digital marketing tend to refer to commercial sources (see e.g., Royle & Laing, 2014; Wymbs, 2011; Zahay, 2014).

The Digital Marketing Institute defines digital marketing as “the use of digital technologies to create an integrated, targeted and measurable communication which helps to acquire and retain customers while building deeper relationships with them” (Smith, 2007). This definition suits the agenda of this dissertation particularly well as it emphasizes measurable communications through the use of digital technologies. It indicates that technologies are not only used as platforms or channels for delivering digital marketing activities, but are also applied for crafting, targeting, and measuring those activities.

Digital marketing is closely related to many other similar concepts. Probably the earliest concept that relates to digital marketing is *direct marketing*. Direct marketing emerged as a movement away from mass marketing and toward tar-

² When I first ran the test on October 29th, 2015, “digital marketing” returned 18,700 results, which indicates that the search results for digital marketing in Google Scholar have increased by 21.4% in less than eight months. At the time, “definition of digital marketing” returned 40 results and “digital marketing definition” returned nine.

geted and measurable communications (e.g., direct mail) on specific individuals or target groups. A vital part of direct marketing is the efficient use of databases that enable marketers to target customers based on their individual characteristics and behaviors as well as to measure their responses (Wymbs, 2011). Since the databases were predominantly digitized, direct marketing can be considered an early form of digital marketing.

Direct marketing was gradually replaced by the term *interactive marketing* in the academic literature in the mid-1990s, reflecting the notion that marketing was becoming more conversational (Deighton & Glazer, 1997). While direct marketing was focused on one-directional communications, interactive marketing was based on the idea that marketing communications should be two-directional, cross-channel conversations (Zahay, 2014). The strategic use of databases remained an important element of interactive marketing, but new channels emerged for conducting interactive communications. This led to the notion of multi-channel marketing; and as the Internet grew in importance, the focus of interactive marketing expanded to include marketing in digital media (Malthouse & Hofacker, 2010). The shift in terminology from direct marketing to interactive marketing is also illustrated by academic journal titles. The *Journal of Direct Marketing* became the *Journal of Interactive Marketing* in 1998. Later on, *Direct Marketing: An International Journal* also changed its name to *Journal of Research in Interactive Marketing*.

Today, interactive marketing is increasingly being replaced by the term *digital marketing*. Zahay (2014) explains that direct marketing and interactive marketing elements, such as the use of databases and the fostering of conversations, are included in the realm of digital marketing. However, digital marketing not only aims to initiate conversations but also to increase participation in them, because “the customer has, to some extent, taken control of that conversation through social media and taken control of the purchase decision by conducting research online before contacting a salesperson in the store or in a business-to-business context” (Zahay, 2014). In sum, the shift from interactive marketing to digital marketing reflects the movement toward many-to-many communications, which are increasingly initiated by customers rather than companies. The major journals dedicated to digital marketing still operate under the term interactive marketing, but it may only be a matter of time before their titles are changed to recognize digital marketing.

Other concepts related to digital marketing include *Internet/online marketing* and *electronic marketing* (i.e., *e-marketing*). While acknowledging that these concepts are often used synonymously with digital marketing, some distinctions can be made. First, the term Internet/online marketing refers only to one technology (i.e., Internet), whereas digital marketing includes an array of other technologies, including SMSs, MMSs, mobile applications, and databases that can be used without an Internet connection. E-marketing is a similar concept to digital marketing, but has become associated with electronic communications (Chaffey & Smith, 2013).

In conclusion, the selection of the term digital marketing for the purposes of this dissertation is based on its broad conceptualization, which includes the planning, implementation, and measurement of marketing via technology. The selection is further justified by evidence showing how the use of the term digital marketing has grown rapidly over recent years. FIGURE 2 illustrates the relative volume of Google search terms: “digital marketing,” “interactive marketing,” “Internet marketing,” and “e-marketing.” The graph reveals that the volume of searches on digital marketing exceeded the other competing search terms in 2013 and has become by far the most popular search term in 2016. This evidence provides support for the terminological shift toward digital marketing.

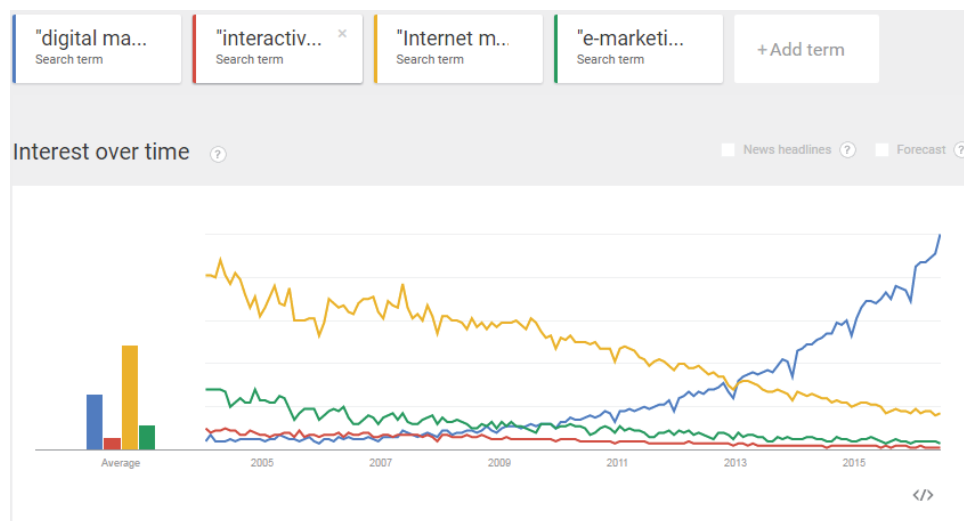


FIGURE 2 The relative volume of Google search terms: digital marketing, e-marketing, interactive marketing, and Internet marketing (as of June 11th, 2016)

1.3.2 Marketing performance measurement (MPM)

Clark and Ambler (2001) define MPM simply as the assessment of the relationship between marketing activities and business performance. Frösén, Luoma, Jaakkola, Tikkanen and Aspara (2016) provide a more elaborate definition by conceptualizing MPM as a managerial tool of setting metrics in relation to the firm’s market performance goals and evaluating performance results relative to these goals. They further suggest that market performance consists of multiple domains, such as customer attitudes, relative performance against competitors, and financial output. Indeed, it is widely agreed that MPM consists of multiple domains or dimensions. Most commonly mentioned dimensions of performance relate to efficiency and effectiveness – performance measurement is “the process of quantifying the efficiency and effectiveness of action” (Neely, Gregory, and Platts 2005, p. 1229). In a similar line of thought, Morgan et al. (2002) consider MPM as a function of the efficiency, effectiveness, and adap-

tiveness of marketing performance—and this is the approach adopted in this dissertation.

According to the definition proposed by Morgan et al. (2002), efficiency refers to productivity (i.e., marketing inputs and outputs ratio), effectiveness indicates the extent to which marketing goals and objectives are met, and adaptiveness involves the organizational ability to react to changes in a firm's environment. Distinguishing between these dimensions is important because some marketing activities may, for instance, be efficient but not effective. As an example: An email campaign can be efficient in the sense that it may generate sales revenue with limited cost, as emails are typically cheap to produce and deliver to customers; however, should customers become irritated by the emails, the campaign could ultimately become ineffective with regard to the firm's objective of improving customer loyalty. In such a case, marketers should be adaptive and attempt to seek more innovative ways of addressing customers via, for example, social media marketing. Adaptiveness is certainly difficult to operationalize, and it is therefore often omitted from discussions on marketing performance. However, one option for measuring adaptiveness is to review marketing efficiency and effectiveness against competitors over time, as it can be assumed that an organization that is able to improve marketing efficiency and effectiveness more than its competitors is also successful in adapting marketing operations to environmental changes. Further discussion on the origins of MPM can be found in Chapter 3.

Notably, this dissertation focuses on digital marketing performance measurement by which I simply refer to performance measurement of digital marketing activities (e.g., email marketing, digital advertising, search engine marketing, and social media marketing). Digital marketing performance measurement is facilitated by digital analytics that is discussed next.

1.3.3 Digital analytics

The roots of digital analytics lie in the concept of Web analytics. Web analytics is defined as the "measurement, collection, analysis and reporting of Internet data for the purposes of understanding and optimizing Web usage" (Web Analytics Association, 2008, p. 3). In line with this definition, one of the most influential Web analytics experts, Avinash Kaushik (2010, p. 5), defined the concept as "the analysis of qualitative and quantitative data from your website and the competition to drive a continual improvement of the online experience that your customers and potential customers have, which translates to your desired outcomes (both online and offline)."

Web analytics has served as an umbrella term for measuring, analyzing, and optimizing digital data for business purposes. In recent years, however, the use of the term has been increasingly criticized due to its strong association with "website analytics", which does not adequately take into account other digital media (e.g., social media, search engines, and mobile applications) (Chaffey & Patron, 2012). As a result, Web analytics has been gradually replaced by digital analytics as the overarching term because the latter includes

the collection and use of digital data from all digital media. For example, the Web Analytics Association changed its name to the Digital Analytics Association in 2012. Nevertheless, Web analytics remains a core tool of digital analytics.

Another closely-related term is marketing analytics that refers to a technology-enabled approach to harness customer and market data to enhance marketing decision making (Germann, Lilien, & Rangaswamy, 2013; Lilien, 2011). Judging from this definition, marketing analytics and digital analytics could be considered synonyms because both are technology-enabled approaches to make better marketing decisions through the use of data. The difference is that digital analytics primarily focuses on behavioral data derived from digital media. Another reason for the selection of digital analytics as the core term of this dissertation is that certain tools and software are commonly referred to as *digital analytics tools* that this study focuses on.

For the purposes of this dissertation, digital analytics refers to the collection and deployment of digital data for measuring and optimizing digital marketing performance. Various types of digital analytics tools and software fit this description, but I concentrate on those that the case study companies included in this dissertation are actively using: Web analytics, social media monitoring, and marketing automation. These tools are introduced in Section 2.4.

1.4 Outline of the dissertation

The dissertation is divided into two parts (TABLE 1); the latter part consists of four previously published articles regarding the study topic, while the first part broadens the theoretical and methodological discussions of the published articles and synthesizes their key messages.

Part 1: The next two chapters review the existing literature related to the dissertation topic. Specifically, Chapter 2 presents the major changes that digitalization has induced on customers' media consumption habits, communications patterns, and purchasing journeys, and discusses their implications for digital marketing strategies, tactics, and the use of digital analytics. Chapter 3 reviews the challenges of MPM and discusses how these challenges may appear in the use of digital analytics. Chapter 4 is devoted to methodological considerations. In this chapter, I explain why and how critical realism, the case study method, and abductive logic were selected to guide the dissertation project. In Chapter 5, I provide a detailed description of the research process conducted in the dissertation articles and summarize their main findings. Chapter 6 presents the results of the dissertation in relation to the research questions, discusses their theoretical contributions, and offers recommendations for managers on how to make the most of digital analytics usage. Finally, I evaluate the quality of the study and make suggestions for future research areas.

TABLE 1 Outline of the dissertation

Part 1	
Introduction (Chapter 1)	Presents the study motivation, research questions, and key concepts of the dissertation.
Literature review (Chapters 2 & 3)	Literature review is divided into two chapters: <ul style="list-style-type: none"> Chapter 2 reviews the effects of digitalization on customer behavior and their implications for digital marketing strategies and tactics. Chapter 3 reviews the challenges of marketing performance measurement and discusses their implications for the use of digital analytics.
Methodology (Chapter 4)	Explains and justifies the use of the critical realist research paradigm, case research strategy, and abductive logic in this dissertation.
Summary of dissertation articles (Chapter 5)	Provides a transparent description of the research process conducted in each dissertation article and summarizes their main results.
Discussion (Chapter 6)	Presents the key findings in relation to the research questions, discusses their contributions, evaluates the quality of the study, and provides avenues for future research.
Part 2	
Dissertation articles	Previously published articles.

Part 2: The previously published articles are presented in TABLE 2. Since all of the articles are co-authored, I should briefly clarify my personal role and responsibilities in each article. Overall, I am the corresponding author in all of the articles, and my contribution to each of them varies between approximately 60–90% of the final outcome. The co-authors of the articles include my thesis supervisor (Professor Heikki Karjaluoto), research colleagues from Jyväskylä University School of Business and Economics (Aarne Töllinen and Dr. Heini Taiminen) and fellow researchers from other institutions (Professor Chanaka Jayawardhena, University of Hull and Elisabeth Pergler (previously Platzer), Evolaris Next Level GmbH).

Article 1: I designed the study and wrote most of the content, while the data collection and analysis were conducted by my co-authors, who also gave me valuable guidance throughout the research process (personal contribution ca. 60%).

Article 2: I designed the study, collected over 70% of the data, and was fully responsible for analyzing the data and writing the manuscript. My co-authors contributed to the data collection and gave valuable comments on structuring the paper (personal contribution ca. 80%).

Article 3: I was responsible for designing the study, collecting and analyzing the data, and writing the manuscript. My co-author gave me feedback on

how to improve the paper, edited the manuscript before submission, and helped me to design the figures and tables (personal contribution ca. 90%).

Article 4: The article was designed and conducted in close collaboration with my co-author. I was primarily responsible for data collection, analysis, and the writing of the manuscript, but all decisions were made in collaboration with the co-author (personal contribution ca. 70%).

TABLE 2 Dissertation articles

Title	Authors	Publication outlet	Study focus	Related research questions
Digital and social media marketing usage in B2B industrial section	Järvinen, J., Töllinen, A., Karjaluoto, H., & Jayawardhena, C.	Marketing Management Journal (2012)	The state of digital marketing in the industrial sector	Overview
Web analytics and social media monitoring in industrial marketing – tools for improving marketing communication measurement	Järvinen, J., Töllinen, A., Karjaluoto, H., & Platzer, E.	Proceedings of the 41st Academy of Marketing Science Annual Conference (2012)	The use of digital analytics for overcoming measurability challenges in marketing	Research question 1
The use of Web analytics for digital marketing performance measurement	Järvinen, J., & Karjaluoto, H.	Industrial Marketing Management (2015)	Organizational issues in the use of digital analytics for measuring digital marketing performance	Research question 2
Harnessing marketing automation for B2B content marketing	Järvinen, J., & Taiminen, H.	Industrial Marketing Management (2016)	The use of digital analytics for optimizing digital marketing performance	Research question 3

2 DIGITAL MARKETING IN THE INDUSTRIAL CONTEXT

The following two chapters review the literature related to the conceptual framework of this dissertation (FIGURE 3).

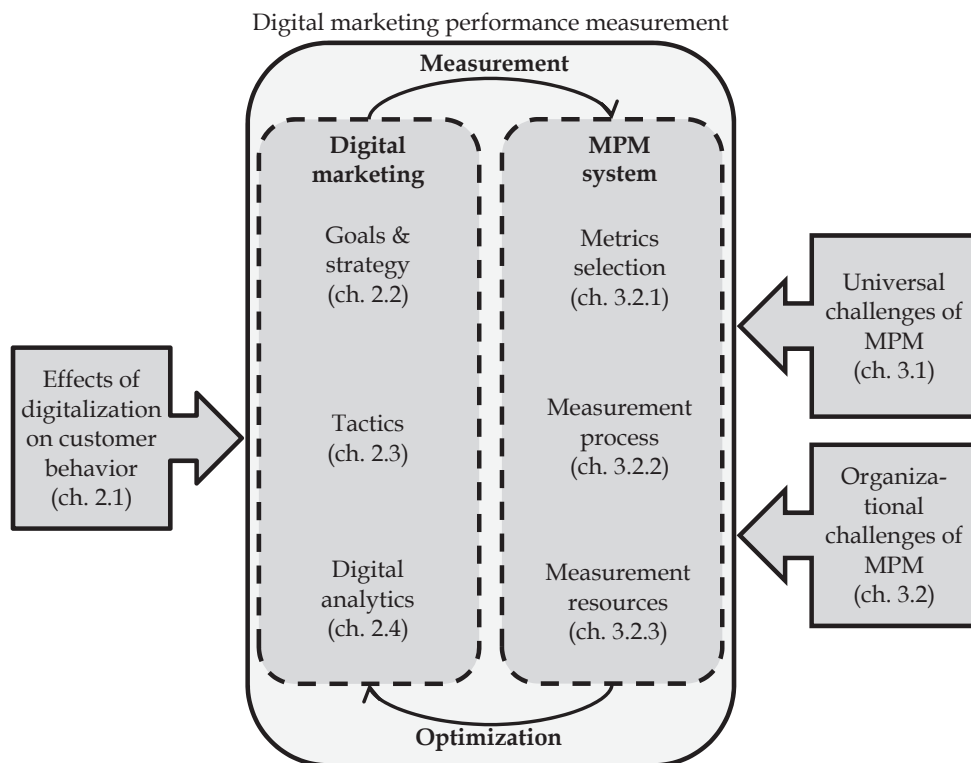


FIGURE 3 Conceptual framework of the dissertation

The conceptual framework integrates multiple theoretical streams under a unified model. The framework starts with the widely accepted notion that digitali-

zation has caused major changes in customer behavior with respect to media consumption habits, communications patterns, and purchasing journeys (Court et al., 2009; Hennig-Thurau et al., 2010; Hoffman & Novak, 1996; Yadav, de Valck, Hennig-Thurau, Hoffman, & Spann, 2013). These changes have encouraged marketers to change their strategies and tactics (Deighton & Kornfeld, 2009; Mangold & Faulds, 2009; Valos et al., 2010) and provided new opportunities to collect data on customer behavior and measure marketing performance through the use of digital analytics (Hennig-Thurau et al., 2010; Phippen, Sheppard, & Furnell, 2004; Wilson, 2010). However, measuring marketing performance is hindered by the universal and organizational challenges of MPM (Morgan et al., 2002; Pavlou & Stewart, 2000; Rust, Ambler, et al., 2004). It is currently unclear to what extent digital analytics may help organizations to overcome MPM challenges, but it is proposed that the effective use of digital analytics requires an actionable MPM system equipped with carefully selected metrics, well-designed processes and relevant resources, which is used for refining the data into measurement results that inform corrective actions (Chaffey & Patron, 2012; Lavallo et al., 2011).

Notably, the central box of the framework is depicted as a loop indicating that digital marketing performance measurement is a continuous process – the performance of digital marketing activities is measured against the selected metrics, and the measurement results are exploited to reshaping the activities and inventing new ones (i.e., optimization). The optimization initiates a new loop in the framework as the reshaped and newly invented activities are subsequently measured, and the measurement results are again harnessed for new optimization efforts. Each element of the theoretical framework is discussed in detail in the following sections. Although the framework is considered applicable across industries, the details within its elements vary from context to context. Since the focus of this dissertation is industrial marketing, I try to highlight the special characteristics of the framework in the industrial marketing context.

2.1 The effects of digitalization on customer behavior

Advances in information technology (IT) and the emergence of new innovations have changed customer behavior and marketing practices. Some of the most radical innovations enabled by IT include the Internet, World Wide Web, websites, search engines, email platforms, social media platforms, and mobile devices. These innovations have increased the volume and accessibility of digital information by making it ubiquitous (i.e., information can be accessed anywhere at any time), and have fostered the fast and smooth exchange of information between people and organizations via digital communication channels (Kozinets, de Valck, Wojnicki, & Wilner, 2010; Leeftang, Verhoef, Dahlström, & Freundt, 2014; You, Vadakkepatt, & Joshi, 2015). As a result, customer behavior has radically changed in terms of media consumption habits, communications

patterns, and purchasing journeys (FIGURE 4). Each of these changes is discussed below, along with their implications for marketing.

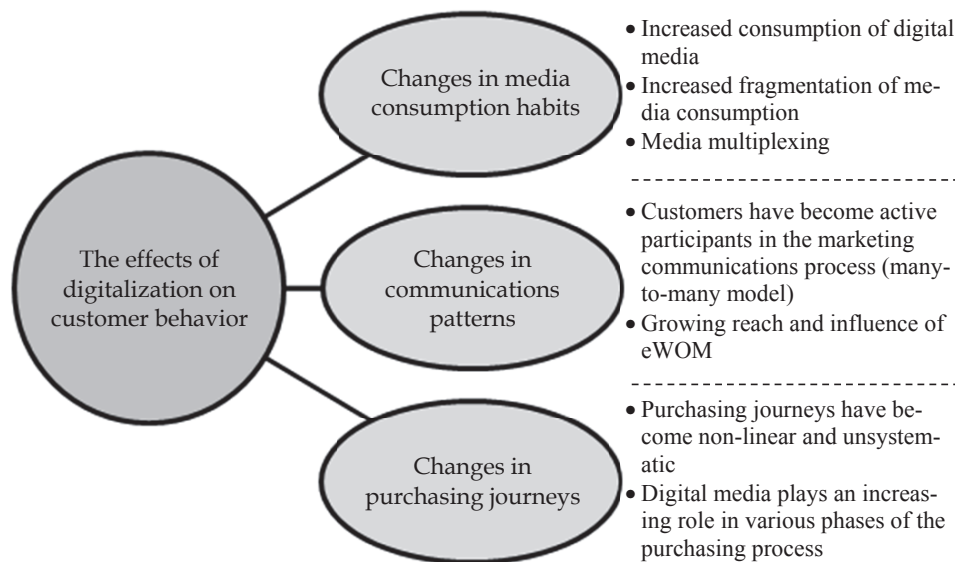


FIGURE 4 Changes in customer behavior (based on Chapters 2.1.1-2.1.3)

2.1.1 Changes in media consumption habits

The Internet has become the most important medium, with 3.2 billion users worldwide (BBC, 2015). People use the Internet as their primary source for acquiring information; an average of 3 billion Google searches are conducted every day (Sullivan, 2015). Moreover, the Internet has become an important forum for social interaction due to the proliferation of social media platforms. A survey conducted by GlobalWebIndex ($N = 170,000$) shows that an average Internet user spends 2.53 hours daily on social media platforms, which represents 41% of the average Internet user's overall digital media consumption (Bennett, 2015). Notably, people do not just consume content on these media, but actively create content as well. In one hour, 67,000 photos are uploaded on Instagram, 433,000 tweets are posted, and 306 hours of video content are uploaded on YouTube (Hutchins, 2015). These figures demonstrate the indisputable fact that patterns of media consumption have drastically changed.

General opinion claims that the rise of new technologies has shifted media consumption from traditional outlets to digital media and, as a result, traditional media are on the edge of extinction. However, these populist views provide an inaccurate description of the changes that have occurred in media consumption. Palmer, Pearson, Peart and Wang (2014) estimated that the average time spent on media by U.S. adults has increased by 15.8% in the last five years (from 10 hours and 46 minutes in 2010 to 12 hours and 28 minutes in 2014). During that time, the consumption of traditional media (TV, radio, and print)

decreased by 5.6%, while the consumption of digital media increased by 81%. Notably, the growth in digital media consumption has been driven by the greater use of mobile media, which has experienced a seven-fold increase in just five years, accounting for around 50% of all digital media consumption. Altogether, the report found that as of 2014, digital media accounts for the greatest share of total media consumption (46.3%), followed by TV (36.6%), radio (11.8%), and print (3.5%). These figures demonstrate that digital media has dramatically increased total media consumption; from the traditional media's point of view, however, the situation is less dramatic than often claimed – digital media has complemented rather than substituted traditional media.

The emergence of digital media has not only increased the total consumption of media but has also increased the consumption of multiple media simultaneously (Liaukonyte, Teixeira, & Wilbur, 2015; Mulhern, 2009; Pynta et al., 2014; Robertshaw, 2012). This phenomenon has become known as *media multiplexing* (Lin, Venkataraman, & Jap, 2013). Over ten years ago, a survey study conducted by Pilotta, Schultz, Drenik, and Rist (2004) showed that 26.5% of people regularly go online while watching TV. Since the advent of mobile devices, this behavior has become much more widespread, with industry reports showing that 82–87% of individuals use second-screen devices (i.e., laptops, tablets, and smartphones) simultaneously while watching TV (Mann et al., 2015; Nielsen, 2014; Pearce, 2014). Although these reports do not specify how often multiplexing occurs, the findings suggest that media consumption is not isolated. Notably, Lin et al. (2013) found that the multiplexing of digital and traditional media increases the time spent on traditional media. This finding corroborates the idea that digital media play a complementary rather than substitutionary role in media consumption patterns. However, research has yet to show to what extent multiplexing affects attention to and engagement in various media when they are being used synchronously.

Firms' media budgets lag behind changes in media consumption. Despite the continuous increase in the consumption of digital media, the allocation of firms' media budgets has remained relatively static (Danaher & Dagger, 2013; Danaher & Rossiter, 2011; Draganska, Hartmann, & Stanglein, 2014). While 23.3% of individuals' media time is spent on mobile devices, only 11.4% of the average media budget is allocated to mobile media; the equivalent percentages for radio consumption and media budget are 3.5% and 19.0%, respectively (Palmer et al., 2014). There are a number of potential reasons for the disproportionately low investment in digital and mobile media. First, advertisers want proof of the effectiveness of new media before making major shifts in their media mixes (Fulgoni & Lipsman, 2014). This tendency is understandable in terms of risk management, but by doing so marketers lose the competitive advantage they could gain by investing in new media outlets.

Second, advertisers are known to favor mass media because it is considered the best channel for building brands. However, a recent study showed that when pre-existing brand knowledge is controlled, Internet ads perform on par with television ads in terms of brand recall lift (Draganska et al., 2014). Thus,

the superiority of mass media as a vehicle for building brands may be an illusion. Third, the digital media landscape is much more fragmented than traditional media (Webster & Ksiazek, 2012), which complicates media budget allocation decisions. Marketers believe that media fragmentation is making mass marketing less efficient but have difficulty finding the right channels and ways to reach and influence customers in digital media (Valos et al., 2010). Digital media, especially social media, requires more interactive, conversational approaches to communications (Constantinides & Fountain, 2008; Culnan, McHugh, & Zubillaga, 2010; Ozuem, Howell, & Lancaster, 2008; Schultz & Peltier, 2013; Weinberg & Pehlivan, 2011). Therefore, marketers should understand the dynamics of the new communications landscape before making radical budget allocation shifts from traditional to digital media.

The existing research is highly focused on consumers' media consumption, while much less is known how industrial customers use media as part of their workflow at the digital age. The dearth of research on this topic is somewhat surprising given that industrial customers have traditionally been forced to rely on different media compared to consumers. Instead of mass media advertising, industrial marketers have invested in industry trade shows, direct mail campaigns, print publications, brochures, telemarketing and personal selling to target their audiences (Bodnar & Cohen, 2012). Many of these tactics have taken digital formats over the years. For example, direct mail campaigns are more typically delivered via email, print publications and brochures can be downloaded on company websites, and digital pictures, videos and webinars are deployed to exhibit new products, similarly to trade shows. It is currently known that digitalization has significantly reshaped industrial customers' purchasing journeys (see Section 2.1.3). While the greater use of digital media as part of purchasing processes is likely to reflect changes in how industrial customers generally consume media, it is not known how media consumption has changed in situations where customers are not actively engaged in buying-related activities. For example, it remains unclear if industrial customers spend less time for reading industry magazines.

2.1.2 Changes in communications patterns

The discussion about the changing communications landscape has accelerated with the emergence of social media, but the phenomenon has been known in the literature for some time. In the mid-1990s, Hoffman and Novak (1996, p. 53) envisioned how the communications landscape would evolve into *hypermedia computer-mediated environments* defined as: "a dynamic distributed network, potentially global in scope, together with associated hardware and software for accessing the network which enables consumers and firms to (1) provide and interactively access hypermedia content (i.e., 'machine interactivity') and (2) communicate through the medium (i.e., 'person interactivity')."

Although Hoffman and Novak (1996) did not use the term *social media* in their article, they did describe the logic of social media and its implications for marketing communications: They outlined the shift from one-to-many commu-

nications (i.e., mass communications) toward many-to-many communications, in which both buyers and sellers actively participate in interactive conversations through digital media. They argued that many-to-many communications models would make one-to-many marketing communications (e.g., television advertising) approaches ineffective, because the latter assumes that customers are passive receivers of marketing messages. Hoffman and Novak believed that customers were becoming active participants in the marketing communications process by creating and sharing content together with marketers. Moreover, they predicted that the balance of power over marketplace would shift from marketers to customers, because marketers would no longer be able to control which marketing messages customers consume and share. The marketers would therefore have to adapt to this change by adopting the role of conversation participant rather than broadcaster.

Today, the radical ideas of Hoffman and Novak (1996) have become reality. One-to-many communications have not become extinct, but mass media advertising has declined in value for advertisers and firms are increasingly shifting their advertising budgets from traditional to digital media (Bellman et al., 2013). Furthermore, the power of direct marketing (i.e., one-to-one communications) has been called into question since it contradicts the consumer empowerment paradigm whereby marketers are being talked to rather than talking (Deighton & Kornfeld, 2009). However, direct marketing has assumed more advanced forms in digital media that allow for the personalization and behavioral targeting of marketing messages; a transition that has been found to improve the efficiency of direct marketing (Ansari & Mela, 2003; Chen & Stallaert, 2014).

The proliferation of many-to-many communications is evident in the expanding volume of expressions of opinion related to companies, brands, products, and services in digital media. These expressions are commonly referred to as electronic word-of-mouth (eWOM) (Hennig-Thurau, Gwinner, Walsh, & Gremler, 2004) or user-generated content (UGC), although UGC can be considered a broader term since it also includes content unrelated to companies or their products (Kaplan & Haenlein, 2010). In the era of social media, anyone can share eWOM in the form of text, pictures, and videos regardless of time and place and without monetary cost or formal acceptance by any institution (e.g., publishers) (Hennig-Thurau et al., 2010). In practical terms, this means that customers have almost unlimited opportunities to express their opinions regarding specific companies or their offerings via digital platforms, including social networking services, blogs, online communities, discussion forums, and product review sites.

In comparison to traditional WOM that occurs in a face-to-face or one-to-one context, eWOM can theoretically be shared among a global network of Internet users who do not necessarily know each other (Duan, Gu, & Whinston, 2008a; Godes & Mayzlin, 2004). Moreover, for the foreseeable future, eWOM remains available "on-demand" to people seeking information about products and services (Hennig-Thurau et al., 2010). In other words, the volume and reach

of WOM are enhanced by digital media as eWOM senders and receivers have considerably more options for sharing and consuming opinions in comparison to traditional WOM (King, Racherla, & Bush, 2014; Liu, 2006). The importance of eWOM is magnified by the notion that people are remarkably eager to express their opinions about products. For example, 19% of Twitter posts contain a mention of a brand, and 20% of these posts contain an expression evoking a positive or negative sentiment toward it (Jansen, Zhang, Sobel, & Chowdury, 2009).

The new communications landscape characterized by many-to-many communications and the proliferation of eWOM requires companies to become more transparent in their operations. The information asymmetry between sellers and buyers is decreasing due to the buyers' opportunity to search and learn about a specific product or service from other people before they make an actual purchase decision (Varadarajan & Yadav, 2002). While buyers have traditionally been forced to rely on marketing messages, promises by sales persons, and occasional face-to-face WOM, buyers in digital media can obtain a vast amount of information, opinions, and user experiences about almost any product. This increased transparency suggests that it is becoming harder to delude customers with false promises, and that "over-promising and under-delivering" is becoming an ineffective strategy since negative customer experiences are being effortlessly shared across the global network of potential customers. Summarily, firms need to take into account that customers are part of the marketing communications process and that they can no longer control the messages and opinions received by customers (Pavlou & Stewart, 2000). Therefore, marketers who adopt more participatory, honest, and egalitarian communications styles will be rewarded (Deighton & Kornfeld, 2009). Probably the best way to succeed in the new communications landscape is to deliver greater value for customers. However, considering that the firms' use of traditional media is still prevalent, marketers must consider the roles and interplay between traditional one-to-many communications and many-to-many communications. One option is to attract customers via traditional marketing to digital channels through which they can deepen customer relationships by fostering interaction and engagement to the company.

Industrial firms have been much slower to acknowledge the characteristics of the new communications landscape in comparison to Business-to-Consumers (i.e., B2C) firms, which is characterized by significantly slower adoption rate of social media tools (Michaelidou, Siamagka, & Christodoulides, 2011). Indeed, many industrial firms are still of the opinion that social media is only useful in the B2C sector as they contend with issues of productivity, resources, information security and privacy (Jussila, Kärkkäinen, & Aramo-Immonen, 2014). However, multiple authors consider that social media tools are equally or even better suited to industrial marketing than to consumer marketing (Kho, 2008; Siamagka, Christodoulides, Michaelidou, & Valvi, 2015). Industrial marketing is all about relationships, trust, and credibility. Thus, participating in open communications with prospective and existing customers may significantly con-

tribute to these aspects (Bodnar & Cohen, 2012; Kho, 2008). For example, helping customers to solve their problems through social media conversations is an effective way to strengthen relationships and building image of great customer care.

While there is a nascent body of literature examining the adoption and use of social media marketing tactics by industrial firms (Huotari, Ulkuniemi, Saraniemi, & Mäläskä, 2015; Jussila et al., 2014; Katona & Sarvary, 2014; Lehtimäki, Salo, Hiltula, & Lankinen, 2009; Michaelidou et al., 2011; Schultz, Schwepker, & Good, 2012; Siamagka et al., 2015), very few studies take the customers' point of view and examine the extent to which industrial customers harness social media and eWOM in their daily work. Backed up by numerous commercial research reports, Gillin and Schwartzman (2011) state that industrial buyers actively seek out others like them and join industry discussions to get honest advice and recommendations. Keinänen and Kuivalainen (2015) investigate the antecedents of industrial customers' social media usage and find that private social media usage has the largest effect on the use of social media for work-related activities (e.g., following online discussions in business communities and reading blogs). The finding suggests that people follow similar behavioral models when they act as private or business persons. This *consumerization* of industrial customer behavior implies that the changing communications landscape is likely to affect industrial marketing just as much as it does consumer marketing. To the best of my knowledge, however, the study by Keinänen and Kuivalainen (2015) is the first academic study on this subject, and more research is needed to increase our understanding of the changing communications patterns in the industrial sector.

2.1.3 Changes in purchasing journeys

A purchasing journey has been traditionally understood as a linear process in which customers initially consider a set of brands before systematically narrowing them down at each phase of the decision-making process, but this assumption has encountered increasing criticism at the age of digital media. According to a McKinsey study conducted by Court et al. (2009), the new journey involves a continuous loop in which customers add and delete competing alternatives in an iterative way throughout the decision-making process, after reading eWOM and interacting with fellow customers via social media. Furthermore, customers may go back and forth between the purchasing decision phases in unsystematic ways that are difficult to predict. While acknowledging that the phases of the modern purchasing journey are elusive, the purchasing journey is divided here in four phases (FIGURE 5): need recognition, pre-purchase activities, purchase decision, and post-purchase activities (Yadav et al., 2013), all of which are influenced by digital media.

In the need recognition phase, a customer realizes a need or problem by an internal signal (e.g., hunger) or an external signal (e.g., an advertisement) (Yadav et al., 2013). In digital media, external signals can be triggered by a marketing stimulus (e.g., a display ad); but in addition, a customer may accidental-

ly encounter eWOM that makes him or her aware of a new need (You et al., 2015). For example, an industrial buyer may experience the need to hire a new advertising agency based on a recommendation posted on LinkedIn by a knowledgeable acquaintance. Clearly, for a purchasing decision process to proceed, a customer must become aware of a need, and the exponential increase of eWOM is driving such an awareness (Duan, Gu, & Whinston, 2008b).

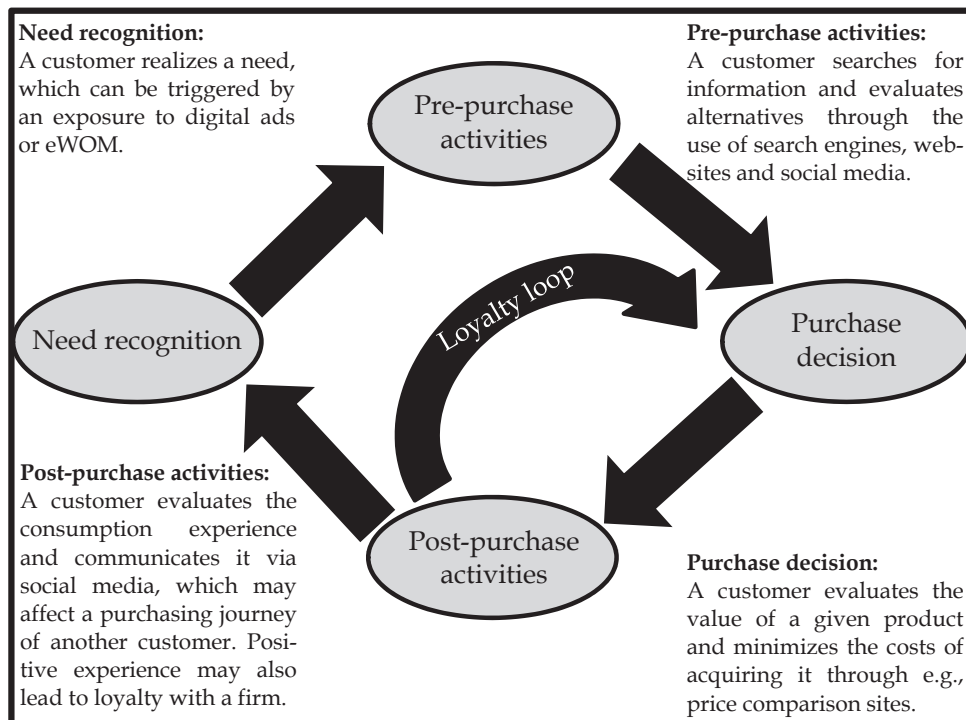


FIGURE 5 The effects of digital media on customer purchasing journeys (adapted from Court et al., 2009; Yadav et al., 2013)

In the pre-purchase phase, a customer searches for information and evaluates alternative options that could meet the need (Yadav et al., 2013). In a global survey study conducted by PwC (2015), 56% of the respondents ($N = 19,000$) indicated that the first thing they do when researching a purchase is to use a search engine. A total of 94% of Internet users harness digital media (i.e., search engines, brand websites, product review sites, discussion forums, and social media) for searching for information about products before making a purchase decision (Vogt & Alldredge, 2012). One explanation for the active use of digital media in the pre-purchase phase is that the Internet provides customers with peer reviews and recommendations that they consider to be more trustworthy than traditional product information produced by marketers (Foux, 2006; Godes & Mayzlin, 2004; Kozinets et al., 2010; Mangold & Faulds, 2009). Unlike marketers, fellow customers are not expected to deceive their peers but to instead provide helpful information for making better purchasing decisions (Moran,

Muzellec, & Nolan, 2014). Research shows that online consumer reviews have a strong influence on product choices (Senecal & Nantel, 2004) and sales revenue (Floyd, Freling, Alhoqail, Cho, & Freling, 2014; Liu, 2006; Zhu & Zhang, 2010). Some findings suggest that peer recommendations are even more influential in customers' decision making than expert recommendations (Huang & Chen, 2006). E-retailers have understood the power of peer reviews and have been quick to implement customer review systems on their websites to encourage buyers to rate the products they have purchased.

In the purchase decision phase, customers select which product to buy, where to buy it, and when (Yadav et al., 2013). It is also during this phase that customers compare the expected benefits and costs (i.e., money, time, energy, and risks) of acquiring a given product (Murphy & Enis, 1986). After searching for information and evaluating alternative options, customers presumably narrow down their final consideration set to a few competing products. At this point, customers may use digital media to ensure they are getting the best value from their purchase decision. In particular, digital media enables customers to minimize the costs of acquiring a product. The proliferation of price comparison sites illustrates this phenomenon. Research shows that the use of price comparison sites increases customers' price sensitivity by influencing their perceptions of internal reference prices (Jung, Cho, & Lee, 2014). In addition, sharing information about good deals and discounts via social media enables customers to make better purchasing decisions (Hinz & Spann, 2008; Yadav et al., 2013). Importantly, despite the increasing amount and availability of online information, research indicates that a large proportion of customers do not exhibit rational decision making and consequently make suboptimal buying decisions (Häubl, Dellaert, & Donkers, 2010; Spann & Tellis, 2006).

In the post-purchase phase, customers evaluate their satisfaction with a given purchase decision by comparing their perceived consumption experience with their pre-purchase expectations (Churchill & Surprenant, 1982). Customers may then communicate their satisfaction or dissatisfaction to others via product review sites, blogs, social networking services, or other types of digital media (Hennig-Thurau et al., 2004; Yadav et al., 2013). The motivations behind customers' decisions to share experiences through digital media include receiving support for one's own purchase decision and gaining social or identity benefits associated with a purchase; however, pure altruism is also a factor, as many people are genuinely willing to help other customers make good purchasing decisions (Moran et al., 2014; Yadav et al., 2013). While the post-purchase sharing of eWOM can be considered the final phase of a customer's purchase journey, it may simultaneously initiate or affect the purchase decision processes of other customers. Moreover, the purchase journey does not necessarily end with a single expression of eWOM, as a customer may remain actively engaged with discussions related to a product or brand that may subsequently affect his or her future purchases (i.e., loyalty loop).

The existing research is highly focused on consumer purchasing journeys, while knowledge about the effects of digital media on industrial buying pro-

cesses remains limited. This is a significant pitfall in the literature considering that industrial purchasing processes differ in many ways from consumer industries. Swani et al. (2014) explained that since industrial offerings tend to be more technical and complex, purchasing processes are longer, follow more formal procedures and rational discourses, and involve many decision makers. Furthermore, major industrial purchasing decisions, such as investments in production tools and machinery, are characterized by high economic risks. Besides monetary expenditures, industrial procurements are utilized for business activities and thus influence business performance. To mitigate the risks, industrial buyers often aim to build long-term collaborative relationships with sellers rather than seeking affordable deals (Bunduchi, 2008; Hunter, Kasouf, Celuch, & Curry, 2004; Johnsen & Ford, 2007).

The relationship-orientation between industrial buyers and sellers is often used as an argument against the importance of digital media in the industrial sector, as such relationships are typically maintained via interpersonal ties. However, recent literature points in the opposite direction, suggesting that the role of digital media is equally important in industrial purchasing processes (Lingqvist et al., 2015; Wiersema, 2013). Indeed, despite the unique characteristics of industrial buying processes, there are indications of a greater convergence between industrial and consumer purchasing journeys. Wind (2006) argued that the lines between industrial marketing and consumer marketing have become blurred due to the advancements of IT. Examples include digital marketplaces (e.g., eBay) that facilitate multi-directional transactions between consumers (C2C), between businesses and customers (B2C or C2B), and among companies (B2B), as well as the growing importance of peer-to-peer interactions and recommendations in the industrial sector similar to eWOM in consumer industries.

Along the same line of thought, Lingqvist et al. (2015) discussed the consumerization of industrial buying by proposing that equal to consumer industries, the industrial purchasing journey is becoming less linear as industrial customers research, evaluate, and share experiences about products in digital media. According to their findings, the industrial purchasing process is being transformed in multiple ways as a result of digitization. First, industrial customers typically use six different digital channels throughout the purchasing journey and require real-time interactions supported by digital tools, such as product configurators and price calculators. Second, the purchasing process is becoming more social as industrial customers are exposed to the same dynamics of peer-to-peer networks and opinions that are known to influence consumer decision making. Third, industrial buyers use increasingly cross-functional teams to examine competing alternatives. The implication of this trend is that the number of influencers in the purchasing decision unit is growing and the role of interpersonal relationships in purchasing decisions is diminishing because only some of the team members have personal ties with the seller. Thus, researching and evaluating alternative suppliers relies largely on digital sources,

and subsequently, two-thirds of sales deals are lost before a formal request for a quotation is made (Lingqvist et al., 2015).

Considering the oft-heard claim that industrial purchasing decisions are more rational than consumer purchasing decisions, it would be logical to argue that the Internet should have a greater impact on industrial purchasing processes because it provides unprecedented opportunities to collect and use “rational” information to support purchasing decisions. Recent findings corroborate this argument. A CEB study of more than 1400 industrial buyers found that customers rely heavily on online information sources and complete nearly 60% of typical purchasing process activities (e.g., researching solutions, ranking options, benchmarking pricing) before contacting a seller (Adamson et al., 2012). According to a State of B2B Procurement Study by Acquity Group (2014), over 30% of industrial buyers in the U.S. conduct online research before making almost any purchasing decision (90% or more of the decisions).

A growing number of industrial marketers are starting to realize the vital role that digital media plays in purchasing decisions. A B2B Leadership Board study that interviewed 72 executives of 61 corporations from various fields reported that the most commonly mentioned technology-related topic was related to the implications of IT on customers’ buying behaviors (Wiersema, 2013). The interviewed executives realized that customers rely much more on the Internet than traditional sources (e.g., trade shows and catalogs) to make informed decisions. Customers are becoming more empowered as digital media increasingly provides them with easy access to information about various suppliers’ offerings and other buyers’ experiences. The role of eWOM is now becoming more prominent in the industrial sector, as described by one CMO: “We see web-based ‘power evangelists’ emerging. The people can have very considerable influence, yet with social media we have no message control. So we are monitoring chat rooms and blogs, to be aware of what they say about us” (Wiersema, 2013, pp. 476-477).

The greater role of digital media on industrial customer purchasing journeys provides new opportunities for industrial marketers. For example, blogging may be an effective way to show subject matter expertise and tell customers how to make the most of firm products. Brand communities are particularly apt to many-to-many communications where customers may express their concerns and problems with a firm’s products and firm representatives can solve them (Lehtimäki et al., 2009). In an ideal case, customers who have faced similar issues may answer questions of other customers. Participating in social networking groups (e.g., LinkedIn groups) that are specific to certain industries or themes allow industrial firms to foster dialogue between the firm and potential customers, which may be a good way to acquire new sales leads (Bodnar & Cohen, 2012). Digital marketplaces in the industrial context (e.g., Alibaba) in which many buying and selling firms access a given Web site or platform is another way to facilitate transactions and find new customers and increase sales (Janita & Miranda, 2013).

To conclude, although current research is mainly focused on the impact of digital media on consumer purchasing journeys, a growing body of literature suggests that the same phenomenon applies to industrial buying processes. Substantial deals continue to depend on face-to-face negotiations for closure, but digital media plays a significant role in the phases both preceding and following the moment of purchase. That said, beyond the notions that the phases of customer purchasing journeys are iterative and customers use both digital and non-digital channels in various ways on those journeys (Court et al., 2009; Lingqvist et al., 2015; Yadav et al., 2013), the conceptual and empirical understanding of the phenomenon remains limited. In particular, not much can be generalized in light of existing knowledge as it seems that a customer's path to purchase is dependent on a number of factors, such as industry and product type, competitive environment, customer characteristics, urgency of customer needs, and marketing activities exposed by a customer. Any research that brings more light into the complex customer decision making processes would be welcome to increase our understanding of customer behavior at the digital age.

2.2 Digital marketing goals and strategic trends

Digital marketing strategies, tactics, and performance metrics should be based on marketing goals (Krishnamurthy, 2006; Miller & Cioffi, 2004). A company may have tactical objectives specifically tailored to digital marketing, such as website traffic growth and an increase in sales leads sourced from digital channels; however, the strategic goals of marketing typically converge across channels, and thus digital media simply provides new ways to achieve them. There can be a number of firm-specific marketing objectives, but the ultimate marketing goal is to generate positive cash flow and net profit (Ambler & Roberts, 2008; Clark, Abela, & Ambler, 2006).

Marketers are able to affect profit generation by increasing sales revenue or producing the same amount of revenue with decreased costs. The latter is achieved in the digital environment by, for instance, increasing the efficiency of exchanges in terms of communications and transactions (Sharma, 2002; Walters, 2008). When it comes to increasing sales in the industrial context, digital marketing can be used to drive potential customers to a company's website and convert them into sales leads (Welling & White, 2006). Furthermore, industrial firms use digital marketing for upselling and cross-selling purposes, such as promoting a new version of a product or offering maintenance service via email.

Since the sales impact of marketing is difficult to measure accurately, marketers use intermediary goals that are treated as indicators of future sales revenue. The intermediary goals can be divided into branding goals (e.g., creating awareness and enhancing brand image) and customer relationship goals (e.g., improving customer satisfaction and loyalty). Industrial companies pursue branding goals in digital media by targeting customers with brand- and prod-

uct-related information (Berthon, Lane, Pitt, & Watson, 1998; Welling & White, 2006) aimed at creating awareness, improving brand attitude, and increasing purchase intentions (Drèze & Hussherr, 2003; Manchanda, Dubé, Goh, & Chintagunta, 2006). Similarly, digital media provides marketers with new ways to improve customer satisfaction and loyalty. Digital platforms can be used for interacting with customers in real time, serving their needs and thus developing customer relationships (Bauer, Grether, & Leach, 2002). In this regard, social media can be particularly apt for generating conversations with customers and strengthening relationships with them (Bernoff & Li, 2008; Mangold & Faulds, 2009; Weinberg & Pehlivan, 2011).

Digital marketing strategy pertains to the means by which digital marketing goals are attained (Li, Li, He, Ward, & Davies, 2011). Put another way, while digital marketing goals describe where a company wants to be, the digital marketing strategy articulates how it gets there (Chaffey & Smith, 2013, p. 3). As alluded to earlier, it is disputable whether companies should have specific digital marketing goals and strategies, or whether digital marketing should preferably be treated as a set of tools to achieve overall marketing goals. In either case, (digital) marketing strategies and goals must be directly related to overall business strategies and goals (de Swaan Arons, van den Driest, & Weed, 2014; Miller & Cioffi, 2004) because marketing plays an essential role in contributing to the effective implementation of business strategies (McDaniel & Kolari, 1987; Walker & Ruekert, 1987; Vorhies & Morgan, 2003). Research shows that aligning a firm's marketing strategy with its business strategy leads to superior performance in terms of profitability and market performance (Slater & Olson, 2001). Consequently, a marketing strategy must be firm-specific because it is subordinate to the selected business strategy.

Due to the firm-specific nature of digital marketing strategies, there is very little generalizable knowledge regarding what kinds of digital marketing strategies are superior to others in specific industries. However, digitalization has brought about new strategic trends in marketing due to changes in media consumption, communications patterns, and purchasing journeys. Specifically, three strategic movements have emerged in industrial marketing as a result of advances in digital media: (1) content marketing, (2) personalization of marketing communications, and (3) data-driven marketing.

2.2.1 Content marketing

Customers have more control over the marketing messages they are willing to consume because they possess new ways of avoiding and filtering advertising messages (e.g., by using digital recording devices and online adblocks) (Malthouse, Haenlein, Skiera, Wege, & Zhang, 2013). Therefore, companies must shift their communications approaches from promoting the excellence of their products to providing value for customers through relevant content. Content marketing in the industrial context involves "creating, distributing and sharing relevant, compelling and timely content to engage customers at the appropriate point in their buying consideration processes, such that it encourages

them to convert to a business building outcome” (Holliman & Rowley, 2014, p. 285).

Content marketing is regarded as a pull or inbound marketing technique that aims to attract those customers already searching for information related to a firm’s offerings by providing valuable content in terms of their specific needs (Halligan & Shah, 2010). Content marketing represents a strategic approach rather than a set of tactics because it requires a cultural change from selling to helping customers (Holliman & Rowley, 2014). Clearly, increasing sales is the end goal, but it is attained by helping customers instead of active selling and promotion efforts. Therefore, content marketing is a response to calls for using less authoritarian marketing styles (Deighton & Kornfeld, 2009).

Although content marketing can employ content in traditional formats (e.g., customer magazines and brochures), the digital environment has popularized the term *content marketing*, which for many authors refers purely to content in digital formats (Handley & Chapman, 2011; Rose & Pulizzi, 2011; Wuebben, 2011). According to Chaffey and Smith (2013), the most commonly used digital content formats include pictures, videos and animations, e-books or shorter customer guides, white papers, podcasts, webinars, infographics, blog texts, and social media posts.

The use of content marketing is becoming widespread in the industrial sector. According to a recent survey, as many as 86% of industrial marketers ($N= 1820$) in North America use content marketing as a strategic marketing approach, and 47% have a dedicated content marketing team in their organizations (Pulizzi & Handley, 2014). However, existing knowledge on content marketing is largely based on research reports produced by commercial research institutions, some of which suffer from obvious sampling biases, and only a few academic studies have investigated the use of content marketing in the industrial sector (see Holliman & Rowley, 2014; Rahim & Clemens, 2012).

Content marketing in the industrial sector is used for various purposes, including promoting brand awareness and image, fostering customer engagement, and increasing sales through customer acquisitions, lead generation, upselling, and cross-selling (Holliman & Rowley, 2014; Pulizzi & Handley, 2014). In a survey study targeting North American and European companies ($N = 159$), the most common content marketing goals were found to be lead generation, audience engagement, and brand awareness (Rahim & Clemens, 2012). However, the literature has yet to describe the organizational processes required for the effective execution of content marketing or to demonstrate the business benefits of such an approach. For example, Malthouse et al. (2013) suggested that successful content marketing necessitates analytics skills and the powerful use of customer databases, which are exploited for managing and targeting content delivery.

2.2.2 Personalization of marketing communications

Personalization of marketing communications is related to content marketing in the sense that delivering relevant content to the right customer at the right time

requires personalization. The central idea of personalization is to treat each person as a unique individual with idiosyncratic needs and to provide them with customized solutions; such an approach is claimed to result in increased sales revenue (Ho & Bodoff, 2014). In general, personalization refers to tailoring the elements of the marketing mix for compatibility at an individual level (Montgomery & Smith, 2009). Accordingly, personalization also includes modifications to products, prices, and distribution outlets, but the focus here is on the personalization of marketing communications. The term personalization is often used interchangeably with customization, but the difference between them is that personalization is marketer-initiated, whereas customization is customer-initiated (Montgomery & Smith, 2009). To be able to personalize marketing communications, marketers need to learn about the customer's individual needs and preferences in terms of the types of content that the customer is willing to receive and other person-specific characteristics (Pires, Stanton, & Rita, 2006).

According to Montgomery and Srinivasan (2003), learning about the customer can be divided into active and passive forms of learning. Active learning refers to posing direct questions to the customer, while passive learning involves making inferences about the customer based on past transactions and other behaviors. Although personalization practices predate the emergence of the Internet, digital media has revolutionized the marketers' ability to learn about customer needs (Vesonen, 2007). As a consequence, the strategic movement toward personalization of marketing communications has intensified in recent years. In particular, the means for passive learning have advanced significantly. In the physical world, the marketers' ability to make inferences about customer behavior has been limited to purchase history (i.e., the frequency and location of purchases, as well as the types of products purchased). In the digital environment, clickstream data can be used to record every action undertaken by customers in a firm's owned media space, which enables marketers to learn about points of interests at an individual level before the purchase decision occurs (McAfee & Brynjolfsson, 2012). This type of behavioral data can be subsequently used to tailor Web content (e.g., placing content relevant to the customer's individual needs on a website) or marketing messages such as emails.

The ability to collect richer behavioral data through digital media is a great opportunity for marketers in terms of personalization and targeting. Research shows that the use of behavioral data (i.e., transaction history) to target marketing messages leads to significantly higher profits compared to the use of demographic information (Rossi, McCulloch, & Allenby, 1996). More recently, the literature has demonstrated how behavioral (i.e., clickstream) data can be used to identify those customers who are likely to make a purchase early in their purchasing decision processes (Moe & Fader, 2004; Sismeiro & Bucklin, 2004). Devoting more attention to these customers through personalized communications is likely to increase the probability that they will make a purchase.

The hypothetical effectiveness of personalization is often justified through Petty and Cacioppo's (1986) *Elaboration Likelihood Model* (ELM) of persuasion

(e.g., Kaptein & Eckles, 2012; Tam & Ho, 2005). The ELM model suggests that persuasion occurs via two routes: a central route and a peripheral route. The central route is taken when the recipient of a message is able and motivated to devote cognitive effort to processing information relevant to the message. In contrast, the peripheral route is taken when the message recipient lacks the ability or motivation to engage in message content. Since the central route of persuasion requires in-depth cognitive processing, it is more likely to lead to changes in attitude and behavior. Consequently, the more personal and relevant a marketing message is, the more likely the recipient will be to process the message via the central route, leading to increased effectiveness. Another related theory is based on the concept of *self-reference*, which postulates that processing information related to oneself produces a more refined memory trace because it facilitates an individual to interpret incoming information by means of drawing parallels between the new information and past experience (Rogers, Kuiper, & Kirker, 1977). Examples of self-referencing tactics include the use of a customer's name in a marketing message (e.g., "Dear Joel, thanks for being a loyal customer...") and personalized offers and product recommendations (e.g., "Based on your previous purchases, you might also be interested in these products...") (Tam & Ho, 2006).

The empirical evidence supports the argument that personalization leads to the increased effectiveness of marketing communications in multiple contexts. An enhanced level of message personalization in real-time, computer-mediated communications (i.e., live chat services) leads to higher interactivity perceptions and more positive customer attitudes (Song & Zinkhan, 2008). Ansari and Mela (2003) demonstrated that personalizing the design and content of permission-based emails leads to significant increases in click-through rates and website traffic. In the context of online advertising, a high message fit with customers' preferences leads to increased purchase intentions (Goldfarb & Tucker, 2011). Notably, marketers must not use too-sensitive information for delivering a tailored ad because doing so may lead to a higher sense of perceived intrusiveness, which is negatively linked with purchase intentions (van Doorn & Hoekstra, 2013). Finally, Tam and Ho (2006) showed that customers are generally more receptive to personalized web content, and that content relevance affects the attention, cognitive processes, and decision making of customers. This finding is linked with content marketing as it implies that content delivered to customers must be relevant to their individual needs.

2.2.3 Data-driven marketing

Digital media advances the availability of customer-related data, which has in turn created a strategic movement toward data-driven marketing (Mulhern, 2009). Data-driven marketing refers to the use of data to inform and optimize the execution of marketing activities (Kumar et al., 2013). Various authors have concluded that the era of marketers making decisions based on intuition and instincts is coming to an end, with marketing based on quantitative experiments and statistical evidence taking precedence (Gök et al., 2015; Patterson,

2007; Schrage, 2015; Valos et al., 2010). Hence, the data-driven approach can be likened to a movement from *what do we think?* toward *what do we know?* (McAfee & Brynjolfsson, 2012).

The data-driven approach has its roots in direct and interactive marketing, both of which are premised on the use of customer databases (Blattberg & Deighton, 1991). Along with the use of databases, customer relationship management (CRM) has become a prominent data-driven marketing orientation (Peltier, Zahay, & Lehmann, 2013). Indeed, several established definitions of CRM emphasize the strategic use of data and technology as the core element of managing customer relationships (Boulding, Staelin, Ehret, & Johnston, 2005; Payne & Frow, 2005). CRM and the use of customer databases remains an essential part of data-driven marketing, but digital analytics tools have increased the volume, variety, and depth of customer-related data that can be collected and used in real time. The speed with which data can be retrieved has allowed marketers to run quick experiments and test their hypotheses; data-driven marketers accept their limited ability to predict the outcomes of marketing activities, and therefore use data and experiments to validate their creative ideas (Schrage, 2015). The experiments can be used to test the effectiveness of different digital marketing tactics, targeting criteria, types of marketing content or the layout of the contents. One good example of the latter is presented in a recent study by Kumar and Salo (2016) who investigate the effect of link placements on email newsletters on click-through rate and find that the links placed in the top-left region of an email are most effective in terms of driving click-through rates.

The movement toward data-driven marketing and the greater use of analytics is propelled by a strong pressure from senior executives (Lavalle et al., 2011), which is intensified the more successful an organization is with analytics (Kiron, Prentice, & Ferguson, 2014). This finding implies that once executives realize the benefits of the data-driven approach, they will encourage marketers to become more proficient with analytics. Managerial pressure toward data-driven marketing is justified by recent empirical findings showing that the deployment of marketing or customer analytics is linked with increased firm performance in terms of sales growth, profit, and return on investment (Germann, Lilien, Fiedler, & Kraus, 2014; Germann et al., 2013). Similarly, Brynjolfsson, Hitt, and Kim (2011) reported that data-driven decision making leads to 5-6% higher productivity and provide evidence that this relationship is not due to reverse causality. Other studies have reported that top-performing organizations use analytics five times more often than lower performers (Lavalle et al., 2011); in addition, the use of analytics is considered to be a source of competitive advantage by the majority (61%) of executives (Ransbotham, Kiron, & Prentice, 2015).

Databases and analytics enable companies to create data-driven marketing strategies based on the data of each individual customer (Wind, 2006). The customer-related data is presumed to be particularly valuable in industrial marketing where a firm's extended relationship with its customers is crucial for main-

taining profitable business (Stein, Smith, & Lancioni, 2013). The effective use of customer-related data is also considered a prerequisite for succeeding in an increasingly popular management approach known as *customer experience management* that refers to managing customer experiences through a journey of interactions from prepurchase to postpurchase situations (Homburg, Jozić, & Kuehnl, 2015; Verhoef et al., 2009).

As alluded to earlier, evidence supports the use of the data-driven approach in marketing, yet some executives remain hesitant and prefer to rely on subjective experience and intuition (Schrage, 2015). However, the future might be different. As stated by McAfee and Brynjolfsson (2012, p. 68): “The evidence is clear: Data-driven decisions tend to be better decisions. Leaders will either embrace this fact or be replaced by others who do.”

2.3 Digital marketing tactics

The digital environment has created new opportunities for companies to achieve marketing goals and execute strategies through various activities. Companies spend an average of 10.2% of their annual revenue on marketing activities, and approximately one-quarter of their total marketing expenditure is spent on digital marketing activities (Gartner, 2014). Since the planning and execution of marketing activities require human resources, it is in reality often difficult to estimate marketing expenditure accurately. This is evident in the field of digital marketing, where many activities do not necessitate direct monetary investments so expenditure is instead determined by the time spent on the activities, such as writing a blog post or having a conversation via social media.

TABLE 3 lists some of the most widely used digital marketing tactics. Academic research on the effectiveness of digital marketing tactics has concentrated on the B2C context and the use of four specific tactics: company websites (e.g., Toufaily, Ricard, & Perrien, 2013; Urban, Hauser, Liberali, Braun, & Sultan, 2009; van Nierop, Leeflang, Teerling, & Huizingh, 2011), display advertising (e.g., Hoban & Bucklin, 2015; Lambrecht & Tucker, 2013; Sherman & Deighton, 2001), search engine advertising (e.g., Ghose & Yang, 2009; Klapdor, Anderl, von Wangenheim, & Schumann, 2014; Nabout, Lilienthal, & Skiera, 2014), and email marketing (Ansari & Mela, 2003; Kumar & Salo, 2016; Kumar, Zhang, & Luo, 2014). The literature has provided convincing evidence of the business benefits that can be gained through these tactics, but much less is known about the effectiveness of other digital marketing activities, such as marketing via social networking services (SNSs).

The proliferation of digital channels raises the question of which tactics companies should select. While acknowledging that the selection of tactics is guided by marketing strategy, the most actively used digital marketing channels are currently websites, emails and newsletters, and social networking services (SNSs) (Leeflang et al., 2014). Apart from the company website, which is a must-have for nearly all kinds of firms, there are considerable differences be-

tween industries with regard to the use of other digital marketing tactics. According to the State of Digital Marketing report (Webmarketing123, 2015), email marketing is the most commonly used tactic for industrial companies, while marketing via SNSs is the most widely adopted consumer marketing tactic. Within SNSs, Facebook is considered the most important social channel by B2C companies, whereas LinkedIn is the primary channel for industrial firms.

TABLE 3 Digital marketing tactics

Tactic	Description
Websites	A company website is usually the home base for a firm's digital presence. It is used for multiple purposes, such as providing firm-related information to customers, building brand image, and fostering direct and indirect sales (Hwang, Mcmillan, & Lee, 2003). Along with the main company website, firms may also use campaign websites, which are focused on specific themes or events (e.g., a new product launch) (Krishnamurthy, 2006).
Display/ banner advertising	Hyperlinked pixel displays on websites, which are used for gaining visibility, generating traffic for the corporate website, and building brands (Briggs & Hollis, 1997).
Search engine advertising	A form of advertising where firms pay fees to search engines (e.g., Google, Bing, Yahoo!) to be displayed in search results with specified keywords. The goal is to drive the targeted audience to the company website or other firm-related media space (e.g., a firm's LinkedIn page) (Ghose & Yang, 2009).
Search engine optimization	A process of identifying and fine-tuning the elements and content of a website to achieve a high ranking to relevant queries in search result listings, and subsequently attract the targeted audience (Zhang & Dimitroff, 2005).
Email marketing/ newsletters	Electronic mail for reaching potential and existing customers with targeted marketing messages (Phelps, Lewis, Mobilio, Perry, & Raman, 2004).
Affiliate marketing	The contractual placement of hyperlinks on third-party websites (i.e., affiliate sites), which are aimed at drawing visitors to the company website as a result of clicking on the hyperlinks (Papatla & Bhatnagar, 2002). Examples of affiliate marketing are the inclusion of company products on price comparison sites or special rebate sites and banner ads on affiliate websites.
Blogging	A company blog (i.e., a Web log) is a website or a section on a company website where company representatives or invited writers provide perspectives on topical issues related to the company or industry. A blog consists of blog posts presented in reverse chronological order that may include text, graphics, videos, and/or links to other web pages (Berthon, Pitt, Plangger, & Shapiro, 2012).
Microblogging	A tool for sharing topical firm- or industry-related information with a confined length (e.g., Twitter) (Jansen et al., 2009). It is used for branding purposes, connecting with potential customers, and attracting them to other online channels.

(Table continues on the next page →)

Marketing through social networking services (SNSs)	Companies may build their own profiles on SNSs (e.g., Facebook, LinkedIn, Google+, Instagram, Pinterest) through which they can interact with their customers (Constantinides & Fountain, 2008), post content (i.e., text, pictures, videos) and advertise to targeted audiences (Lipsman, Mudd, Rich, & Bruich, 2012).
Viral marketing	Firms' intentional influence on consumer-to-consumer communications (Kozinets et al., 2010). In practice, it is often done by creating buzz (eWOM) through online writings, pictures, or YouTube videos.
Mobile applications	Branded software downloadable to mobile devices that are primarily used for engaging customers to interact with the company and for creating favorable attitudes among customers (Bellman, Potter, Treleven-Hassard, Robinson, & Varan, 2011).
Whitepapers, e-books	An in-depth report on a specific topic that typically presents a problem and provides a solution (Kolowich, 2014). They are used for generating sales leads and demonstrating a firm's expertise in a selected area. E-books are similar to white papers but are longer.
Webinars & webcasts	Webinars (i.e., Web-based seminars) are interactive live presentations transmitted online (Hemani, 2015). Webinars are typically hosted by experts and their purpose is to educate potential and existing customers about a specific business- or industry-related issue. The difference between webinars and webcasts is that webcasts are recorded presentations and thus do not allow participants to interact with the presenter in real time.
Digital communities	Digital communities (i.e., online/electronic/virtual communities) are aggregations of individuals or business partners who interact based on a shared interest (Kannan, Chang, & Whinston, 2000; Porter & Donthu, 2008). Marketers can build their own <i>brand communities</i> (e.g., SAP Community Network and Oracle Technology Network) to develop customer relationships and foster customer engagement or participate in <i>content communities</i> initiated by community members themselves or third party companies (e.g., YouTube, Wikipedia and LinkedIn groups) where firms can contribute to brand building and have influence on other community members (Lehtimäki et al., 2009).
Extranets	Private websites or closed online communities that are typically set up for maintaining and developing existing customer relationships in the industrial sector (Lehtimäki et al., 2009). Extranets may enable customers to make transactions, communicate with product specialists, and access content developed for customers (e.g., product documentation and manuals) (Trainor, Rapp, Beitelspacher, & Schillewaert, 2011).
Digital marketplaces and auctions	Digital marketplaces (i.e., electronic or e-marketplaces) in the industrial context refer to third-party websites or platforms where a number of vendors and customers can interact and conduct business transactions (Janita & Miranda, 2013). Sellers can use them to acquire new customers and increase efficiency by streamlining the selling processes (Hunter et al., 2004). Digital auctions are a special type of an e-marketplace where buyers bid for a certain product or vice versa, sellers bid to win a specific business deal posted by a customer (Wilson & Abel, 2002).

These differing usage patterns suggest that the perceived effectiveness of specific digital marketing activities varies between industrial and B2C companies. To the best of my knowledge, academic research has not yet investigated the rela-

tive effectiveness of digital marketing tactics in industrial contexts; however, a few studies have examined the relative effectiveness of digital marketing tactics on producing sales in B2C settings (Danaher & Dagger, 2013; Dinner, van Heerde, & Neslin, 2014; Li & Kannan, 2014; Spilker-Attig & Brettel, 2010). Nonetheless, the results vary depending on the case company under investigation, which suggests that the relative effectiveness of digital marketing tactics is company-specific. Furthermore, digital marketing tactics are known to produce spillover effects (i.e., a customer's exposure to a marketing tactic affects the effectiveness of exposures to other marketing tactics) (Li & Kannan, 2014). For example, Kumar, Bezawada, Rishika, Janakiraman, and Kannan (2016) find that firm-generated content in social media works synergistically with television advertising and email marketing. These kinds of spillover effects complicate a firm's efforts to measure the effectiveness of a specific digital marketing tactic. In general, it is difficult to investigate which marketing tactics are best since effectiveness is subject to many variables, such as marketing goals, target audience, and the quality of marketing content. For this reason, each company must test and measure the performance of digital marketing activities against firm-specific objectives (Berthon et al., 1998; O'Sullivan & Abela, 2007), which can be facilitated by digital analytics tools.

2.4 Digital analytics tools

As the popularity of the Internet started to spread in the 1990s, software developers were quick to react by creating systems for capturing data about Internet usage. One of the earliest innovations became known as Web analytics, which emerged as a novel approach for tracking customer behavior on websites. The first commercial Web analytics vendor, I/PRO Corp, was launched in 1994, and was quickly followed by numerous others (Chaffey & Patron, 2012). When Google analytics was introduced in 2005, Web analytics had already become a mainstream way to track visitor behavior on websites, and it remains the most commonly used digital analytics tool today.

After the emergence of Web analytics, the number and variety of digital analytics tools has exploded. There are marketing automation tools to personalizing marketing content and managing sales leads (e.g., Oracle Eloqua), testing tools to conduct online experiments (e.g., Optimizely), monitoring tools to track online news and discussions (e.g., Meltwater), text mining tools to extract information from text sources (e.g., SAS Text Miner), website survey tools to get customer feedback (e.g., iPerceptions), online panels to gain an understanding of target audience behavior on Web (e.g., Hitwise), and online intelligence tools to track competitor performance (e.g., Simply Measured). Some digital analytics tools are tailored for a specific platform (e.g., Facebook analytics), while others are designed for a certain tactic or activity. In the field of search marketing, for instance, tools are available for analyzing keywords, identifying search rank-

ings, fostering link building, and crawling and auditing the website to find issues relevant to search engine optimization.

While traditional marketing analytics has provided data on customers' offline interactions and their profiles (e.g., demographic information), the data provided by digital analytics complements this information by adding the digital touchpoints of customers (Hauser, 2007). To elaborate, there are multiple elements that have made digital analytics remarkably powerful from the marketers' perspective. First, digital analytics offers much more detailed data on customer behavior as the clickstream data records all the actions undertaken by customers in a digital environment whereas traditional marketing analytics typically captures only the outcomes of behavior, such as transactions. Second, although customers' preferences and intentions can be canvassed through surveys and interviews, digital analytics captures genuine behavior and expressions of opinion in users' natural environment. Third, digital analytics tracks the behavior of all users and not just customers, which is beneficial in terms of customer acquisition. Fourth, the behavioral data includes locational information that facilitates delivery of personalized and contextual marketing messages. Finally, the insights from digital analytics data can be extended to offline settings. For example, marketers can review how offline advertising increases the number of website visitors and improves the resulting outcomes. As the use of mobile devices continues to increase, digital environment and offline environment are getting more intertwined, which further increases the power of digital analytics.

The focus of this dissertation is on three types of digital analytics tools that have gained considerable attention in the industrial sector: (1) Web analytics, (2) social media monitoring, and (3) marketing automation (TABLE 4). In the following, I explain the characteristics of each tool in detail.

TABLE 4 Digital analytics tools

Tool	Description
Web analytics	Web analytics collects clickstream data regarding the source of website traffic (e.g., email, search engines, display ads, social links), navigation paths, and the behavior of visitors during their website visits (Nakatani & Chuang, 2011). The data can be used for understanding customer behavior on the website, measuring the outcomes of website visits, and optimizing website structure and content to maximize results.
Social media monitoring	Social media monitoring tracks and classifies eWOM information regarding specific keywords (Sponder, 2012). It enables firms to monitor and measure the volume and valence of online discussions related to the company, competitors, industry, or particular marketing campaigns.
Marketing automation	Marketing automation refers to the automatic personalization of marketing mix activities (Heimbach, Gottschlich, & Hinz, 2015). It capitalizes on behavioral tracking techniques similar to Web analytics, but employs more advanced features for identifying individual customers and following their behaviors over extended periods of time. It can be used for targeting potential buyers through the use of personalized content.

Technically, Web analytics tools are software that collect the source of a website visit, track visitors' navigation paths based on tags and cookies, and present the data in a meaningful form (Nakatani & Chuang, 2011; Wilson, 2010). In practice, Web analytics can be used for learning which marketing channels and activities drive visitors to company websites, which pages they visit, how long they stay, and the subsequent results of their visits (e.g., brochure downloads, contact requests, or transactions). The key purpose of harnessing Web analytics data is to optimize customer experience on the website in order to maximize the business benefits gained from website visitors (Phippen et al., 2004; Pickton, 2005; Wilson, 2010). Visitors can be divided into demographic or behavioral segments via Web analytics, but since these tools typically produce aggregate-level data about website visitors, they are limited in terms of identifying visitors and following their behavior over time. Only when marketers have the means to couple Web analytics data with personal information (e.g., via website log-ins or personalized links) can they follow interactions with specific visitors longitudinally and plan further, precise marketing actions directed at them (Phippen et al., 2004).

While Web analytics provides quantitative data on customers' website behavior, social media monitoring enables firms to mine customers' expressions of opinions and experiences related to the company and its products across digital media (Pang & Lee, 2008). Opinion mining has become more feasible due to the increased amount of eWOM (Hennig-Thurau et al., 2004). The rise of eWOM has made customer dialogue and discussion more observable and measurable given that the online environment allows the collection of actual exchanges of information between individuals (Liu, 2006). Technically, social media monitoring captures the volume and valence of eWOM information regarding specific keywords (Sponder, 2012). The volume of eWOM indicates the number of mentions of the selected keyword(s) in social media within a specified time frame (Godes & Mayzlin, 2004). The valence of eWOM measures the tone of discussions and indicates whether the selected keyword is mentioned in a positive, neutral, or negative context (Liu, 2006). However, social media monitoring tools are limited in terms of their ability to classify the tone of discussions, with one study indicating an accuracy rate of 60–80% (Pang & Lee, 2008). Among other issues, the software does not understand sarcasm. In practice, social media monitoring can be used for tracking positive and negative buzz about a company and examining what people say about it. Furthermore, tracking industry-related discussions may be a good approach for identifying customer concerns and new opportunities in the industry.

Marketing automation is based on similar analytics techniques to Web analytics in the sense that it tracks customer behavior on websites through the use of cookies, log-ins, IP addresses, and personalized links. However, two major features distinguish marketing automation from Web analytics. First, on the condition that customers first identify themselves by completing a website contact form, marketing automation has the potential to track their behavior over extended periods of time. Second, marketing automation goes beyond just

tracking customer behavior as it can be used to personalize website elements and content delivered to a customer based on specific rules set by software users (Heimbach, Kostyra, & Hinz, 2015). The objective is to attract, build, and maintain trust with current and prospective customers by automatically personalizing relevant and useful content to meet their specific needs (Kantrowitz, 2014). Moreover, vendors (e.g., Eloqua, Hubspot, and Marketo) claim that the tool allows companies to improve and accelerate lead qualification processes. Given that prospecting and lead qualification are considered to be the most arduous tasks of the industrial selling process (Moncrief & Marshall, 2005; Trailer & Dickie, 2006), it is not surprising that marketing automation has gained a lot of interest in the industrial sector. Indeed, according to Wiersema (2013), one of the key developments in the industrial sector lies in the technological automation of manual tasks performed by marketers.

Surprisingly few studies have investigated how organizations harness digital analytics for measuring and optimizing digital marketing activities. Notable exceptions include a case study conducted by Phippen et al. (2004) that discussed the benefits and challenges of Web analytics usage in the context of an international airline company. Wilson (2010) used clickstream data to demonstrate how Web analytics can be used for optimizing industrial e-commerce website performance in terms of decreasing shopping cart abandonment. Notably, both of these studies were conducted in the context of e-commerce businesses that had the advantage of being able to track customer behavior from initial exposure to marketing activity all the way to the final transaction. In comparison, industrial companies characterized by complex and lengthy selling processes are known to struggle in their attempts to establish a relationship between marketing activities and sales impact (Webster et al., 2005). This may partially explain the finding that industrial companies are significantly less likely (compared to the B2C sector) to review their marketing spending with analytics tools and metrics (McKinsey, 2009).

Nevertheless, there is nothing to suggest that digital analytics tools would not be applicable in industrial contexts where the final purchasing decision occurs offline (Breur, 2011). Although the sales deal is typically an outcome of face-to-face negotiations in the industrial sector, digital analytics can be used for tracking customer behavior in the phases preceding the purchase decision. One approach to link marketing activities with sales in the industrial sector is to track marketing-generated leads and quantify the proportion of leads that result in actual sales. Since digital channels are playing an ever-increasing role in the purchasing processes of industrial customers, the opportunities afforded by digital analytics have led to more strident managerial demands to take advantage of them (Wiersema, 2013). However, the lack of digital analytics usage in the industrial sector suggests that there may be some organizational conditions specific to industrial companies that inhibit the adoption of digital analytics and merit more attention.

In sum, digital analytics tools enable companies to track customer behavior in digital channels and evaluate customer responses to marketing stimuli.

Marketers can use digital analytics to measure the effectiveness of marketing activities, test which tactics work for certain customer segments, and subsequently optimize future actions. Current knowledge about the use of digital analytics is largely based on reports from commercial research institutes and tends to be normative in nature (see e.g., Chaffey & Patron, 2012; Cook, 2004; Lee, 2010; Pickton, 2005; Waisberg & Kaushik, 2009). Thus, it remains unclear to what extent organizations are able to use digital analytics for measuring marketing performance or what determines the business benefits gained from digital analytics.

3 CHALLENGES OF MARKETING PERFORMANCE MEASUREMENT

The roots of MPM literature date back to the 1950s and 1960s, when two distinct but related literature streams, *marketing productivity analysis* and *marketing audits*, started to evolve (Morgan et al., 2002). Marketing productivity analysis concerns the financial ratio of marketing inputs (i.e., costs) and outputs (i.e., revenue) (Pimenta da Gama, 2011), whereas marketing audits assess marketing performance through the health of marketing activities within a firm (Clark, 2001). The research on MPM has resulted in the development of conceptual frameworks that link marketing activities and operations with profitability and firm performance. Some of these frameworks take the marketing productivity analysis approach by linking marketing investments to market assets and financial outcomes (Rust, Ambler, et al., 2004; Rust, Lemon, et al., 2004; Srivastava et al., 1998), while others adopt the marketing audit perspective, linking certain characteristics of marketing operations with the performance of firms. Examples of the latter are studies on market orientation (Deshpandé, Farley, & Webster, 1993; Kohli & Jaworski, 1990; Narver & Slater, 1990) and marketing capabilities (Day, 1994). Lastly, Morgan et al. (2002) built a holistic MPM framework by integrating both productivity analysis and marketing audit approaches under the same framework. In addition, they added adaptiveness as the third dimension of MPM, justifying this decision by arguing that the existing models were too static to reflect ongoing changes in the environment. They also pointed out that universal MPM frameworks are of limited value from a managerial perspective because the MPM system should be embedded in the specific organizational context of a firm.

Despite the contributions that the marketing productivity analysis and marketing audit approaches have made in the field of MPM, there are fundamental challenges yet to be overcome. This chapter reviews these challenges, discusses scholarly approaches toward them, and evaluates the potential for digital analytics to overcome them. The challenges are divided here into universal and organizational challenges. By “universal challenges,” I refer to limitations of marketing productivity analysis that are unrelated to a specific organi-

zation; rather, they are constraints imposed by our limited understanding of marketing impacts and how to capture them. In contrast, organizational challenges are related to marketing audits, which are organization-specific and refer to shortcomings in an organization's capacity and internal processes to measure marketing performance.

3.1 Universal challenges

Marketing productivity analysis addresses the universal challenges of MPM by increasing our understanding of marketing costs and revenue resulting from marketing inputs (Morgan et al., 2002). This technique also provides conceptual frameworks that link marketing activities with profit impact and the value of firms (see e.g., Rust, Ambler, et al., 2004; Stewart, 2009). Despite such progress, marketing productivity analysis suffers from our limited knowledge of causal relationships and time lags between marketing input and resultant changes in output (Gao, 2010). Consequently, there are two universal MPM challenges that marketing productivity analysis has not yet solved: (1) linking marketing activities with long-term impacts (Dekimpe & Hanssens, 1995) and (2) isolating the impact of specific marketing activities from other influences (Pavlou & Stewart, 2000).

3.1.1 Linking marketing activities with long-term impacts

The core idea of marketing productivity analysis was adopted from the finance and manufacturing literature, which in turn resulted in a strong emphasis on financial performance metrics (Morgan et al., 2002). Later on, the use of financial metrics faced growing criticism for being too rigid and retrospective (Ambler & Roberts, 2008; Clark, 2001). For example, a return on marketing investment is the result of past marketing efforts stretching back years and is thus a poor indication of future performance.

The bottom line is that financial metrics largely ignore the long-term effects of marketing activities and may therefore lead to incorrect conclusions (Aaker & Jacobson, 2001; Ambler & Roberts, 2008; McDonald, 2010; Morgan et al., 2002). A good example is Amazon, which reached stock-market capitalization of \$30 billion without having a single quarter of positive earnings since the establishment of the company (Aaker & Jacobson, 2001). Despite strong evidence demonstrating the inadequacy of financial metrics, executives tend to overemphasize them at the expense of non-financial measures linked with future performance. According to Ambler and Roberts (2008), this shortsightedness is manifested by top management's desire for financial metrics that are simple to capture and easy to understand. They argued that executives would like to have a single profit-related number for alternative marketing plans so that they could select the plan with the highest number and then retrospectively compare the estimated number with the actual one. Clearly, MPM suffers from

a focus on quarterly earnings; when marketing performance is evaluated on the basis of short-term results, it becomes difficult to justify those marketing investments that affect long-term performance (Webster et al., 2005).

The reason for management's desire to evaluate marketing performance with financial metrics is that scholars have been unable to provide actionable ways to quantify the long-term impacts of marketing investments (Morgan et al., 2002). In the CMO Council survey (2004), the chief marketing officers were dissatisfied with the performance metrics assessing long-term impacts (Stewart, 2009). This finding implies that marketers lack credible long-term marketing performance metrics that can be linked with financial outcomes, despite the vast corpus of literature devoted to investigating the long-term impacts of marketing.

Early research on the links between marketing and long-term impacts used market-response modeling, in which the effects of marketing activities (e.g., advertisements) were directly linked with long-term sales on an aggregate level (Vakratsas & Ambler, 1999). Although market-response models have contributed to the literature by demonstrating the existence of long-term effects of marketing, the duration of these effects varies across studies. Clarke (1976), for example, reviewed the econometric literature and found that 90% of the cumulative effect of advertising on sales occurs within three to nine months. Leone (1995), on the other hand, presented evidence that narrowed this range to six to nine months by adjusting for the data interval bias (i.e., the duration of advertising effects depends on the data interval selected: weekly, monthly, quarterly, etc.; Clarke, 1976). Meanwhile, Dekimpe and Hanssens (1995) applied persistence modeling based on time-series data and revealed that the effects of advertising can last more than a year in the context of a home-improvement retail chain. Such conflicting results can be explained by the finding that the duration of advertising effects is dependent on the type of industry, product, and advertisement (Pavlou & Stewart, 2000). Therefore, linking marketing activities directly to long-term sales is case-sensitive and is thus an arduous task from a managerial point of view. Moreover, linking marketing activities directly with behavioral outcomes (i.e., sales) is problematic given that marketing activities are known to induce cognitive and affective effects that are only indirectly linked with sales (Vakratsas & Ambler, 1999).

Cognitive and affective effects are quantified with intermediate (i.e., non-financial, intangible or mind-set) metrics (Seggie et al., 2007; Srinivasan & Hanssens, 2009). The inclusion of intermediate metrics (e.g., quality of service, customer satisfaction, and brand awareness) in marketing productivity analysis has led to the concept of multidimensional assessment of marketing productivity (Ambler & Roberts, 2008; Rust, Ambler, et al., 2004; Sheth & Sisodia, 2002). However, the use of intermediate metrics leads to another set of problems. For one, it is unclear which measures are the most relevant for measuring cognitive and affective effects (Keller, 1993); for another, linking intermediate metrics with financial outcomes is problematic (Dekimpe & Hanssens, 1995). Too often, the uplifts in intermediate metrics fail to predict long-term financial perfor-

mance (Seggie et al., 2007). An advanced way to approach this challenge is to link cognitive and affective measures with marketing assets.

Marketing assets are defined as “customer focused measures of the value of the firm (and its offerings) that may enhance the firm’s long term value” (Rust, Ambler, et al., 2004, p. 78). Specifically, two approaches for evaluating marketing assets have received considerable attention in the literature – namely, brand equity (Aaker, 1996; Keller, 1993; Simon & Sullivan, 1993) and customer equity (Blattberg & Deighton, 1996). Scholars have investigated the influence of these assets on long-term profitability, cash flows, and the value of firms with varying time lags and results (Gupta, Lehmann, & Stuart, 2004; Krasnikov, Mishra, & Orozco, 2009; Kumar & Shah, 2009; Mizik, 2014; Rust, Lemon, et al., 2004).

Unfortunately, there is no agreement on the components involved in driving marketing assets nor on how these components should be measured. For instance, while Keller (1993) introduced two major components of brand equity and eight measures to capture it, Aaker (1996) categorized brand equity into four components and ten measures. Both Ambler et al. (2002) and Rust, Ambler, et al. (2004) suggested five dimensions, but even these varied slightly between them. Consequently, the measurement of marketing assets is just as vulnerable to critique as any other set of intermediate metrics because there are no standards for quantifying how much marketing activities increase (or decrease) marketing assets, nor what the increase (or decrease) means in terms of financial value.

Summarily, there is strong evidence that marketing investments have long-term impacts on firm performance, but measuring the long-term impacts of marketing activities remains a challenge. It is well known that marketing’s path to financial outcomes runs through revenues, but the road to revenues runs through the customer (Hanssens, Rust, & Srivastava, 2009). For this reason, we need customer impact metrics that can credibly link marketing activities to financial outcomes. The problem is not the lack of metrics but the lack of *standardized* metrics that can be linked with financial performance in predictable ways (Stewart, 2009). As long as marketing scholars and practitioners are unable to agree on the most relevant marketing metrics, top management is likely to continue focusing on short-term financial measures.

Digital analytics may facilitate the linkage between marketing activities and long-term market outcomes by offering new, intermediate metrics that could potentially be used for measuring cognitive and affective effects of marketing activities and their relationship with market outcomes. In this dissertation, it is proposed that digital analytics can be used for tracking the exposure (i.e., the number of people exposed to a specific marketing activity) and reactions (e.g., website traffic, search behavior, social media mentions) to marketing activities much more accurately. By evaluating the changes that occur in these metrics at the time of a marketing campaign, companies may be able to use them as indicators of added exposure and interest toward their company as a result of the marketing campaign.

Relating the intermediate metrics of digital analytics with market outcomes has been conducted in two ways in the literature. The first way involves examining the relationship between intermediate metrics and market outcomes through advanced statistical methods. Examples of this approach are studies that investigate the relationship between exposure to a digital advertisement and sales (Dinner et al., 2014; Lewis & Reiley, 2014) and search behavior and sales (Hu, Du, & Damangir, 2014). Others have used social media monitoring for assessing the relationship between eWOM volume or valence and sales (Chevalier & Mayzlin, 2006; Duan et al., 2008b; Liu, 2006). Clearly, this type of analysis requires substantial statistical capabilities that are not always found within a company. Another complication is that causal relationships are hard to establish. For example, some scholars have noted that the relationship between eWOM and sales may be interdependent and thus work the other way around (Duan et al., 2008a, 2008b) – that is, past sales may affect present eWOM (Godes & Mayzlin, 2004). Since digital analytics metrics are limited to digital environment, a more holistic approach would be including them into market response models. Research shows that including customer impact metrics in a market response model significantly improves the extent to which the model explains sales variance (Srinivasan, Vanhuele, & Pauwels, 2010). Similar approach could be explored by using intermediate metrics of digital analytics, such as website visitors and social mentions.

The second and simpler approach is to quantify the number of visitors attracted to a website as a result of a digital marketing activity and then track their behavior over time. This approach requires visitors to be identified on the website in question (Phippen et al., 2004). Tracking customer behavior over time is particularly valuable because research shows that there is a temporal gap between exposure to a marketing activity and market outcomes; for example, the generation of a sales lead does not typically happen during a single website visit but is in fact the outcome of multiple visits provoked via multiple marketing activities (Ghose & Yang, 2009; Manchanda et al., 2006). Thus, while existing research has identified some potential ways to use digital analytics data for measuring long-term marketing impacts, these studies have not investigated how or to what extent organizations are capable of transforming theoretical knowledge into real-world practices.

3.1.2 Isolating marketing impacts from other influences

The second universal MPM challenge is related to difficulties separating the impact of an individual marketing activity from other effects. For example, if the sales of an industrial company increase after an advertising campaign, it is difficult to assess which portion of the total sales increase resulted from that particular campaign and how much can be explained by other factors, such as newly introduced products, news stories published about the company during the campaign, price promotions, the timing of the campaign, improvements in the economic situation of the target market, or the bankruptcy of one or more major competitors. McDonald (2010) explained that the link between marketing

activities and market outcomes is often evident, but that there are plenty of other factors occurring at the same time which may affect market outcomes, such as pricing, sales efforts, and competitor actions. Thus, the key challenge is to control for the influence of other factors on market outcomes.

Some of the “other effects” are exogenous (i.e., effects unrelated to the firm’s own actions) while others are endogenous (i.e., effects induced by the firm’s own actions). The exogenous effects are related to the firm’s environment, including competitor actions and market trends in the relevant industry (Dekimpe & Hanssens, 1995). Controlling for exogenous effects requires that MPM is conducted in relation to competitors. Measuring against competition not only shows how a firm performs against its competitors but also works as an indicator of market trends. For instance, if all competitors are performing equally well, it might be that the recent increase in sales was not because of the latest marketing campaign, but was instead due to increased demand in the industry. However, it is often difficult to obtain timely data on competitor performance. In the case of a multinational company, another problem involves selecting which competitors to follow, since competitors may vary in different market regions (Aaker, 1996). Finally, it is important to note that a firm’s marketing actions are often responded by competitors’ marketing actions, and this competitive interdependence may weaken the marketing performance of both parties (see e.g., Luoma, Ruutu, King, & Tikkanen, 2016).

The endogenous effects result from other firm-related activities that are conducted during the same time period as the specific marketing activity under investigation. Pavlou and Stewart (2000) explained that marketing communications generate only one aspect of marketing impact, and that there are many other effects that contribute to the total impact. For example, if the price of a product is reduced at the same time that it is being promoted, it is difficult to determine to what extent each action (i.e., price reduction and promotion) affected sales performance. Also, if the product was promoted through several marketing communications channels, it is hard to assess the effectiveness of each channel in terms of sales impact (Pavlou & Stewart, 2000). This notion is consistent with an age-old marketing adage that half the money spent on advertising is wasted, but it is troublesome to know which half. Unfortunately, it seems that knowledge of MPM has progressed slowly in this regard.

In general, it is disputable whether the effects of marketing activities should be studied separately or in combination. On one hand, it has been considered that measuring the total impact of marketing activities is not possible until researchers are able to attribute the resulting outcomes to a specific marketing action (Dekimpe & Hanssens, 1995). On the other hand, isolating the impact of specific marketing actions is contradictory to the emerging perspective on integrated marketing communications, which holds that marketing communications channels and activities should be used in combination to achieve synergistic effects (De Pelsmacker, Geuens & Van den Bergh, 2007). The presumption is that a marketing activity affects and is affected by all other marketing activities, which would render the idea of isolated effects meaningless. Against

this backdrop, scholars have been paying increasing attention to spillover effects across various marketing activities and channels (Chan, Wu, & Xie, 2011; Lewis & Nguyen, 2015; Rutz & Bucklin, 2011) as well as attribution modeling, which attempts to quantify the contribution of each marketing activity to a customer's purchasing decision (de Haan, Wiesel, & Pauwels, 2015; Kireyev, Pauwels, & Gupta, 2015; Lee, 2010).

In this dissertation, it is proposed that digital analytics advances marketers' ability to evaluate the effect of a specific marketing activity on market outcomes. Digital analytics allows companies to link a customer's exposure to a specific digital marketing activity to website behavior and resultant outcomes, such as purchase decisions or requests for a quotation (Wilson, 2010). From a technical perspective, Web analytics quantifies the number of click-throughs to a company website from a particular digital marketing activity via tags embedded in the link that directs customers to a specific page on the website (Kaushik, 2010). Subsequently, a visitor's behavior can be traced through click-stream data that shows his or her navigation path on a company website (Wilson, 2010). By doing so, firms may be able to establish a direct link between a marketing activity and the resulting business outcome. However, proving this link can be a more challenging task for organizations than it would seem, and research is needed to investigate the possible limitations of digital analytics data in this regard. In particular, it is unclear to what extent digital analytics can be used for controlling other effects that may simultaneously affect the outcome. One solution is to use field experiments that are feasible and cost effective to conduct in the digital environment. Field experiments are particularly common in investigating the effectiveness of digital advertising where target audience is randomly exposed to a focal ad (the treatment group) or to a placebo ad (the control group) (Barajas, Akella, Holtan, & Flores, 2016; Goldfarb & Tucker, 2015; Tucker, 2015). By comparing the campaign performance between the treatment and control groups, marketers gain a better picture of the real effectiveness of the focal ad.

3.2 Organizational challenges

Since causal links between marketing costs and resulting returns have proven difficult to demonstrate, marketing audits have emerged as a novel attempt to systematically review the effectiveness of marketing operations (Kotler, Gregor, & Rodgers, 1977; Shuchman, 1959). The assumption here is that high-quality marketing inputs must ultimately lead to better performance. Leaning toward financial audits in accounting, Kotler et al. (1977) popularized the marketing audit concept into a comprehensive and periodic examination of a firm's marketing strategy, objectives, activities, and environment. The goal of the auditing process is to identify challenges and opportunities in marketing as well as to guide marketers toward actions that could lead to improved marketing and business performance.

The marketing audit perspective is theoretically sound and its relevance to business performance is supported by empirical evidence; nevertheless, it is difficult to transfer into the managerial realm (Clark, 1999). Specifically, marketing audits require substantial effort and resources to implement as a regular measurement activity (Morgan et al., 2002). Furthermore, marketing audits focus on the quality of marketing input with limited guidance about how to measure the output.

In general, there is a lack of academic research on how organizations use MPM systems in practice (Verhoef & Leeflang, 2009). A number of studies have investigated the marketing metrics used by firms (Barwise & Farley, 2004; Hacıoglu & Gök, 2013; Li, 2011; Sampaio et al., 2011), but knowledge is limited in terms of how organizations can design and implement effective MPM systems that will drive better marketing decisions. In the following section, the organizational challenges of designing and implementing MPM systems are reviewed in the light of existing research, with a particular emphasis on the use of digital analytics as part of the system.

3.2.1 Metrics selection

One of the most painstaking tasks in designing MPM systems relates to the selection of metrics. In this respect, the challenge faced by an organization is that there are no clear standards for building a set of metrics that fit the needs of all organizations, nor does an explicit formula exist that a company might use to evaluate the suitability of marketing metrics for its particular needs. Indeed, the selection of metrics depends on the context in which the company operates (Frösén, Tikkanen, Jaakkola, & Vassinen, 2013). Nevertheless, research findings provide insights into what firms need to take into consideration when making metrics selection decisions.

The literature maintains that the selection of marketing metrics should be aligned with a specific marketing strategy (Homburg, Artz, & Wieseke, 2012; Lamberti & Noci, 2010) and targeted business outcomes (Ambler, Kokkinaki, & Puntoni, 2004; Morgan et al., 2002; Patterson, 2007). The idea is to tie marketing metrics to business performance in a way that enables a firm to monitor the attainment of business objectives (Chaffey & Patron, 2012; Frösén et al., 2016; Hong, 2007). Similarly, research shows that aligning digital analytics metrics with a digital marketing strategy and business objectives increases the benefits of digital analytics usage (Phippen et al., 2004; Weischedel & Huizingh, 2006).

Importantly, the metrics must be clearly defined (Ambler, 2000; Lehmann, 2004; Webster et al., 2005). That is, an actionable metric is one that clearly communicates what it is used for as well as how change in metric performance will affect the achievement of a particular business goal. Well-defined performance metrics help organizations evaluate their relevance and avoid common misunderstandings (Bourne, Mills, Wilcox, Neely, & Platts, 2000; Neely, Mills, Platts, Gregory, & Richards, 1996).

The metrics system must be multidimensional: It must reflect short- and long-term results as well as financial and non-financial results in order to

achieve a complete understanding of marketing impacts (Ambler & Roberts, 2005, 2008; Clark, 1999; Lehmann, 2004; O'Sullivan & Abela, 2007; Rust, Ambler, et al., 2004; Seggie et al., 2007). This notion is supported by evidence that short-term financial metrics are inadequate for capturing the total impact of marketing activities (e.g., Ambler & Roberts, 2008; Morgan et al., 2002).

Finally, the structure of the metrics set is another important consideration. Many authors suggest that the key is to adopt a comprehensive but manageable set of metrics; too few will not capture the multidimensional nature of marketing, while too many will likely lead to confusion (Clark, 1999; McGovern, Court, Quelch, & Crawford, 2004; Pauwels et al., 2009). Mintz and Currim (2013) found that on average the comprehensiveness of a marketing metrics system is positively associated with marketing performance but there are multiple factors that affect the extent to which marketing metrics are used by a firm (e.g., firm strategy, marketing tactics in use, and firm and environmental characteristics). According to Homburg et al. (2012), the comprehensiveness of a marketing metrics system does not always lead to improved firm performance. They found that building a metrics framework that demonstrates the cause-and-effect relationships between the metrics is more likely to lead to positive firm performance in comparison to the strategic fit and breadth of the metrics system. The finding is in line with the suggestion that marketers do not need more metrics but rather a better understanding of the interrelationships among them (Stewart, 2009). Frösén et al. (2016) further questioned the universal benefits of having a comprehensive metrics system. Their findings implied that the benefits are context-dependent; while large firms typically benefit from a comprehensive MPM system, smaller firms are better off with a more focused set of metrics.

The advantage of digital analytics is that it provides a variety of objective, standardized, and quantitative metrics that are relatively easy to communicate to senior management. Accordingly, Seggie et al. (2007) argued that the ever-growing power of the Internet will inevitably increase managerial emphasis on objective metrics. On the other hand, the multitude of metrics provided by digital analytics complicates metrics selection because it is difficult to decide which metrics are the most critical ones to adopt (Phippen et al., 2004; Weischedel & Huizingh, 2006; Welling & White, 2006). For this reason, it is vital for an organization to prioritize the metrics so that the volume of metrics data does not expand to a level beyond the capacity of the organization to understand and use it (Day, 2011). Chaffey and Patron (2012) suggested that organizations should begin digital analytics metrics selection by identifying the key performance indicators (i.e., metrics that indicate the firm's overall digital marketing performance in relation to its most important digital marketing goals) and differentiating them from other granular metrics. However, little is known regarding how companies resolve the problem of compiling a comprehensive yet manageable set of digital analytics metrics.

3.2.2 Measurement process

Selecting appropriate metrics to assess marketing performance will bring only limited benefits if the organization has not designed a suitable process for refining the metrics data into insights and corrective actions. This phenomenon is evident in the adoption of digital analytics tools. According to Hong (2007), companies are often eager to adopt digital analytics metrics but lack a strategic plan for how to use them to improve performance, which consequently renders them meaningless. The performance measurement literature has identified the following key phases that need to be carefully considered in the adoption of an effective performance measurement process: data gathering, result reporting, data analysis and interpretation, taking action (i.e., optimization), and updating the metrics system³ (Bourne, Kennerley, & Franco-Santos, 2005; Bourne et al., 2000).

The data for metrics systems can be collected from various sources and through numerous methods, but the challenge is to obtain reliable, standardized, and objective data (Eccles, 1991; Stewart, 2009). Therefore, data gathering must be planned synchronously with metrics selection decisions as there may be a discrepancy between what an organization wants to measure and what it can actually measure with the methods and tools in use. Notably, digital analytics has made the data collection task much less burdensome because data gathering can be standardized and automated (Russell, 2009). The downside of digital analytics is that the data may include a variety of formats, some of which are unstructured (e.g., text, pictures and videos) (Sivarajah, Kamal, Irani, & Weerakkody, 2016). These data formats are difficult to interpret and operationalize as meaningful metrics.

Multiple studies have found that standardized and frequent reporting of performance outcomes leads to improved performance (Bourne et al., 2005; Hacker & Brotherton, 1998; O'Sullivan et al., 2009). Ambler and Roberts (2008) suggested that management prefers to obtain a single number that captures the total profit impact of marketing inputs. Many others have recommended the use of a marketing dashboard for condensing a firm's key marketing metrics into a single display that management can quickly review (Clark et al., 2006; Krush, Agnihotri, Trainor, & Nowlin, 2013; Kumar et al., 2013; Miller & Cioffi, 2004; Pauwels et al., 2009). However, it remains in dispute how much detailed information management is willing to receive from marketing performance or how reporting should be operationalized.

Most organizations collect performance-related data, but the true value of data is determined by how it is analyzed, interpreted, and refined into insights (Eccles, 1991; McGovern et al., 2004; Neely & Bourne, 2000; Pauwels et al., 2009).

³ According to Bourne et al. (2005, 2000), result reporting is positioned after data analysis and interpretation. The sequence is changed for the purposes of this dissertation because in the realm of digital analytics, result reporting is typically automatized and synchronized with data collection and thus occurs before the analysis and interpretation phase.

The same logic applies to the use of digital analytics, about which several authors have concluded that the data derived from it are useless without proper analysis and interpretation (Chaffey & Patron, 2012; Court, Gordon, & Perrey, 2012; Phippen et al., 2004). Thus, the data analysis and interpretation phase is likely the most crucial task in the MPM process, as it can be considered the prerequisite for improving performance. Aside from anecdotal wisdom, the marketing literature provides very little guidance on how metrics data should be analyzed and interpreted. An obvious explanation for this omission is that suitable analysis and interpretation techniques are contingent on specific performance measurement objectives and metrics in use.

Performance measurement results must inform corrective actions. Although one important objective of measuring marketing performance is to demonstrate the contribution of marketing to business performance, the measurement data should also be exploited to optimize current activities and guide decision making. This claim is supported by studies demonstrating that actions taken on the basis of MPM data have positive performance implications (Kannan, Pope, & Jain, 2009; Lodish, Curtis, Ness, & Simpson, 1988; Silva-risso, Bucklin, & Morrison, 1999). Lastly, since business strategies and objectives are not static, modifying and updating the metrics system is vital in order to reflect concomitant changes in strategic objectives and targets (Bourne et al., 2000; Neely et al., 2000; Wouters & Sportel, 2005).

3.2.3 Measurement resources

A firm's *resources* are tangible and intangible assets available to the firm that can be classified under the following categories: knowledge (e.g., know-how), financial (e.g., budget), physical (e.g., facilities and equipment), human (e.g., people), legal (e.g., trademarks and patents), organizational (e.g., culture), informational (e.g., data and information about competitors), and relational resources (e.g., customer relationships) (Morgan, 2012). They are tightly linked with a firm's *capabilities* that refer to the firm's processes to combine and deploy resources in ways that contribute to achieving the firm's goals (Mahoney & Pandian, 1992; Morgan, 2012). In other words, resources are regarded as the "raw materials" or inputs that can be transformed into valuable outputs when successfully deployed through the firm's capabilities (Grant, 1991; Miller & Shamsie, 1996). Accordingly, measurement resources refer here to the inputs needed to design and implement marketing metrics systems while metrics selection and measurement process are considered measurement capabilities through which measurement resources are transformed into business benefits. Thus, while the previous sections of this chapter have focused on specific measurement capabilities, this section discusses those measurement resources (i.e., analytics skills, IT infrastructure, senior management commitment, leadership, and organizational culture) that have been found to influence an organization's ability to design a suitable set of metrics and creating a process for harnessing the metrics system.

Analytics skills and knowledge of measurement techniques are necessary for the effective use of marketing performance data (Germann et al., 2013; Lenskold, 2002; O'Sullivan & Abela, 2007; Patterson, 2007). In this respect, it is alarming that analytics skills are not included among the key assets of marketing organizations, as marketers tend to rely on their creative rather than analytical thinking (Lenskold, 2002; Patterson, 2007). In the context of digital analytics, the plethora of metrics and the evolution of digital media requires marketers to be competent in examining the reasons for metrics selection decisions (Chaffey & Patron, 2012; Court et al., 2012). Moreover, all data gathered is useless if not understood and refined into meaningful conclusions that are capable of driving future actions (Court et al., 2012; Phippen et al., 2004). In addition to the lack of skills, another possible hurdle is skilled employees' lack of available time, since careful data analysis requires substantial effort (Neely & Bourne, 2000). Allowing sufficient time for data analysis and reporting is particularly important in the early stages of MPM system adoption, as the successful implementation of any performance measurement initiative requires a thorough learning process (Wouters & Sportel, 2005).

Sophisticated IT infrastructure supports the exploitation of metrics data by improving integration and accessibility (Bititci, Nudurupati, Turner, & Creighton, 2002; Bourne, Neely, Platts, & Mills, 2002; Eccles, 1991; Germann et al., 2013). Accordingly, an important part of adopting an MPM system is possessing suitable tools for gathering and analyzing the metrics data that can be integrated into the overall IT infrastructure. With proper digital analytics tools, an organization will be able to automate the collection of data required for selected metrics and simplify analytical tasks (Pauwels et al., 2009; Russell, 2009). Therefore, it is reasonable to assume that the successful implementation of digital analytics will be strongly affected by how well the analytics tools are integrated into a firm's overall IT infrastructure and how easily the data are accessible. Since companies often adopt multiple digital analytics tools, a possible pitfall is that data can become scattered across different databases used by different functions or business units. When a firm does not succeed in building an integrated IT infrastructure, the data can become fragmented and their use time consuming, which is likely to discourage users (Bititci et al., 2002; Neely & Bourne, 2000).

Senior management commitment plays an important role in any major organizational initiative, and the adoption of an MPM system is no exception. Studies have concluded that support from top management is necessary for the successful deployment of marketing performance data (Germann et al., 2013; O'Sullivan & Abela, 2007; Patterson, 2007). Senior management commitment is required to justify investment in recruitments, training, and the IT tools needed to build the system (Chaffey & Patron, 2012). Besides budget and resource allocation decisions, senior management commitment encourages the implementation and active use of a performance measurement system (Bititci et al., 2002; Bourne et al., 2000, 2002). Moreover, the multitude of available marketing metrics has enabled marketers to present themselves in a positive light by changing

the metrics they use when reporting to the board (Seggie et al., 2007). For this reason, executives must ensure that the results report is standardized.

The effective adoption and use of performance measurement systems requires leadership and change management practices. As measurement systems are often designed to measure the performance of staff, they are not always enthusiastically received (Hacker & Brotherton, 1998). Users may be fearful of measurement and resist its implementation, primarily because of its potential to expose shortcomings in individual or group performance (Neely et al., 2000). Accordingly, multiple studies have concluded that marketers are often reluctant to measure their own performance (Ambler, 2000; Clark et al., 2006; Lenskold, 2002; McDonald, 2010; McGovern et al., 2004). To avoid resistance, performance data must be used to encourage learning and improvement rather than to punish and blame (Bourne et al., 2002; Kennerley & Neely, 2002; Neely & Bourne, 2000). Wise organizations will thus use MPM systems for optimizing performance rather than for determining who is responsible for suboptimal performance. Furthermore, communicating the benefits of measurement decreases resistance toward its usage (Hacker & Brotherton, 1998; Kaplan & Norton, 1996; Kennerley & Neely, 2002). Once employees understand the benefits of performance measurement, they are more likely to integrate it into their daily workflow (Bititci et al., 2002). On the other hand, leaders must coordinate the use of the system and assign clearly defined responsibilities for the different tasks in the measurement process (Eccles, 1991; Hacker & Brotherton, 1998).

Performance measurement and analytics initiatives benefit from an organizational culture that favors data-driven decision making, cooperation, and information sharing (Davenport, 2013; McAfee & Brynjolfsson, 2012). Specifically, a culture that embraces the use of metrics data in marketing decision making contributes to its effective usage (Germann et al., 2013; Patterson, 2007). Given the important role of management in changing organizational culture, it is disconcerting that a large proportion of executives continue to rely on mental models instead of analytical approaches to make marketing decisions (Germann et al., 2013; Lilien, 2011).

4 METHODOLOGY

Methodological decisions are determined by the research paradigm a researcher is following. The research paradigm not only guides the selection of data gathering and analysis methods but also the choice of competing methods of theorizing (Sayer, 1992). The method of theorizing is arguably the most fundamental issue in methodology because it defines the roles of theory, method, and empirical evidence in the study and thus determines how the study is conducted and how the findings are interpreted and evaluated (Dubois & Gibbert, 2010; Welch, Piekkari, Plakoyiannaki, & Paavilainen-Mäntymäki, 2010). The research paradigm in this dissertation follows critical realism (Bhaskar, 1978; Easton, 2010; Sayer, 1992). The case study approach was selected as the primary research strategy because it best suits the research questions posed in this dissertation. This section explains and justifies the use of critical realism and case study research for the purposes of this study. I also describe how abductive logic (Dubois & Gadde, 2002) was used in conducting the case studies and how it is reflected in the dissertation articles.

Notably, the first article in this dissertation is a quantitative survey study that follows a different research paradigm and logic. The goal of the survey study was to obtain an overview of digital marketing usage and measurement practices in the industrial sector. The finding that industrial companies do not actively measure digital marketing performance raised questions that required a qualitative approach and led to the selection of the case study as the primary research strategy for this dissertation. Therefore, this chapter focuses on case study research, while the methodological considerations of the survey study are discussed in Chapter 5.1.

4.1 Critical realism as a research paradigm

A research paradigm specifies philosophical assumptions about the ontology, epistemology, and methodologies for developing and testing theory (Kuhn,

1970; Möller, Pels, & Saren, 2009). Adopting a certain paradigm determines the relationship between the data, theories, and values of the researcher and guides the formulation of research questions (Arndt, 1985). The dominant paradigm in marketing research is positivism (Hirschman, 1986; Piekkari, Welch, & Paavilainen, 2009; Welch et al., 2010). Positivism states that just as the physical world operates according to a set of absolute laws, the social world and its various settings reveal regularities (i.e., laws) that can provide the basis for explanation and causal statements (Hirschman, 1986). Positivists rely on empirical evidence and statistical inference and thus favor large sample sizes (Easton, 2010). The aim is to develop and test hypotheses that are generalizable across settings (Eisenhardt, 1989). The major criticism of positivism revolves around the justification of causal statements; positivists believe that if two events occur in sequence on a regular basis, a causal relationship exists. However, this assumption is not always true (Easton, 2010). To elaborate, a correlation between two variables that occur in sequence indicates that the variables are associated, but the evidence is insufficient to make causal claims because there may be a number of other variables that cause the association. While this challenge can be partly overcome by careful hypothesis building, experimental designs, and the use of control variables, it is practically difficult to take into account all possible variables that may cause the association of variables under investigation. Even more fundamental a limitation of using statistical methods is that they do not provide an explanation for why a given causal relationship occurs (Easton, 2010).

Although positivism is the mainstream marketing research orientation, there are alternative views that question the positivistic underpinnings of conducting research in this area. In many ways, interpretivism can be seen as the opposite of positivism. Interpretivists do not believe there is a way to know what is real with absolute certainty, because all research is infused with subjectivity (Gummesson, 2003). They rule out regularities and reject the idea that causal relationships can be observed (Easton, 2010). In other words, interpretivists believe that researchers cannot claim to know what is true, but can only provide their interpretation of a phenomenon. From the interpretivists' viewpoint, the scientific ideal of explaining should be replaced by understanding (Johnson & Duberley, 2000). The disadvantage of interpretivism is that there can be as many interpretations as there are researchers investigating a given phenomenon, with no means of evaluating which interpretation is better than another (Easton, 2010). As such, interpretations can be viewed as different lenses on a phenomenon that do not allow for any form of comparison.

This dissertation follows critical realism, which balances between positivism and interpretivism (FIGURE 6). It is considered the most suitable research paradigm for the purposes of this study because the study includes both interpretivist and positivistic elements. On one hand, the dissertation describes how digital analytics is used in specific industrial settings (i.e., interpretivism). On the other hand, it examines which organizational processes and resources explain the benefits gained from its usage (i.e., positivism). By integrating these

two approaches, critical realism enables this study explain why some industrial organizations gain benefits from the use of digital analytics while others do not.

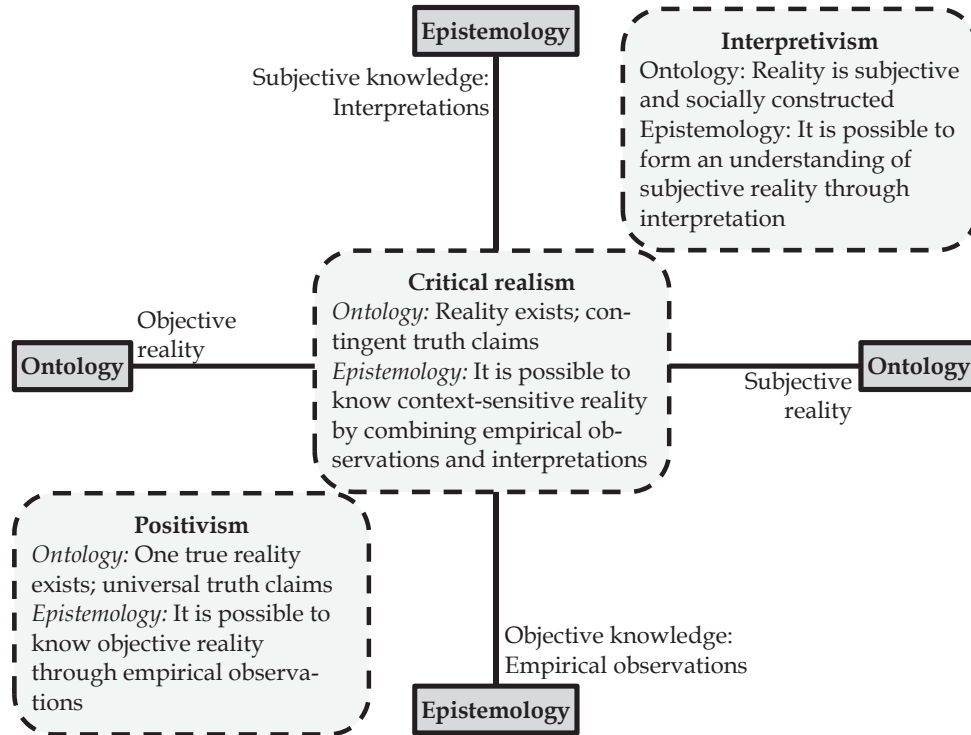


FIGURE 6 Ontological and epistemological comparison of research paradigms (adapted from Järvensivu & Törnroos, 2010)

Critical realists believe that there are regularities in the world that can be observed; but since observations are fallible, interpretation is always needed to describe a phenomenon in its entirety (Easton, 2010). Importantly, while multiple contributors have outlined what is meant by critical realism (e.g., Bhaskar, 1978, Sayer, 1992), this study specifically follows Easton (2010), whose work is focused on applying critical realism in the context of industrial marketing.

Ontologically, critical realists assume that the world is real and exists independent of our knowledge of it (Bhaskar, 1978; Sayer, 1992). The world is considered to be socially constructed – but not entirely so, because the mechanisms of the real world influence social phenomena (Easton, 2010). Consequently, the explanation of a social phenomenon consists of both causal mechanisms (positivism) and subjective interpretations (interpretivism) (Collier, 1994). Similar to positivists, critical realists believe there are regularities and causal mechanisms in the world that affect social phenomena, but since the social world is an open system, the effects of these mechanisms on social phenomena are contingent and context-dependent (Welch et al., 2010).

Critical realists use causal language to describe the world just like positivists. However, the difference between them is that critical realists use *causal language with thinking*, suggesting that the aim of research is not to demonstrate causal relationships but to increase our understanding of why causal relationships occur (Easton, 2010). Critical realists do not develop causal explanations by increasing the number of observations but by digging beneath what is readily observable (Collier, 1994). The meaning of a phenomenon cannot be measured or counted, but it must be understood, and therefore interpretation is always needed to complement empirical evidence (Sayer, 1992).

According to Bhaskar (1978), the ontology of critical realism is layered and consists of three domains (FIGURE 7): the empirical, the actual, and the real. Together, these three domains have important epistemological implications. Researchers make observations in the empirical domain, but the events under investigation occur in the actual domain, which may not be fully observable by the researchers. The mechanisms or causal powers in the real domain generate the events, but the events are also affected by the spatio-temporal context in which they occur. Furthermore, in any given situation, there are multiple causal powers at work, and therefore the outcome of an event depends on the ways in which causal powers are combined in a given setting. Consequently, events are clues to understanding the causal powers in the real domain, but the causal powers are difficult to isolate from contextual effects. Critical realism does not argue that events and causal powers cannot be observed as such, but that observations are imperfect since they capture only what the researcher is capable of observing. As a result, the events and causal powers that occur in the actual and real domain remain partly uncovered, and therefore researchers need to critically analyze their observations while making interpretations. A full understanding of any social phenomenon is not a realistic goal, but researchers should aim to collect rich, in-depth data that will allow them to make more informed interpretations.

In accordance with the philosophical assumptions of critical realism, this dissertation holds that there exist law-like mechanisms that affect the organizational ability to use digital analytics for measuring and optimizing digital marketing performance, but how these causal powers work depends on a given setting. Consequently, the results of this dissertation include causal powers and contextual issues that are not meant to be understood in isolation from each other. The purpose is not to establish causal relationships with statistically representative samples, but to explain how they occur in specific organizational settings. For example, the dissertation discusses the factors that affect an organization's ability to measure digital marketing performance; and yet, I do not aim to prove this claim with statistical evidence, but rather to focus on explaining why and how the factors advance (or limit) measurement ability. To this end, interpretation is required because observations alone fail to completely uncover the reality as it is.

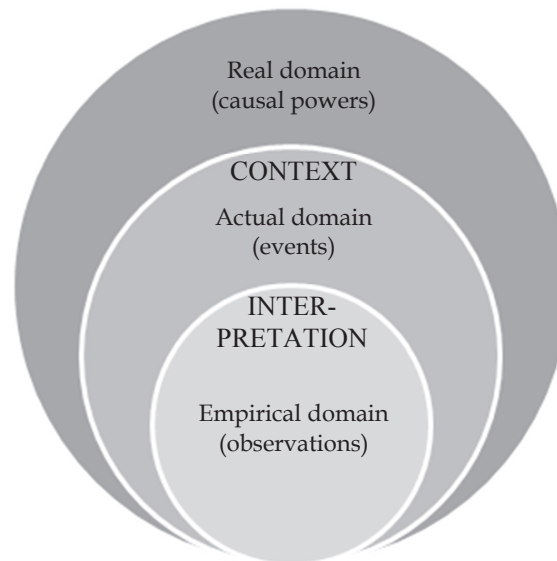


FIGURE 7 Ontological layers of critical realism (based on Bhaskar, 1978)

4.2 Case study as a research strategy

Case study research is, probably, the most popular research method used by industrial marketing researchers. This may be, in part, because of the nature of the subject. The main units of analysis are organizations and relationships, which are difficult to access, and complex in structure in comparison with, for example, consumer markets. As a result, a case study of a single, or a small number, of such entities can provide a great deal of, largely qualitative, data which can be written up as a case study, offering insights into the nature of the phenomena. (Easton, 2010, p. 118)

Critical realism does not confine itself to a specific research strategy. However, Easton (2010) found that critical realism fits case study research particularly well because it favors an in-depth research process with the objective of understanding why things are the way they are. Critical realism also encourages interaction between a phenomenon and its context, a dynamic which is best understood through in-depth case studies (Dubois & Gadde, 2002). In general, the case study is an ideal research approach when the study addresses “how” and “why” questions and investigates a contemporary phenomenon in its real-world context; further, case studies are best used when the boundaries between a phenomenon and its context are not readily apparent (Yin, 2014). The research questions and characteristics of the research phenomena in this dissertation are well suited to the case study research strategy. The phenomena examined are both contemporary and rare in the sense that the use of digital analytics has gained widespread attention only recently and academic research on the topic is still in its infancy. In particular, there has been very little research on real-world organizational practices regarding the use of digital analytics. As a newly

emerging research topic, it is also unclear to what extent the study context (i.e., industrial context) is intertwined with the phenomenon.

The present study follows Easton's (2010, p.119) definition of a case study, which outlines it as a research strategy that "involves investigating one or a small number of social entities or situations about which data are collected using multiple sources of data and developing a holistic description through an iterative research process." This definition provides a few important guidelines for conducting case studies. First, it suggests that the number of cases does not relate to the quality of the study because the goal is to develop an in-depth understanding of the study phenomenon. Second, case study researchers are encouraged to use multiple sources of data (i.e., interviews, observations, documents, narratives, etc.) to provide a more holistic view of the phenomenon in question. Third, case study research benefits from an iterative research process in which researchers are allowed and encouraged to move back and forth between the various stages of the research project until a thorough understanding of the case is developed (Verschuren, 2003).

It must be stressed that there is no agreement about what constitutes a case study or how it should be conducted. In fact, very different methodological approaches with the label "case study" have been used (Easton, 2010; Woodside, 2010). The chosen methodological approach will be dependent on the research paradigm and philosophical assumptions of the researcher. Ultimately, the question of how to theorize from case studies distinguishes between the methodological approaches. Welch et al. (2010) created a typology that classifies different methods of theorizing from case studies, each of which differs philosophically in terms of how the case study generates causal explanations and how it incorporates context. They divided the methods of theorizing into four categories: inductive theory building, natural experiment, interpretive sense-making and contextualized explanation (TABLE 5).

According to Welch et al. (2010), inductive theory building is the most prominent theorizing method that largely relates to Eisenhardt's (1989) work. It represents a positivistic view of research and considers the goal of case study research to be the development of testable hypotheses that are generalizable across settings. Hence, the case study is in this sense regarded as a preliminary or exploratory research method that complements deductive theory testing by generating hypotheses that can be subsequently tested with large-scale quantitative samples. Inductive theory building favors objectivity in seeking regularities, and understanding context is important merely to the extent that it enables a researcher to separate it from the regularities and build generalizable and context-free hypotheses. Inductive theory building relies on empiricism; only what is observable counts, and since causality is unobservable, the advocates of this method do not aim for causal explanations but instead propose associations and relationships between different variables.

The natural experiment is based on Yin's (2014) case study ideology. The name of the theorizing method refers to Yin's inclination to draw parallels between a case study and a natural experiment; many of the recommended case

study techniques (e.g., pattern matching and replication logic) have been adapted from experimental study designs. Moreover, Yin stated that just like experiments, a case study is generalizable to theory or theoretical propositions (i.e., analytical generalization) and not to population (i.e., statistical generalization). Similar to Eisenhardt, Yin is an advocate of positivist philosophy but holds a different view on the role of case studies in scientific research. In line with Eisenhardt's view, Yin regards the case study as a suitable method for discovering new theories but specifically highlights the ability of case studies to provide causal explanations by using deductive logic to test and develop existing theories. When formulating causal explanations, researchers should strive to isolate causal relationships from the study context.

TABLE 5 Methods of theorizing from case studies (adapted from Welch et al., 2010)

		Weak ← Emphasis on causal explanation → Strong	
Strong	↑ Emphasis on contextualization	Interpretive sense-making (interpretivism): <ul style="list-style-type: none"> • Builds thick descriptions instead of cause-and-effect relationships • Contextual description is vital to understand the case • Aim: subjective search for meaning 	Contextualized explanation (critical realism): <ul style="list-style-type: none"> • Builds cause-and-effect relationships that are contingent on contextual conditions • Context is an integral part of the explanation • Aim: subjective search for causes
		Inductive theory building (positivism/empiricism): <ul style="list-style-type: none"> • Builds associations between variables instead of cause-and-effect relationships • Context is excluded from the explanation • Aim: objective search for generalities 	Natural experiment (positivism/falsificationism): <ul style="list-style-type: none"> • Builds cause-and-effect relationships • Causal explanation is isolated from the context • Aim: objective search for causes
Weak	↓		

Interpretative sense-making is based on interpretivism and primarily follows Stake's (1995) perspective on the case study approach. While Yin and Eisenhardt support the unity of natural science and social science and advise researchers to aim for generalization and the isolation of context from study results, Stake advocates exactly the opposite. He endorses the distinction between natural and social sciences by arguing that researchers are part of the world they study and hence attach subjective meanings to social phenomena based on their own behavior and experiences. Therefore, objectivity is not considered a realistic goal in case studies nor should it even be a goal, because the strength of case studies is to understand the particular and not to generalize. By particularization, Stake refers to an understanding of the uniqueness of the case in its entirety. The goal of a case study is thus not to provide causal explanations but

rather thick descriptions of the case in question; doing so requires a thorough understanding of the study context.

Contextualized explanation is founded on the philosophical assumptions of critical realism. Just as critical realism is a relatively new research paradigm, contextualized explanation is a newly emerged method of theorizing, and it is disputable who its key authority is. That said, Welch et al. (2010) primarily followed the writings of Bhaskar (e.g., 1978) and Ragin (e.g., 2000) in their description of contextualized explanation. As its label implies, contextualized explanation combines causal explanation with contextual understanding. In many ways, it is the golden mean between natural experiment and interpretative sense-making in that it iterates between explaining the general (i.e., causal mechanisms) and understanding the particular (i.e., case settings). The aim of contextualized explanation is *contingent generalization*, suggesting that there are no universalities in social settings. The explanation itself consists of both causal mechanisms and the study context, and thus there is no need to isolate them from each other.

This dissertation deploys contextualized explanation as its method of theorizing since it combines causal explanation with contextual understanding. Accordingly, the findings of the dissertation provide causal explanations in particular industrial settings. The theoretical framework of the study covers the major factors that affect the use of digital analytics for measuring and optimizing digital marketing performance, and it is used to investigate how the elements of the theoretical framework appear in the study context and why they appear in a way that is observed.

4.3 Abductive logic

Critical realism challenges purely inductive and deductive reasoning by favoring a balanced approach between the two, commonly referred to as abductive logic (Dubois & Gadde, 2002, 2014; Piekkari, Plakoyiannaki, & Welch, 2010; Welch et al., 2010). Järvensivu and Törnroos (2010) explained the difference between deduction and induction: The deductive research process starts with the development of theoretical propositions that are subsequently tested with empirical data, while inductive approaches aim to create theories on the basis of data. Dubois and Gadde (2002) argued that an abductive research process is positioned between the inductive and deductive approaches and stressed theory development via continuous interaction between theory and data. Ergo, while deductive approaches are concerned with confirming theories and inductive approaches pursue new ones, the abductive approach is aimed at developing or refining theories.

Mainstream case studies in marketing rely on deductive logic reflecting the positivistic research paradigm (Piekkari et al., 2010). Inductive logic is based on “grounded theory” (Glaser & Strauss, 1967) but is rarely used in case study research in its purest form. As one of the founders of grounded theory later

acknowledged, it is difficult to conduct research without any preconceptions or to completely ignore the theoretical knowledge one has accumulated over time (Strauss & Gorbun, 1990). Abductive logic provides an alternative to induction and deduction by suggesting that researchers do not need to develop rigid theoretical propositions before data collection, but neither do they need to collect and analyze data “theory-free” (Dubois & Gadde, 2002). Ultimately, theoretical understanding of a phenomenon deepens alongside empirical observations.

Abductive logic challenges the ideal of a linear research process consisting of a series of consecutive research stages (Dubois & Araujo, 2004). In contrast, the abductive research process considers research stages to be intertwined and encourages researchers to move back and forth from one research stage to another until a comprehensive understanding of theory and empirical phenomena has been reached (Dubois & Gadde, 2014). In their seminal paper, Dubois and Gadde (2002) described and outlined explicit guidelines for conducting case study research with abductive logic – a process they labeled *systematic combining* (FIGURE 8). According to the authors, systematic combining refers to a non-linear research process whereby the theoretical framework, empirical fieldwork, and case study analysis evolve simultaneously with the ultimate objective of matching theory and reality. Matching theory and reality is operationalized by continuous confrontation between the theoretical framework and the case, both of which evolve throughout the research process. Indeed, the evolving nature of the framework and case form a distinctive element of systematic combining.

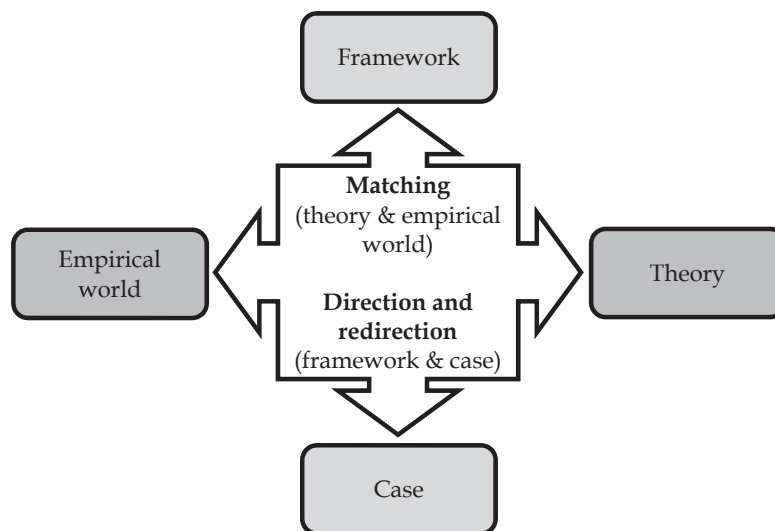


FIGURE 8 Systematic combining (adapted from Dubois & Gadde, 2002)

Miles, Huberman & Saldaña (2014) identified two types of theoretical framework: One is *tight and prestructured* and the other is *loose and emergent*. The authors noted that both frameworks have benefits and weaknesses: The tight and

structured (i.e., deductive) framework may lead a researcher to ignore important elements related to the phenomenon, while the loose and emergent (i.e., inductive) framework might result in the collection of excessive amounts of indiscriminate data that are difficult to use for building theories. Systematic combining balances between these two by offering a *tight and emerging* framework (Dubois & Gadde, 2014). By the *tight* framework, Dubois and Gadde (2002) meant that researchers should build a preliminary theoretical framework that reflects their preconceptions before entering the empirical stage of the research process. The *emergent* framework, on the other hand, refers to the understanding that a model evolves during the research process because unanticipated empirical observations demand theoretical modifications and vice versa. Consequently, the theoretical framework provides an initial direction for empirical fieldwork, but empirical findings may redirect the framework.

A preliminary theoretical framework provides a good starting point for investigating phenomena as it guides researchers to focus on theoretically relevant issues and hence directs the collection of data (Miles et al., 2014). Dubois and Gadde (2002) argued that strong reliance on theory from the outset in the research process improves the explanatory power of case studies when compared to purely inductive studies, which is one of the reasons why abductive logic suits the critical realist paradigm particularly well (Easton, 2010). An argument for an evolving framework is that, often, when case study researchers start collecting empirical evidence, they discover that their preconceptions were wrong or the theoretical framework was not suitable for the case (Flyvbjerg, 2006). Thus, the abductive research process offers more flexibility compared to the deductive approach insofar as researchers do not end up in a situation where they have to force the data into framework.

In addition to an evolving theoretical framework, a case under investigation is allowed to evolve when it is confronted with the theoretical framework (Dubois & Gadde, 2002). As a result, the boundaries of the case cannot be predetermined, but the case must be found during the research process or, in some instances, the case finds the researcher (Dubois & Gadde, 2014). Consequently, identifying and framing a case may be one of the last steps in the research process; setting its boundaries is ultimately a question of what was found during the research process.

The research process discussed in this dissertation follows abductive logic and matches the characteristics of systematic combining in that the goal is to develop theories through continuous interaction between theory and empirical evidence. Each case study was approached with a preliminary theoretical framework in mind, but the framework evolved alongside data collection and analysis. Similarly, the whole dissertation journey followed an iterative research process in the sense that each study served as the basis and motivation for the others.

4.4 Case study research process

A case study research process consists of phases in which key decisions regarding a study are made (Piekkari et al., 2010). Scholars have proposed alternative research process models for conducting a case study: Yin (2014) proposed five components; Eisenhardt (1989) suggested eight steps; and Easton (2010) advocated seven tasks. Despite the varying number of stages, the models include very similar elements that are integrated in this dissertation under the following six tasks (TABLE 6): (1) outlining the purpose of the research, (2) defining and selecting the case(s), (3) selecting appropriate data sources and collecting the data, (4) analyzing the data, (5) presenting the findings, and (6) evaluating the quality of the research.

TABLE 6 Key tasks in the case study research process

This dissertation	Yin (2014)	Eisenhardt (1989)	Easton (2010)
1. Outlining the purpose of the research	1. Study questions 2. Study propositions	1. Getting started; research questions	1. Deciding on the phenomenon to be studied 2. Deciding on the nature of the study question(s)
2. Defining and selecting the case(s)	3. Unit of analysis; defining and bounding the case	2. Selecting cases; theoretical sampling	3. Identifying the entities and objects that characterize the phenomenon being studied
3. Selecting data sources and collecting data		3. Crafting instruments and protocols; selecting data sources 4. Entering the field; data collection	4. Collection of data
4. Analyzing the data	4. Linking data to propositions	5. Analyzing data	5. Making interpretations
5. Presenting the findings		6. Shaping hypotheses 7. Enfolding literature; comparing findings to literature 8. Reaching closure	6. Forming an explanation
6. Evaluating the quality of the research	5. Criteria for interpreting the findings		7. Deciding whether the explanation is acceptable

While these six key tasks can be identified in almost all case studies, they are approached differently with respect to the researcher's ontological and episte-

mological position (Piekkari et al., 2010). Since this dissertation follows a critical realist philosophy and uses abductive logic, the included case studies were conducted iteratively and the tasks were considered intertwined rather than sequential (Dubois & Gadde, 2002). In the following, I discuss the six tasks of the research process in more detail. TABLE 7 shows how they are addressed in the case studies of this dissertation.

TABLE 7 Research process tasks in the case studies of this dissertation

Task	Subtask	Case study 1	Case study 2	Case study 3
1. Outlining the purpose of the research	Case study type	Exploratory	Descriptive/Explanatory	Descriptive/Explanatory
	Type of research questions	“What?”	“How/why?”	“How/why?”
	Relationship between theory and data	Continuous interplay	Continuous interplay	Continuous interplay
	Study aim	To develop theories	To develop theories	To develop theories
2. Defining and selecting the cases	Unit of analysis	Digital analytics users	Organizational process	Organizational process
	Sampling strategy	Purposeful sampling	Purposeful sampling	Purposeful sampling
	Number of cases	Multiple	Multiple	Single
3. Selecting data sources and collecting data	Sources of data	Interviews	Interviews, workshop sessions, email exchanges	Interviews, observations, expert interviews, presentation
	Selection of informants	Selected by the management of case organizations	Selected by the management of case organizations	Snowball sampling
4. Data analysis	Analytic technique	Cross-case comparison	Cross-case comparison/explanation building	Developing case description/explanation building
	Phases of analysis	(1) Data condensation, (2) data display, and (3) drawing and verifying conclusions	(1) Data condensation, (2) data display, and (3) drawing and verifying conclusions	(1) Data condensation, (2) data display, and (3) drawing and verifying conclusions
5. Presenting the findings	Basis of reporting	Theoretical framework/cross-case comparison	Theoretical framework/cross-case comparison	Theoretical framework
	The role of data and interpretations	Direct quotes are used as a basis for interpretations	Direct quotes are used as a basis for interpretations	Direct quotes are used as a basis for interpretations

(Table continues on the next page →)

6. Evaluating the quality of the research	Transparency	A chain of evidence is provided; direct quotes are visible	A chain of evidence is provided; direct quotes are visible	A chain of evidence is provided; direct quotes are visible
	Validity	Study results verified by the informants	Multiple sources of evidence used; study results verified by the informants	Multiple sources of evidence used; study results verified by the informants
	Analytical generalizability	Results are context-sensitive; theoretical frameworks are generalizable	Results are context-sensitive; theoretical frameworks are generalizable	Results are context-sensitive; theoretical frameworks are generalizable

The first task of the research process is to outline the purpose of the research, which is essentially guided by the motivation for the study: What is already known about the topic and how will the study contribute to cumulative knowledge? Yin (2014) suggested that case study research can be divided into exploratory, descriptive, and explanatory case studies depending on the research purpose. The purpose of exploratory case studies is to identify research questions to be used in subsequent studies. Descriptive case studies pursue a phenomenon in its real-world context. The purpose of explanatory case studies is to explain why a phenomenon occurs in a certain setting. Yin added that the selection of the research purpose guides the type of research questions formulated. Exploratory case studies are prone to “what” questions, descriptive studies to “how” questions, and explanatory studies to “why” questions. This dissertation balances between exploratory, descriptive, and explanatory case studies. However, its primary purpose is to describe phenomena in their respective settings and use descriptions as a basis for contextualized explanations.

Another decision that must be made when outlining the purpose of a research study is to determine the relationship between theory and data in the research process and choose whether the purpose of the case study research is to create, develop, or test a theory (Piekkari et al., 2010). Mainstream case studies are conducted deductively, suggesting that the theoretical framework and hypotheses are developed prior to data collection and that the data is used to test theories (Johnston, Leach, & Liu, 1999). However, this dissertation aims at theory development via continuous interplay between theory and data (Dubois & Gadde, 2002). Specifically, each case study started with a literature review and then a preliminary theoretical framework was developed to guide data collection and analysis. However, the framework was allowed to evolve as a result of ongoing empirical findings and further theoretical insights gained during the research process (Dubois & Gadde, 2002). The ultimate goal was to refine and develop existing theories.

The second phase of the research process involves defining and selecting the case(s) to investigate. This is a critical step in the research process because it compels a researcher to set the boundaries for a case and hence clarify what is actually being studied (Dubois & Gadde, 2014; Easton, 2010; Halinen & Törnroos, 2005; Patton, 2002). Yin (2014) suggested that the definition of a case

(i.e., unit of analysis) should be driven by the research questions and determined before the collection of data. However, proponents of abductive logic warn that cases cannot be specified beforehand but can only be found over the course of research; bounding a case is often one of the last tasks in the research process (Dubois & Gadde, 2014; Ragin, 1992). The cases examined in this dissertation were loosely predefined before data collection but were increasingly specified during the course of the research process. Occasionally, the original case definition was transformed radically as a result of empirical findings that redirected the entire focus of the case study.

Another decision related to this stage is the selection of the sampling strategy and the choice between single and multiple case studies (Piekkari et al., 2010). Typically, the sampling strategy in case studies follows purposeful sampling, which refers to selecting information-rich cases that produce an in-depth understanding of the study phenomenon (Patton, 2002). The number of cases depends on the purpose of the case study and the research questions proposed. According to Yin (2014), single cases are justified when they represent extreme or unusual situations, reflect everyday situations, reveal a new phenomenon, critically test an existing theory, or involve a longitudinal study. On the other hand, multiple case studies are favored when the research aims to investigate whether the study phenomenon occurs similarly or differently across case contexts. Two of the case studies represent multiple cases and one represents a single case study. In line with Salo (2006), the selection of case organizations was made against the following criteria: 1) purpose of the study, 2) relevance of the industry, and 3) accessibility of data. Thus, the cases included in this dissertation have been purposefully sampled to target industrial organizations that have devoted considerable time and effort to using digital analytics for MPM and optimization and are willing to participate in the study by offering access to data needed for the study.

The third phase of the research process concerns the selection of appropriate data sources and the collection of data. It is widely agreed that case studies benefit from using multiple sources of evidence, such as interviews, observations, experiments, and narratives (Batt, 2012; Beverland & Lindgreen, 2010; Easton, 2010; Eisenhardt, 1989; Halinen & Törnroos, 2005; Johnston et al., 1999). Proponents of positivism suggest that the purpose of using multiple data sources is to triangulate them so that they converge on a single explanation (e.g., Yin, 2014). However, problems arise in situations where the data collected from different sources are contradictory. For this reason, non-positivist case study researchers avoid the concept of triangulation and consider instead different sources of data as complementary aspects in order to develop a more holistic understanding of the case(s) in question (Dubois & Gadde, 2014). Easton (2010) stressed that critical realism is flexible in terms of data collection methods; the choice of data collection is determined by what data are needed and what data are possible to collect. In accordance with abductive logic, critical realists also advocate the combination of inductive and deductive data collection modes; deductive modes refer to data collection that is guided by a theoretical frame-

work and existing knowledge, while inductive modes refer to the collection of additional data that is not planned beforehand but which seem to be relevant and could contribute to developing theories (Easton, 2010). The primary data collection method in this dissertation is interviewing, which was complemented by other methods (e.g., workshop discussions and observations) to generate an in-depth understanding of case study phenomena. Both deductive and inductive data collection modes were used in the course of the research. Data was collected in each case study until the data was deemed saturated. The saturation of data was evaluated on the basis that new informants could not bring new major insights into the phenomenon under investigation.

Data analysis forms the fourth phase of the research process. Yin (2014) presented four alternative analytic strategies (i.e., relying on theoretical propositions, working data from the “ground up,” developing case descriptions, and examining rival explanations) and five analytic techniques (i.e., pattern matching, explanation building, time-series analysis, logic models, and cross-case synthesis). Again, the selection of different analytic strategies and techniques is dependent on the research purpose, philosophical assumptions, and the method of theorizing being used (Piekkari et al., 2010). Critical realists focus on examining rival explanations as an analytic strategy and explanation building as an analytic technique, yet other strategies and techniques, such as developing case descriptions, may support explanation building as well. Notably, abductive logic maintains that data collection and analysis are intertwined due to the iterative nature of the research process (Dubois & Gadde, 2002; Easton, 2010). Practically speaking, this means that data are analyzed and interpreted in the course of data collection, and that data continue to be collected until the researcher is able to establish a holistic understanding of the case phenomenon. Miles et al. (2014) offered a more tactical perspective on qualitative data analysis by proposing that analysis consists of three interwoven tasks: data condensation, data display, and drawing and verifying conclusions. Data condensation refers to selecting, focusing, and sharpening the data to facilitate interpretations. Data display refers to organizing the information in such a way that it permits drawing and verifying conclusions. They also emphasized that analytical tasks should be performed in parallel with data collection, a recommendation which suits the abductive logic adopted in this study. The analysis of the case studies in this dissertation was conducted concurrent with data collection and followed the three analytical tasks outlined by Miles et al. (2014).

The fifth task of the research process is the presentation of findings. Yin (2014) argued that findings can be reported either chronologically, theoretically, or comparatively across cases. Beyond this conventional wisdom, there is a lack of agreement about how case findings should be presented, which causes a great deal of uncertainty among case study researchers (Dubois & Gadde, 2014). Confusion about how to present findings has led to some bad reporting practices: Many authors have provided only rich descriptions of cases, from which readers are expected to make their own conclusions (Dubois & Gadde, 2014). The problem with this approach is that when you try to describe everything,

you may end up describing nothing (Weick, 1979). Dubois and Gadde (2014) proposed that this problem could be solved by using theory as a tool to control data collection and by adopting a selective approach in reporting (i.e., data condensation; Miles et al., 2014). Although selectivity is crucial for compiling a good case report, too much selectivity must also be avoided, as it is important to provide sufficient contextual information such that readers can evaluate the interpretations effectively (Ruddin, 2006). The peril of excessive selectivity is illustrated in a study conducted by Beverland and Lindgreen (2010), who evaluated case studies published in *Industrial Marketing Management* and concluded that many of them provide few details by which readers can judge the interpretations made by the authors. In response, many authors have called for transparency and reflexivity in presenting findings (Dubois & Araujo, 2007; Järvensivu & Törnroos, 2010; Piekkari et al., 2010). Specifically, Easton (2010) encouraged case study researchers to specify what was observed and what interpretations were made based on their observations. The case studies in this dissertation also increase transparency by using direct quotes from interviews.

The sixth and final phase of the research process involves evaluating the quality of the research. The most commonly used criteria for assessing the quality of case study research consists of four tests: construct validity, internal validity, external validity, and reliability (Yin, 2014). Lincoln and Guba (1985) stressed that trustworthiness is the key element in qualitative research and proposed credibility, transferability, dependability, and confirmability as the quality criteria. Dubois and Gadde (2014) found both sets of criteria to be problematic and irrelevant when evaluating case studies that aim to generate in-depth understanding, because they are adapted from quantitative research and associated with positivistic philosophy. In a similar vein, Dubois and Gibbert (2010) suggested that the quality criteria used must differ between inductive, deductive, and abductive research processes. Specifically, they proposed that the quality of inductive case studies largely relies on coding procedures, while deductive case studies should assess the validity and reliability of the findings. On the other hand, the quality of abductive approaches is dependent on transparency regarding the interplay between theory, data, and method. This includes reducing the level of complexity in reporting and providing arguments to support the logic and reasoning of interpretations. Easton (2010) argued that since observations are fallible, findings will always be interpretivist in nature, and thus there cannot be any definitive criteria by which to judge the absolute truth of the findings. Consequently, transparency in making interpretations and their critical assessment should be the key quality criterion in critical realist case study research. Further discussion on the quality criteria used in this dissertation can be found in Chapter 6.3.

5 SUMMARY OF DISSERTATION ARTICLES

The purpose of this chapter is to provide a transparent description of the research process conducted in each article included in this dissertation and to summarize their main results. While doing so, I try to highlight the iterative nature of the research process where applicable, as well as explain how each study evolved as a result of the interplay between theory and data.

5.1 Survey study: Digital and social media marketing usage in B2B industrial section

The first study is distinct from the other dissertation articles in that it is the only survey study and follows a linear research process (FIGURE 9).

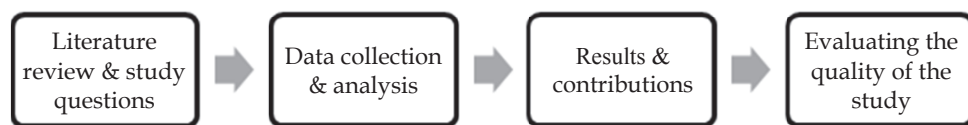


FIGURE 9 The research process (Article 1)

The research process used in the first study started with a review of the relevant literature. We concluded that the digital marketing literature is heavily focused on the B2C sector, while little is known about the extent to which industrial companies exploit digital marketing, for what purposes, and which methods are used to measure the results of digital marketing. Against this backdrop, the goal of the survey study was to obtain an overview of digital marketing usage and measurement practices in the industrial sector.

Data were collected via an online survey from a random sample of Finnish industrial companies. A link to the survey was sent via email to the general manager or marketing director of each industrial firm in the sample. We received 145 valid responses to the questionnaire, each representing a different

company from various industries (see Table 2; Article 1). The survey covered questions regarding the goals, tactics, measurements, and barriers of digital marketing. The selection of these four themes was based on the literature review where these issues were widely discussed but empirical findings in the industrial sector were limited. The survey items were derived from the literature (e.g., Buehrer, Senecal, & Pullins, 2005; Michaelidou et al., 2011) and used a five-point Likert scale. The analysis of the data was conducted via SPSS software, and the reporting of results relied on descriptive statistics. Descriptive statistics were justified because the study did not aim to test theories but rather to explore the state of digital marketing in the industrial sector (FIGURE 10). However, we differentiated the results by firm size (i.e., number of employees) and analyzed the statistical difference in responses between micro ($n < 10$), small ($10 < n < 50$), medium ($50 < n < 250$) and large ($n > 250$) companies.

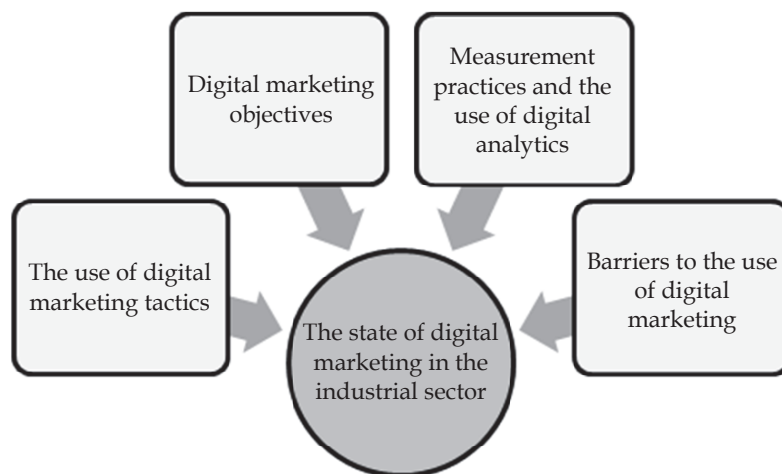


FIGURE 10 Conceptual framework (Article 1)

The results demonstrated pessimism about the use of digital marketing. Long-established digital tactics such as email marketing and digital sales support materials were perceived to be somewhat important, while social media tactics were considered to be unimportant. Digital marketing tactics were primarily used for creating awareness and enhancing brand image, yet the majority of companies did not measure the achievement of these goals. Indeed, the most striking finding was that the majority of industrial companies did not actively measure the results of digital marketing against objectives or use digital analytics tools for that purpose, nor did they obtain measurable benefits from the use of digital marketing (TABLE 8). The greatest barriers to the use of digital marketing were related to resources (i.e., human resources, time, and know-how).

These results were striking. However, when reanalyzing the data, we found that although the results were on average pessimistic toward digital marketing and its measurement, many companies found digital marketing tactics to be highly important and were actively using digital analytics to measure

digital marketing performance. Most of these companies were large, and so it was assumed that larger companies were ahead of smaller companies in their digital marketing efforts due to greater resources and access to requisite know-how.

TABLE 8 Main findings related to measurement practices (Article 1)

Survey item	Mean and <i>p</i> values (group differences)					
	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
Our firm has obtained measurable benefits from the use of digital marketing	2.01	1.76	2.00	2.03	2.54	.024*
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**

Note: The scale ranged from 1 = "strongly disagree" to 5 = "strongly agree"; **p* < .05, ***p* < .01

5.2 Case study 1: Web analytics and social media monitoring in industrial marketing – tools for improving marketing communication measurement

The survey study increased my curiosity about digital analytics. The literature praised the opportunities afforded by digital analytics to tackle MPM challenges, and so I wondered why industrial companies did not take advantage of these opportunities. The finding that most industrial companies did not actively use digital analytics suggested that either the opportunities presented by digital analytics were exaggerated or that there was something peculiar occurring in the industrial context that hindered companies from gaining benefits from its use. I realized that a case study approach would be better suited for improving understanding of the phenomenon.

The research process involved in the first case study followed a non-linear pattern (FIGURE 11). The purpose of the study was loosely defined at the beginning of the research process as the exploration of perceived opportunities and challenges for industrial companies with regard to the use of digital analytics for measuring digital marketing performance. For this purpose, a multiple case study approach was considered optimal for covering the various perspectives about the study topic.

The case study companies were selected via purposeful sampling. Specifically, the study targeted those industrial companies that had extensive experience using digital analytics for measuring marketing performance. Since I was involved with a research project that investigated digital marketing communi-

cations in industrial companies, I was keen on studying the participating companies. In discussions with project participants, two industrial companies were especially interested in collaborating in the research regarding the use of digital analytics for measuring digital marketing performance, and they were both identified as active users of digital analytics. Therefore, they were subsequently selected as target companies for the study. Further, one industrial company and one company operating in the financial services industry were added that did not participate in the research project but nonetheless expressed genuine interest toward the topic. The decision about whether or not to include the financial services company was considered carefully because the focus of the study was on industrial companies. In the end, it was retained as a comparative case since it facilitated the identification of challenges specific to the operational environment of industrial companies.

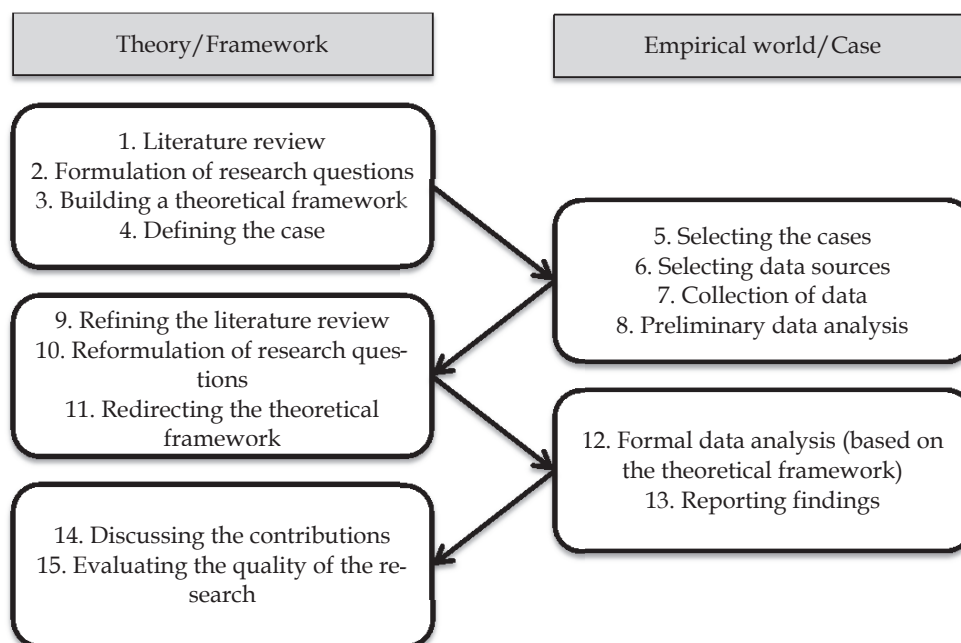


FIGURE 11 The research process (Article 2)

Thus, a total of four case companies were included in the study (TABLE 9). The unit of analysis in the study was defined as members of the organization who were responsible for the use of digital analytics. The decision to focus on Web analytics and social media monitoring as the digital analytics tools was based on the fact that these were the primary digital analytics tools used by the case study organizations.

The study relied on a single source of evidence (i.e., interviews) which was considered justified due to the exploratory nature of the study. In total, the study data consisted of 11 face-to-face interviews, nine of which were conduct-

ed in the case study industrial companies and two in the financial services company. The selection of interviewees followed the unit of analysis used in the study. In practice, the senior management of each case study company was instructed to single out those organization members who had the best knowledge of and expertise on the use of digital analytics. The interview protocol was open ended and covered various themes ranging from digital marketing goals, strategies, and tactics to the use of digital analytics for MPM purposes. The interviewees were also encouraged to raise any issues they found to be important with regard to the topic of the study.

TABLE 9 Case study companies and interviewees (Article 2)

Case study company	Industrial company A	Industrial company B	Industrial company C	Financial services company
Ownership	Public, limited company	Public, limited company	Limited company	Public, limited company
Main industry	Machinery	Paper	Technological goods and services	Financial services
Annual revenue	USD 5+ billion	USD 10+ billion	USD 1+ billion	USD 3+ billion
Number of employees	ca. 20,000	ca. 20,000	ca. 8,000	ca. 50,000
Headquarters	Finland	Finland	Austria	Austria
Market reach	Global	Global	Global	Europe
Interviewees	1. Team leader of digital communications 2. Communications expert in digital communications 3. Communications expert in branding 4. Team leader of branding 5. Manager of marketing concepts	1. Expert in digital communications 2. Expert in digital communications 3. Communications manager of Web services	1. Senior manager of marketing communications	1. Team leader of Web services 2. Campaign manager of Web services

The preliminary data analysis occurred in tandem with data collection as notes were taken during the interviews. Data collection ended when the interviews no longer appeared to produce major, novel perceptions. Notably, the development of the theoretical framework and formulation of precise research questions occurred in parallel with data collection and analysis. Although a broad literature review was performed prior to data collection in order to be able to ask relevant questions, the study was more inductive than deductive in nature

as the core of the study was identified on the basis of interview data. In the course of data collection and analysis, the purpose of the study was specified as the exploration of the potential for digital analytics to overcome universal MPM challenges in the context of industrial companies. After data collection and preliminary analysis, I again reviewed the literature and elaborated on those themes and topics that discussed the universal challenges of MPM and the use of digital analytics to overcome them. As a result, I built a theoretical framework that suited the purpose of the study (see Figure 1; Article 2) and formulated the following research questions for the interview data to answer: (1) To what extent can industrial companies use digital analytics for overcoming universal MPM challenges? (2) What are the opportunities and limitations of digital analytics as perceived by industrial marketers?

The formal analysis process started by transcribing the audio-recorded interviews into written form and carefully reading over the material several times. Subsequently, the data were condensed in order to focus on the most relevant data in the light of theory. Next, the data were organized into analytical categories that reflected different parts of the theoretical framework. Each analytical category consisted of two segments: the industrial companies and the financial services company. After several iterations of the categories and their contents, interpretations were made based upon the data and the findings were reported. TABLE 10 summarizes the main findings of the study.

TABLE 10 Summary of main findings (Article 2)

MPM challenge	Opportunity of digital analytics	Limitation of digital analytics
1. Linking marketing activities with long-term impacts	Digital analytics can be used for investigating how much interest and discussions digital marketing activities generate.	The data produced by digital analytics were not considered sufficient for use as “stand-alone” customer impact metrics. Linking digital analytics metrics with long-term marketing performance remains a challenge.
2. Isolating marketing impacts from other effects	Digital analytics can be used for answering: <ul style="list-style-type: none"> • How much attention do digital marketing activities attract? • How much traffic does increased attention drive to a company’s website? • What are the outcomes of website visits (e.g., sales leads)? 	The purchasing decision is never solely based on a specific marketing activity, and it remains difficult to evaluate the contribution of a single marketing activity to market outcomes. This is particularly evident in the industrial context, where selling processes are lengthy and complex.

The findings demonstrate that although digital analytics has improved marketers’ ability to measure marketing performance, it does not enable them to fully overcome the universal MPM challenges. Specifically, digital analytics facili-

tates the isolation of marketing effects from other influences and improves the measurability of short-term market outcomes, since it can be used to track how much exposure, website traffic, and sales leads are associated with a specific digital marketing activity. In comparison to industrial companies, the financial services firm had the advantage of tracking customer actions all the way to transactions. However, digital analytics is unable to calculate the exact degree to which each activity contributes to a sales deal regardless of the industry sector. Estimations of the sales impact can be made on an aggregate level, but accurate results would require individual level data on the cognitive, affective and conative processes of each customer exposed to a specific set of activities. It is unlikely that researchers get access to that kind of data in the near future despite the advances in neuroscience.

When it comes to the second universal MPM challenge—linking marketing activities with long-term impacts—the benefit from using digital analytics for this purpose was considered minor. Digital analytics was perceived to be helpful in determining whether or not a digital marketing activity attracts interest among Web users, but was not considered a sufficient source of information for assessing the long-term impacts of marketing activities because the data do not reveal the thoughts and feelings generated by customers exposed to the activity. Notably, this perception was shared across the two industry sectors. To some extent, social media monitoring could be used for mining customer opinions, but the case study companies' experiences were pessimistic in this regard because the volume of eWOM was perceived to be low and the tone of discussions was largely neutral. Frankly, the case study companies argued that in their line of work, eWOM primarily discusses company news and stock price speculations, while expressions of customer opinion are rare.

5.3 Case study 2: The use of Web analytics for digital marketing performance measurement

The second case study was built upon the findings from the first case study. Although digital analytics was found to improve industrial companies' ability to measure digital marketing performance, many fundamental challenges remained. At this point, I realized that digital analytics will not eliminate universal MPM challenges for the foreseeable future. That is, marketers will not be able to calculate the exact value of their activities in monetary terms. Nevertheless, the findings suggest that marketers could benefit from using digital analytics by demonstrating that their activities have influence on customers' decision-making processes.

With these thoughts in mind, the research process involved in the second case study began with further analysis of the interview material collected for the first case study. It was found that one clearly distinguishable topic within the data dealt with organizational challenges to measuring marketing perfor-

mance; when participants discussed the difficulties involved in linking marketing activities with measurable outcomes, they provided excuses specific to company practices rather than valid reasons for not being able to create such linkages. I recognized that this topic was worth in-depth investigation and made the proposition that gaining benefits from the use of digital analytics may not be essentially a matter of measurability but instead a matter of organizational capability to harness digital analytics in a meaningful way.

The research process proceeded by first reviewing the literature that discussed the organizational challenges of MPM. I found a number of studies that proposed factors potentially influencing the organizational ability to measure marketing performance. However, most of these factors were based on anecdotal claims rather than empirical findings; thus, I concluded that there is a clear theoretical gap with respect to holistically assessing the organizational ability to measure marketing performance. Subsequently, I broadened the scope of the literature review to the performance measurement literature and found numerous issues that were largely ignored in the MPM literature—yet, they were identified in our interview data. Consequently, the purpose of the second case study became to describe the organizational challenges of using digital analytics for MPM as well as the means by which to overcome them.

On the basis of the literature review I built a preliminary theoretical framework that covered a wide range of factors likely to affect the successful use of digital analytics. The unit of analysis was defined as the organizational process for using digital analytics for MPM purposes. In terms of sampling, I decided to retain two case study companies (both participating in the research project) from the first case study, since interviews with members of those companies included particularly fruitful discussions on organizational challenges. Both of these companies had made significant efforts to measure digital marketing performance through the use of digital analytics, yet the benefits they had gained were modest. At this point, another industrial company participating in the research project was found to also be actively using digital analytics and was persuaded to participate in the study. The description of the case study companies and study informants is presented in the original article (Table 4; Article 3). The third case study company claimed great benefits from the use of digital analytics, which presented a valuable opportunity to conduct a comparative case study. Specifically, the idea was to compare differences in the use of digital analytics in order to explain the reasons why benefits were so variably experienced. This time, I decided to concentrate on the use of the Web analytics tool, since it seemed to have the biggest potential with respect to MPM as perceived by the case study organizations.

In terms of data collection, I already had eight interviews from the previous study (five from case study company A and three from case study company B). I concluded that the interview data from case study company A was rich in information, and so there was no need for further interviews. On the other hand, one additional interviewee (team leader of Web services) was identified from case study company B who I believed brought a new perspective to the topic. In

regards to the addition of case study company C, we conducted five interviews with members of its digital marketing team who had been singled out by the senior management. Consequently, the primary data was derived from 14 interviews complemented by two workshop sessions. The workshop sessions included informal group discussions that dealt with issues interviewees had mentioned as particularly challenging or important. I included the documented notes and reactions for each study participant as part of the study data.

The data analysis followed a similar pattern as the first case study; I transcribed the interviews and integrated the data from workshop discussions, after which the data were reviewed several times before being condensed and organized into analytical categories through descriptive coding. Next, each category was segmented into three groups that reflected three individual cases, a division which permitted cross-case analysis. Before making conclusive interpretations and presenting the findings, I immersed myself in theory yet again; I then refined the theoretical framework and analytical categories several more times until I was satisfied. Moreover, I verified my interpretations by presenting the findings to the study participants and allowing them to make comments. Since no major arguments were made against the findings, I concluded that the results obtained were valid from the perspective of the participants.

The study went through a three-round review process, and the reviewers heavily influenced the final version of the paper. During those review rounds, the focus of the paper was tightened, the theoretical framework was redirected, the data were reanalyzed multiple times, the contributions were clarified, and the structure of the paper was altogether changed. Thus, the research process was highly iterative, which undoubtedly improved the end result (FIGURE 12).

The main findings of the study are summarized in TABLE 11. Overall, the results show that industrial companies can gain measurable benefits from the use of digital analytics when its usage is designed and implemented effectively. The major business benefits include an improved ability to evaluate the financial value of digital marketing and better awareness of the relative performance of different marketing activities. From the marketers' perspective, the effective use of digital analytics was found to enable marketers to show top management their contributions, which led to significant increases in the marketing budget and a better standing for marketing within the firm. Nevertheless, only one case study company mentioned these benefits, while two others experienced only minor benefits.

The cross-case comparison of the case study companies offered deep insights into a number of issues that influence the effective use of digital analytics. In particular, the findings emphasized the importance of (1) designing a metrics framework that is aligned with business goals and illustrates the relationships among selected metrics, (2) creating a systematic process for refining and harnessing the metrics data, and (3) ensuring that organizational capability in terms of skills and resources, senior management support, leadership, and organizational culture supports the use of the metrics system.

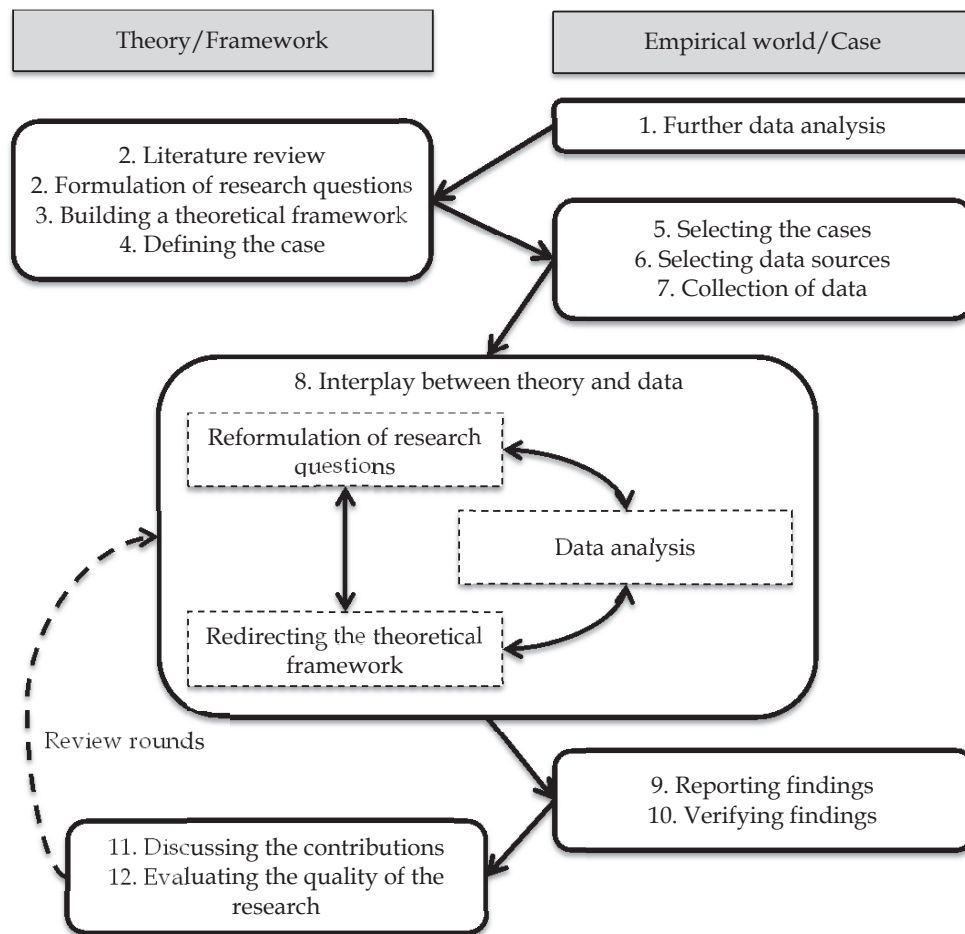


FIGURE 12 The research process (Article 3)

TABLE 11 Summary of main findings (Article 3)

MPM challenge	Main findings
Metrics selection	<ul style="list-style-type: none"> • Selecting digital analytics metrics based on business goals helps marketers examine and demonstrate how digital marketing activities support the achievement of business goals • Structuring and prioritizing metrics under a framework that shows their interrelationships increases the actionability of the metrics system
Measurement process	<ul style="list-style-type: none"> • Harnessing digital analytics data requires a systematic process with clearly assigned responsibilities in terms of data collection, reporting, and analysis • Reporting results to top management helps marketers communicate the contribution of their activities to executives and receive feedback and justification for future actions

(Table continues on the next page →)

Measurement resources	<ul style="list-style-type: none"> • Marketers need analytics skills and resources to design and implement an effective digital analytics metrics system • Senior management commitment plays an important role in the development of the metrics system in terms of allocating budget, resources, and attention to a project • The use of the metrics system benefits from a clearly assigned leader who is responsible for coordinating the measurement process and motivating those organization members who are involved with measurement tasks • The use of the metrics system benefits from an organizational culture that favors data-driven decision making and information sharing
Benefits of using digital analytics	<ul style="list-style-type: none"> • A better ability to measure and demonstrate the financial outcomes of digital marketing, to improve the standing of marketers within a company, and to increase the budget for digital marketing • A better awareness of the relative performance of various digital marketing channels and tactics • A better understanding of the types of marketing content that motivate potential customers to interact with the company

5.4 Case study 3: Harnessing marketing automation for B2B content marketing

The second case study demonstrated great potential for the use of digital analytics in MPM as it allows marketers to show their contribution in monetary terms and increase their standing within their organizations. Nevertheless, after completing the study, I questioned whether the ability to show the results of marketing is a meaningful end result of MPM. I concluded that, while measurement is vital for assessing marketing performance, the benefits gained from MPM depend on how the measured results are harnessed for learning and subsequently optimizing performance. Against this backdrop, the purpose of the third case study was initially outlined as a description of how industrial companies are able to exploit digital analytics to optimize digital marketing performance. At the time, there were a lot of industry discussions on the opportunities of marketing automation, which seemed to be a promising digital analytics tool. It was claimed that not only would marketing automation enable marketers to measure the results of digital marketing activities, but that it would also be able to harness the data for optimizing the execution of digital marketing activities.

The research process began with a review of the literature on marketing automation and the use of analytics data in decision making. Next, a few reputable experts from agencies that had implemented marketing automation projects were interviewed. The interviews were largely open in nature and aimed at gaining a better idea of what marketing automation actually does in practice, as well as the benefits and challenges of using it. One of the agencies was also

kind enough to provide a demonstration of Eloqua (i.e., one of the most prominent marketing automation software packages). As a result, we gained a good understanding of what to expect when conducting a case study on this topic.

On the basis of expert interviews, we concluded that the study topic addressed multifaceted issues best illuminated through an in-depth, single-case study. We were eager to find a company that had been successful in the use of marketing automation, based on our experience that a *success case* provides a more information-rich context for investigation than cases where practitioners have not put much thought into the whole topic. Two of the expert interviewees referred to one specific company as they discussed the best practices for using marketing automation in an industrial context. Consequently, we decided to contact the director of marketing of this company; fortunately, she was willing to participate in the study.

The interview with the marketing director enabled us to obtain a broad picture of how the case study organization used marketing automation for measuring and optimizing digital marketing. It was discovered that a vital prerequisite for gaining benefits from the use of marketing automation was the high-quality content that the company had been producing. Another key issue involved streamlining the marketing and sales processes, which required cooperation between the two functions. Equipped with these insights, we went back to reviewing theory and started to outline the theoretical framework of the study. This preliminary model guided the structure of the subsequent interviews.

The interviewees were selected by the snowball sampling method; the marketing director suggested the next suitable informant and so forth. In total, we conducted five interviews with six individuals (see Table 1; Article 4). Four of the interviewees were representatives of the marketing function and two represented the sales function. The rationale for including sales managers as study informants was justified by the notion that the case study company had outlined a combined marketing and sales process, and thus it was necessary to acquire the sales perspective in order to generate a more holistic understanding of the case. The interviews were open-ended discussions, but were focused on predetermined themes. To complement the interview data, we made observations of the digital content developed by the case study company (e.g., website content, white papers, social media content, and webinars).

Data collection continued until no more original data could be acquired. Afterward, we conducted a preliminary analysis of the data and planned how to frame the study. We outlined the purpose of the study: to describe organizational processes for optimizing content marketing through the use of marketing automation in ways that create business benefits. Accordingly, the unit of analysis was defined as the organizational process to design and execute content marketing via marketing automation. The primary research question for the study was formulated as follows: How can marketing automation be harnessed for optimizing the creation and delivery of content marketing in the industrial setting?

The remaining aspects of the research process were similar to the second case study in that they involved continuous interplay between theory and data. Multiple iterations were made to theory as well as the analysis of the data that resulted in the development of a theory for the case phenomenon. Before submitting the manuscript, it was sent to the case study company to verify our interpretations. The review process for the study was very straightforward this time, and we did not have to make any major changes to the original version of the paper over the course of two review rounds.

The main findings of the study are summarized in TABLE 12. The results demonstrate that optimizing content marketing through the use of marketing automation may bring notable business benefits for industrial companies. The optimization efforts had contributed to the case study company's goal to increase the number of sales leads and improve their quality. Furthermore, efficiency had improved as a result of automatized processes; marketers could focus on creating high-quality content rather than on planning its delivery, while sales representatives could concentrate on actual selling efforts instead of prospecting.

TABLE 12 Summary of main findings (Article 4)

Main findings	
Perceived benefits of optimizing content marketing through marketing automation	<ul style="list-style-type: none"> • Increased effectiveness of marketing messages due to their increased relevance to individual customer's needs • Increased volume and improved quality of sales leads • Increased efficiency of marketing and sales operations as a result of automated processes • Improved stature of marketing within an organization as a result of increased transparency of marketing-generated results
Prerequisites of success	<ul style="list-style-type: none"> • Strategic movement toward data-driven decision making • Effective processes for creating valuable content informed by customer needs • Behavioral targeting and personalization of marketing content to individual needs • Integration of marketing and sales systems and the streamlining of marketing and sales operations

The benefits gained can be explained by the case study company's strategic movement toward data-driven content marketing and its successful implementation. The premise of the strategy is to create and deliver valuable content for individual customer's needs, which requires processes for creating both high-quality content and its personalized delivery. Creating high-quality content was found to be an ongoing learning process whereby the case study company aimed to identify customer concerns and topical, industry-specific issues through active listening (e.g., via social media monitoring), on the basis of which content was created. On the other hand, the personalized delivery of content relied on marketing automation to gather information about customer be-

havior and use it to automatically deliver content that matched certain behavioral patterns and customer profile information. In order to optimize content marketing efforts, the case study company measured the types of content that engaged specific customer profiles and delivered results in terms of website traffic and sales lead generation.

Besides content creation and delivery, the managerial decision to treat marketing and sales as integrated elements of the selling process is equally important and has led to the development of a joint marketing and sales funnel (Figure 2; Article 4). *Joining forces* was found to require the integration of marketing and sales systems as well as the integration of marketing and sales operations. Marketing automation plays an important role in streamlining marketing and sales operations as it prequalifies marketing-generated leads and directs to sales teams only those leads that exhibit clear signals of purchase intention. Finally, marketing automation facilitates the assessment of marketing performance due to its ability to identify how often different pieces of content are associated with sales. The case study company used this information for optimizing future content marketing efforts and demonstrating the contribution of marketing to top management.

6 DISCUSSION

6.1 Theoretical contributions

This dissertation contributes to theory in three major areas related to the research questions. In the following, I discuss the findings related to the research questions and explain how they contribute to existing knowledge.

RQ 1: To what extent can industrial marketers overcome measurability challenges through the use of digital analytics?

To the best of my knowledge, this dissertation is the first to attempt to assess the potential for digital analytics to overcome the universal MPM challenges: (1) linking marketing activities with long-term impacts, and (2) isolating marketing impacts from other effects (Dekimpe & Hanssens, 1995; Pavlou & Stewart, 2000). The challenges were expected to be particularly severe in the industrial sector, which is characterized by long-lasting and complex selling processes (Webster et al., 2005). The dissertation contributes to theory by elaborating on the extent to which digital analytics enables marketers to overcome universal MPM challenges as well as explaining how the industrial context is related to the challenges.

Linking marketing activities with long-term impacts: The literature suggests that linking marketing activities with long-term impacts necessitates the identification of customer impact (i.e., intermediate) metrics that capture the cognitive and affective effects of marketing activities and could be credibly linked to financial outcomes (Hanssens et al., 2009; Seggie et al., 2007; Stewart, 2009; Vakratsas & Ambler, 1999). To this end, the results regarding the potential of digital analytics were mixed. For instance, digital analytics is unable to directly measure the cognitive and affective effects of marketing activities. However, it does offer behavioral metrics linked with customer impact. Digital analytics can be used for examining whether a marketing activity directs customers to a company website or creates buzz in social media. Social media mentions

and website visits as a result of marketing activities relate to customer impact because they indicate that customers experience some sort of cognitive or emotional reaction to the marketing activities they are exposed to. Moreover, digital analytics was found to facilitate the linkage between behavioral metrics and financial outcomes due to its capacity to track customer behavior over time—on the condition that the customer is first identified. Thus, after the customer has been attracted to a company website by a marketing activity and subsequently identified, via registration or IP address, for example, digital analytics enables the company to track whether the customer is converted to a sales lead and makes a purchasing decision in the future. This way, the behavioral metrics provided by digital analytics can be credibly linked with financial outcomes.

The behavioral data produced by digital analytics was indeed regarded as its biggest advantage by study informants. Since digital analytics data is based on genuine customer behavior, the method is perceived as a much more objective source of data in comparison to traditional measurement tools, such as customer surveys and interviews that are mostly subjective and vulnerable to sampling and response bias. Thus, the findings support Seggie et al.'s (2007) suggestion that digitalization increases the importance of objective metrics at the expense of subjective metrics. Nevertheless, the findings also revealed that digital analytics will not eliminate the need for subjective metrics for the foreseeable future because digital analytics tracks only those behaviors that leave digital traces, whereas offline behaviors as well as thoughts and feelings remain uncaptured. Therefore, behavioral metrics must be complemented with subjective metrics in order to obtain a complete picture of marketing impacts. Overall, it was found that the current use of digital analytics relies primarily on quantitative data that does not answer “why” questions and is difficult to translate for measuring qualitative outcomes, such as customer engagement and brand image.

Isolating marketing impacts from other effects: Overcoming this challenge would require the ability to control for exogenous and endogenous effects that influence market outcomes alongside marketing activities (McDonald, 2010; Pavlou & Stewart, 2000). The results of this dissertation were unable to identify practices wherein digital analytics could be successfully used for controlling exogenous effects, such as competitor actions. The firms followed industry discussions via social media monitoring and had benchmarked competitor practices, but none of this data was used for controlling the performance of a firm’s own marketing activities. Nevertheless, digital analytics offers notable opportunities for gathering market-level data on external effects that could be included in MPM calculations. These opportunities are evident in discussions revolving around *big data* (Fulgoni, 2013; Goes, 2014; Hayashi, 2014; McAfee & Brynjolfsson, 2012; Tirunillai & Tellis, 2014). Thus, it is likely that we will see remarkable developments in the control of exogenous effects in the future.

In contrast, digital analytics was found to be useful for controlling endogenous effects. Specifically, digital analytics allow marketers to analyze the customer’s path to purchase from the first interaction to the moment when the

sales deal is closed. In this way, marketers can identify which activities are most often involved in the customers' purchasing journeys, estimate their relative contributions to sales impact, and attribute value to them accordingly. Thus, this dissertation confirms the existing finding that digital analytics allows companies to link customer exposure to a specific digital marketing activity to resulting outcomes (Wilson, 2010). Moreover, in line with previous research demonstrating the temporal gap between first exposure to a marketing activity and market outcomes (Ghose & Yang, 2009; Manchanda et al., 2006), the findings of this study show that customers are often exposed to multiple marketing activities before making a purchase decision and that digital analytics is able to track which digital marketing activities precede their purchasing decisions. However, although marketers can detect if, for instance, an email was associated with a purchasing decision, they cannot claim that the decision occurred solely because of the email or that the email accounted for a certain percentage of the customer's purchasing decision. This is a noteworthy constraint on the use of digital analytics that is often overlooked when calculating the productivity of marketing activities.

Industrial context: The findings confirm that the operational environment influences the perceived possibility of overcoming universal MPM challenges through the use of digital analytics. In particular, the lengthy duration and complexity of customers' purchasing decisions in many industrial firms complicates performance measurement efforts. However, the findings also suggest that the same opportunities and limitations of digital analytics apply across business sectors, and that the operational environment is only indirectly linked with universal MPM challenges. The real dilemma faced by the industrial sector is that since purchasing processes are longer, marketers are often willing to measure long-term outcomes of marketing that are generally more difficult to prove. In other words, the magnitude of universal MPM challenges is dependent on the marketing objectives against which MPM is conducted, rather than on the operational environment as such. This argument is supported by this dissertation's findings that there are great differences between companies with equally long and complex selling processes in terms of their ability to demonstrate measurable results of marketing activities.

While previous studies have demonstrated the benefits of digital analytics for measuring marketing performance in e-commerce businesses (Phippen et al., 2004; Wilson, 2010), this dissertation shows that the benefits are not limited to those business sectors in which transactions can be processed online. However, gaining benefits requires that the organization is able to design and implement an actionable MPM system. Consequently, too many industrial marketers use the operational environment as an excuse not to measure marketing performance, as evidenced by survey results indicating that digital analytics remains largely unexploited in the industrial sector.

Conclusion: This dissertation demonstrates that digital analytics is a significant step toward more measurable marketing. It offers detailed data on how marketing activities stimulate customer behavior as well as which activities are

associated with customers' purchasing decisions. However, digital analytics can only partially overcome the universal challenges of MPM because the data have two important limitations. First, the data are largely restricted to the digital footprint left in the firm's own media space, while not much is known about what customers do in other digital and offline channels. Second, digital analytics captures only the behavioral dimension of customer impact, while cognitive and affective dimensions remain hidden. Due to these limitations, this dissertation found that digital analytics is currently better suited for measuring short-term sales impacts than long-term marketing performance; overreliance on digital analytics data may lead to an incomplete view of marketing performance and suboptimal marketing decisions because the data overvalues activities that bring fast results and undervalues those that may improve marketing performance in the long run. In line with numerous authors who have suggested that MPM should be multidimensional (Ambler & Roberts, 2008; Clark, 1999; O'Sullivan & Abela, 2007; Rust, Ambler, et al., 2004; Seggie et al., 2007), it is concluded here that digital analytics should only be used as a component of MPM systems.

RQ 2: Why do some industrial organizations gain measurable business benefits from using digital analytics while others do not?

A significant body of literature has discussed the inability of marketers to show the contribution of marketing activities to business performance (Li, 2011; O'Sullivan & Abela, 2007; Rust, Ambler, et al., 2004; Stewart, 2009; Wiersema, 2013). The findings of this dissertation explain why marketers often struggle in their efforts to measure marketing performance and provide guidance on how to overcome these challenges. In so doing, the dissertation contributes to MPM literature by explaining what it takes for an organization to develop and harness an actionable MPM system. Specifically, the findings imply that the ability to gain measurable benefits from MPM through the use of digital analytics is primarily dependent on three organizational conditions: (1) the design of a metrics system, (2) the measurement process, and (3) the firm's resources with respect to MPM practices.

Design of the metrics system: The dissertation supports existing research findings, according to which organizations benefit from tying marketing metrics to business objectives (Ambler et al., 2004; Chaffey & Patron, 2012; Hong, 2007; Morgan et al., 2002; Patterson, 2007; Phippen et al., 2004; Weischedel & Huizingh, 2006). The dissertation also corroborates the idea that the metrics system should be manageable; having too many metrics is likely to lead to confusion (Clark, 1999; McGovern et al., 2004; Pauwels et al., 2009). Instead of focusing on the number of metrics, it is more important to consider how the metrics are interrelated (Homburg et al., 2012; Stewart, 2009). This notion is particularly relevant in the context of digital analytics, which offers an endless number of metrics to choose from. To avoid data overflow, prioritizing the metrics used was deemed necessary for managing the metrics system. This finding is in ac-

cordance with Chaffey and Patron (2012), who suggested that marketers should identify the key performance indicators (KPIs) of digital marketing and segregate them from other metrics that provide additional information about the drivers affecting KPI performance. One alarming finding related to the selection of digital analytics metrics is that some companies emphasize short-term financial metrics at the expense of measuring long-term impacts. This is a harmful development in light of existing findings that have demonstrated that short-term financial metrics are inadequate for capturing the total impact of marketing activities (e.g., Ambler & Roberts, 2008; Morgan et al., 2002). By focusing on metrics that show short-term sales impacts, marketers measure only one dimension of marketing performance and may not be able to “see the forest for the trees.”

Measurement process: The dissertation’s findings reveal that companies benefit from a systematic measurement process with clearly assigned roles for different phases of the process. The systematic measurement process ensures that team members know their responsibilities and that the use of data becomes a part of their daily workflow. Another important feature is to establish a leader whose role is to coordinate the measurement process, report the results to top management, and disseminate the feedback to team members. This type of “reporting and feedback loop” was found to play an important role in demonstrating the contribution of marketing to top management and improving the standing of marketers within organizations.

The findings illustrate how different phases of the measurement process are addressed when using digital analytics. Data gathering was found to be somewhat effortless so long as marketers preselect the metrics and tools through which the data is gathered. Likewise, results reporting can be automated against predefined rules, and the primary concern here would be to consider what kinds of reports different groups and top management are willing to receive. Regardless of the exact content of the performance measurement report, the findings indicate that management prefers to receive a report at regular intervals in which the metrics communicated remain stable over time. This finding corroborates studies that have shown that standardized and regular reporting of marketing outcomes leads to improved performance and greater top management satisfaction (O’Sullivan et al., 2009; O’Sullivan & Abela, 2007). The biggest hurdle to the measurement process was found in the firms’ ability to analyze the metrics data and transform them into insights that inform corrective actions. The findings of this study strengthen the idea that the true value of data and analytics is determined by how data are analyzed, interpreted, and refined into actionable insights (Chaffey & Patron, 2012; Court et al., 2012; Eccles, 1991; McGovern et al., 2004; Neely & Bourne, 2000; Pauwels et al., 2009; Phippen et al., 2004).

Measurement resources: Resources with respect to MPM were found to influence the extent to which an organization succeeds in the metrics selection and the measurement process. Overall, five types of resources related to the use of digital analytics were identified in the study data. First, analytics skills were

found to play an important role, especially in a firm's ability to select suitable metrics and convert the data into actionable insights. Thus, this dissertation verifies the notion that analytics skills are necessary for the effective use of marketing performance data (Germann et al., 2013; Lenskold, 2002; O'Sullivan & Abela, 2007; Patterson, 2007). Second, as previous findings have stated that an integrated IT infrastructure supports the exploitation of metrics data (Bititci et al., 2002; Bourne et al., 2002; Eccles, 1991; Germann et al., 2013), this dissertation adds to that knowledge by demonstrating that the integration of digital analytics tools with other IT tools and databases is necessary to obtain a complete picture of marketing performance. Furthermore, it facilitates the diffusion of information across different functions and business units. Specifically, it was found that integrating marketing and sales systems increased the benefits from metrics data and fostered cooperation between the two functions.

Third, support from senior management was found to be of particular importance in the early phase of digital analytics usage. Specifically, management needs to provide marketers with the sufficient budget to make the necessary investments in IT tools, recruitments, and training. In addition, management must accept that it takes time and patience to develop an actionable MPM system before a firm is able to reap benefits from it. Consequently, this study agrees with previous studies that argue that support from senior management is critical for the successful use of MPM systems (Germann et al., 2013; O'Sullivan & Abela, 2007; Patterson, 2007). Fourth, the dissertation highlights the important role of leadership and change management in the use of the MPM system. A leader is needed to motivate marketers toward the use of the system by communicating the benefits of measurement, coordinating the measurement process, and transforming the organization toward the greater use of data in decision making, as suggested in the literature (Hacker & Brotherton, 1998; Kaplan & Norton, 1996; Kennerley & Neely, 2002).

Lastly, organizational culture has major implications on the successful use of digital analytics. Specifically, this study presents strong support for the argument that a data-driven culture leads to the effective use of metrics data and better marketing decisions (Germann et al., 2013; Patterson, 2007). While it is questionable whether data-driven decisions are always better decisions, the major benefit of the data-driven approach is that it encourages marketers to constantly learn and optimize their activities, which is in turn likely to improve performance in the long run. Another cultural issue relates to the fact that the effective use of digital analytics requires collaboration between multiple functions, such as marketing, sales, and IT. In particular, the findings highlighted the benefits gained from seamless cooperation between marketing and sales in the use of analytics, which was found to increase the productivity of both functions and resolve the argument over the quality of leads—a well-known issue in the literature (Biemans, Brenčič, & Malshe, 2010; Homburg, Jensen, & Krohmer, 2008; Homburg & Jensen, 2007).

Conclusion: This dissertation advances knowledge of the organizational resources and capabilities needed to design and implement actionable MPM

systems. The existing MPM literature has extensively focused on how marketing performance can be theoretically measured (Morgan et al., 2002; Rust, Ambler, et al., 2004; Srivastava et al., 1998; Stewart, 2009), yet the results of this dissertation suggest that measurability is not the key challenge faced by organizations; in actuality, the key challenge is that organizations are unsure what to measure and how to make use of the measurement results. Digitalization has amplified this phenomenon, as the volume of data available has exceeded the capacity of organizations to understand and use it (Day, 2011). Consequently, digital analytics offers unprecedented opportunities to measure marketing performance with a diversity of metrics, but most organizations are unable to build and exploit metrics systems in ways that would yield benefits for them. This dissertation contributes to this knowledge base by demonstrating the organizational issues associated with a firm's ability to harness MPM systems. The findings emphasize the importance of linking marketing metrics with business goals, creating a systematic process to refine and analyze the metrics data, and enhancing the organizational capacity to support the use of the metrics system.

RQ 3: How do industrial marketers deploy digital analytics in the execution and optimization of digital marketing strategies and tactics?

Besides demonstrating how digital analytics can be used for measuring digital marketing performance, the dissertation increases our understanding of its role in the execution and optimization of digital marketing. Overall, the findings illustrate how the use of digital analytics is changing the way digital marketing is performed in industrial organizations. The contributions of this approach can be divided into strategic and tactical level insights.

Strategic level insights: The findings show that digital analytics plays a vital role in three major strategic trends of digital marketing identified in the literature: content marketing, personalization of marketing communications, and data-driven marketing. First, the use of digital analytics was found to facilitate content marketing. As Holliman and Rowley (2014) claimed, content marketing involves the creation of valuable content in relation to customer needs as well as its timely delivery so that customers receive the right message at the right time. The dissertation findings show that industrial marketers may benefit from digital analytics in both the content creation and delivery phases. To develop ideas for content creation, industrial marketers can use digital analytics to monitor online discussions and identify topical customer concerns and industry trends. Furthermore, they can assess what types of content have previously engaged customers and focus on the kind of content that drives business outcomes.

Timely content delivery is inextricably linked to the personalization of marketing communications because delivering relevant content to the right customer at the right time relies on personalization. Personalization through the use of digital analytics can leverage two types of data: CRM-related data (i.e., customer profile information and purchase history) and behavioral data (i.e.,

clickstream data). The latter was found to be particularly fruitful as it allows marketers to learn the points of interests (e.g., product views) of a specific customer and use that information in assessing the customer's purchasing process phase and personalizing the content to suit his or her needs in a timely fashion. Similar findings about the relevance of clickstream data have been noted in the literature (McAfee & Brynjolfsson, 2012; Moe & Fader, 2004; Sismeiro & Bucklin, 2004).

The third strategic trend identified in the literature is data-driven marketing, which refers to the use of data to inform and optimize marketing decisions (Kumar et al., 2013). The findings reveal that data-driven marketing and digital analytics are interconnected: data-driven marketing requires the use of digital analytics; conversely, the use of digital analytics encourages data-driven decision making. The dissertation corroborates the argument that marketers are moving away from decision making that relies on intuition and experiences and toward data-based decision making (Gök et al., 2015; McAfee & Brynjolfsson, 2012; Patterson, 2007; Schrage, 2015; Valos et al., 2010). Arguably, the greater reliance on data can also be seen as a movement toward more scientific marketing, as data-based decisions are dependent on statistical analysis.

To conclude, these findings illustrate how the use of digital analytics is related to content marketing, the personalization of marketing communications, and data-driven marketing. Furthermore, there is evidence that these strategic trends are highly interrelated and that companies would benefit from combining these approaches. To elaborate, successful content marketing creates value for target customers, which is fostered by personalizing the content to specific customer needs. The personalization of content calls for data-driven approaches because it requires actionable data about customer interests and preferences. Thus, content marketing, personalization, and data-driven marketing are not necessarily separate trends but rather elements of one strategic movement toward more analytical and relevant marketing; this shift not only benefits companies in terms of improved performance, but also benefits customers who receive more appropriate marketing messages.

Tactical level insights: On a tactical level, the findings of this dissertation demonstrate that the strategic shift toward the greater use of analytics has transformed the way digital marketing tactics are performed. The use of tactics is increasingly data-driven. Marketers use digital analytics for continuous learning about what kinds of marketing tactics and content perform best in different media. Based on this data, they can plan further actions and optimize the use of tactics. Notably, it was found that creativity remains an important element of marketing tactics; however, creative ideas are increasingly being tested against predefined metrics in order to examine their validity. The execution of marketing campaigns has also changed radically. The findings demonstrate that marketers are moving away from traditional, static campaigns. Instead, they are more frequently relying on data provided by digital analytics to test, modify, and iterate a number of simultaneous marketing campaigns, the durations of which depend on how well they perform against predefined metrics. Further-

more, such campaigns are not restricted to a specific time frame, but are triggered by customer behavior. In other words, the starting point of the campaign is automatized so that the campaign begins at an individual level when the analytics software identifies a behavioral pattern signifying an interest in receiving more information about a specific topic. Altogether, the findings illustrate the vital role of digital analytics in crafting and optimizing marketing tactics, which was found to increase the effectiveness of digital marketing as perceived by industrial marketers. Thus, the findings substantiate previous studies that have shown that acting on the basis of MPM data yields business benefits (Kannan et al., 2009; Lodish et al., 1988; Silva-risso et al., 1999).

Although digital analytics has changed how digital marketing tactics are performed, no major changes were found in terms of which tactics were performed. The company website remains the “home base” of digital marketing, and email marketing is still perceived as the most effective means to attract customers to the company website. On the other hand, social media marketing tactics were found to play smaller roles than expected. Thus, the findings do not provide evidence of the shift toward many-to-many communications in the industrial context (Hoffman & Novak, 1996; Ozuem et al., 2008). In general, it was found that engaging customers to interact in online conversations was considered a difficult task, and many industrial marketers were of the opinion that the products and services in their industries generated very few online discussions. These findings suggest that the role of social media and eWOM may be industry- or product-category-specific. However, the use of social media was also believed to be of growing importance in the near future, and there were promising signs that certain social media marketing tactics may fit well in the industrial context. For example, blogging and webinars were found to be effective tactics in some case companies.

Instead of many-to-many communications, the results suggest that industrial marketers emphasize tactics that rely on one-to-one communications. This trend is the result of emerging opportunities for personalization and the behavioral targeting of marketing messages (Ansari & Mela, 2003; Chen & Stallaert, 2014). One aspect that has not been discussed thus far in the literature is that the movement toward greater use of digital analytics and data-driven marketing may increase the role of those tactics that are easiest to link with short-term market outcomes, and thus work against those tactics that remain difficult to link with financial outcomes. This may partly explain why some industrial marketers do not focus on social media marketing—which is often aimed at qualitative outcomes, such as customer engagement—but rather use tactics aimed at increasing short-term sales. This development is likely to bring suboptimal results in the long run and represents a significant danger in regards to an overreliance on digital analytics.

Conclusion: The existing literature and frameworks on MPM are inherently built upon the premise that demonstrating the linkage between marketing activities and firm performance is the ultimate goal of MPM (Homburg et al., 2012; Morgan et al., 2002; O’Sullivan & Abela, 2007; Petersen et al., 2009; Rust,

Ambler, et al., 2004; Stewart, 2009). This dissertation takes a step further by showing how measurement results are used to optimize marketing performance. By doing so, the dissertation proposes that although performance measurement is vital, it is in essence a means to make informed decisions on how to improve performance in the future. Specifically, the dissertation shows that digital analytics data can be used for evaluating which types of marketing activities are associated with customers' purchasing processes, and this information can be subsequently used to inform future marketing efforts. Furthermore, it shows that the behavioral data produced by digital analytics offer new ways to personalize marketing content to meet individual customers' needs. Previous studies have shown that behavioral targeting and personalization of marketing content lead to the improved efficiency of marketing activities (Ansari & Mela, 2003; Chen & Stallaert, 2014; Goldfarb & Tucker, 2011; Moe & Fader, 2004; Sismeiro & Bucklin, 2004; Song & Zinkhan, 2008). This dissertation extends this knowledge by describing how digital analytics is used to automate personalization and behavioral targeting practices.

6.2 Managerial implications

One advantage of conducting case studies is that they often offer rich insights into managerial practices (Johnston et al., 1999). Accordingly, the findings of this dissertation provide a number of managerial implications that are divided here into recommendations for marketing managers and top management. I start by explaining what marketing managers should do to be able to use digital analytics effectively for measuring and optimizing digital marketing performance.

Marketing managers should start planning the use of digital analytics by setting goals for digital marketing. The goals must be clearly defined, measurable, and linked with business strategy. If you cannot define the goal, you cannot measure it; if you cannot measure it, you cannot tell if you are moving closer or further away from achieving the goal. Therefore, I recommend avoiding the selection of goals that are abstract in nature (e.g., building a forerunner image) unless you are able to define what it actually means and how it is measured. I encourage those marketing managers who are at the early phase of adopting digital analytics to start with sales-related goals (e.g., transactions, sales revenue, and sales leads). This suggestion is based on the finding that digital analytics is better suited for measuring short-term sales impacts than long-term impacts (e.g., brand awareness and image). When marketing managers begin with sales-related goals, they are more likely to be able to show concrete benefits to top management and subsequently acquire more resources for developing a more holistic MPM system.

After defining the goals, the next step is to select suitable metrics and create an actionable metrics framework. The metrics framework should have a clear structure that shows how the metrics are related to each other and which

metrics are prioritized (e.g., KPIs vs. other metrics that support the achievement of KPIs). There are at least two viable ways to structure a metrics framework. One option is to segment the metrics framework by key marketing goals. The other option is to divide the framework into different stages of customers' paths to purchase or different stages in the selling process (e.g., traffic generation, website behavior, sales revenue, retention).

The greatest problems in the use of digital analytics occur when the metrics system is put into action, because too many organizations lack a systematic process for managing metrics data. Therefore, I recommend that marketing managers plan the measurement process carefully before the implementation phase. They must consider how the data is gathered and which tools are used for this purpose. The selection of the appropriate tools should be guided by what data are needed for the metrics system, but I generally recommend marketers to start with Web analytics tools (e.g., Google analytics) that offer comprehensive information about customer behavior and resulting outcomes. They are also easy to use and do not require direct monetary investments. Furthermore, Web analytics tools provide marketers with features for visualizing the results and communicating them to top management. It is important to report the results regularly to top management in a meaningful form so that they can understand the report without having to invest too much time in pondering what the report is trying to say. Reporting is the key to communicating the contribution of marketing to business performance, which is in turn necessary for improving the stature of marketing within a company and justifying an increased budget and amount of resources. Finally, the most important consideration related to the measurement process is to outline how the data is analyzed, refined, and interpreted, as well as by whom. Unless the data is analyzed appropriately, marketing managers will never be able to know why the performance is improving or deteriorating, nor will they be able to make informed decisions about how to improve it.

Data analysis is the backbone of optimization efforts. Its role is to identify which digital marketing activities are the major drivers of performance and, in particular, which areas perform suboptimally in relation to the achievement of the digital marketing goals. An essential part of the analytical task is to generate hypotheses about how to improve activities that are important but currently underperforming. These activities may be related to the selection of digital marketing tactics or the way in which the tactics are executed at the moment. After formulating the hypotheses, marketers should test each of them (e.g., through A/B testing) by making variations of the activity under investigation and evaluating which variation works best in relation to their goals. The best variation is subsequently implemented until the next hypothesis regarding the activity is formulated and tested. For instance, the analysis may show that the request for a quotation form on a company website is hardly ever filled out, and the analyst could then make the hypothesis that filling out the form takes too much effort. The analyst could next make a simplified version of the form, conduct an A/B test to examine the validity of the hypothesis, and arrive at the

conclusion that simplifying the form leads to a statistically significant increase in the form completion rate. Thereafter, the analyst would implement the new form and start planning a new test that might be related to the design of the form to see if a new type of design would further improve the results. This type of experimental and continuous optimization is becoming more widespread and reflects the movement toward data-driven marketing. Digital analytics suits this purpose extremely well, and I truly believe that those marketers who adopt data-driven approaches will be more successful in the future, since they will be open to learning and to exploiting the vast opportunities of digital analytics for continuously improving marketing performance.

When it comes to recommendations for top management, I would encourage executives to initiate a movement toward data-driven marketing, since many studies (including this dissertation) have demonstrated that data-driven marketing brings business benefits to organizations (Brynjolfsson et al., 2011; Germann et al., 2014, 2013). In practice, initiating such a movement requires that executives put more pressure on marketers to show the outcomes of marketing and justify their decisions on the basis of data. However, executives must also understand that the transformation toward data-driven marketing takes time and resources. They must ensure that marketers have the sufficient skills, tools, and leadership qualities to succeed. Executives should be patient and allow marketers to make mistakes during the process. Furthermore, it is vital that top management become involved with designing the MPM system so that marketers and executives can agree on the goals, metrics, and reporting procedures. The results report should also be standardized; otherwise, marketers may be able to manipulate the report by showing only those figures that present them in a positive light. The key task of top management is to monitor and ensure that marketing performance is improving and to always ask what marketers have done to fill in the performance gaps identified in the preceding report.

6.3 Evaluating the quality of the dissertation

Evaluating the quality of case studies depends on the research approach adopted by the researcher. When evaluating abductive research, the key characteristic is to assess the transparency of the interplay between theory, empirical phenomena, and method (Dubois & Gadde, 2014; Dubois & Gibbert, 2010; Järvensivu & Törnroos, 2010; Piekkari et al., 2010). Throughout this dissertation, I have made a significant effort to increase the transparency of the research process with regard to the overall dissertation as well as the individual studies (see Sections 1.2 and 5.1–5.4). The goal was to provide readers with a clear chain of evidence by carefully describing the progression of the dissertation from the initial study motivation to the final conclusions. I have explained how I came up with the initial research questions that guided the selection of methods, how

I used theory to guide data collection, and how the empirical findings led to changes in the theoretical framework and final research questions.

Transparency is particularly vital in the data collection, analysis, and reporting phases because it allows other scholars to replicate the study and readers to make judgments on the quality of the researcher's interpretations (Batt, 2012; Dubois & Gibbert, 2010). Easton (2010) argued that researchers should specify what was observed and what interpretations were made based on their observations. Accordingly, I have used numerous direct quotes from case interviews in the dissertation articles and have clearly explained my interpretation of each quote.

While transparency is considered the primary quality criterion in abductive studies, it does not guarantee the validity and analytical generalizability of the findings (Järvensivu & Törnroos, 2010). The foremost issue regarding validity stems from philosophical assumptions of critical realism that consider interpretation to be an integral part of the findings (Easton, 2010). Accordingly, I acknowledge that despite the careful collection and analysis of data, the findings of this study are imperfect; only a part of the actual events under investigation was recorded, while the rest relied on my own interpretations. Aside from this limitation, there are two other specific weaknesses related to the validity of the results, both of which relate to the use of interviews as the primary data collection method.

Interviews are generally criticized as a data collection method in the literature (Piekkari et al., 2010). Woodside and Wilson (2003) argued that interviews are "presentational data" in the sense that interviewees tend to fabricate their responses and provide an ideal for their behavior rather than discussing what they actually do. Therefore, "operational data" collected via observations and documents, for example, are often more valid sources of information. Even though the responses of interviewees can be accurate, the researcher faces the problem of a double hermeneutic (Woodside, Pattinson, & Miller, 2005), which adds another layer of complexity to the analysis phase as the researcher must interpret the informants' interpretations of the phenomenon in question (Easton, 2010). I agree with these notions, but as Easton (2010) aptly noted, the selection of the data collection method is ultimately balanced by what data are needed and what are possible to collect. Considering the topic of this dissertation, observations might have been the best data collection method. However, the study phenomenon dealt with business-critical information (e.g., marketing investments and performance reports), and therefore, the case study organizations did not allow access to meetings or results reports.

The second weakness related to the use of interviews is that the voices of study informants were not equally strong, as is recommended in the literature (Järvensivu & Törnroos, 2010). To elaborate, although I took into account the perspectives of each participant, some of the interviews were simply more rich in information. The use of digital analytics requires expertise, and the participants did not all possess the same level of knowledge about its usage. Therefore, I emphasized the opinions of those informants who possessed more in-depth

information of the topic. That said, I have no regrets in this regard because I believe that this decision generated more information-rich case studies.

To increase the validity of the results, I used complementary data to support the interviews, such as workshop discussions, digital content observations, and expert interviews. In addition, the findings of each case study were verified by presenting them to the key informants to avoid misunderstandings and random errors. The presentation of the findings often prompted vivid discussions, but the validity of the findings were not questioned. Järvensivu and Törnroos (2010) also suggested that research findings should survive the critical scrutiny of the scientific community. Accordingly, all studies went through a blind review process, the successful completion of which suggests that the anonymous reviewers were happy with the validity of the findings. Furthermore, the studies have been available to a broad audience of other scholars for some time now, and I have not received any comments that have questioned the validity of the findings.

It must be acknowledged that only a few organizations were investigated, suggesting that the findings are not suitable for statistical generalizability, which is typical in case study research (Dubois & Gibbert, 2010; Yin, 2014). Instead, I considered the analytical generalizability (i.e., the extent to which the empirical observations are generalizable to theory; Yin, 2014) as one of the biggest strengths of this dissertation. The analytical generalizability of the findings was enhanced by carefully reviewing the literature and building preliminary theoretical frameworks prior to data collection. The established frameworks guided the data collection and ensured that it was carried out in connection to existing theories. When redirecting the frameworks as a result of empirical findings, particular care was taken to ensure that the changes made were also justified by theoretical knowledge. Consequently, I presume that the practice of using digital analytics for measuring and optimizing performance vary from context to context, but that the frameworks developed during the research process are transferable to various types of organizational settings. In other words, had I studied different organizations, the findings might have been different because they would have been affected by divergent contexts, but the frameworks themselves would have remained similar. Although I have not systematically tested the applicability of the frameworks in other contexts, I have confirmed their usefulness in numerous informal discussions with representatives from various types of organizations. I have often asked practitioners what they found to be the most critical issues in the use of digital analytics in their organizations, and I am pleased to report that their responses were indeed related to the issues covered in the framework of this dissertation.

6.4 Avenues for future research

The findings provide ideas for a number of promising research areas that are beyond the focus of this dissertation. First, the dissertation focuses on measur-

ing and optimizing digital marketing performance and thus largely ignores the discussion about how digital analytics can be used for measuring and optimizing *offline* marketing performance. This is because the case study companies under investigation did not use digital analytics for offline marketing or its measurement, although there are many ways digital analytics can be used for that purpose (see e.g., Kaushik, 2010). In general, measuring digital marketing performance in isolation from other activities is highly disputable. We live in an *omnichannel* world in which customer purchasing processes involve both digital and offline channels (Bell, Gallino, & Moreno, 2014; Brynjolfsson, Hu, & Rahman, 2013; Herhausen, Binder, Schoegel, & Herrmann, 2015; Rigby, 2014; Verhoef, Kannan, & Inman, 2015; Yadav & Pavlou, 2014). Therefore, measuring digital or offline marketing efforts in isolation may lead to incorrect conclusions. More research is needed to investigate how to build MPM systems that can measure overall marketing performance with *omnichannel metrics*. An important consideration in this regard concerns how to credit overall performance to different channels (i.e., attribution modeling). A few studies have made significant progress in the field of attribution modeling (de Haan et al., 2015; Dinner et al., 2014; Li & Kannan, 2014; Wiesel, Pauwels, & Arts, 2011). However, these studies have focused on the attribution of short-term sales impact, and the data collected for each study came from single companies. Thus, more research is needed to test the applicability of the findings and improve our understanding of the impacts of digital and non-digital marketing activities on online and offline sales.

Second, the dissertation investigated only a few digital analytics tools (i.e., Web analytics, social media monitoring, and marketing automation) used by the case study organizations. In fact, many other tools exist and more are emerging at an ever-increasing pace. The implication is that the volume, variety, and speed with which data can be collected regarding customer behavior and marketing impacts via various tools are growing rapidly. The future challenge is to unify and make sense of such *big data* in different forms, databases, and platforms in order to provide a more complete understanding of how customers behave in today's world and how they are influenced via marketing efforts. Many studies have discussed the opportunities and challenges of big data analysis (Barton & Court, 2012; Berinato, 2014; Brown, Chui, & Manyika, 2011; Davenport, 2013; Fulgoni, 2013; Goes, 2014; Hayashi, 2014; Hogarth & Soyer, 2015; Lavallo et al., 2011; McAfee & Brynjolfsson, 2012; Russell & Bennett, 2015) and some have even presented practical applications that rely on big data (O'Leary, 2013; Tirunillai & Tellis, 2014). However, more research is needed to describe the processes of integrating, analyzing, and exploiting data of different types and sources.

The third call for future research concerns the finding that digital analytics is better suited for measuring short-term sales impact than long-term marketing performance. I found hardly any evidence of practices whereby digital analytics could have been exploited for measuring long-term impacts. This is troubling news because it implies that the use of digital analytics may lead to measuring

and optimizing short-term revenue at the expense of long-term business growth. Therefore, future research should investigate how digital analytics can be harnessed for measuring long-term marketing impacts, such as the development of brand equity, customer satisfaction, loyalty, and recommending behavior. An important question regarding this topic is whether digital analytics provides actionable, intermediate metrics that function as proxies of customer impact (i.e., affective and cognitive effects) that can be credibly linked with long-term performance. Identifying these types of metrics would allow marketers to take a huge leap toward the use of *predictive analytics* (D'Haen, Van Den Poel, & Thorleuchter, 2013; Nichols, 2013; Ransbotham et al., 2015; Thorleuchter, Van den Poel, & Prinzie, 2012). In the ideal case, marketers could shift from maximizing short-term revenue to fostering future growth.

The fourth recommendation relates to the finding that the use of digital analytics is primarily retrospective in the sense that it is used for measuring activities that have already been performed. In contrast, I did not find much evidence to suggest that digital analytics could be used for generating new ideas for future marketing efforts. As an exception, the case study organization in Article 4 used social media monitoring to listen to customer concerns and find ideas for content creation. Yet, this is one of the few instances I encountered where digital analytics was used for idea generation; on the contrary, most organizations use digital analytics for measuring the performance of existing activities. Although it is vital to look back for learning purposes, reviewing historical performance does not help companies to innovate for future business growth. For example, it would be important to investigate how digital analytics is used as a business intelligence tool to discover ideas for new products or services, customer segments, market areas, or whole new business arenas. The way I see it, developing new ideas through the use of digital analytics is tightly linked with the rarely discussed third dimension of marketing performance (i.e., adaptiveness; Morgan et al., 2002) because it may help companies adapt to changes in their respective environments. Against this backdrop, any research insights regarding the use of digital analytics for idea generation would be highly valuable.

Finally, although the findings of this dissertation have discussed the organizational conditions that affect the benefits gained from using digital analytics, more research is needed to deepen this knowledge. In particular, I have placed a lot of emphasis on discussing the principles of data-driven marketing, but future studies could add to this knowledge by explaining in more detail what data-driven marketing entails and how it is related to organizational culture. Is it really a novel philosophy to conduct marketing, or is it related to some pre-existing concepts? It is also clear that successful data-driven marketing requires skills that are not always found within the marketing organization. Thus, future studies could investigate how data-driven marketing teams should be organized, as well as what kinds of team members with various backgrounds (e.g., statistics, IT, marketing, sales) are needed for the successful execution of data-driven marketing.

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DISSERTATION ARTICLES

I

DIGITAL AND SOCIAL MEDIA MARKETING USAGE IN B2B INDUSTRIAL SECTION

by

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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, Groves, & 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, & Karjaluoto, 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, Karjaluohto, & 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; Mehrtens, 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; Mehrtens 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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II

WEB ANALYTICS AND SOCIAL MEDIA MONITORING IN INDUSTRIAL MARKETING: TOOLS FOR IMPROVING MAR- KETING COMMUNICATION MEASUREMENT

by

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WEB ANALYTICS AND SOCIAL MEDIA MONITORING IN INDUSTRIAL MARKETING: TOOLS FOR IMPROVING MARKETING COMMUNICATION MEASUREMENT

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WEB ANALYTICS AND SOCIAL MEDIA MONITORING IN INDUSTRIAL MARKETING: TOOLS FOR IMPROVING MARKETING COMMUNICATION MEASUREMENT

ABSTRACT

This study investigates how the online environment allows industrial companies to overcome traditional marketing communication measurement challenges. Specifically, it examines the perceived benefits of web analytics (WA) and social media monitoring (SMM) with regard to solving the measurement difficulties in three global industrial companies. In order to illustrate the challenging operational environment encountered by industrial businesses, we compare the results with experiences from within the financial services industry. As a result of this explorative case study, we discover that WA and SMM have enabled industrial companies to improve their marketing communication measurement ability, although some problems remain unsolved.

Keywords: Industrial companies, marketing communication, marketing measurement, online environment, social media monitoring, web analytics

1. INTRODUCTION

Showing the contribution of marketing actions to business performance has been a long-lasting challenge for marketing practitioners (Webster et al. 2005). Overcoming this challenge is an extremely important task because marketers' inability to show the value of their actions has weakened their credibility and threatened the strategic role of marketing functions within companies, evidenced by the decreasing resources allocated to marketing activities (O'Sullivan & Abela 2007; Rust et al. 2004). It seems that management increasingly requires the marketing sector to prove its contribution; marketing accountability is no longer an option but has become a necessity (Ambler & Roberts 2008; Li 2011).

Fortunately, digitalization has brought revolutionary insights into marketing performance measurement issues, and many believe that the long-lasting challenges of showing the value of

marketing communication actions may finally be realistically overcome. 'Everything can be tracked' is an oft-heard slogan in discussions about an online environment that allows businesses to trace and make visible practically all user actions (Hennig-Thurau et al. 2010). The online environment has enabled companies to track user behaviour on websites (Phippen et al. 2004) and to monitor discussions related to the company and its activities (Godes & Mayzlin 2004).

Even though marketing measurement challenges and new digital measurement opportunities have been widely discussed in the academic literature, the existing knowledge is inadequate. Indeed, marketing measurement issues have been the research priority of the Marketing Science Institute (MSI) since the beginning of this century (MSI 2000, 2002, 2004, 2006, 2008 & 2010), and scholarly journals have devoted entire issues to marketing productivity (e.g. *Journal of Business Research* in 2002; *Journal of Marketing* in 2004). More recently, the MSI has specifically requested more research on the possibilities of measurement empowered by digital solutions (MSI 2006, 2008, 2010). The MSI requests imply that companies are eager to gain knowledge about marketing measurement issues in the digital age. This is unsurprising given the discovery that enhanced ability to measure marketing success has a positive impact on company performance, profitability, stock returns, marketing's stature within the firm and CEO satisfaction (O'Sullivan & Abela 2007; O'Sullivan et al. 2009).

The goal of this study is to provide novel insights into the possibilities for industrial companies to use the online environment in their efforts to overcome traditional marketing communication measurement challenges. Other industries, such as consumer product manufacturers, can track customer behaviour from exposure to marketing communication up to interest and all the way to the transaction itself, but industrial companies with fewer customers, fewer transactions and longer purchase decision cycles struggle in their attempts to confirm the relationship between marketing and impact (Webster et

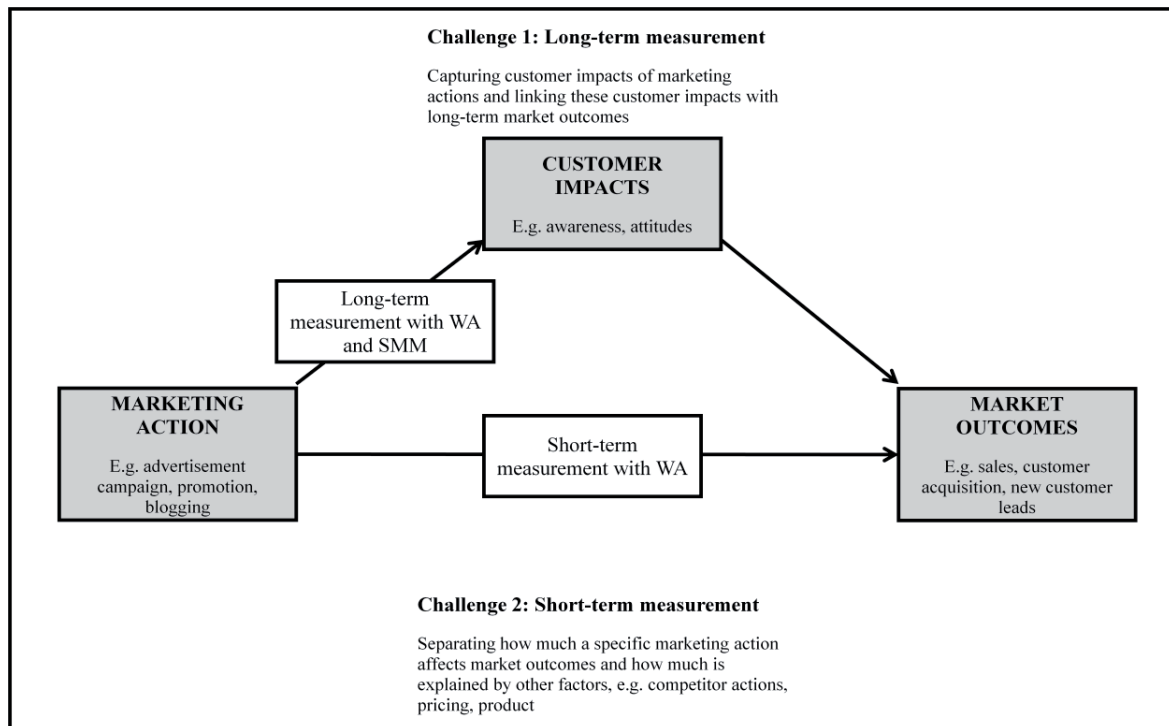
al. 2005). In short, this study contributes to the existing knowledge by providing new information regarding industrial companies' abilities to make marketing more accountable in the digital age.

2. MARKETING COMMUNICATION MEASUREMENT IN THE DIGITAL AGE

Measuring the impact of marketing actions is generally considered one of the most difficult tasks for marketers. Two fundamental challenges can be identified: (1) demonstrating the short-term market outcomes of a specific marketing action and (2) capturing the customer impacts and their relationship with long-term market outcomes (Dekimpe & Hanssens 1995; McDonald 2010). While acknowledging that these two measurement challenges may apply to all four Ps (product, price, place and promotion), we focus on examining these challenges from the promotion/marketing communications point of view.

While these issues remained largely unresolved in the era of traditional marketing, the online environment has made customer behaviour visible and traceable (Hennig-Thurau et al. 2010). Enhanced traceability has offered great opportunities for companies to improve the measurement accuracy of marketing communications. Measurement can be improved with at least two distinctive online solutions. Firstly, WA defined as 'the measurement, collection, analysis and reporting of internet data for the purposes of understanding and optimizing web usage' (Web Analytics Association 2011), can be leveraged for tracking customers' online activity on the company website and linking specific online marketing communication actions to sales or customer leads. Secondly, SMM refers to tracking and analysing electronic word-of-mouth (eWOM) information regarding specific keywords (Sponder 2011). It enables firms to monitor online discussions related to the company or to particular marketing campaigns. In the following section we discuss how WA and SMM have facilitated companies in overcoming fundamental marketing communication challenges (figure 1).

Figure 1: Conceptual framework



2.1 Challenge 1: Demonstrating the short-term market outcomes of a specific marketing action

The first fundamental challenge is probably the most obvious measurement problem. It is difficult to demonstrate how much a marketing communication action affects direct market outcomes by generating sales or sales leads and attracting new customers, and there are always simultaneous effects that moderate the relationship (McDonald 2010). For example, if a boat manufacturer's sales increase after an advertising campaign, how can the manufacturer be sure how much of the increase results from the campaign, and how much is explained by factors such as a new model that was recently launched, better availability in retailing outlets, a newspaper story that was published at the same time, talented salesmen, price incentives, the start of boating season, a booming economy or a competitors' failure to launch a new model for the summer season?

Undoubtedly, any marketing communication action is always accompanied by other effects that simultaneously influence market outcomes. Some of these are exogenous (i.e. effects unrelated to the

firm's own actions, such as competitor activity) while others are endogenous in that they derive from the firm's other marketing actions, such as pricing and selling.

2.2 Solution: WA enables companies to show the direct link between action and market outcome

Measuring the direct outcomes of marketing actions has always been more achievable for marketers than capturing long-term impacts. Companies have been able to estimate the relationship between a specific campaign and the sales generated or customers acquired during the same period of time. However, the online environment has refined these estimations into accurate results. Indeed, WA enables companies to link customer exposure to an online marketing communication action on a particular platform to website visits and even customer action such as purchase decision, request for quotation, brochure download or abandonment (Wilson 2010).

Specifically, WA allows companies to collect traffic data by, for example, calculating the number of click-throughs to the company website from the URL of a particular online marketing action (Manchanda et al. 2006). A visitor's navigation path can be traced through click-stream data obtained by WA that tracks their mouse clicks on a particular website (Wilson 2010). By finding out where a particular navigation path ends, firms can discover the outcomes of a visit resulting from exposure to a specific marketing action, and with that information plan further precise actions targeted to the visitor in question. In practice this means that WA may allow companies to solve the problem of demonstrating the short-term outcomes of a marketing action in an online environment because there is a direct link between the action and the resulting market outcome.

2.3 Challenge 2: Capturing customer impacts and their relationship with long-term market outcomes

Measuring short-term market outcomes has been proven to be inadequate for capturing the total value of marketing investments (Aaker & Jacobson 2001). In particular, marketing communications induce long-lasting positive (and negative) impacts on firm performance (e.g. Mitchell & Olson 1981), but capturing

these long-term impacts is difficult. Linking marketing actions directly to long-term market outcomes is not seen as a viable proposition, because a marketing communication action may affect buying behaviour more than a year after exposure (Dekimpe & Hanssens 1995). Consequently, it seems that a more actionable measurement solution is to link marketing actions to resulting impacts such as those on customer beliefs, attitudes and awareness, which are further linked with sales (Vakratsas & Ambler 1999).

In practice, customer impacts can be measured with intermediate metrics, also known as non-financial or intangible metrics (Seggie et al. 2007; Srinivasan & Hanssens 2009). However, measuring customer impacts with intermediate metrics creates another challenge, because it is unclear which metrics are the most relevant for reflecting customers' cognitive and affective mindsets and, more importantly, linking selected intermediate measures with long-term market outcomes has proved to be extremely difficult (Aaker & Jacobson 2001). Accordingly, the challenge for marketers in long-term measurement is to find the best metrics for measuring customer impacts and to demonstrate their relationship with long-term market outcomes.

2.4 Solution: Tracking and monitoring customer awareness and attitudes with WA and SMM

To the best of our knowledge, no research findings indicate that the challenge of long-term marketing measurement can be completely eradicated in the online environment. However, WA and SMM offer promising new metrics for capturing customer impacts which can be further linked to market outcomes. As discussed, WA helps companies evaluate how much traffic an online marketing action generates to the company website, and what the short-term market outcomes of this traffic are (Wilson 2010). However, following simple traffic generation and resulting market outcomes does not capture the total impact of an online marketing communication action, because this data ignores the customer impacts

(e.g. subjective opinions, feelings and experiences) and long-term market outcomes that the action may have (Drèze & Hussherr 2003).

Indeed, it has been discovered that there is a temporal gap between exposure to online marketing actions and conversion to sales, suggesting that exposure and sales lead generation do not always happen during the same online session (Ghose & Yang 2009; Manchanda et al. 2006). Consequently, it seems that online marketing action exposure and traffic generation volume are related to customer impacts such as awareness and interest. Moreover, one can make customer life-cycle analysis by coupling traffic data with log-on or subscription information and following them over time (Phippen et al. 2004). This kind of analysis enables companies to track how often a particular customer visits the website and how much time he/she spends there, which clearly shows signs of customer engagement.

While WA provides quantitative data on customers' online behaviour, it may not adequately serve the measurement of customer insights and attitudes. Instead, SMM enables companies to mine customer opinions related to the company and its products (Pang & Lee 2008). The relevance of opinion mining by SMM has become more feasible due to an increased amount of firm-related and product-related expressions of opinions and experiences, referred as eWOM (Hennig-Thurau et al. 2004). The rise of eWOM has made customer dialogue and discussions more observable and measurable given that the online environment allows the collection of actual exchanges of information between individuals (Liu 2006). In comparison, customers' WOM behaviour has traditionally been measured by surveys (Godes & Mayzlin 2004), and customers' subjective experiences (e.g. brand perceptions and attitudes) by qualitative interviews (Branthwaite & Patterson 2011) that are often vulnerable to response bias.

When it comes to measuring customer impacts, SMM helps in determining the awareness and persuasiveness of eWOM related to the company in question. Awareness of eWOM puts the company into the consideration set of the customer, while persuasiveness affects the customer's image of and

attitudes to the product/firm (Duan et al. 2008). The awareness and persuasiveness of eWOM are most commonly measured with volume and valence. Volume (awareness) indicates the number of mentions of a product or firm (Godes and Mayzlin 2004), while valence (persuasiveness) captures the tone of eWOM and indicates whether the firm and/or its product is discussed in a positive, neutral or negative light (Liu 2006). Since eWOM volume and valence reflect the positive or negative buzz around a company among web users, it can be argued that SMM facilitates the measurement of the long-term customer impacts of marketing actions. Moreover, there is evidence that customer impacts measured by volume and valence are linked to market outcomes.

The strong relationship between eWOM volume and sales has been proven in several studies. It seems that eWOM makes a greater number of individuals aware of firms and products, and that this enhanced awareness leads to greater sales (e.g. Liu 2006). On the other hand, the relationship between eWOM valence and sales is less significant. While several studies have failed to provide notable evidence of this linkage (e.g. Duan et al. 2008), Chevalier and Mayzlin (2006) discovered a strong relationship between eWOM valence and online sales. While the link between eWOM volume and market outcomes seems evident, more research is needed to justify the relationship between eWOM valence and market outcomes. Moreover, in the light of this study, the weakness of the current knowledge about eWOM metrics and market outcomes stems from a strong research focus on consumer products and services (e.g. Chevalier & Mayzlin 2006; Godes & Mayzlin 2004; Liu 2006). Therefore little is known about how eWOM measurement can be deployed by industrial companies.

In summary, it seems that WA and SMM offer promising metrics for capturing customer impacts that evidently relate to market outcomes, but it remains difficult to demonstrate exactly how much these customer impact metrics affect market outcomes in the long run. Consequently, WA and SMM are not likely to completely erase the long-term measurement challenge, but they may bring companies closer to

the solution. In addition, we assume that the benefits gained by WA and SMM are industry-specific. It is not clear how useful industrial companies, which often focus on personal selling and offline communication, find the WA and SMM advancements.

3. METHODOLOGY

This research is an exploratory case study which is interpretive in nature. The focus is on exploring how the research phenomena appear in certain case industrial companies. A financial services corporation was also investigated in an attempt to illustrate the challenging operational environment that industrial companies encounter with regard to marketing communication measurement issues. Using case studies was regarded as the most suitable strategy for reaching this study's goals because it best enables context-sensitive investigation and the understanding of phenomena in single settings (Eisenhardt 1989). Case study may concern an examination of a single entity or cross-case analysis (Yin 1981). Our research balances these two approaches in that the selected three companies are investigated as a single entity (industrial companies) and the cross-case analysis is conducted between this group and one financial services provider.

Case research strategy is most appropriately used when the study concerns context-sensitive phenomena, the existing knowledge is limited and proposing causal questions is not feasible (Benbasat et al. 1987; Bonoma 1985). As such, our results are not intended to be generalizable for all industrial companies but are rather particular to understandings of their context. However the results may offer insights into further, broader studies which may be verified to concern the whole sector.

The selection of case organizations in this study was based on purposeful sampling, meaning that the cases were strategically selected on the basis of their information richness and usefulness with regard to the research phenomena (Patton 2002). Consequently, we selected three long-established companies that operate in global industrial markets. They are all large, with an annual turnover of hundreds of

millions of euros and thousands of employees. Two of these companies originate in Finland and one is from Austria. The financial services corporation investigated is similarly a large-sized company which focuses on Central and Eastern Europe as its home market while concurrently operating on a global scale.

Data was gathered through 11 face-to-face interviews, nine of which were conducted in the industrial companies and two in the financial services corporation. The selection of interviewees followed the same principles of purposeful sampling as the selection of case companies. Those who were asked to participate were singled out by company managers as possessing particularly rich information regarding the interview theme. The main responsibilities of the interviewees were related to either marketing or communications tasks, and their standing varied from managerial employees to top management. The interviews were audio-recorded, transcribed into written form and, finally, coded under distinctive analytical categories to facilitate the analysis and interpretation of the gathered data.

4. RESULTS

The fundamental marketing measurement challenges, demonstrating the short-term market outcomes of a specific marketing action and capturing customer impacts and their relationship with long-term market outcomes, were clearly identifiable in the industrial case companies. Firstly, short-term market outcomes are difficult to measure due to the length of the selling process. In fact, the interviewees argued that the purchase decision is never solely based on marketing communications, which complicates the link between marketing communication action and short-term market outcomes (Table 1, C1-2). On the other hand, long-term measurement with regard to customer impacts was clearly regarded as highly important, but the interviewees found it extremely difficult to find suitable customer impact metrics and to link those metrics to long-term outcomes (Table 1, C3).

4.1 Measuring short-term market outcomes with WA

Traditionally, determining short-term market outcomes in the industrial case companies has been based on estimation. Interviewees have been able to evaluate how many new customers or sales leads the companies get during specific campaigns. However, these evaluations have not enabled companies to be sure which leads were generated as a result of a particular campaign and which just happened to occur during the campaign's time period and could be explained by other factors.

The interviewees from industrial companies thought that WA had noticeably improved the possibility of measuring the effectiveness of their marketing actions in online environment. In particular, they found it easy to examine how much attention a specific online marketing communication action attracted and how much this attention generated traffic to the company website. Moreover, the interviewees reported that they are now better able to track the purchase intentions and customer leads generated through digital channels, even though not all interviewees were convinced that their companies actively track the origin of customer leads (Table 1, C4-5).

In comparison to industrial companies, the interviewees from the financial services industry perceived their potential to use WA even more positively in their efforts to demonstrate market outcomes. The most notable difference between the two industries is that while industrial companies are able to link a specific online marketing communication action to a customer or sales lead, the financial services corporation can link an action all the way to transaction and thus measure the conversion rate. The financial services company is therefore actually able to determine the financial value of a specific action or campaign (Table 1, C6).

4.2 Measuring long-term customer impacts with WA and SMM

The industrial case companies largely measure the impact of marketing communications with customer surveys. Satisfaction surveys and brand image surveys are still considered the major source of

information. The interviewees believed that these surveys provide approximate information about how customers perceive their relationship with the company, but this information was not considered very valuable in determining the long-term impacts of marketing communications. In particular, linking customer impact metrics with long-term market outcomes was regarded as a very challenging task (Table 1, C7).

WA has allowed industrial companies to investigate how much interest an online marketing communication action attracts. This can be done by following how many times an online video or microblog text has been seen, commented on or shared, and how many of these web users then click through to the company website (Table 1, C8). In addition, the interviewees commented that they are able to identify which parts of the site attract interest among users as well as how visitors navigate through it (Table 1, C9). However, it was argued that tracking online behaviour with click-stream data does not serve long-term measurement purposes in industrial companies, because this quantitative data does not reveal whether the marketing message reached the segment of potential customers it was targeted at, or whether those targeted understood the message in the way it was intended (Table 1, C10). Since the quantitative data has proven inadequate for providing information about what customers think and feel about the marketing communication actions, the industrial companies have tried to listen to and monitor online discussions with SMM to discover customers' opinions (Table 1, C11).

Monitoring company-related online discussions is considered beneficial by the interviewees, because it allows for the gathering of relevant information about customers for the company's use. While it has previously been difficult to elicit customer opinions, SMM has automated the tracking process and made it easy to uncover company-related eWOM. Consequently, each company-related mention traced by SMM is manually processed to evaluate whether the comment contains relevant information and whether it needs some sort of reaction (Table 1, C12).

Although SMM has helped companies to mine customer opinions, it has not, for a multitude of reasons, facilitated industrial companies' measurement of the customer impacts of marketing actions particularly well. Firstly, the volume of company-related eWOM has remained low, which does not allow companies to draw meaningful conclusions (Table 1, C13). Secondly, the valence of eWOM tends to be largely neutral, because most of the comments discuss company-related news and stock price speculations, which do not offer valuable insights for measurement purposes (Table 1, C14). Thirdly, the interviewees mentioned that the experiences of long-term customer impact measurement with eWOM volume and valence by SMM have been very negative thus far, because automated information analysis has been untrustworthy and sometimes even misleading (Table 1, C15). Finally, it was noted that SMM does not provide access to those discussions (e.g. LinkedIn and Facebook groups) that require some sort of log-in to a site (Table 1, C16).

Interestingly, the financial services company encountered very similar problems with regard to measuring long-term customer impacts with SMM. The interviewees explained that monitoring has enabled better tracking of customer insights, although most of the discussions are not initiated by customers themselves, which hinders the impact measurement (Table 1, C17). To summarize, even though WA and SMM have new implications for determining the customer impacts of marketing actions, they have not revolutionized the measurement practices. In particular, none of the case companies had established viable solutions to link customer impact with long-term market outcomes. Consequently, the market impacts of marketing actions are still largely estimated by following sales trends. When sales trends are positive, management is satisfied with the marketing and vice versa (Table 1, C18).

Table 1: Citations

Citation	Excerpt
C1	<i>'It's usually impossible to isolate which specific marketing activity the contract originated through, as it takes years of customer development.'</i> (Michael)
C2	<i>'I don't think we are ever able to say that a purchase was only due to one specific activity... Our focus is on gaining reputation and trust, so we deal with long-term issues. We are not in the kind of business where, if we made an offer, the customers would be like, yeah, now get it cheaply.'</i> (Mary)
C3	<i>'We can't measure our brand strength or long-term outcomes very accurately at the moment; they're based on scattered information. Currently all the information we get is from people that we ask about it, but we don't have any broader knowledge.'</i> (John)
C4	<i>'The online environment has made marketing communications more measureable. On our website we can identify the visitors who have clicked the "where to buy" link. I believe this means that they have at least some intention to buy.'</i> (John)
C5	<i>'In principle, we could track the leads in a way that if a certain customer relationship started from a LinkedIn discussion, we can confirm that the lead came from there. I don't think we have actively tracked those leads yet.'</i> (Mary)
C6	<i>'With digital channels it's possible to tell which activity leads to a transaction through click-stream analysis, which is not possible in print or other traditional marketing communications. We conduct this kind of analysis for specific campaigns.'</i> (Robert)
C7	<i>'Customer satisfaction will always influence sales numbers, but in this branch they are difficult to link with specific customer impact metrics.'</i> (Michael)
C8	<i>'You get quantitative data of how many people have visited, and I'm able to see the sources of traffic. I can evaluate whether or not my Twitter posts are beneficial, whether anybody ends up on our page from there, how many people have seen our video, and so forth.'</i> (Elizabeth)
C9	<i>'We are able to follow our website visitors to find out which areas of the site have generated the most interest.'</i> (James)
C10	<i>'Quantitative data tells us whether anybody has seen the message or heard about it, but it doesn't tell us anything about how well they understood it. It is nice to have a lot of followers, but when you think about it, if you're trying to reach a small niche of people, it doesn't matter how many people follow you, only whether they are the right people. That is very difficult to confirm.'</i> (Mary)
C11	<i>'We use monitoring software that shows retroactively what has been said about us. So these tools help, and the monitoring has become easier.'</i> (James)
C12	<i>'You need to participate in these discussions while they are ongoing and also have some input into them, to make sure that the discussion does not go wrong or that web users haven't misinterpreted something.'</i> (Barbara)
C13	<i>'We are not actively discussed in social media. This is my personal opinion, but I don't think that our product is the kind of a social object that has a buzz around it.'</i> (Elizabeth)
C14	<i>'I don't think the discussion is related to our business in itself. I would claim that the discussion is mainly focused on speculations about investor relations, and they seldom have much to do with our own actions.'</i> (Patricia)
C15	<i>'The monitoring tools are quite nice, but you can never be sure that the data is correct. Everybody has complained that you still have to go and double-check everything manually. The software tells you that you have this many hits, but then it turns out that the robot understood it in a different way or something like that. There is always something weird in it.'</i> (Mary)
C16	<i>'One more issue is that none of the monitoring tools has access to, for example, LinkedIn groups that require a log-in. The same applies to Facebook, so you cannot monitor everything.'</i> (James)
C17	<i>'The customers are not talking about us actively. We have recently started to use social media monitoring, but 90 percent of the discussion is not fostered by customers but by the media, especially newspapers.'</i> (William)
C18	<i>'We always take the sales figures into account. When the sales go down, we may take a look at our marketing activities. Of course we check also the trends around the world to find out if sales are decreasing everywhere.'</i> (James)

5. CONCLUSIONS AND EVALUATION OF THE STUDY

The results of this study are consistent with earlier suggestions that marketing measurement challenges are particularly evident in industrial companies due to their having fewer customers and longer purchase decision cycles (Webster et al. 2005). Indeed, industrial companies seem to be nearly powerless to demonstrate how much marketing communication actions influence a particular purchase decision, and to determine their long-term impact. Although these dilemmas were also identifiable in the financial services company, it was a lot more optimistic about overcoming marketing measurement challenges in the digital age. Consequently the study provided support to the idea that the operational environment may have a major influence on marketing measurement challenges and the perceived possibility of overcoming them in an online environment.

Both industry sectors utilized WA and SMM in their marketing measurement efforts and these experiences have been mostly positive. We outlined earlier how WA and SMM may allow companies to overcome fundamental marketing measurement problems (Figure 1), and the study results supported the proposition according to which WA has significantly improved both industry sectors' ability to show the linkage between marketing action and short-term market outcomes. However, even though WA and SMM had helped the case companies to measure customer impacts, their contribution was considered minor. In particular, linking customer impacts with long-term market outcomes remains a problem.

All case companies regarded WA as beneficial in determining the short-term market outcomes of online marketing actions. However, while it has been previously noted that WA enables companies to track customer behaviour from online marketing action exposure through to transaction (Wilson 2010), the results showed that not all companies are able to do so. Accordingly, the benefits gained with WA are emphasized in businesses where transactions can be done online. On the other hand, companies with more complicated selling processes need to find ways to measure the market outcomes of website visits

other than the actual purchase decision. One solution is to develop effective processes to track customer and sales leads. Nevertheless, WA is unlikely ever to completely solve the short-term measurement problems in all industry sectors as it does not facilitate the measurement of offline marketing actions.

As the amount of consumer discussion online increases (Hennig-Thurau et al. 2010), SMM has great potential to become a more viable way to measure long-term marketing impacts. However, the results question whether it can be used for measurement purposes by industrial companies, given that the tone of eWOM related to them tends to be neutral and discussions are largely initiated by other stakeholders rather than by customers. In addition, it seems that SMM is still in the development phase, and its effective utilization requires overcoming multiple technical challenges, such as automated sentiment analysis.

To conclude, WA and SMM offer new insights into marketing measurement practices, but industrial companies are likely to continue to struggle to show the financial value of their marketing communication activities. While there is much hype around a so-called revolution in marketing measurement practices in an online environment, this study questions these revolutionary ideas in terms of how widely they can be applied across industries. It seems that the argument ‘everything can be tracked’ is far from reality in the context of industrial companies.

Despite its contributions to the existing knowledge, this study has limitations that must be acknowledged. The first important limitation stems from the fact that the study investigated only three industrial companies and the results were compared to just one financial services corporation. Consequently the results are not transferable and more research is needed to confirm these preliminary findings. Nevertheless, there were no major differences between the results found for the industrial companies, suggesting that the results of this study may be applicable as the basis of a broader quantitative investigation.

The conceptual framework proposed guided the empirical part of the study, but its validity was not tested. Although the framework seemed to fit the experiences of the case companies in the sense that WA and SMM had facilitated marketing measurement ability to some extent, its functionality may vary broadly across different companies and industry sectors. Indeed, a narrow comparison between industrial companies and a financial services firm suggested that the benefits gained by WA and SMM are highly industry-specific.

In the future, it would be beneficial to examine how useful different industry sectors find WA and SMM for marketing measurement purposes. Presumably, those companies that are able to sell their products online will find WA a more valuable tool. On the other hand, while the case companies did not find SMM highly beneficial, we assume that the volume of the buzz around a company may be strongly influenced by the product category in question. The more interesting and sophisticated the product is seen to be by consumers, the more eWOM it may provoke. Consequently, further studies could explore the factors that moderate the perceived usefulness of WA and SMM as well as prerequisites for their effective utilization.

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III

THE USE OF WEB ANALYTICS FOR DIGITAL MARKETING PERFORMANCE MEASUREMENT

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The use of Web analytics for digital marketing performance measurement[☆]



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ABSTRACT

This study proposes that the benefits gained from marketing performance measurement are determined by how an organization exploits the metrics system under specific circumstances. For this purpose, the authors review performance measurement literature and apply it to the use of Web analytics, which offers companies a metrics system to measure digital marketing performance. By performing an in-depth investigation of the use of Web analytics in industrial companies, the study shows that an organization's efforts to use marketing metrics systems and the resulting outcomes cannot be understood without considering the reasoning behind the chosen metrics, the processing of metrics data, and the organizational context surrounding the use of the system. Given the continuously growing importance of digital marketing in the industrial sector, this study illustrates how industrial companies characterized by complex selling processes can harness Web analytics to demonstrate how digital marketing activities benefit their businesses.

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1. Introduction

The role of digital marketing² (DM) in a firm's marketing strategy has been expanding in the industrial sector, as evidenced by industrial firms' increasing investments in DM activities, which currently account for approximately one-quarter (26%) of industrial firms' total marketing budgets (Gartner, 2013). In addition to cost effectiveness and changes in customer behavior, investments in DM are motivated by its results being more easily measured compared with those of traditional marketing (Hennig-Thurau et al., 2010; Pickton, 2005; Wilson, 2010). As customers are increasingly interacting with companies through digital channels, marketers have realized the need to track these interactions and to measure their performance (Chaffey & Patron, 2012). For this purpose, firms must adopt Web analytics (WA), defined as "the measurement, collection, analysis and reporting of Internet data for the purposes of understanding and optimizing Web usage" (Web Analytics Association, 2008, p. 3). In this study, WA refers to a tool that collects clickstream data regarding the source of website traffic (e.g., e-mail, search engines, display ads, social links), navigation paths, and the behavior of visitors during their website visits and that presents the

data in a meaningful format. The WA data are used to understand online customer behavior, to measure online customers' responses to DM stimuli, and to optimize DM elements and actions that foster customer behavior that benefits the business (Nakatani & Chuang, 2011).

Although it is limited to the digital environment, the use of WA is an important developmental step toward measurable marketing. As the role of the digital world expands through increased digital media consumption and the integration of the online and offline worlds, the proportion of marketing actions covered by WA is growing. Many offline marketing actions already include digital elements that can be tracked by WA. Examples include quick response (QR) codes embedded in print and outdoor media and augmented reality applications used in, e.g., product demonstrations at trade shows. Additionally, firms can design offline campaigns to drive traffic to digital channels and to measure their impact on website customer behavior. However, firms' ability to harness WA to improve marketing performance remains limited. In a recent survey of 1000 U.S. marketers, three of four marketers believed that measuring DM performance was important, but less than one-third (29%) thought they were doing it well (Adobe, 2013).

WA is used by more than 60% of the top 10 million most popular websites around the globe (Web Technology Surveys, 2014). In addition to the value of the data that WA produces, the high adoption rate is driven by the fact that some WA tools, such as Google Analytics, can be acquired and utilized free of charge. Despite the high adoption rate, academic research on WA remains limited, and much of the research results reveal a discouraging picture of its use. On average, WA is utilized on an ad-hoc basis, the metrics data are not used for strategic purposes, and the benefits of the usage remain unclear (Hong, 2007; Järvinen, Töllinen, Karjaluoto, & Jayawardhena, 2012; Welling & White, 2006).

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² Digital marketing refers to marketing that uses electronic devices and channels to support marketing objectives. In this study, digital marketing includes marketing via websites, search engines, online advertisements, e-mail and social media channels. Digital marketing is considered to be a synonym for electronic marketing.

In contrast, a few case studies demonstrate that measuring and optimizing DM performance measurement with WA have improved the efficiency of marketing actions and subsequently increased sales revenue (Phippen, Sheppard, & Furnell, 2004; Wilson, 2010). Hence, the evidence regarding the benefits of exploiting WA for DM performance measurement is contradictory.

In addition, whether performance measurement and the use of measurement data in decision making result in improved firm performance or other business benefits is generally disputed in the literature. For instance, Franco and Bourne (2004) analyzed 99 published papers regarding performance measurement and concluded that more rigorous research methods were associated with a lower likelihood of performance measurement having a positive impact on firm performance. By contrast, various marketing studies have shown that the use of marketing performance measurement data in marketing decisions has positive performance implications (e.g., Kannan, Pope, & Jain, 2009; Lodish, Curtis, Ness, & Simpson, 1988; Mintz & Currim, 2013; Natter, Mild, Wagner, & Taudes, 2008; Silva-Risso, Bucklin, & Morrison, 1999; Zoltners & Sinha, 2005). However, in practice, many marketing managers remain skeptical toward the use of performance measurement data and instead rely on intuition and experience in decision making (Germann, Lilien, & Rangaswamy, 2013; Lilien, 2011). This perspective is also supported by scientific evidence. Heuristics studies demonstrate that less information may in fact result in more accurate and efficient decision making than extensive analysis of past data because heuristic rules can be used to manage uncertainty more efficiently and robustly than rules based on a broader use of information (Gigerenzer & Brighton, 2009; Guercini, 2012; Guercini, La Rocca, Runfola, & Snehota, 2014). Given this contradictory evidence, this study proposes that performance measurement or the use of WA for DM performance measurement does not inherently improve performance. Rather, the benefits gained are determined by how companies exploit the system under specific contextual circumstances.

Against this backdrop, this study has three aims. First, it advances marketing performance measurement theory by elucidating how organizations can design and apply marketing metrics systems in a way that creates business benefits. Second, although previous findings demonstrate that WA is more beneficial in businesses in which transactions are processed online (Järvinen, Töllinen, Karjaluoto, & Platzer, 2012), this study demonstrates how industrial companies characterized by a long-duration selling process and an emphasis on face-to-face interaction with customers (Webster, Malter, & Ganesan, 2005) can use WA for DM performance measurement. Third, at a time when new analytics tools and technologies are providing marketers with a rapidly increasing volume of digital data regarding online customer behavior (Deighton & Kornfeld, 2009; McAfee & Brynjolfsson, 2012; Russell, 2010), this study examines the limitations of relying on such data and emphasizes the future challenge of achieving a holistic understanding of customers and marketing performance.

To reach our research objectives, we perform an in-depth investigation of a company that has experienced remarkable benefits from the use of WA and compare the company's WA use with that of two other companies that have not gained notable benefits despite their active use of WA. The differences in the use of WA are examined in three dimensions: the selection of WA metrics, the processing of WA data, and the organizational context of WA use (adapted from Pettigrew, Whipp, & Rosenfield, 1989). A similar approach has been used in the performance measurement literature (Bourne, Kennerley, & Franco-Santos, 2005; Bourne, Neely, Platts, & Mills, 2002; Bourne et al., 1999; Martinez, Pavlov, & Bourne, 2010). However, this study extends Pettigrew et al.'s (1989) model by demonstrating how it can be applied in marketing performance measurement research.

The remainder of the article is organized as follows: We begin by explaining how the dimensions of Pettigrew et al.'s (1989) model are adapted for the purposes of this study. Thereafter, we review and divide the existing findings regarding performance measurement under the

adapted dimensions and discuss how the findings are related to evidence derived from the WA research. In the methodology section, we justify the rationale for using a case study approach and describe the data collection and analysis methods that are used in this study. Subsequently, we present the cross-case findings. Finally, we discuss the theoretical contributions and managerial implications of the study, its limitations, and avenues for future research.

2. Framework for investigating the use of performance metrics systems

Research on DM performance measurement with WA is scarce and theoretically underdeveloped. Therefore, we consider a broader perspective for the literature review and combine findings from performance measurement and marketing performance measurement literature. We show that the existing findings regarding the use of performance measurement systems are often parallel to available anecdotal evidence regarding the use of WA for DM performance measurement. The literature review is structured according to the three dimensions of Pettigrew et al.'s (1989) framework, which was originally designed to investigate strategic change in organizations. The key idea of the framework is that the content of change, the process of implementing change and the organizational context in which the change occurs are interrelated. Thus, strategic change can only be understood by investigating all three dimensions. Specifically, content (i.e., the what of change) refers to the particular areas of transformation under examination. Process (i.e., the how of change) refers to the frameworks, patterns, actors, and tools that transition the organization from its present to a future state. Context (i.e., the why of change) refers to the organization's internal context (i.e., antecedent conditions, resources, capabilities, structure, leadership, dominating frames of thought, culture, and politics) and the external environment (i.e., the economic, business, and political environment and social and economic trends) in which change occurs.

Pettigrew et al.'s (1989) framework was selected as a guide for this study because it provides a sound structure for organizing disparate findings from the performance measurement literature to develop a holistic understanding of the elements that affect the firm's ability to design and exploit a marketing metrics system. The framework has been adopted in a number of studies on the use of performance measurement systems, all of which have concluded that the content, process, and context of performance measurement affect the outcome of the system (Bourne et al., 1999, 2002, 2005; Martinez et al., 2010). In these studies, the dimensions have been adapted to better harmonize with performance measurement research and the precise research questions. Therefore, the following definitions are formulated by combining and summarizing the core idea of each of Pettigrew et al.'s dimensions in previous performance measurement studies (e.g., Bourne et al., 2005; Martinez et al., 2010):

Performance measurement content refers to the actual metrics system that is developed, including what is being measured, what metrics are selected, and how they are structured as a complete metrics system.

Performance measurement process refers to the process through which the performance data are refined and managed.

Performance measurement context refers to the internal and external organizational contexts in which the use of a metrics system occurs.

For the purposes of this study, we use these definitions and extend their use to address marketing metrics and WA metrics systems. However, regarding the performance measurement context, this study exclusively focuses on the internal context, and therefore, the external context is outside the scope of this research.

2.1. Performance measurement content

The exact design of an effective metrics system is likely to depend on the particular organization in question. Thus, there are no clear standards for building a metrics system that would fit the needs of all organizations. However, research indicates that to develop a successful metrics system, organizations should focus on aligning metrics and strategy, as well as the definitions, dimensions, and structure of the metrics (Table 1).

The WA literature has focused on the extent of WA metrics use by organizations and the types of metrics that organizations have adopted (Hong, 2007; Phippen et al., 2004; Welling & White, 2006). As indicated in the performance measurement and marketing performance measurement literature, aligning WA metrics with a DM strategy and business objectives has been demonstrated to be a viable method to increase the benefits of WA use in certain cases (Phippen et al., 2004; Weischedel & Huizingh, 2006). However, little is known regarding the underlying reasons why organizations select certain WA metrics and ignore others.

Marketing performance measurement suffers from an emphasis on subjective measures, such as brand loyalty and customer satisfaction, which are difficult to link to financial metrics that mainly concern top management (Rust et al., 2004; Stewart, 2009). Seggie et al. (2007) argue that in addition to dissatisfaction toward subjective marketing measures, the power of the Internet will diminish the importance of subjective measures and increase the importance of objective measures. Indeed, one of the advantages of WA is that it offers a variety of objective, standardized, and quantitative metrics that are relatively easy to communicate to senior management. However, the plethora of metrics complicates WA usage because it is difficult to decide which metrics are the most critical to implement (Phippen et al., 2004; Weischedel & Huizingh, 2006; Welling & White, 2006). Firms should begin WA metrics selection by identifying the key performance indicators³ (KPIs) and differentiating them from other granular metrics (Chaffey & Patron, 2012). However, little is known regarding how companies resolve the challenge of compiling a comprehensive yet manageable set of WA metrics. Moreover, whether quantitative WA metrics can substitute for subjective marketing measures, which are qualitative in nature, remains unclear.

2.2. Performance measurement process

Various studies have investigated how performance measurement systems are implemented and how data are processed at the operational level. As a result, the following key phases of the performance measurement process have been identified: data gathering, data analysis and interpretation, result reporting, taking action, and updating the metrics system (e.g., Bourne, Mills, Wilcox, Neely, & Platts, 2000; Bourne et al., 2005). Table 2 summarizes the research findings related to each of these phases.

Gathering reliable data for metrics systems is challenging (Eccles, 1991; Lynch & Cross, 1991; Nemetz, 1990; Stewart, 2009). Thus, an advantage of WA metrics is that the collection of WA data can be standardized and automated (Russell, 2010). For this reason, data gathering is not expected to be a major obstacle to the use of WA data. Instead, in line with the performance measurement literature, WA data are useless without proper analysis and interpretation (Chaffey & Patron, 2012; Court, Gordon, & Perrey, 2012; Phippen et al., 2004). Clearly, the analysis and interpretation phase is a prerequisite for gaining insight and

improving current DM practices. Therefore, this phase is presumed to have a major influence on the benefits gained from WA.

Reporting the measured marketing performance outcomes to executives leads to favorable managerial attitudes and behavior toward marketers (Curren et al., 1992; Pauwels et al., 2009). Presumably, reporting DM performance to executives similarly results in positive outcomes. However, how reporting should be organized and how detailed the information that management is willing to receive from DM results remain unclear. In addition, as coordination and clear responsibilities are commonly key factors in successful performance measurement processes (Eccles, 1991; Simons, 1991), one key consideration concerns how responsibilities should be shared and coordination performed regarding WA data.

2.3. Performance measurement context

Research on the internal performance measurement context has identified various factors that influence the use of performance measurement systems. These factors include analytics skills and resources, information technology infrastructure, senior management commitment, leadership, and organizational culture (Table 3).

The literature has emphasized the importance of expertise and analytics skills in selecting suitable WA metrics and analyzing WA data for gaining meaningful insight (Chaffey & Patron, 2012; Court et al., 2012), which is also commonly mentioned in marketing performance measurement studies (Germann et al., 2013; Lenskold, 2002; O'Sullivan & Abela, 2007; Patterson, 2007). In addition to expertise and analytics skills, the role of management in the use of WA has been discussed, as senior management can be held responsible for investing in recruitment, training, and suitable information technology infrastructure (Chaffey & Patron, 2012). Furthermore, the use of analytics is more effective when the organizational culture favors data-driven decision making, cooperation, and information sharing, which often requires effective change management practices (Davenport, 2013; McAfee & Brynjolfsson, 2012). Regarding the information technology infrastructure, anecdotal evidence suggests that one of the primary advantages of WA tools is that they can be synchronized with other enterprise software, such as customer relationship management (CRM) and social analytics software (Digital Marketing Depot, 2014). However, the integration of WA tools with other information technology platforms has not yet been explored in the academic literature.

3. Methodology

For this paper, the case study approach was selected as the research strategy. According to Yin (1981), the case study approach is favored when the study investigates a contemporary phenomenon in its real-life context and when the boundaries between phenomenon and context are not evident. In this study, WA is a contemporary phenomenon because the technology has gained wider attention only during the last decade and because the academic research on WA is still in its infancy. In addition, this study aims to elucidate the underlying reasons for firms' varying benefits from WA, which can only be achieved through in-depth investigation of selected organizations.

The study was conducted as part of a two-year DM research project that was supported by seven large industrial firms and seven service providers, such as DM agencies. During preliminary discussions with the participating companies, we found that DM performance measurement emerged as a top-priority research theme and that multiple companies had already used WA for this purpose. Studying WA for DM performance measurement specifically in large industrial companies provided a fruitful research setting because the use of WA in industrial companies has not yet gained much interest in the academic literature. Furthermore, generally, marketing performance measurement is particularly challenging in industrial settings, which are characterized by complex, long-lasting selling processes that render demonstrating the

³ In the DM context, KPIs are defined as metrics that indicate the firm's overall DM performance in relation to its most important DM goals. The KPIs are supplemented with other more granular metrics that are used to evaluate the effectiveness and efficiency of specific DM activities that support the overall DM performance measured by the KPIs (Chaffey & Patron, 2012).

Table 1
Research findings regarding performance measurement content.

Content issue	Performance measurement	Marketing performance measurement
The alignment of metrics and strategy	Performance measurement should be based on firm strategies and business objectives (Bourne, Neely, Mills, & Platts, 2003; Eccles, 1991; Kaplan & Norton, 1996; McCunn, 1998; Neely & Bourne, 2000). Clearly defined performance metrics help firms avoid common misunderstandings (Bourne & Wilcox, 1998; Neely, Richards, Mills, Platts, & Bourne, 1997; Neely et al., 1996; Schneiderman, 1999).	The selection of metrics should be based on marketing strategy and objectives (Ambler, 2000; Ambler, Kokkinaki, & Puntoni, 2004; Clark, 2001; Lamberti & Noci, 2010; Morgan, Clark, & Gooner, 2002). Determining the marketing contribution to business outcomes requires that the metrics that are used are clearly defined (Ambler, 2000; Lehmann, 2004; Webster et al., 2005).
Definitions of metrics	Metrics systems should be multi-dimensional or "balanced", including financial and non-financial, internal and external, leading and lagging metrics (Bourne et al., 2003; Eccles, 1991; Kaplan & Norton, 1992, 1996; Keegan, Eiler, & Jones, 1989; Lingle & Schiemann, 1996; Neely et al., 1996).	To create a thorough understanding of marketing performance, the selected metrics should reflect short- and long-term as well as financial and non-financial results (Ambler & Roberts, 2008; Clark, 1999; O'Sullivan & Abela, 2007; Rust, Ambler, Carpenter, Kumar, & Srivastava, 2004; Seggie, Cavusgil, & Phelan, 2007).
The dimensions of metrics	Managers must understand the interrelationships between metrics and condense the metrics in a manageable system by omitting metrics that are less critical or overlapping (Lipe & Salterio, 2000, 2002; Neely et al., 2000).	Marketers need a comprehensive but manageable set of performance metrics, which requires that they understand the interrelationships between metrics and that they are able to focus on the critical ones (Clark, 1999; McGovern, Court, Quelch, & Crawford, 2004; O'Sullivan & Abela, 2007; Pauwels et al., 2009).

impact of DM on business performance difficult (Webster et al., 2005). In contrast, large industrial companies are more active users of DM measurement than small and medium-sized firms (Järvinen, Töllinen, Karjaluoto, & Jayawardhena, 2012), which implies that larger companies are more likely to have the resources and knowledge required for the successful use of WA. Therefore, by investigating large industrial companies, we expected not only to identify challenges in the use of WA but also to find insights and solutions for overcoming these challenges.

Three of seven industrial companies that participated in the research project reported actively using WA for DM performance measurement, and all three were willing to participate in the study. These three companies were largely similar in terms of digital marketing activities and channels in use. That is, all of the companies used a company website, campaign websites, search engine marketing (which encompassed both organic and paid search), display advertising, e-mail newsletters and social media (primarily Twitter, LinkedIn, Facebook and YouTube) to achieve digital marketing goals. From this perspective, the opportunities to use WA for DM performance measurement did not differ among the case companies. Two of the firms (which are identified in this research by the aliases Machinery and Paper) stated that they were not satisfied with their current use of WA and had gained only minor benefits thus far. In contrast, the third firm (i.e., Steel) reported that it was highly satisfied with its WA use and that it had experienced substantial improvements in DM performance by using WA. Against this background, we created a comparative study design in which we compared the differences in the use of WA among the companies to discover the reasons for the varying benefits that were experienced. More

specifically, our empirical study design follows the literature review and includes the performance measurement content, process, and context dimensions of WA use. Regarding the context dimension, we limited our study focus to the internal context and concentrated on internal organizational factors related to WA use. Excluding the external context was justified because the case companies were in many ways similar from the external context perspective, sharing the same political, cultural, and social background and operating largely in the same market areas. The details of the three case companies are presented in Table 4.

The primary data collection method was interviews. The target group for the interviews was digital marketers who were or had been involved with DM performance measurement and the use of WA. The management in each company performed the actual selection of the key respondents based on the candidate respondent's role in DM performance measurement tasks. Ultimately, we conducted four to five interviews in each case company (14 in total). After these interviews, the data were determined to be saturated and representative given that fewer than 20 employees in each company were involved with DM performance measurement. The average length of the interviews was 55 min, and all the interviews were audio recorded with the permission of the interviewees. The interviews did not include rigidly formulated questions but were open-ended in nature and only guided by six themes: (1) DM strategy and objectives, (2) DM activities and channels, (3) DM performance measurement tools and practices and the role of WA use, (4) WA metrics selection, (5) WA data processing and reporting, and (6) opportunities and challenges in DM performance measurement and the use of WA. In addition to these guiding themes,

Table 2
Research findings regarding the performance measurement process.

Process phase	Performance measurement	Marketing performance measurement
Data gathering	A multitude of methods to capture performance data; the challenge is to obtain accurate, standard, and objective data (Eccles, 1991; Lynch & Cross, 1991; Nemetz, 1990).	Marketers have difficulties in gathering reliable and objective data (Stewart, 2009).
Data analysis and interpretation	The value of performance data depends on how the information is analyzed and interpreted (Eccles, 1991; Hill, Koelling, & Kurstedt, 1993; Lynch & Cross, 1991; Neely & Bourne, 2000).	A key challenge in processing marketing performance data is to refine it to actionable insights (McGovern et al., 2004; Pauwels et al., 2009).
Results reporting	Standardized and regular reporting leads to better performance (Bourne et al., 2005; Hacker & Brotherton, 1998).	Reporting marketing performance to executives positively influences managerial satisfaction, attitudes, and behavior toward marketers (Curren, Folkes, & Steckel, 1992; Pauwels et al., 2009).
Taking action	Improving performance necessitates that performance data are utilized for taking corrective action toward existing practices (Forza & Salvador, 2000; Lebas, 1995; Lynch & Cross, 1991).	Acting on the basis of marketing performance measurement data results in positive performance implications (Kannan et al., 2009; Lodish et al., 1988; Silva-Risso et al., 1999).
Updating the metrics system	Modifying and updating the metrics system is vital to reflect changes in strategic objectives and targets (Bourne et al., 2000; Johnston, Brignall, & Fitzgerald, 2002; Lingle & Schiemann, 1996; Neely et al., 2000; Wouters & Sportel, 2005).	Non-existing

Table 3
Research findings regarding the internal performance measurement context.

Internal context factor	Performance measurement	Marketing performance measurement
Analytics skills and resources	Designing and implementing a performance measurement system requires sufficient skills and human resources (Kennerley & Neely, 2002).	Analytics skills and knowledge of measurement techniques are necessary for the use of marketing performance data (Germann et al., 2013; Lenskold, 2002; O'Sullivan & Abela, 2007; Patterson, 2007).
Information technology infrastructure	Suitable information technology infrastructure improves the integration and accessibility of performance data (Bititci, Nudurupati, Turner, & Creighton, 2002; Bourne et al., 2002; Eccles, 1991; Lingle & Schiemann, 1996; Marchand & Raymond, 2008; Nudurupati & Bititci, 2005).	Sophisticated information technology infrastructure supports the exploitation of marketing metrics data (Germann et al., 2013).
Senior management commitment	Management commitment encourages the implementation and active use of a performance measurement system (Bititci et al., 2002; Bourne et al., 2000, 2002; Nudurupati & Bititci, 2005).	Support from top management in terms of attention, budget, and human resources is necessary for the successful deployment of marketing performance data (Germann et al., 2013; O'Sullivan & Abela, 2007; Patterson, 2007).
Leadership	Communicating benefits and reassuring and motivating people toward using a performance measurement system decreases the resistance toward the system (Hacker & Brotherton, 1998; Kaplan & Norton, 1996; Kennerley & Neely, 2002).	Non-existing
Organizational culture	Creating a culture that embraces the use of performance data in managing a business is beneficial; performance data must be used to encourage learning and improvement rather than to punish and blame (Bourne et al., 2002; Kennerley & Neely, 2002; Neely & Bourne, 2000).	An organizational culture that encourages the use of metrics data in marketing decision making contributes to its effective usage (Germann et al., 2013; Patterson, 2007).

we kept the interviews as open-ended as possible and allowed the interviewees to freely raise any issues that they thought were relevant to the topic.

To complement the data from interviews (and increase the validity of the study), two workshop sessions were organized to allow for informal group discussions on the key respondents' opinions and experiences regarding the research topic. The participants in the workshops included the same individuals who participated in the interviews and representatives with an interest in the topic from other companies that participated in the DM research project. However, in the analysis of workshop sessions, we included only the comments made by the interviewees. The topics of the workshop sessions were open in nature but were designed based on the interviews, as we pursued issues that multiple interviewees' had considered particularly challenging or important in the interviews. For example, many interviewees noted the difficulty of deciding what WA metrics to select and what metrics to ignore, so we tried to elaborate this issue by asking the participants to share their thoughts and rationale for making metrics selection decisions. The data gathering in the workshops was conducted such that one researcher participated by raising topics to discuss while two other researchers observed and took notes of comments and reactions by the participants of the case companies. Finally, e-mail exchanges were used in the data collection where an interview request was declined.

The analysis of the case data followed a three-step thematization process comprising condensing the data, displaying the data, and

drawing and verifying conclusions (Miles, Huberman, & Saldaña, 2013, pp. 12–14). First, the audio-recorded interviews were transcribed and combined with notes from the workshop discussions and e-mail exchanges, after which the data were reviewed several times. Second, content analysis was performed by descriptive coding to create relevant categories (such as metrics selection, data gathering, analytics skills) followed by second-cycle coding in which the descriptive codes were grouped according to the content, process, and context of WA usage (Miles et al., pp. 74, 86–93). After a carefully conducted process of coding and recoding the data, we reviewed the cases individually and compiled case descriptions based on this review process. Thereafter, a comparative analysis was conducted to examine the differences and similarities across the individual case findings. Finally, to verify the study results, our interpretations were presented in final meetings with each firm where key respondents were invited to comment on the study's findings and conclusions. Against this background, the results obtained by the researchers were reliable in terms of managerial relevance.

4. Findings

The case companies substantially differed in terms of their satisfaction toward and benefits gained from the use of WA. The participants from Machinery and Paper considered WA to make their DM more measurable but noted that the greatest benefit was being able to track how many people visit their website and how much traffic different

Table 4
Background information of case companies and interviewees.

Company code name	Machinery	Paper	Steel
Ownership	Public limited company	Public limited company	Public limited company
Main industry	Industrial goods	Paper	Steel
Annual revenue	USD 5 + billion	USD 10 + billion	USD 3 + billion
Number of employees	ca. 20.000	ca. 20.000	ca. 10.000
Headquarters	Finland	Finland	Finland
Market reach	Global	Global	Primarily Europe
Interviewees and their positions (names have been changed)	David: team leader of digital communications	Richard: expert in digital communications	Charles: customer data expert in digital marketing
	Susan: communications expert in digital communications	Betty: expert in digital communications	Joseph: director of digital marketing
	Lisa: communications expert in branding	Helen: communications manager of Web services	Thomas: campaign manager of digital marketing
	Nancy: team leader of branding	Sandra: team leader of Web services	Donna: content and SEO manager of digital marketing
	Karen: manager of marketing concepts		Carol: customer analyst of digital marketing

marketing actions attract to the website. In comparison, Steel's participants reported multiple major benefits from using WA: First, Steel's marketers are now able to measure financial outcomes of DM and demonstrate their contribution to top management. As a result, the digital marketers' influence in the company, as well as their budget, has increased. Second, the marketers are much more aware of the relative effectiveness of various DM channels and actions to attract visitors to their website. Third, Steel's marketers have a better understanding of the type of content that attracts potential customers to interact with the company and which customer actions at the website indicate customer interest in the company's offerings. Overall, Steel's marketers can employ this information for planning new DM actions and modifying existing actions to improve performance. Steel's DM performance had been improving month by month as measured by the website traffic, sales leads,⁴ revenue, and profits generated.

Lately, digital marketing has been systematically invested in. You can clearly see direct monetary and human resource investments as well as the top management commitment to this thing. With the help of analytics, the management and sales teams have undoubtedly noticed that our digital services, website, and all our activities have a powerful impact, and the change has been radical in the last few years. The budget is still bigger for offline marketing, but the digital marketing budget has multiplied. Last year, I think we more or less tripled our budget.

[(Joseph, director of digital marketing, Steel)]

4.1. Web analytics measurement content

In the design of the content of a WA metrics system, two distinctive approaches were identified: Steel built its metrics system by considering its top priority marketing goals and by including WA metrics that would indicate how their DM activities support the achievement of these goals. By contrast, Machinery and Paper primarily included the metrics that were easily available and that provided information that is considered to be meaningful for DM performance.

Steel's study participants continuously emphasized that all of their efforts in digital channels are primarily aimed at increasing sales. Acknowledging the complex purchase process in the metal industry, the company has designed a WA metrics system that measures the purchase process at three levels: traffic generation to the website, user behavior and interaction on the website, and revenue and profits gained through online sales leads (Table 5). By measuring these different levels, Steel hopes to examine the different stages of the customer's path to purchase and to improve its understanding of how DM influences the customer's buying behavior. In addition to setting specific metrics for the different stages of the customer's path to purchase, the metrics are classified in KPIs that indicate the overall performance at each level of the purchase process and other metrics that are linked with KPIs and provide more specific information on how to define overall performance.

The second most important goal for Steel's DM activities is to enhance customer relationships by providing customer service through digital channels. All of the respondents mentioned providing superior service for existing customers as a vital goal for their DM activities. However, the respondents noted that because of its qualitative nature, measuring service quality with WA is difficult. Therefore, they must rely on customer surveys and informal feedback.

The third goal established for Steel's DM is to improve brand awareness and image. However, the importance of this goal slightly differed between the participants. The major arguments against improving brand awareness and image were that brand is less important in the

metal industry relative to other industries and that reliably measuring brand awareness and image is impossible. One participant mentioned that they focus on increasing sales because of difficulties of measuring brand awareness and image.

I admit that it is a little bit shortsighted to measure digital marketing performance by comparing costs to produce a sales lead resulting in sales with monetary value. Investing in brand building might yield even better results in the long run, but then again, lead generation metrics make it easy to justify the costs of a campaign and show its direct monetary value.

[(Thomas, campaign manager of digital marketing, Steel)]

In comparison with Steel, Machinery and Paper encountered more difficulties in designing a holistic WA metrics system. The participants from both companies easily recalled various WA metrics that they use (Table 6) but had more difficulty justifying the selection of those particular metrics. Machinery and Paper have adopted numerous similar metrics to those used by Steel. However, unlike Steel, they have no clear structure that defines the practical significance of the selected metrics and their relative importance. The reason for this difficulty is partly the result of Paper's and Machinery's inability to specify and prioritize their DM goals, which range from increasing sales and improving brand image to strengthening service processes, creating meaningful content and fostering customer dialogue. In the absence of clearly defined DM goals, it is unfeasible for Paper and Machinery to design a metrics system that would reflect their ultimate DM performance.

Furthermore, although Machinery and Paper measure the generation of sales leads, they do not follow how many of these leads result in transactions. Thus, they are unable to link their DM activities with financial outcomes.

We have been planning and working with [digital] measurement issues, but it is always challenging to decide which metrics to include and which not to include. As in all marketing themes, it is particularly challenging to find financial metrics that show our return on investment. We would really need a comprehensive metrics set that we could use to demonstrate the value of our work in monetary terms. For now, we haven't been able to develop a proper system.

[(Nancy, team leader of branding, Machinery)]

4.2. Web analytics measurement process

Steel had outlined a clear process and clear responsibilities for their use of WA data (Fig. 1). The WA data are automatically collected with Google analytics and a specific online survey (E-space) that randomly targets website visitors with a short survey regarding their website experience. Steel uses these survey data to identify the types of visitors who visit their website and to evaluate how well the website serves different customer and other stakeholder needs. Google analytics forms the core of Steel's WA measurement, as it enables them to measure the effectiveness of specific digital marketing activities and to connect these activities with the generation of sales leads. The generated leads are stored in the CRM system (sales force automation), which allows the company to track whether the leads resulted in sales. With the CRM system, Steel is also able to follow the generated leads over time and to determine how they react to various marketing inputs.

All customer-related data from digital surveys to campaigns goes directly into our CRM system under a specific customer profile. Leads from a certain campaign are automatically directed to the correct salespersons, and we can follow the yield of such a campaign in real time.

[(Charles, customer data expert in digital marketing, Steel)]

Although data gathering is automated, it is supervised by Steel's customer data expert and campaign manager whose main responsibilities

⁴ A sales lead is a website visitor who displays interest in the company's products or services and leaves his or her contact information. The definition applies to all three studied companies.

Table 5
Steel's Web analytics metrics for the different stages of customers' path to purchase.

Traffic generation to website	Website behavior	Revenue & profits
Key performance indicators • Number of all website visits • Website visit growth (%)	Key performance indicators • Number of sales leads • Sales leads growth (%) • Conversion rate ^a	Key performance indicators • Sales revenue through sales leads • Profits through sales leads
Examples of other metrics Number of website visits and website visit growth (%) driven per traffic source: • Campaign website • Organic search • Paid search • Display advertisements • E-mail • Social media (Twitter, LinkedIn, Facebook, YouTube)	Examples of other metrics (Number of) • Visits in product information pages • Product information sheet downloads • Product comparison tool uses • Product video views • Visits in contact request form • Sales leads per traffic source	Examples of other metrics • Number of sales leads that lead to a transaction • Percentage of sales leads that lead to a transaction • Average costs incurred per sales lead • Number of transactions per traffic source • Sales revenue per traffic source • Profits per traffic source • Costs per traffic source

^a Conversion rate: the percentage of visitors who take a desired action such as purchasing products, leaving a contact request, subscribing to newsletters, and downloading brochures.

are to analyze and interpret the data and to draw insights from the data. The DM director coordinates the data analysis, makes detailed inquiries regarding the interpretations, and offers weekly feedback to the team based on the results. Finally, the director summarizes the KPIs and key insights and presents them in a monthly meeting with senior management. Based on the results, management offers feedback to the DM director, who disseminates the information to his team.

Such a systematic measurement and reporting process does not exist at Paper or Machinery. On the contrary, the absence of a systematic approach in the deployment of WA was widely discussed in the interviews and workshops. The respondents from both firms explained that in the course of implementation, they had failed to develop a process to systematically analyze and report the WA data. The responsibilities were considered unclear, and the reporting had been ad hoc. One respondent noted:

Honestly, I think that only successful campaigns are reported, because we lack systematic reporting.
 [(Helen, communications manager of Web services, Paper)]

The measurement tools of Paper and Machinery were partly the same as those of Steel. Both companies used Google analytics and online survey applications similar to E-space. However, without a systematic measurement, analysis and reporting process in place, Paper and Machinery were unable to effectively use these tools. Another key difference in comparison with Steel's use of WA was that Machinery and Paper were not able to integrate WA and CRM data. Consequently, the WA data of Paper and Machinery resided in a separate database, which made tracking leads over time and obtaining customer-level insights impossible.

Table 6
Selected Web analytics metrics of Machinery and Paper.

Machinery	Paper
<ul style="list-style-type: none"> • Traffic volume to website • Traffic volume to website from search engines/paid online advertisements/e-mail/social media • Unique website visitors • Page views per visit • Time spent on website • Top pages on website (pages with the most views) • Sales leads 	<ul style="list-style-type: none"> • Number of website visits • Number of unique visitors • Sources of website traffic • Average time spent on website • Click-through rate^a from paid online advertisements • Product demonstration views (videos on website) • Page views on where-to-buy section • Sales leads

^a Click-through rate: the ratio of clicks to impressions of an online advertisement (e.g., display and search engine advertisements).

4.3. Web analytics measurement context

4.3.1. Analytics skills and resources

Marketers' analytics skills in using WA were found to be inadequate at both Paper and Machinery. Although the study participants rarely mentioned skills as a major obstacle, their lack of skills was apparent from their inability to understand the opportunities offered by WA and to tailor its usage to performance measurement. The selection of metrics for company needs was commonly mentioned as a challenge, and the failure to understand marketing strategy often undermined the selection process. The interviewees' responses showed that when the marketing strategy and key objectives are unclear or abstract, transferring them to actionable WA metrics becomes difficult. In addition to the lack of skills, another related problem at Paper and Machinery was the insufficient human resources dedicated to the use of WA. The respondents complained that daily routines occupied so much of their time that they had little time to determine how they could make the most of WA. The same pitfalls in skills and resources were not found at Steel. The study participants from Steel had a clear understanding of their DM strategy, and the WA data were used to measure DM performance in relation to the strategic objectives and to optimize DM activities to continually improve performance.

4.3.2. Information technology infrastructure

Information technology infrastructure was not identified as a major issue for the use of WA at any of the case companies. The study participants from Steel reported that synchronizing WA data with CRM software was straightforward and that this practice enabled them to tailor their DM actions for specific customers based on their website behavior. Although Paper and Machinery had not linked WA data with CRM, none of the respondents from these companies mentioned this issue as a challenge. The participants were either unaware of this opportunity or did not consider it to be a key issue. Integrating WA data with social analytics software was not a topical issue for the studied companies because none of them had significant experience in using such software. Currently, the studied companies were satisfied with the information that their WA tool provided regarding social media performance, that is, how much traffic social media attracted to the website and the subsequent outcomes.

4.3.3. Senior management commitment

The level of senior management commitment to DM and the use of WA substantially varied between Steel and the other companies. At Steel, senior management commitment is evidenced by considerable investment in recruiting an expanding team of specialists to operate the firm's DM and the allocation of substantial monetary resources to DM activities. In addition, the senior management demonstrated substantial interest in the results generated by establishing clear reporting criteria

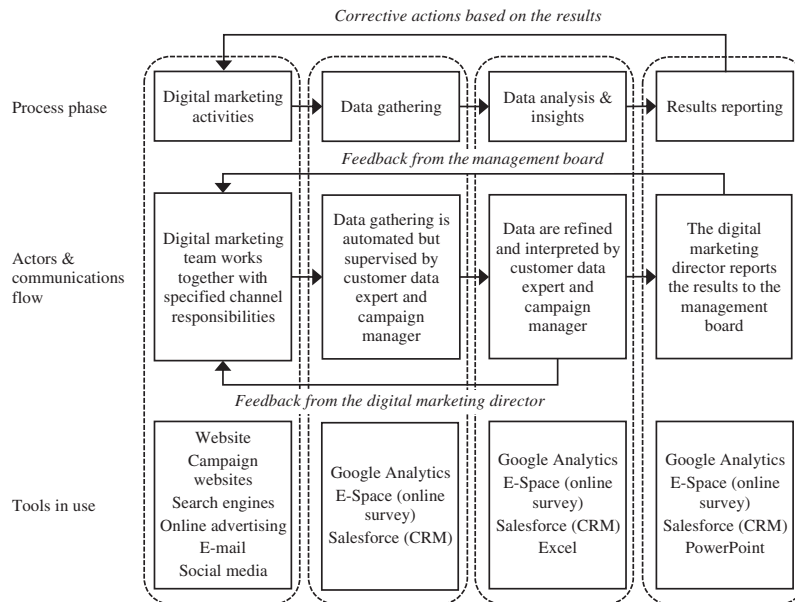


Fig. 1. Steel's digital marketing performance measurement process and tools in use.

that the DM team must satisfy monthly and provided constant feedback based on the results.

Although only a few participants from Machinery and Paper mentioned limited budgets and other resources as an obstacle, senior management's low commitment to WA was evidenced by the lack of attention to DM performance measurement. In fact, the respondents from both companies reported that senior management had not made any requests to report the performance of DM activities. Moreover, the digital marketers at Paper and Machinery felt that making DM measurable was solely in their own interests. To obtain senior management's perspective on this issue, we approached the head of marketing and communications at each firm with an interview request. However, both of our requests were politely declined because of the leaders' (self-reported) limited understanding of DM and its performance measurement.

4.3.4. Leadership

A lack of leadership was found to be one of the pitfalls in the use of WA at Machinery and Paper. Multiple employees were responsible for measuring DM performance to differing degrees. However, no one was certain who was in charge of the process. In comparison, Steel's DM director was clearly responsible for coordinating the DM performance measurement process. The director had assigned clear responsibilities for each member of his team and was actively participating in the analysis and interpretation of the WA data. In addition, he reported the results to senior management and disseminated the feedback from management to his team.

The study data also indicated that Steel's DM team members trusted the director's expertise. For example, when the team members were unsure about the answer to a question, they typically responded that Joseph (the director) would know the answer to the question. It was also mentioned that Joseph has been the company's chief DM advocate and that he initiated the digitization of Steel's marketing strategy. In fact, the interview and the workshop discussions clearly indicated that Joseph genuinely believed in the power of DM and that he was eager to demonstrate the results of his team's efforts. The interviews with

other team members indicated that the director had managed to inspire other team members with the same enthusiasm, as was shown by their general belief that DM was finally enabling them to demonstrate the contribution of their daily work.

4.3.5. Organizational culture

Two organizational culture issues identified in the case data clearly differentiated Steel's use of WA from that of Machinery and Paper. First, Steel's approach to DM decision making was largely data driven in the sense that it was exploiting WA data to evaluate and learn which DM activities performed best, and this information was used to optimize subsequent DM activities. In comparison, Machinery and Paper relied primarily on their intuition and perception of what activities bring value to customers. The WA data were used as a supplemental source for DM decision making in situations where they wanted to get support for their decisions e.g., when they wished to know whether video clips on the website were receiving any attention.

The second organizational culture condition that emerged from the data was related to cooperation and information sharing between the digital marketers. Cooperation was weakest at Machinery, whose DM team was split into branding and digital communications sections. The two sections of the team lacked awareness of one another's activities and a coherent view of DM performance measurement as a result of limited information sharing. Although Paper's DM team is spread across multiple geographic locations, the team members regularly communicate and meet to ensure that everyone is aware of one another's tasks and activities. However, Steel's situation, in which the whole team works in the same building, was regarded as the best arrangement to foster cooperation because it enabled the team members to continuously interact and to plan DM activities and measurement practices together.

5. Discussion

The study findings provide a number of theoretical contributions. First, although an ample body of literature discusses the inability of

marketers to demonstrate the contribution of marketing activities to business outcomes (Li, 2011; O'Sullivan & Abela, 2007; Rust et al., 2004; Stewart, 2009; Wiersema, 2013), this study shows that the ability to demonstrate marketing performance depends on the organization's content, process and context of the marketing metrics system in use. Specifically, the findings emphasize the importance of the following: 1) designing a manageable metrics system that demonstrates the progress toward marketing objectives, 2) establishing a process that fosters the effective use of metrics data within the organization, and 3) ensuring that the organizational context supports the use of the metrics system. By investigating the use of marketing metrics systems multidimensionally, the study extends Pettigrew et al.'s (1989) framework by demonstrating how this framework can be applied to marketing performance measurement research.

As its second major theoretical contribution, this study is the first to demonstrate how industrial companies characterized by complex and lengthy selling processes can harness WA to improve their DM performance measurement practices. Whereas previous case studies have demonstrated the benefits of WA for measuring marketing performance in e-commerce businesses (Phippen et al., 2004; Wilson, 2010), this study demonstrates that the benefits gained from WA are not limited to those business sectors in which transactions can be processed online. Compared with traditional measurement methods, such as customer surveys and interviews, which are subjective and vulnerable to response bias, the advantage of WA is its ability to gather objective data on genuine online customer behavior and subsequent business outcomes. Although the actual purchase decision in the industrial sector is often made through personal selling, industrial marketers can use WA to measure, for example, which DM activities attract potential customers to interact with the company, how many sales leads are generated and how many of these leads result in transactions. Consequently, industrial companies that use WA are in a better position to demonstrate the influence of marketing actions on business benefits. Moreover, in agreement with the previous marketing performance measurement literature (O'Sullivan, Abela, & Hutchinson, 2009; Pauwels et al., 2009), the findings demonstrate that reporting the objective and standardized metrics provided by WA to top management increases the influence of industrial marketers in an organization.

As its third theoretical contribution, this study illustrates the need for multiple methods in measuring overall marketing performance. The study findings support Seggie et al.'s (2007) assessment that the Internet will diminish the importance of subjective marketing measures and increase the importance of objective measures. However, there is no evidence that objective measures provided by WA would obviate the need for subjective measures. In addition to the fact that WA is largely limited to the digital environment, the study revealed two major weaknesses related to the use of WA data. First, the data provided by WA are backward-looking. That is, they present customer behavior and DM results in retrospect but are less helpful for evaluating the future intentions of customers. Second, WA data are exclusively quantitative and cannot be used to measure the fulfillment of qualitative objectives, such as enhancing brand image and increasing customer satisfaction or positive word-of-mouth that may be ultimately more important for a company with respect to, e.g., maintaining customer relationships. This deficiency is a significant disadvantage, particularly in industrial marketing, in which business relationships are especially important and in which businesses therefore require relationship-specific information to interact with customers (La Rocca & Snehota, 2011). In conclusion, relying solely on WA data may result in suboptimal or harmful marketing decisions. Thus, companies should only use WA data as a component of performance evaluation. This suggestion is supported by numerous studies that demonstrate that selected marketing metrics should reflect short- and long-term as well as financial and non-financial results (Ambler & Roberts, 2008; Clark, 1999; O'Sullivan & Abela, 2007; Rust et al., 2004; Seggie et al., 2007).

5.1. Managerial implications

The study has three managerial implications for using WA. First, instead of adopting a variety of WA metrics, managers should primarily focus on designing a manageable metrics system that is linked to the firm's top priority marketing objectives. A vital part of this process is to identify and select firm-specific KPIs with respect to the major marketing objectives and to differentiate them from other secondary metrics. By prioritizing the WA metrics, marketers can focus on the most important marketing objectives and avoid information overload. Once the KPIs are selected, the relevance of other metrics should be evaluated based on the information that they provide in relation to the KPIs. That is, the other metrics should be used to obtain more detailed information on why the overall performance measured by the KPIs is below or above the target. Generally, we recommend that managers create a WA metrics system that illustrates the interrelationships among the metrics. Steel's metrics system that outlines the different stages of customers' path to purchase is an innovative way to construct a metrics system but is not the only way to do so.

Second, to achieve optimal outcomes, managers must plan a systematic process for managing WA metrics data. Because data gathering can be automated with WA and therefore can be relatively effortless, the largest obstacle in the WA measurement process is to analyze and interpret the data to gain meaningful insight and inform marketing decisions. Managers can advance the analysis and interpretation of the data by clarifying clear responsibilities for WA users and by appropriately coordinating the process. In addition, managers should ensure that DM outcomes are reported to top management, as observed in Steel's case, where reporting KPIs convinced top management of the contribution of DM to business performance and the feedback from the top management to the digital marketers encouraged and motivated them to continuously develop their activities.

Third, managers should ensure that the organizational context supports the use of WA. They must ascertain that WA users have sufficient time and expertise to use the system and acquire new talent if necessary. Moreover, we recommend that managers play an active role in coordinating WA use and providing feedback regarding DM outcomes. When management has only limited interest in DM outcomes, digital marketers are not motivated to develop a proper metrics system and apply it. Finally, to foster active WA use, the WA users should have a suitable leader. The leader should be able to manage a variety of tasks in the WA use process, including sharing responsibilities with team members, coordinating and participating in the execution of tasks, and creating a culture that fosters cooperation, information sharing, and data-based decision making.

5.2. Limitations and future research

The results of this study must be interpreted in light of its limitations. Notably, only three industrial companies were investigated. Thus, the generalizability of the study results may be diminished. By investigating companies from other sectors, we may have encountered other circumstances that are relevant to WA use and that were not revealed by our case data.

The study focused on the use of WA metrics systems, and it is unclear whether the findings are applicable to other marketing metrics systems. Although our findings were largely consistent with previous results reported in the marketing performance measurement literature, additional research is required to confirm the applicability of our framework to other settings. It is also noteworthy that the study did not examine the external context of organizations with respect to DM performance measurement. Future research should investigate how the external context of organizations influences the use of WA and other marketing metrics systems. In addition, the study discusses various benefits regarding the use of WA for DM performance measurement. However, given the

qualitative nature of our study, we cannot demonstrate a causal relationship between the benefits of WA use and firm performance.

Finally, although WA is likely the most prominent new technology for DM performance measurement, many other analytics innovations exist, and more analytics innovations are emerging at an increasing pace. For example, the social media revolution has resulted in new social analytics innovations that are used to measure and understand the social behavior of customers in the digital environment and its influence on the marketing performance of firms (Hoffman & Fodor, 2010; Peters, Chen, Kaplan, Ognibeni, & Pauwels, 2013). Although this study supports the perception that business marketers currently do not actively measure their social media performance (Michaelidou, Siamagka, & Christodoulides, 2011) and that they thus have limited interest in using social analytics, such attitudes will likely change with the increasing sophistication of analytics tools. Additionally, with the increasing use of analytics tools, the amount of data that can be used to evaluate marketing performance is rapidly increasing. Thus, a future challenge is to unify these “big data” in different forms, databases, and platforms to provide a complete understanding of how customers behave in today’s world and to assess marketing performance in this changing environment.

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IV

HARNESSING MARKETING AUTOMATION FOR B2B CONTENT MARKETING

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Harnessing marketing automation for B2B content marketing☆



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ABSTRACT

The growing importance of the Internet to B2B customer purchasing decisions has motivated B2B sellers to create digital content that leads potential buyers to interact with their company. This trend has engendered a new paradigm referred to as 'content marketing.' This study investigates the organizational processes for developing valuable and timely content to meet customer needs and for integrating content marketing with B2B selling processes. The results of this single case study demonstrate the use of marketing automation to generate high-quality sales leads through behavioral targeting and content personalization. The study advances understanding of the organizational processes that support content marketing and shows how content marketing can be combined with B2B selling processes via marketing automation in ways that achieve business benefits.

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1. Introduction

Recent advances in communications and information technology (IT), and the rise of digital content and social media in particular, are transforming the ways in which individuals and businesses search for information and interact with one another (Dennis, Merrilees, Jayawardhena, & Wright, 2009; Greenberg, 2010; Kietzmann, Hermkens, McCarthy, & Silvestre, 2011). A fundamental shift in the B2B sector involves the growing influence of digital communication channels in customer purchasing decisions (Lingqvist, Plotkin, & Stanley, 2015; Wiersema, 2013). A Corporate Executive Board study of more than 1400 B2B buyers found that customers rely heavily on online information sources and complete nearly 60% of a typical purchasing process before contacting a seller (Adamson, Dixon, & Toman, 2012). This active role played by B2B buyers in searching for and evaluating information online has given rise to a new marketing paradigm referred to as '(digital) content marketing.'

In this study, the term 'content' refers to all forms of digital content. We employ the definition of content marketing presented by Holliman and Rowley (2014, p. 285), who tailored the concept to the B2B context as follows: "B2B digital content marketing involves creating, distributing and sharing relevant, compelling and timely content to engage customers at the appropriate point in their buying consideration processes, such that it encourages them to convert to a business building

outcome." This definition highlights the role of content marketing as an inbound marketing (i.e., pull marketing) tactic directed at generating valuable content based on the needs of potential buyers who have already searched for information on a product or service (Halligan & Shah, 2010).

The use of content marketing is becoming widespread in the B2B sector. According to a recent survey, as many as 86% of B2B marketers (n = 1820) in North America use content marketing tactics as a strategic marketing approach, and 47% have a dedicated content marketing group in their organization (Pulizzi & Handley, 2014). However, existing knowledge on B2B content marketing is largely based on research reports produced by commercial research institutions (e.g., Content Marketing Institute, eMarketer, Marketing Profs), and academic research on the subject remains in its infancy. One exception is a study conducted by Holliman and Rowley (2014), who interview 15 B2B content marketers from various industries and offer a number of insights into best practices and the challenges of content marketing in the B2B sector. The present study employs a more focused approach, as it concentrates on the organizational processes that support content marketing and their relation to B2B sales. Indeed, the relationship between digital marketing and B2B sales has attracted very limited attention in the existing literature (Pomirleanu, Schibrowsky, Peltier, & Nill, 2013; Rodriguez, Dixon, & Peltier, 2014).

Understanding the role of content marketing in B2B sales is particularly crucial given persistent conflicts between marketing and sales departments with regards to lead generation and management. Sales representatives criticize the quality of marketing leads, and marketers criticize sales representatives' poor follow-up skills (e.g., Biemans, Brenčić, & Malshe, 2010; Homburg & Jensen, 2007; Homburg, Jensen, & Krohmer, 2008). Insufficient lead follow-up is indeed a serious issue

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in the B2B sector, and one study has shown that sales representatives ignore approximately 70% of all leads generated via marketing (Marcus, 2002). Clearly, if the majority of marketing leads are never contacted and instead disappear into the notorious 'sales lead black hole' (see, e.g., Hasselwander, 2006; Sabnis, Chatterjee, Grewal, & Lilien, 2013), content marketing efforts toward producing sales will prove fruitless.

IT developments present opportunities for fostering cooperation and strengthening the interfaces between (content) marketing and B2B selling processes. Wiersema (2013) argues that by integrating marketing and sales systems, marketing teams could acquire deeper insight into the customer data in customer relationship management systems (CRM), and sales teams could in turn learn more about activities and leads generated through marketing efforts. The integration of marketing and sales systems is essential, as sales departments often employ their own sales management tools, from which marketing departments are deliberately excluded (Kotler, Rackham, & Krishnaswamy, 2006).

One IT tool that is attracting increasing attention in the B2B sector is marketing automation. Vendors of the software (e.g., Eloqua, Hubspot, Marketo, Pardot, Silverpop) claim that the tool allows companies to align marketing and sales system interfaces to improve and accelerate lead qualification processes via 'lead scoring and nurturing,' thus targeting potential buyers through the use of personalized content. Assuming that the vendors deliver on these promises, B2B companies may be able to use marketing automation tools to deliver more effective content marketing strategies and thereby improve lead follow-up practices. From interviews with 72 executives and 30 B2B researchers, Wiersema (2013) finds that one of the key developments in the B2B sector lies in the technological automation of manual tasks performed by marketers. To our knowledge, however, no academic study has yet investigated the benefits of combining content marketing and marketing automation technological tools.

Based on this context, this study achieves three objectives. First, it advances knowledge on the organizational processes of B2B content marketing in terms of creating and delivering timely and valuable content based on customer needs. Second, the study examines ways in which content marketing strategies may be combined with B2B selling processes via marketing automation and the benefits and challenges of such an approach. Third, the study contributes to ongoing discussions on marketing and sales alignment in the B2B sector by illustrating ways in which marketing and sales systems may be integrated through advancements in IT.

To achieve these study objectives, we perform an in-depth investigation of an industrial company that has benefitted considerably from content marketing and marketing automation integration. More specifically, we exploit the sales funnel conceptualization (see the definition presented in Section 2.2) outlined by D'Haen and Van den Poel (2013) as our guiding framework and explain how the case company capitalizes on content marketing and marketing automation techniques to support sales processes at each funnel phase.

The remainder of this article is organized as follows. We begin by elaborating on concepts of content marketing and marketing automation. We then elaborate on the sales funnel framework and describe the potential role that content marketing and IT tools may play in this framework. In the section on methodology, we justify our use of a single case study and describe the data collection and analysis methods employed. We then present the study findings. We conclude with a discussion of the study's theoretical contributions, managerial implications, and research quality, and present avenues for future research.

2. Integrating content marketing tactics with B2B selling processes

2.1. Content marketing and marketing automation

Although content marketing can employ content in traditional formats (e.g., customer magazines and brochures), the digital environment has popularized the term: 'content marketing' for many authors refers

purely to content in digital formats (Handley & Chapman, 2011; Rose & Pulizzi, 2011; Wuebben, 2011). According to Chaffey and Smith (2013), the most commonly used formats of digital content include pictures, videos and animations, e-books or shorter customer guides, white papers, podcasts, webinars, infographics, blog texts and social media posts. The primary business objectives of B2B content marketing are related to promoting brand awareness and image, fostering customer engagement, and increasing sales through customer acquisitions, lead generation, upselling and cross-selling (Holliman & Rowley, 2014; Pulizzi & Handley, 2014).

Content marketing is closely related to social media marketing; their business objectives are largely aligned and the notion of storytelling rather than promotional communications is central to both concepts (see, e.g., Christodoulides, 2009; Fournier & Avery, 2011; Hennig-Thurau et al., 2010; Michaelidou, Siamagka, & Christodoulides, 2011; Rose & Pulizzi, 2011; Singh & Sonnenburg, 2012). Moreover, content marketing is a technique or approach employed in social media environments (Pulizzi, 2011). In this sense, social media can be understood as a set of channels and platforms to deliver and share content.

Marketing automation involves a software platform that can be used to deliver content based on specific rules set by users. The objective is to attract, build and maintain trust with current and prospective customers by automatically personalizing relevant and useful content to meet their specific needs (Hubspot, 2015; Kantrowitz, 2014). The term personalization generally refers to the customization of marketing mix elements (e.g., content personalization) at an individual scale (Montgomery & Smith, 2009). The goal is to treat a person as a maverick with individualistic needs and to design content to meet his or her expectations. According to the elaboration likelihood model (ELM), the more personal and relevant a message is, the more likely that the message will be noticed, thus increasing its effectiveness (Petty & Cacioppo, 1986).

Marketing automation capitalizes on techniques similar to Web analytics (see, e.g., Järvinen & Karjalainen, 2015; Phippen, Sheppard, & Furnell, 2004; Wilson, 2010) by tracking website visitors' online behaviors (i.e., navigation paths and page views) through the use of cookies and IP addresses. The two tools differ in that marketing automation employs advanced capabilities for identifying individual customers and following their behaviors over extended periods of time, and these functions are typically limited in Web analytics software tools such as Google Analytics. Notably, tracking individual behaviors over time requires that a visitor first identifies him or herself by completing a website contact form.

Marketing automation exploits both active and passive means of learning about potential buyers. Active approaches involve directly asking questions, and *passive approaches* involve utilizing information on past transactions or clickstream data (Montgomery & Srinivasan, 2003). In the marketing automation context, active approaches refer to content delivered to customers that includes links to websites associated with questions (e.g., 'would you like to learn more about this topic?' or 'would you like our sales representatives to contact you?'). Based on these active and passive tools, a software program can personalize messages and detect the buying stage a potential customer is engaged in (Kantrowitz, 2014). To summarize, while content marketing and marketing automation tactics offer promising opportunities for B2B sales, very little is known regarding how B2B companies can harness these tools to guide potential buyers engaged in different stages of the B2B sales process.

2.2. Content marketing and marketing automation within the sales funnel framework

The sales funnel framework illustrates the sequential narrowing of a firm's customer base from all potential customers who may be interested in a firm's products and services to those "closed" customers who actually make a purchase (Cooper & Budd, 2007; Dalrymple, Cron, &

DeCarlo, 2004). In other words, the sales funnel categorizes potential customers based on their purchasing stage. Although the sales funnel conceptualization is widely recognized in business and academia, its exact form and the number and order of stages vary from study to study.

The sales funnel framework employed in this study is adapted from D'Haen and Van den Poel (2013), who divide the sales funnel into the following categories: *suspects*, *prospects*, *leads* and *customers* (Fig. 1). However, the sales funnel outlined by D'Haen and Van den Poel is purely designed for customer acquisition and therefore ends when a lead is converted to customer, while our vision of the funnel also includes existing customers who serve as potential targets for repurchasing, upselling and cross-selling. In this sense, we view the sales funnel as a loop that existing customers can re-enter. Because existing customers can occupy any stage of the funnel, we have replaced the final stage 'customers' with 'deals,' as suggested by Patterson (2007). In the following section, we describe the phases of the sales funnel in greater detail and discuss the roles of content marketing and IT in each phase.

2.2.1. From suspects to prospects

Suspects include all potential buyers that the seller is aware of (D'Haen & Van den Poel, 2013). While the pool of potential buyers can theoretically be very large, its size is typically limited by the firm resources available to search for potential buyers and by investments in "cold call lists" purchased from specialized vendors (Buttle, 2009; Rygielski, Wang, & Yen, 2002; Wilson, 2006). Excessively expanding the pool of suspects may be counterproductive, as this complicates the task of screening and selecting prospects (i.e., suspects who meet predefined criteria). Indeed, prospect selection is considered to be the most arduous task of the selling process and requires substantial human resources (Moncrief & Marshall, 2005; Trailer & Dickie, 2006). Therefore, B2B sellers are likely to benefit from focusing on suspect quality over suspect quantity.

Content marketing can serve as an effective means for B2B sellers to improve suspect quality, as the Internet is frequently used by B2B buyers as an initial source of information during the early stages of their purchase process (Wiersema, 2013). According to Long, Tellefsen, and Lichtenthal (2007), digital environments offer ample opportunities for B2B sellers to attract potential buyers to company websites and motivate them to identify themselves. Clearly, creating and delivering compelling and relevant content to target audiences across digital media provides sellers with a particularly promising

opportunity to attract suspects to a company website (Holliman & Rowley, 2014; Wolk & Theysohn, 2007). Suspects can thereby be motivated to identify themselves to allow access to desired content (e.g., white papers, research reports, webinars). Suspects acquired through content marketing are presumably more likely to qualify as prospects relative to suspects acquired through other methods, as the consumption of content targeted to potential customers signifies that a suspect at least has an initial interest in the company.

2.2.2. From prospects to leads

Prospect selection is followed by lead qualification. In lead qualification, the seller aims to identify those prospects that offer the highest probability of profitable sales (Long et al., 2007). If sales representatives work at full capacity, sales efficiency can only be increased by contacting more top-ranked prospects (D'Haen & Van den Poel, 2013). However, objectively determining which prospects are most likely to convert to deals has proven to be extremely challenging in the realm of B2B sales. In practice, lead qualification is often based on intuition and self-proclaimed competence (Jolson, 1988), and sales representatives often employ heuristic rules (e.g., rules of thumb, educated guesses) to qualify leads (D'Haen & Van den Poel, 2013). Errors in the lead qualification process result in wasted resources and losses in sales revenue when sales representatives fail to focus on the most profitable leads (Monat, 2011).

The challenges in lead qualification stem from two issues. First, there is no consensus regarding the characteristics of a high-quality lead, as such features may vary from company to company (Monat, 2011). In general, the lead characteristics considered to be crucial include the prospect's source (e.g., direct mail, advertising, telemarketing, website or tradeshow (Jolson, 1988)), the prospect's need and degree of urgency (Donath, 1999; Donath, Crocker, Dixon, & Obermayer, 1995; Jolson, 1988; Jolson & Wotruba, 1992), the prospect's funds and authority over decisions (Donath, 1999; Donath et al., 1995; Jolson, 1988; Jolson & Wotruba, 1992), the prospect's willingness to provide information (Jolson, 1988; Jolson & Wotruba, 1992; Monat, 2011), whether the lead was initiated by the company or by the prospect (Jolson, 1988), and whether the prospect has conducted business with the seller before and/or fits the profile of a key account (Donath et al., 1995; Monat, 2011).

A second challenge pertains to the fact that while a company may objectively identify the exact characteristics of a high-quality lead, information on these characteristics is seldom available before a sales

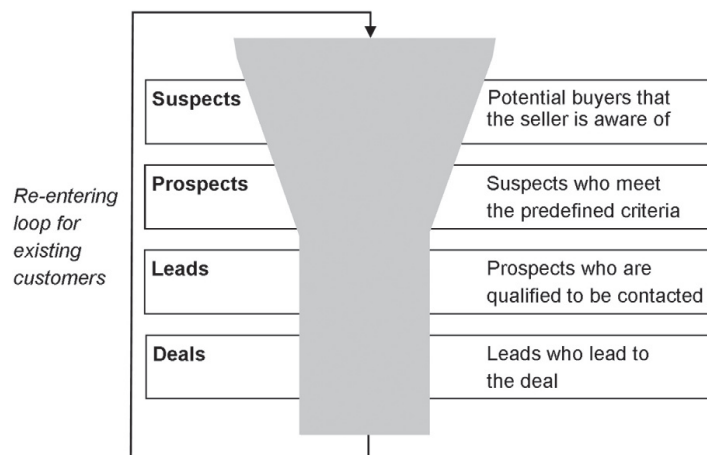


Fig. 1. Sales funnel framework.
(adapted from D'Haen & Van den Poel, 2013)

representative has made direct contact with a prospect. Therefore, sellers are often forced to rely on publicly available information that is easily attainable but that does not necessarily reveal information on the prospect's level of interest in the seller's products (Long et al., 2007). This is a significant pitfall, as signals of interest toward a seller's products are considered to be the most important indicators of a prospect's genuine purchase intentions (Bhattacharyya, 2014). The importance of a prospect's interest to the lead qualification process is often manifested in the definitions of a lead. For example, Monat (2011, p. 179) defines a lead as "a recorded expressed interest in the company's goods or services."

Content marketing offers new opportunities for B2B sellers to facilitate the lead qualification process. First, when potential buyers are motivated to submit contact information to a website, the seller can design a contact form that requests the information needed to qualify a prospect. Of course, requesting excessive or overly personal questions may result in negative outcomes, as some potential buyers may decide not to leave any information or may contribute inaccurate data (Long et al., 2007). The seller must therefore carefully consider the crucial information needed from potential buyers.

Once the contact information is collected, the seller can send more content (typically via e-mail) related to a prospect's interests. In the content marketing literature, this is referred to as 'lead nurturing' (e.g., Rose & Pulizzi, 2011). It is defined as a relationship-building approach that supports the prospect's buying process with relevant information until the prospect is deemed ready to be transferred to sales (Michiels, 2008). However, there is very little information available regarding how B2B sellers can tailor relevant information to prospects and thereby evaluate which prospects sales representatives should contact. Previous studies show that selecting sales leads from prospects can be facilitated and sales force productivity increased using IT platforms (Ahearne, Hughes, & Schillewaert, 2007; Eggert & Serdaroglu, 2011; Moncrief & Marshall, 2005; Tanner & Shipp, 2005), and it is thus reasonable to assume that nurturing and qualifying prospects via content marketing would also benefit from the use of IT tools such as marketing automation. Ideally, sellers could employ automation to search for signals of interest in the seller's products.

2.2.3. From leads to deals

Leads are qualified prospects who are contacted by sales representatives (D'Haen & Van den Poel, 2013). However, contacting all leads is an ideal rather than a common practice, particularly for the leads generated by marketing departments. Oliva (2006) explains that sales representatives often ignore marketing-generated leads by claiming that they lack sales potential. As a consequence of poor follow-up on marketing-generated leads, it is argued that several companies constantly lose sales-ready buyers (Hasselwander, 2006). According to Sabnis et al. (2013), sales representatives cannot evaluate the objective quality of marketing-generated leads, and thus their follow-up is largely based on their perception of the lead qualification process. Therefore, it is vital that marketers design effective lead qualification methods that are also transparent to sales representatives.

Research indicates that online leads (i.e., leads generated through online sources) lose momentum particularly quickly, suggesting that they require rapid response. In examining 1.25 million online leads received by 29 B2C and 13 B2B companies, Oldroyd, McElheran, and Elkington (2011) find that contacting a potential buyer within an hour of receiving a query increases the likelihood of proceeding to sales negotiations with the potential buyer by seven times relative to those sellers that answered queries an hour later and by 60 times relative to those that took over 24 h to respond. Unfortunately, only 37% of the companies studied were able to respond to leads within an hour, while the average response time was 42 h. Oldroyd et al. argue that this slow online lead follow-up stems from an ineffective use of IT tools to support sales processes and that companies must employ new tools and processes to meet the demands of the digital age.

Arguably, to best utilize content marketing tactics for lead generation purposes, a company would need to employ marketing automation or other IT tools to allow a quick response to online queries. More specifically, the tool should allow the company to categorize and rank leads so that the sales representatives can respond to the most profitable leads instantly. The literature shows that the effective use of IT can dramatically increase lead management efficiency (Kuruzovich, 2013; Wilson, 2006). One of the most promising avenues for IT use involves integrating web data on customer behavior with the lead qualification process, as web data are known to serve as a strong predictor of profitable customers (D'Haen, Van den Poel, & Thorleuchter, 2013; Thorleuchter, Van den Poel, & Prinzie, 2012; Wilson, 2003). Nonetheless, academic research lacks insight into how lead management processes can be improved through the use of the extensive web data available on customer behaviors and the types of IT tools required for this purpose.

3. Methodology

3.1. Research strategy

A single case study approach was selected as the research strategy of this study. Case study approaches are favored when studies examine real-life instances of contemporary phenomena and when boundaries between phenomena and contexts are not evident (Yin, 2014). Moreover, there is general agreement that a single case can serve as a suitable starting point for in-depth investigation and description (e.g., Easton, 2010; Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Johnston, Leach, & Liu, 1999; Miles, Huberman, & Saldaña, 2013). Single cases are especially fruitful when exploring new phenomena under rare or extreme circumstances (Eisenhardt & Graebner, 2007), when phenomena are initially examined in a given field (Eisenhardt, 1991), or when an opportunity for unusual research access becomes available (Yin, 2014). In this study, the 'case' refers to the integration of B2B content marketing and marketing automation usage. The case under investigation is contemporary and rare, as content marketing and marketing automation have not yet been studied in combination, and knowledge on both content marketing and marketing automation remains in its infancy. Moreover, the single case study method is appropriate for the purposes of this study, as the approach focuses on providing a rich description of the case and on advancing theoretical understanding of this new phenomenon.

3.2. Selection of the case company

The selection of the case company followed an 'extreme case sampling' strategy, which is a type of purposeful sampling in which cases that are unusual or special some way, such as outstanding successes or notable failures, are selected (Patton, 2002). Identifying a case company that had successfully integrated content marketing with marketing automation tools proved challenging, largely due to low adoption rates of marketing automation software. According to a recent survey by SiriusDecisions, only 16% of North American B2B companies employ marketing automation technologies (Advertising Age, 2014). By following marketing and industry events, we were able to identify a few B2B companies that had been using both content marketing and marketing automation. Fortunately, one company was willing to provide unusual access to allow detailed examination of the phenomenon. Our selection of this case company was further supported through interviews with experts, two of whom spontaneously mentioned the name of the selected company as a progressive example of content marketing and marketing automation usage. The selected case company had already accumulated expertise on combining content marketing with marketing automation for several years, and the company had been invited to present its innovative practices related to the topic in various seminars and events. This evidence gave us a strong impression that the company had given the

phenomenon understudy a second thought and had a relatively long-term perspective for critically evaluating its actions. This impression was confirmed in early discussions with representatives from the case company. To conclude, our selection of this particular company as the extreme case context for examining the study phenomenon was well justified.

The selected case company is a large-scale developer and manufacturer of technologically oriented industrial goods and services for environmental and industrial measurement. The company is headquartered in Finland and operates globally, with North America, Europe and Asia serving as its primary market areas. About five years ago, the company made a strategic change toward a market-driven approach to revise its organizational structure and operations in order to better serve its selected customer segments more effectively. From an organizational structure point of view, under the new approach, the sales function was organized around larger business areas, and the marketing function was organized into a single unit serving the needs of the entire corporation (i.e., the company was transformed into a matrix organization). The organizational change clarified the roles of marketing and sales, which enabled tighter cooperation between the functions. Moreover, joining marketing forces entailed the establishment of a new stronger marketing unit with better capabilities to develop the company's operations.

Currently, the company engages in two major business areas, both of which include several subsegments. One business area focuses primarily on public institutions (e.g., meteorological institutions and airports), and the other serves industrial markets, such as power and life science industries. The characteristics of the business areas and their subsegments vary considerably; accordingly, the complexities of the marketing and sales processes vary across these segments. While certain deals take a matter of days to complete from the initial customer contact to product delivery, others may take up to five years of negotiation to realize. Consequently, the role of content marketing and marketing automation notably varies across segments; however, an evaluation of this varied role is beyond the scope of this study, as we intend to provide a detailed description of the process itself. Moreover, the company has made efforts to conceptualize a marketing and sales process that would satisfy the needs of all purchasing situations, however simple or complex they may be.

3.3. Data collection

Data triangulation is essential in case studies (Dubois & Gibbert, 2010), and hence data were collected from multiple sources. Primary data were obtained through semi-structured interviews. Following Eisenhardt and Graebner's (2007) recommendations, data were collected from knowledgeable company members who hold diverse views on the phenomenon and who supplement one another's stories. Informants were recruited using a snowball-sampling method (Salganik & Heckathorn, 2004) that began with contacting the Chief Marketing Officer, who suggested the next suitable informant and so forth. This process resulted in five interviews with six individuals who occupy various managerial positions (Table 1). Interviews were conducted with both marketing and sales managers to generate a comprehensive understanding of marketing and selling processes and to reveal the sales-related benefits of content marketing and marketing automation. None of the interviews adopted rigidly formed questions and instead employed open-ended questions that focused on predetermined themes: (1) marketing philosophies of the case company, (2) content marketing as a concept and strategy, (3) marketing and sales processes, (4) the use of marketing automation, and (5) the alignment of marketing and sales efforts. The interviewees also offered additional information on these topics throughout the interviews. Study data also included observations of the digital content developed by the case company (i.e., website, blogs, white papers, company profiles of various social media platforms and webinars) to allow a more thorough understanding of the content generated by the company.

Table 1
Study interviewees.

Title and role/responsibility	Representative of	Length of interview
Chief Marketing Officer: Responsible for leading the entire marketing organization globally and for reporting marketing results to the CEO.	Case company (Marketing)	46 min
Senior Digital Marketing Manager: Leads a corporate-wide digital marketing team responsible for the implementation of digital marketing activities, content management and marketing automation usage.	Case company (Marketing)	78 min (together with Digital Marketing Specialist A)
Digital Marketing Specialist A: Works as part of the digital marketing team (led by Senior Digital Marketing Manager). Specializes in the technical implementation of content marketing through marketing automation.	Case company (Marketing)	78 min (together with Senior Digital Marketing Manager)
Digital Marketing Specialist B: Works in the digital marketing team (led by Senior Digital Marketing Manager). Specializes in marketing analytics and in the development of marketing activities through the exploitation of digital data.	Case company (Marketing)	62 min
Sales Director: Leads the sales organization responsible for sales in North and South America.	Case company (Sales)	47 min
Sales Manager: Leads the sales team responsible for sales in domestic and selected foreign markets.	Case company (Sales)	61 min
Managing Director: Leading expert in a company that focuses on marketing automation from a technical perspective.	Expert company A	102 min
CEO: Leading expert in a company that focuses on inbound marketing, marketing automation and content marketing in the B2B sector.	Expert company B	56 min
CEO: Leading expert in a company that focuses on data-driven content marketing.	Expert company C	57 min

To obtain an external perspective and improve our understanding of the case, three interviews were conducted with B2B content marketing and marketing automation experts who were not related to the case company. These interviews helped us to focus on essential issues of the case and to adopt a broader perspective on the phenomenon under investigation. These interviews were also conducted to increase the external validity of the study results, as several critical themes raised by the experts were identified in the study data. In addition to conducting these interviews, we familiarized ourselves with the marketing automation platform (Eloqua) employed by the case company by participating in a technology provider presentation (performed by expert company A) delivered specifically for the purposes of this research. Data were collected until we felt confident that we understood the phenomenon comprehensively and were able to coherently describe the case based on the context of the selected company.

3.4. Data analysis

All study data were documented and appropriately stored in a case study database. Interviews were recorded and transcribed verbatim,

and we made detailed notes on digital content observations and on the marketing automation platform presentation. Raw data were carefully reviewed several times by two researchers before the analysis was conducted. Notes on the data review process were made to support the analysis. The actual analysis was conducted over a three-step thematization procedure that involved data condensation, data display, and conclusion drawing/verification (Miles et al., 2013). Data condensation involved descriptive coding into relevant categories (such as content marketing, marketing automation, and marketing and sales alignment) to eliminate data deemed irrelevant to the case. During the data display phase, the data were organized by using the guiding framework of the study (i.e., sales funnel), ultimately resulting in the marketing and sales funnel concept presented in the results section of this paper. To increase the reliability of the results, the second researcher reviewed the interpretations made by the first researcher during various phases of the analysis. In the data display phase, the second researcher agreed on 88.2% of the categorization decisions of the first researcher. When interpretations conflicted, the researchers reanalyzed the data together and reached a joint agreement. Subsequently, a detailed description of the case was recorded. Finally, the findings were reviewed and verified by the case company to further increase the validity of the results.

4. Findings

Along with the case company's strategic change toward a market-driven approach to operations, the marketing department adopted a new marketing philosophy called "data-driven content marketing." The fundamental premise of the new philosophy was to create and deliver compelling, relevant and valuable content based on individual customer needs; this philosophy was primarily aimed at generating high-quality sales leads. Personalizing content to individual customer needs proved to be a challenge that could only be overcome by combining content marketing approaches with IT tools. For this purpose, the company acquired marketing automation software to enable its marketers to target customers "with the right content at the right time."

Today, the case company is more than satisfied with the outcomes achieved. First, the efficiency of the marketing and sales organizations has significantly improved as a result of these automated processes. A large proportion of customer communications and content delivery actions are automated, and any sales leads generated are prequalified through the system so that the sales organization can allocate more resources to actual sales than to assessing lead quality. Second, the volume and quality of sales leads generated through marketing efforts has improved considerably. Third, marketing input contributions to sales outputs have become more transparent, and the marketing department has shifted from serving as a tactical support entity to assuming a strategic decision-making unit function.

'Before the strategic transformation, we had shifts for fixing the copying machine at the office, and I'm not kidding. It's true. Marketing used to be a reactive support function for sales. Our task was to make brochures and events when sales required us to do so. Today, we do things proactively. We focus on designing great content, measuring performance and optimizing marketing tactics continuously.' (Chief Marketing Officer)

Improvements in the stature of marketing are also evidenced by the fact that there is a marketing presence in all business segment management groups, and the director of marketing reports directly to the CEO of the corporation. All of the marketing interviewees found that the increase in their prestige had been radical in recent years, and they are now highly appreciated by the executive board and by other business departments. This view was also expressed by the sales department interviewees.

'Frankly, I have never seen or heard of a better performing marketing unit than ours, no matter who I discuss this with from other companies. Our marketing department generates sales-ready leads for us, and all we have to do is to give them a call. Honestly, I have a long experience of B2B selling, and there are not many companies where the sales department gets such great service. Marketing is truly one of the major keys to our success.' (Sales Manager)

4.1. Content creation and delivery

Content marketing, as defined by the interviewees, refers to processes of creating and delivering content (i.e., text messages, pictures, videos, animations) to target customers in ways that add value and engages them in relationships with the company. While the interviewees find that content can take nondigital forms, the case organization focuses heavily on producing digital content of various types: webinars, white papers, newsletters, digital brochures, blog texts, social media posts, infographics, pictures and videos.

The case organization considers generating high-quality content to be an ongoing learning process that involves a continuous examination of content that engages target audiences. While definitions of high-quality content are rather subjective, particular key features characterizing such content were noted repeatedly by interviewees. First, the content design must be informed by target customers' needs. The interviewees noted that companies too often generate content that engages a broad audience but that fails to speak to real customers. A related key element of high-quality content is that it creates value for customers rather than merely promoting company products and services. The case company has learned that good content never focuses on products but instead focuses on helping customers to solve their problems and on offering advice on issues customers may feel unsure about. Content produced by the case organization often does not mention the company or its products, but instead focuses purely on a given topic that the company offers expertise in.

'Recently, we designed a series of webinars on how to benefit from this new type of radar technology that was highly successful. Experts around the world came to watch them, returned to watch them again and shared them in social media. You could see that the markets were inquisitive about this topic. When we used some more general topics, the interest was rather low. Understanding the target group's needs is everything when speaking of the absolute effectiveness of content marketing.' (Senior Digital Marketing Manager)

Identifying valuable and relevant content requires a company to be aware of the informational needs of target customers, and this is realized through active listening. In practice, listening is performed by collecting customer feedback and by social media monitoring. In addition to listening to customer interests, a company must also identify and disseminate organizational knowledge to fulfill customer information needs. The case company has made an effort to overcome this challenge by treating content creation as a joint process and combining expertise from different parts of the organization. While marketers coordinate the process, content subject matter is determined by top engineers and subject specialists. Marketers typically interview several specialists on a certain customer-relevant topic and then create actual content on their behalf or in collaboration. Part of this process involves considering how interview data may be exploited to generate content of various formats.

'The fundamental idea is that when we create new content, we consider which parts of that content entity is suitable for a white paper, webinar, social media posts, face-to-face selling situations and various events. It is a learning process to be able to adapt the content to the different media so that it works effectively. For example, we have realized that social

media posts must be much more entertaining compared to the content delivered through other media.' (Chief Marketing Officer)

Most of the content developed by the case organization is found on the firm's corporate website, while other channels (e.g., search engines, social media platforms, e-mail, advertising media (both online and offline)) are primarily used to promote content and direct target customers (i.e., suspects) to the company website. For example, the company may promote content published on its corporate website via social media posts that include links to webpages where visitors can find more information on a given topic. To access content, the visitor must log in or leave contact information that activates the marketing automation software and initiates the customer's journey through the marketing and sales funnel.

4.2. The role of content marketing and automation in the marketing and sales funnel

The acquisition of marketing automation software has been a crucial prerequisite for the company's content marketing strategy, as it has enabled the case company to collect actionable data of potential and existing customers that can be used to deliver timely content for their individual needs. Furthermore, the automation software is an effective tool for systematically managing incoming leads at different phases of their purchasing processes. In addition to adopting marketing automation, the case company's decision to treat marketing and sales as

integrated elements of the sales process has been equally important. The case company has similarly made efforts to develop a joint marketing and sales funnel (Fig. 2).

'Recently, we have come to realize that it is not just a sales funnel but actually a joint marketing and sales funnel, including several phases. Our vision of how the contacts move in the funnel has also developed along the way. We still use the term 'sales funnel' quite often, but we have moved toward the term marketing and sales funnel.' (Digital Marketing Specialist B)

4.2.1. Stage 1—identifying and classifying contacts

Entering the first stage (i.e., identified contact) of the marketing and sales funnel requires a suspect to be identified by the case company. The suspect is identified upon leaving contact information on the corporate website (or, e.g., at trade shows) as part of a sales inquiry, contact request or digital content access. In addition, existing customers who visit the website are automatically identified by the marketing automation software through an IP address, cookies, an e-mail address or a website login.

'With regards to new customer acquisition, the first touch point typically occurs online; a customer is somehow attracted to our website and navigates to a webpage where he or she finds interesting content. To get access to that content, the person needs to leave contact information. Thereafter, the automation software follows the person's online

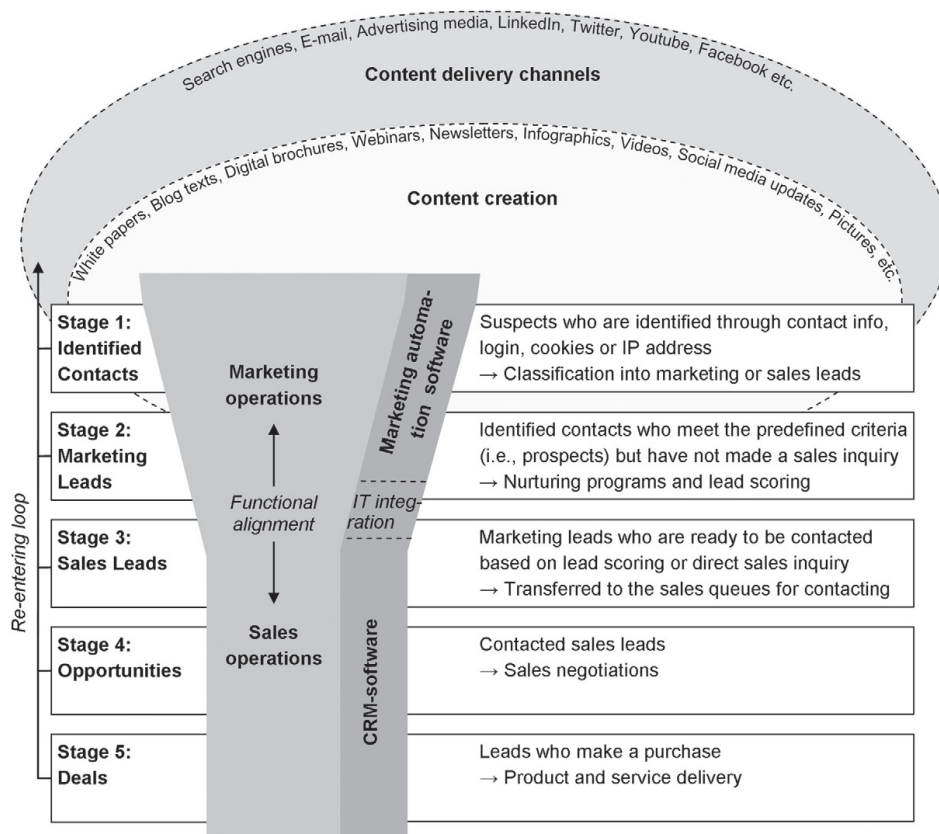


Fig. 2. Marketing and sales funnel of the case company.

behavior over time via an e-mail address, cookies and an IP address.' (Digital Marketing Specialist B)

Technically speaking, the software matches the contact data with the customer database records¹ to determine whether information on a given individual already exists. The system in turn filters out unqualified contacts that include obvious misinformation or incomplete information.

'We have built a filtering process into the automation software to ensure that the contact data acquired is valid. The filtering process is activated every time we receive new contact data or when existing contact data is updated. We do not want those contacts that lack vital pieces of data or include incorrect data to proceed in the funnel, and that is what the filtering is designed to do.' (Digital Marketing Specialist A)

Information on identified contacts is automatically stored in the customer database, and marketing automation software then categorizes the contacts as marketing or sales leads. The difference between marketing and sales leads is determined as follows:

'Marketing leads are identified contacts, so we know who they are, and we have some sort of behavioral data for them but no clear signals of purchase intention. So, based on that data, we can start nurturing these contacts to find out more about their interests to be able to provide more relevant content for their needs and push them closer to the purchase decision. On the other hand, sales leads are those contacts that request a quotation or whose behavior shows clear indications of a purchase intention.' (Digital Marketing Specialist A)

4.2.2. Stage 2—nurturing and scoring marketing leads

By nurturing, the study participants refer to processes through which marketers strive to transform marketing leads into sales leads. This involves attracting, educating and engaging marketing leads through the delivery of meaningful and timely content and thereby encouraging a potential customer to make a purchase decision. Content delivered to a prospect is personalized on the basis of profile information (e.g., company, industry, title) and online behaviors; the online behaviors of the prospect are tracked by the case company from the moment the marketing lead first identifies him or herself by leaving contact information.

'The key to nurturing is personalization in communications. That includes some very simple things, such as greeting the contact by name and using the local language. We can also use the contact's title and industry information to predict what kinds of contents he or she is likely to be interested in. But what is really growing in importance is behavioral personalization. So, we can deliver relevant content to our contacts based on what they do on our website.' (Digital Marketing Specialist B)

Nurturing is an iterative process wherein marketing leads are targeted with personalized "nurturing campaigns," and in return, marketers learn more about the prospects. For example, a marketing lead who has recently downloaded a white paper on a certain topic is sent an automated email that asks whether the prospect would like to learn more on related topics. If the prospect clicks on one of the links included in the email, he or she is directed to the website where the content is located. Automation software then tracks the prospect's navigation path, generating a more comprehensive picture of the issues

that the specific prospect is truly interested in. This information is used to connect prospects with even more specifically targeted content. This process may be repeated numerous times, until the automation generates a clear image of the products and solutions the prospect is searching for. At this point, the prospect is respectfully asked whether he or she would like to be contacted by the sales team. If the answer is yes, the marketing lead becomes a sales lead and is thereafter managed by the sales department.

'In our case, nurturing means that we start to warm up the marketing lead by providing content relevant to the lead's interests. The goal is to learn more about the contact and ultimately guide the contact further in the funnel toward a purchase decision. In the early phase of nurturing, we typically approach the contact at a more general level and deliver content on broader themes. Once we get a better understanding of the lead's needs, we can target the lead with more specific content and solutions. In an ideal situation, the nurturing reaches the point where the lead makes a contact request, which is again transferred to sales. And I can tell you, we receive loads of online sales inquiries as a result of nurturing.' (Digital Marketing Specialist B)

Even the most apparently interested prospects may not contact the sales team. For this reason, marketers use the marketing automation software's lead scoring system to determine which marketing leads should be transferred to the sales department. As with the content personalization criteria used for nurturing purposes, lead scoring is based on a prospect's profile information and recent online behaviors. Prospect profiles are scored from A to D (A being the best) depending on how well the prospect matches the ideal customer profile (e.g., certain industries and market areas) of the case company. Online behaviors are accordingly scored from 1 to 4 (1 being the best) based on how actively the prospect has consumed content and visited the company website over a certain period of time.

'Together with the sales organization, we have determined score weights for marketing leads based on the company that the contact represents and his or her decision authority, geographic location, online behaviors and so on. That way, the automation scores the marketing leads. The leads that exceed a certain score limit are transferred to the CRM system, and sales will take care of them after that.' (Chief Marketing Officer)

The total score that a marketing lead can achieve varies on a scale of A1 to D4. When a marketing lead surpasses a predefined threshold (e.g., B2), he or she is then managed by the sales department. The actual threshold varies across business segments and market regions and is determined by the marketing and sales managers of a given business segment. Moreover, the lead score is not a static rating because a prospect's activity level varies over time, and various other factors affect score weights. For instance, existing customers are given higher ratings because they are considered to be more likely to make a purchase, and certain behavioral patterns such as product views are scored higher than views of more generic webpages (e.g., the "about us" page). While both profile information and behaviors affect scores, it is typically behaviors that eventually transform marketing leads into sales leads, as behaviors are considered to offer a stronger indication of the prospect's purchase intention. That said, the time that it takes for a marketing lead to become a sales lead can vary greatly. In some cases, the scoring threshold is set so that all A-level marketing leads are directly transferred to the sales department, and these leads thus skip the marketing lead phase without any nurturing.

'For example, D4-level leads are never transferred to sales because they are simply not the kind of leads we want our sales teams to spend time on. At the moment, marketing leads that are at least on level 2 regarding online behavior may become sales leads, but that requires the marketing automation system to have all of the critical business information

¹ The customer database refers to a contact database of both potential and existing customers whose contact information has been acquired. The customer database is stored in the customer relationship management software and is synchronized with the marketing automation software.

on the lead so that the sales representatives can succeed when they contact the lead.' (Senior Digital Marketing Manager)

It is noteworthy that a large proportion of marketing leads are existing customers. Existing customers are particularly suited to nurturing tactics, as the case organization already knows much more about them than about new marketing leads, and their data are enriched with their purchase history. While existing customers may be inactive long after a purchase is made, their contact details (e.g., e-mail address and IP address) are stored in the customer database, and the marketing automation software can detect when they become active again. When this occurs, the customer re-enters the funnel as a marketing lead and is targeted with new content based on his or her online behaviors.

'Besides data on online behaviors, we can also exploit the purchase history of our existing customers for automated marketing communications. Among other things, the purchase history can be used for designing an after-sales campaign that is automatically triggered six months after a purchase of a given product. For example, an after-sales campaign may educate a customer about how important it is to overhaul the product purchased and prompt the customer to order maintenance service.' (Senior Digital Marketing Manager)

4.2.3. Stage 3—contacting sales leads

Qualified sales leads are automatically transferred to CRM and distributed to 'lead queues' that assign incoming leads to appropriate sales teams. Lead queues created by the case organization are categorized by geographic location and business segment. Every sales team is essentially responsible for at least one lead queue, and team members are expected to address each lead as soon as it enters the queue.

'The marketing automation system transfers leads to our CRM system, where they are divided into lead queues. The lead queues differ from each other on the basis of geographic location and business area, and certain sales teams are responsible for certain lead queues. So, the sales representatives responsible for a certain queue are required to review and contact the incoming leads. To ensure that we do not ignore any leads and react fast enough, we also get e-mail alerts of new incoming leads.' (Sales Manager)

Sales inquiries are directly responded to with quotations, but leads subjected to lead scoring must be reviewed before contact is made regarding content and products of interest. Once a lead has been contacted, he or she may be converted to a deal and is therefore referred to as an 'opportunity.'

4.2.4. Stages 4 and 5—closing the deals and beyond

During the opportunity phase, the case company begins negotiations with a lead to close a deal. In minor purchase cases, no actual negotiations are made, and an opportunity may simply accept or reject a deal. In more significant cases, negotiations may continue over several years, and sales prices may change over this period. Once a deal is won or lost, this information is recorded in the CRM system. In an ideal case, the case organization can review an entire marketing and sales process from the first marketing campaign in which contact information was acquired through all phases of the customer's purchase process.

Finally, the customer's path in the marketing and sales funnel is not always as straightforward as described, but a contact can move back and forth in the funnel over time. The strength of marketing automation is that although a deal may be lost at any phase of the funnel, the customer information remains stored in the database and the customer may re-enter one of the previous phases in the funnel.

'If the opportunity is lost, OK, it's lost; we try to learn from it, but then the contact is still put back into nurturing campaigns with the

marketing program. So we don't let them go. We put them into the marketing pool and then try to nurture them to get future potential business.' (Sales Director)

4.3. Prerequisites of success and remaining challenges

Successfully implementing content marketing based on marketing automation does not occur overnight. The interviewees elaborated on the prerequisites for success as well as the future challenges that undermine the realization of the ideal marketing and sales funnel described above. Several interviewees noted that promoting a mindset that supports data-driven content marketing has taken time and effort. Marketers have been required to shift their focus from promotional and product-oriented advertising toward helping buyers with specific content. This was also highlighted in our interviews with experts.

'If you ignore the customer's perspective on it [automation] and go with the same mentality that you had before in marketing, just posting messages, you fail. It does not matter which automation system you choose.' (CEO, Expert Company B)

In addition, planning roles have expanded dramatically, as marketers must set automation system rules that guide content delivery to prospects. In this sense, marketing automation schemes are as clever as their users. A related challenge is that as a company learns more about its customers, smaller segments are identified that must be provided with specific content, and in turn, content creation requirements expand. As resources are always limited, the case company is increasingly considering means of reusing and refining content. Furthermore, as one interviewee (Digital Marketing Specialist B) noted, while content creation and delivery has been the case company's main focus, the firm has not been equally successful in fostering customer dialogue. According to our observations, this is especially the case for social media channels, which are exploited as content delivery channels rather than as forums for customer dialogue. Expert interviewees stressed the importance of sales representative social media presence, arguing that participation in social media discussions effectively generates sales leads. This is clearly a missed opportunity for the case company.

Without seamless cooperation between marketing and sales departments, content marketing cannot be successfully integrated with B2B sales processes. Our study data show that seamless cooperation requires not only IT integration between marketing and sales systems (i.e., marketing automation and CRM) but also collaborative planning and functional alignment across departments. This was found to be especially critical to the lead qualification process. When marketing and sales managers determine qualified sales lead criteria together, fewer arguments occur regarding the quality of leads and the appropriate follow-up practices. In the case company, the marketing and sales departments collaborate closely in developing marketing and sales activities, and both parties expressed satisfaction with this arrangement. However, this collaboration is not without friction. The single most problematic issue is that the deals won or lost must be manually recorded in the CRM system by sales representatives. This does not always occur because the company receives numerous minor sales inquiries, and thus deals below a certain monetary value are not recorded in the CRM for efficiency reasons. As an unfortunate consequence, the marketing organization obtains inaccurate data on the quality of the leads generated. This limits opportunities for marketers to develop and optimize marketing activities and to demonstrate total sales contributions. This finding also suggests that the CRM system must be made more user-friendly.

'Because the volume of sales leads is so great, and the process is not super quick to do, we must bank trade-offs, and so if the dollar value is

low, we're not so keen on documenting them. We don't want to document just for the sake of statistics. I want to see that we have logic when we're putting manpower behind things.' (Sales Director)

Another challenge involves further optimizing the marketing lead scoring system, which despite exhibiting significant progress has proven difficult to change. The challenge of creating an effective scoring system was also noted in our interviews with experts.

'Scoring leads is an art... The scoring is dependent on the business and is purely company specific.' (CEO, Expert Company C)

An optimal scoring system should function as a filter that transmits only those leads to sales that are likely to be won, but this remains a developing project in the case company. A few interviewees considered the existing scoring system to be imprecise, as too many unqualified leads are entered into CRM sales lead queues. Consequently, the sales department does not have time to contact all leads and must occasionally make arbitrary evaluations of their relevance. Sales representatives typically prefer leads that appear easy to convert into deals, and those that require a proactive selling approach are often disregarded or contacted late. When lead scoring rules are more rigid, some valuable leads are filtered out by the system, and thus the optimal balance is yet to be achieved.

5. Discussion

The study findings offer three important theoretical contributions. First, this study advances knowledge with regard to organizational processes that foster the creation and delivery of valuable and timely content based on customer needs. The study findings support evidence proposing that content must target customers' needs and solve their problems rather than promoting company products (Davis, 2012; Handley & Chapman, 2011; Wuebben, 2011). The findings extend this line of reasoning by showing that in addition to actively listening to customer needs, companies can facilitate content creation by promoting collaboration between marketers and subject specialists. This approach may solve the challenges previously identified by B2B companies regarding recruiting and engaging subject experts who also serve as competent developers of high-quality content (Holliman & Rowley, 2014). In regard to delivering timely content, the present study is one of the first to illustrate how IT tools can be harnessed for behavioral targeting so that potential buyers are targeted with specific content based on their recent online behaviors. This approach may overcome B2B firms' challenges in identifying where customers are in their buying cycle and in tailoring messages accordingly (Holliman & Rowley, 2014).

Second, this study is the first to demonstrate how content marketing strategies can be integrated with selling processes through the use of marketing automation in a way that creates business benefits. Although the phenomenon under study was investigated in a B2B context, the same principles of combining content marketing and marketing automation presumably apply to a B2C context, especially in terms of behavioral targeting and content personalization. However, the empirical framework (i.e., the marketing and sales funnel) is constrained to industries characterized by high-involvement product categories and relatively long-lasting purchase decision cycles (e.g., the car industry). In line with Long et al. (2007) and Holliman and Rowley (2014), content marketing serves as an effective means of attracting suspects who are motivated to identify themselves. Persuading suspects to engage in inbound tactics is becoming increasingly important, as B2B buyers typically assume a more active role in the early phases of their purchasing processes (Adamson et al., 2012; Wiersema, 2013). The study also showed that integrating content marketing and marketing automation efforts can generate high-quality sales leads and increase efficiency levels by overcoming a cumbersome selection process for prospects (see, e.g., Moncrief & Marshall, 2005; Trailer & Dickie, 2006) through

automated classification. Moreover, behavioral tracking of marketing automation expedites the lead qualification process by signaling prospect interest in particular products, which is often considered to be the most important element of genuine purchase intentions (Bhattacharyya, 2014; Monat, 2011). This finding corroborates evidence that lead qualification can be supported by web data (D'Haen et al., 2013; Thorleuchter et al., 2012) and through the use of IT tools (Ahearne et al., 2007; Eggert & Serdaroglu, 2011).

As a third contribution, the study presents a novel illustration of a marketing and sales process wherein marketing and sales efforts are coordinated as two facets of the same funnel (i.e., a marketing and sales funnel). From a technological perspective, the study contributes to ongoing discussions on the isolation of marketing and sales systems (Kotler et al., 2006; Wiersema, 2013) by demonstrating that marketing and sales system integration (i.e., marketing automation and CRM) can significantly improve the efficiency of marketing and sales organizations. Marketing departments can transfer qualified leads to sales departments without requiring manual input, and sales departments can thus receive leads more quickly. From a marketing and sales alignment perspective, the study findings show that an integrated marketing and sales funnel increases transparency between marketing and sales departments and fosters closer cooperation between the two factions. This form of integration presents the potential to end the endless 'war' between marketing and sales departments with regards to the quality of sales leads and follow-up (Biemans et al., 2010; Homburg & Jensen, 2007; Homburg et al., 2008; Kotler et al., 2006; Oliva, 2006; Sabnis et al., 2013). When the marketing and sales funnel is transparent to both parties, marketing and sales representatives can collaboratively determine lead qualification and follow-up criteria.

5.1. Managerial implications

From a managerial perspective, extreme case studies of success or failure are often more useful than survey-based results (Johnston et al., 1999). Following this logic, the present case study serves as an extreme case of marketing automation for B2B content marketing and presents a number of managerially relevant implications. First, managers must understand that content marketing and marketing automation tactics are learned over time and require cultural change within the organization. Managers can facilitate this learning process by offering training and suitable leadership that encourages marketers to learn by trial and error. In addition, managers should consider acquiring new talent by recruiting employees that understand the characteristics of the digital age, such as the role of search engines and social media platforms in B2B purchasing processes. Automation adoption also requires expertise in IT and data analytics tools, which is not always found within a company. Overall, managers must know that reaping the benefits of content marketing and marketing automation efforts requires time and monetary investment, and thus patience is necessary.

Marketing and sales alignment is one area in which managerial intervention is often required. If there is a conflict of interest between the two parties, it is the manager's responsibility to hear both sides and to find a mutually satisfying solution. Integrating marketing and sales systems and developing a joint funnel promotes transparency and cooperation between marketing and sales departments, and thus we highly recommend managers adopt this strategy. Moreover, the integrated marketing and sales funnel expands opportunities for managerial tracking; managers can track the quantity and quality of marketing leads and review how actively sales representatives follow up on leads. This enables managers to determine whether sales figures are a result of poor lead quality or insufficient follow-up practices.

Despite the opportunities presented by managerial tracking tactics, managers should be mindful when evaluating the performance of marketing or sales departments individually. Accusing either department of poor results is likely to result in further conflict. Moreover, as the two functions are tightly linked, outcomes are ultimately dependent on

their combined performance. While it is reasonable to set department specific objectives, these must be used for learning and optimization purposes and not for purposes of performance evaluation. In conclusion, we recommend that managers measure marketing and sales performance based on joint metrics to foster cooperation between the two functions.

5.2. Evaluating the quality of the study

Three criteria must be considered in an evaluation of the quality of a descriptive case study design: construct validity, external validity and reliability² (Yin, 2014). First, construct validity refers to 'the extent to which a study investigates what it claims to investigate' (Dubois & Gibbert, 2010, p. 132). Construct validity was established in this study by using several informants and multiple sources of data (i.e., case organization interviews, digital content observations, expert interviews and a technology provider presentation) to examine the research phenomenon from various angles and thus to achieve data triangulation (e.g., Beverland & Lindgreen, 2010; Piekkari, Plakoyiannaki, & Welch, 2010). In line with the suggestion by Yin (2014), the study also provided readers with a clear chain of evidence by carefully describing the progression of the study from the study objectives to the final conclusions. Finally, the results were sent to the case organization to verify the validity of the findings and to prevent misunderstandings and factual errors.

External validity in case studies concerns whether a 'domain to which a study's findings can be generalized' can be defined (Yin, 2014, p. 46). The present case study is limited in terms of its statistical generalizability, as in almost all case studies (Dubois & Gibbert, 2010; Yin, 2014). However, instead of statistical generalizability, the study aims to achieve analytical generalizability, which refers to the extent to which the empirical observations are generalizable to theory—rather than a population (Yin, 2014). The analytical generalizability of our study findings was enhanced through the establishment of a solid theoretical framework (i.e., sales funnel) that guided our inquiry. The findings are largely consistent with the selected theoretical framework, and particular care was taken to discuss the development of the empirical framework (i.e., the marketing and sales funnel) based on the theoretical framework in the light of the empirical observations. The transferability of the empirical framework was further supported by interviews with experts, whose perceptions were largely in line with the findings. Nevertheless, as the sales funnel concept has taken various forms in the literature (D'Haen & Van den Poel, 2013), the exact form of the marketing and sales funnel is likely to vary in other settings. Specifically, while the major principles of the funnel are supported by existing theory and thus presumed to hold across contexts, the number and type of stages may vary. Finally, the study provides a clear justification for the selection of the case study and a detailed description of the case study context. This provided information helps the reader understand the empirical findings in the context of the selected case company and the potential applicability of the findings to other research settings.

Reliability refers to the absence of random error, which can be enhanced in case studies through transparent data collection and analysis processes that allow for the study to be replicated (Batt, 2012; Dubois & Gibbert, 2010). To meet the reliability requirement, the researchers developed a case study database in which all study data were appropriately stored (Yin, 2014). Moreover, the study provides readers with elaborate documentation describing how the study was framed and conducted. The data gathering methods are clearly reported, and the data analysis is made transparent by describing step-by-step how the analysis process was conducted and how the authors reached

agreement in cases of conflicting interpretations in order to draw reliable inferences.

5.3. Future research

This study offers promising avenues for future research. First, as this study examined B2B content marketing based on a lead generation and sales perspective, future studies may examine how marketing automation mechanisms can be harnessed to create and share content for other key objectives of content marketing (e.g., promoting brand awareness and engagement) (Holliman & Rowley, 2014; Pulizzi & Handley, 2014). In particular, more research must be performed on the role of social media in B2B content marketing and on the extent to which social media activities can be automated using new technologies.

Future research must also make a better use of online behavioral data. Combining online behavioral data with other customer-specific information such as purchasing histories may generate new knowledge on long-term customer relationships and on customer profitability. Studies could also examine how various marketing stimuli and content formats affect the online behaviors of customer profiles.

Finally, as marketing automation increases the transparency of digital touch points through the customer purchase process, researchers may take advantage of this opportunity and examine the role of digital marketing tactics and channels in B2B customer purchasing processes. Such findings would help identify the tactics that work most effectively at various phases of the marketing and sales process.

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² Internal validity concerns whether causal relationships can be established between study variables; it should thus be assessed only in causal and explanatory case studies, not in descriptive case studies (Beverland & Lindgreen, 2010; Dubois & Gibbert, 2010; Yin, 2014).

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