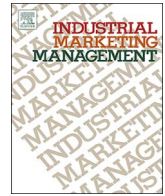




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Social media research in the industrial marketing field: Review of literature and future research directions[☆]

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ABSTRACT

Since the emergence of social media, industrial marketing academics and marketers have also been intrigued by the influence of such media on the discipline. As, social media research in the field of industrial marketing has been of increasing interest, this research attempts to review and assess the advances in social media research in the industrial marketing field. From the literature review conducted, it can be identified that some of the research areas have witnessed steady theory development increases, e.g., sales and marketing communications, while others are clearly lagging behind, e.g., pricing and ethics. Also methodological pluralism is called for instead of more traditional methods (conceptual analysis, qualitative and survey) to establish and solve more nuanced research problems. This research provides a review of the current state of research in the field and suggests directions for future development.

1. Introduction

Industrial marketing has been researched from multiple theoretical and methodological viewpoints for several decades, which has resulted in several helpful reviews and syntheses of the current literature (Möller, 2013; Reid & Plank, 2000; Wiersema, 2013). In the last four decades or so, information technology in its various forms has been of interest for industrial management practice and marketing (Kaufman, 1966; Mathews, Wilson, & Backhaus, 1977; Trainor, Rapp, Beitelspacher, & Schillewaert, 2011). Within the information technology field, one of the latest achievements is social media and its social media applications and networking sites which have been increasingly utilized and studied, especially in the business-to-consumer marketing context (De Vries, Gensler, & Leeflang, 2012; Hoffman & Fodor, 2010; Lambertson & Stephen, 2015; Nadeem, Andreini, Salo, & Laukkanen, 2015).

Now, industrial companies en masse have embraced this novel technology. However, it has also been pointed out that even though industrial marketing practice is benefitting from social media used by marketers, research on that area is still argued to be in the embryonic stage (Siamagka, Christodoulides, Michaelidou, & Valvi, 2015), and further research is called for (Wiersema, 2013).

In this research, we argue that some of the research gaps, especially those related to adoption, barriers, and reasons to use social media, are slowly being filled in by academic research. As a result of the literature review conducted, we also point to areas where further research is

undoubtedly beneficial, for example, in pricing, social media influences on organizational decision-making or on buying center.

Against this backdrop, this study aims to answer the following research question: How much research exists on the social media deployment in the industrial marketing area, and what are the possible future research directions for industrial marketing? In addition to the literature review, this research aims to integrate some of the theoretical developments and show the abundance and deficiencies in the current research to aid marketing scholars, decision-makers, and marketers.

Similarly to the business marketing theory mapping of Möller (2013) and Reid and Plank (2000), in our critical analysis and literature review, we reviewed 40 research articles that specifically focus on the topics of social media use by industrial companies. Based on the review, we provide a state of the art overview of the current literature. As a result, this research shows the current state of knowledge of how social media has been influencing and is utilized by industrial companies as a form of an integrative framework, which also depicts future research avenues.

The structure of the paper is as follows: first, the methodology is presented, and then, the review of the current research on social media use and influences on industrial marketing is analyzed and synthesized. Afterward, the abundant and deficient areas are identified in an integrative framework. Finally, the conclusions are presented.

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2. Methodology

This study follows the three-stage systematic literature review process (Tranfield, Denyer, & Smart, 2003) with three phases in stage one, five phases in stage two, and two phases in stage three. The systematic literature review process is explained in detail below.

In stage one, the review was planned. In the first phase, we identified a need for a review of literature in the field of industrial marketing in relation to social media usage, as multiple authors stated that the field is at an embryonic stage, even though knowledge production in the field has been and still is accelerating. In the second phase, we drafted a proposal to conduct a review, which was followed by a third phase, where a review protocol with inclusion and exclusion criteria was developed. All the studies with an empirical context of industrial marketing were included with an additional inclusion criterion – that studies should focus on social media (Kaplan & Haenlein, 2010). There are several social media definitions and we adopted one of the frequently used by Kaplan and Haenlein (2010). According to them social media includes collaborative projects, blogs, content communities, social networking sites, virtual game worlds, and virtual social worlds. Studies that focused on consumer markets or consumer markets with a social media focus were excluded (see Lamberton & Stephen, 2015).

At stage two, the review was conducted. Phase one identified the existing research. First, we conducted key word searches (social media, web 2.0, industrial marketing, and business-to-business marketing) in the Financial Times 50 listed journals. As the key word searches in the premier journals were returned empty we proceeded to second step. Second, we moved to other journals such as Industrial Marketing Management (18), Journal of Business Research (2), Journal of Business and Industrial Marketing (4), Journal of Interactive Marketing and Journal of Retailing. Third, the search was extended to Google Scholar and Scopus to identify other possible contributions. Scopus covers roughly 95% of academic texts (Oksanen & Räsänen, 2016). Textbooks, popular business books and conference papers were excluded from the analysis. As was expected, same articles were found through different routes, so duplications were eliminated. In phase two, studies were selected, categorized by key word searches, and the abstracts of each text were read through. A total of 40 academic research articles were selected for further inspection. In phase three, the quality of the study was evaluated. If the study was conceptual, then the rigor of the concept development and conceptual analysis was looked upon, while for empirical studies, the rigor of the quantitative or qualitative method use was to be evaluated. As the articles were accepted by well-known publishers, all of the 40 articles met these criteria. Phase four includes data extraction, in which we extracted the information source (title, authors, journal, and publication detail) into Excel and the article as a separate file into a designated folder. For the Excel spreadsheet, we also detailed the empirical context, method, and central results of the conducted research. Table 1 presents the sources and the number of articles. Academic journals with one publication were classified as ‘others’.

Table 1
List of journals and number of publications.

| Source | n | % |
|--|----|-----|
| Industrial Marketing Management | 18 | 45 |
| Journal of Business and Industrial Marketing | 4 | 10 |
| Journal of Business Research | 2 | 5 |
| Journal of Customer Behavior | 2 | 5 |
| Journal of Personal Selling and Sales Management | 2 | 5 |
| Journal of Research in Interactive Marketing | 2 | 5 |
| Marketing Management Journal | 2 | 5 |
| Others | 8 | 20 |
| Total | 40 | 100 |

Phase five is the data synthesis, in which, after reading the individual research articles and roughly categorizing them with two identifiers, i.e., theoretical areas and time of publication, we started to look at the key findings of each individual article and overlaps of the contributions. The theoretical thematic topic categories that were used to categorize were adopted, condensed, and revised from a popular business marketing state of the art review conducted by Reid and Plank (2000), in which they had 28 general theoretical thematic topic categories for industrial marketing research. Here, we have condensed some of the categories, e.g., personal selling, sales training, and sales motivation and compensation into one, labeled ‘sales’, and for the buyer-seller relationship, we added ‘business networks’. Also, for some of the categories, e.g., ‘pricing and logistics’ and ‘physical distribution’, we did not find any existing research. The category ‘computer use’ refers to social media use in general, while the ‘decision support’ category is leaning more towards the way social media is used in decision-making. Hence, we ended up with eight categories. Thematic categories as well as the number of publications per year are detailed in the Appendix 1.

In stage three, the report and recommendations are presented. We present these in chapter four and five. Chapter four summarizes the existing research surplus areas and identifies the deficiencies in the field by providing some avenues for future research. Chapter five concludes the research.

3. Critical analysis and review of the current contributions

Social media in the industrial marketing field have been researched to some extent. The aim of this section is to present the 40 identified pertinent articles and their influential contributions to the industrial marketing theoretical thematic categories and subfields, when possible. The review critically evaluates the theories and methods employed, as well as the context of the research, and most importantly – the results gained. The literature review proceeds in alphabetical order of the thematic categories.

3.1. Advertising

The authors of one of the first studies on industrial companies' social media advertising, Michaelidou, Siamagka, and Christodoulides (2011), focus on the social networking site (SNS) used by B2B United Kingdom-based small and medium-sized companies (SME). A Survey of 102 companies in various industrial sectors revealed that 25% of the companies were utilizing SNS. In particular, the authors show that a majority of the companies consider their use irrelevant, while those using it are using it for three main purposes, namely, attracting new customers, cultivating relationships, and increasing brand awareness. Interestingly, their survey shows that companies are not using any metrics to assess their SNS effectiveness. Besides use in advertising, the content is also an important element in advertising.

Brennan and Croft (2012) conducted a content analysis of ten large high-technology sector B2B companies in the UK. They found out that companies were using almost all the mainstream social media channels, but adoption was not universal, and UK companies were lagging behind large US companies. Two motives were identified in social media participation. First, the B2B social media pioneers are striving to use these tools to position themselves as ‘thought leaders’ to take a market-driving role in the sector, and second, to build relationships with a range of stakeholder groups. In addition to content, message strategies are also an important aspect of advertising.

Swani, Milne, and Brown (2013) focused their research efforts on the message strategies that are likely to promote online word-of-mouth activity for B2B Facebook accounts. They also compare products and services as well as contrast B2B and B2C companies. Swani et al. (2013)

utilize a content analysis of 193 companies of Fortune 500 listed companies 1143 Facebook wall post messages. Intriguingly, their research suggests that B2B Facebook account posts are more effective, if they include corporate brand names and avoid explicitly commercial statements and “hard sell” strategies. In addition, they show that including emotional sentiments in Facebook posts is a particularly effective social media strategy for B2B and service marketers. Facebook is a popular channel for both industrial and consumer marketers, and so is Twitter, which message strategies differ.

Swani, Brown, and Milne (2014) researched how marketers use Twitter differently across contexts (B2B/B2C), and how message strategies influence the posting. Swani et al. (2014) conducted a longitudinal content analysis of 289 companies of Fortune 500. Over 7000 tweets were collected in two stages. In the first stage, 3270 unique tweets in the week of March 29, 2011 were collected. In the second stage, 3827 unique tweets in the week of September 29, 2011 were collected. B2B companies tend to use more emotional than functional appeals in their tweets, while neither B2C, nor B2B marketers have adopted “hard sell” message strategies. B2B companies use corporate brand names and utilize more links and cues for information search.

Holliman and Rowley (2014) focused their research efforts on digital content marketing conducted via social media. Based on the 15 key-informant interviews in B2B services and manufacturing companies in UK, USA, and France, they offer insights into the best practices and challenges of digital content marketing. As a result, they propose an empirically grounded definition for content marketing and identify that customers need valuable content, which is useful, relevant, compelling, and timely in nature. Holliman and Rowley (2014) indicate that creating content that is valuable to B2B audiences commands for a “publishing” approach, which involves developing an understanding of the audience and, more importantly, it requires a cultural change from “selling” to “helping”.

3.2. Buyer-seller relationships and business networks domain

In this area, three research articles were identified. This research stream was initiated by Sood and Pattinson (2012). They provided a conceptual paper that maps the social media interactions based on the IMP interaction model (Håkansson, 1982). Specifically, they show how the elements of the original model product/service exchange, information exchange, financial exchange, and social exchange are influenced by social media and alter the level of cooperation and adaptations. Sood and Pattinson illustrate that information exchange and social exchange are the elements that social media alter the most, as several social media platforms enable different uses for frequent and scheduled information exchange (mobile, email, blogs, webinars) and social exchange (e.g., LinkedIn likes and comments).

Wang, Pauleen, and Zhang (2016) focused on the social media use by salespeople within Guanxi (business relationship). They conducted a survey with 42 responses and an additional three interviews in the Chinese pharmaceutical markets. As a result, it was shown that salespeople are highly familiar with social media, and companies support social media use and used it to build Guanxi with its customers. Wang et al. (2016) study could be categorized as a sales research, but as they have the strong Guanxi connection, they are here considered to fall into the category of ‘buyer-seller relationships’.

Besides, the aim of forming relationships and networks is to create value. Along these lines, Singaraju, Nguyen, Niininen, and Sullivan-Mort (2016), through their conceptual analysis, focused on the multi-stakeholder systems of the company, the customer and the social media platform. Through actor to actor model and service-dominant logic interlinking, they provide a theoretical framework of multi-stakeholder

systems to explain value co-creation. As a result, they show that the role of social media platforms is to act as a technological platform, where resources can be pooled to enable higher order resource formations through the active participation of non-intermediary actors (i.e., customers and companies), which otherwise limits the ability of companies and customers to realize their optimal value co-creation potential. They also propose that more efficient resource configurations in the creation, transformation, and renewal of resources via resource integration in actor interactions are plausible.

Quinton and Wilson (2016) focused their research efforts on LinkedIn use in the business relationships and networks. They identified tensions and ties in the wine industry business relationship and network formation by doing a convergent interview of 12 wine industry professionals and a netnography of 554 LinkedIn group interactions. They show how social media networks through LinkedIn are created, and if there is a pre-meditated purpose for social network creation, i.e., if new business relationships and networks lead to new business. Quinton and Wilson (2016) propose a four-stage model that encapsulates the findings in which social media networks contribute to business performance enhancement. The four-stage model includes: 1) behaviors exhibited in business social media networks (trust, sharing, reciprocity, and altruism), 2) network creation opportunities (emergent and strategic), 3) relationship types that create value (transactional and relational), and 4) business performance enhancement (new business contracts and collaborative problem-solving). As for tensions, Quinton and Wilson (2016) consider that social media is an opportunity for sharing, which is counterintuitive in a competitive situation. The reach and spread of social media provides quick formation of relationships, while also, old relationships are upheld when needed. The immediacy of social media networks allow for emergent connections and ties, as opposed to strategic ones. Trust is incremental, but in some instances, social media speeds up trust formation, e.g., presence in a reputable social media network.

3.3. Computers in business marketing

Lehtimäki, Salo, Hiltula, and Lankinen (2009) interviewed ten key-informants in relation to social media (web 2.0) use by Finnish industrial companies. As a result, the authors show the pros and cons of the use of social media tools, e.g., blogs, podcasts, social networks, and online communities, in marketing. It was shown that in 2008–2009, industrial companies were hesitant to adopt social media tools, but they were experimenting with blogs, wikis, and video-sharing.

Similarly, Salo, Lehtimäki, Simula, and Mäntymäki (2013) focused their research efforts on how business marketers are utilizing social media in their marketing efforts, and what kinds of plans they had for future use. Based on 14-interview single case study with six companies, the authors identified five social media tool categories that are utilized and to some extent measured by the companies. Blogs were used for creating awareness and building an industry leadership role, while social networks were used for creating word-of-mouth, by engaging opinion leaders. Online communities and content communities were used for creating contacts with potential customers, but also for knowledge-sharing with the community. Interestingly, how employees were influenced by social media was also discussed.

The challenges and opportunities of social media use is one area that has received considerable attention both in consumer and industrial markets. Jussila, Kärkkäinen, and Aramo-Immonen (2014) focused their research efforts on social media challenges, opportunities, and social media use cases. Utilizing a survey of 125 Finnish SMEs operating in B2B markets, the authors identified that there was a gap between the perceived challenges and opportunities. As a result, they showed that

close to 30% of the companies used social media. Mostly, the studied companies' use of social media was for internal communication, but close to 13% of the companies utilized social media for customer/partner communication. As is tradition in the information systems discipline, the adoption of a system is an important aspect of research.

Along these lines, [Siamagka et al. \(2015\)](#) focused their research efforts on social media adoption by interviewing nine and surveying 105 UK companies. The authors utilized the technology acceptance model and resource-based theory. As a result, the authors suggest that the perceived usefulness of social media within B2B organizational contexts is determined by organizational innovativeness, image, perceived ease of use, and perceived barriers. Besides, adoption and the antecedents of adoption are important to understand to fully grasp the potential of any technology.

[Keinänen and Kuivalainen \(2015\)](#) focused their research efforts on the antecedents of social media B2B use. With survey of 82 responses, they paid special attention to the influence of corporate culture, colleagues' support, and personal and psychological factors on customer behavior toward social media business use. Interestingly, [Keinänen and Kuivalainen \(2015\)](#) showed that the private social media usage has the most significant relationship with social media business use. Additionally, colleagues at work also supported B2B social media use, and personal characteristics were also of importance in social media use. Usability of social media did not explain social media business use in the relatively small sample studied. Social media is tied to existing CRM systems to form social CRM systems in increasing amounts.

In her study, [Lipiäinen \(2015\)](#) focused on the role and objectives of CRM use in industrial markets, and how social media was utilized along CRM to meet the objectives. 10 semi-structured interviews in three case companies were conducted. The author mainly studied the CRM side of the so-called social CRM. As a result, [Lipiäinen \(2015\)](#) showed that public social media tools played almost no part in CRM, but closed, e.g., private social media systems, might have potential in the future.

When researching new technologies, adoption studies are common, and [Habibi, Hamilton, Valos, and Callaghan \(2015\)](#) provide a conceptual overview on the implementation issues of social media in the industrial marketing context. Specific focus was on the organizational barriers. By utilization and electronic marketing orientation (EMO), they showed that each of the four components of the EMO (philosophical issues, initiation component, implementation component, and adoption component) addressed different implementation issues faced when implementing social media.

Besides adoption, a recent trend has been on the usability and, later, on the actual use of social media. [Lacka and Chong \(2016\)](#) conducted a survey of 181 companies in China. Their study investigated the usability of social media sites in industrial marketing. [Lacka and Chong \(2016\)](#) used the popular Technology Acceptance Model along with Nielsen's Model of Attributes of System Acceptability. As a result, they showed that marketers' perception of the usefulness, usability, and utility of social media sites drove their adoption and use in the B2B sector. The usefulness links to conducting marketing activities through social media, while the ability (in their study, learnability and memorability) refers to the use social media sites for B2B marketing purposes. Interestingly, efficiency and satisfaction did not influence the perceived usability of social media.

3.4. Decision support and management science

[Järvinen, Tollinen, Karjaluoto, and Jayawardhena \(2012\)](#) conducted a survey with 145 B2B respondents. They provided a realistic overview of the social media marketing usage, measurement practices, and barriers to use. The main identified objectives set for social media

and digital marketing were creating awareness, enhancing brand image, and acquiring new customers. As a result, the authors show that companies are lacking capabilities and resources to fully implement social media. Even though, B2B companies are slow to adopt social media digital marketing tools, the authors show that large-sized B2B companies are eager to adopt those tools. More importantly, [Järvinen et al. \(2012\)](#) indicated that digital marketing measurement tools are not widely used yet. As the research on social media use in the industrial marketing context has matured, the research has also shifted from adoption to use, the influences of social media, and when companies use systems over time, what routines and skills emerge.

[Trainor, Andzulis, Rapp, and Agnihotri \(2014\)](#) surveyed 308 top-management team members, of which 187 were B2B companies. [Trainor et al. \(2014\)](#) set out to study how social media technology usage and customer-centric management systems contribute to a firm-level capability of social customer relationship management (CRM). The authors provide conceptualization and measurement of the social CRM capability, which arguably refers to a companies' competency in generating, integrating, and responding to information obtained from customer interactions, that are facilitated by social media technologies. As a result, social CRM capability is identified as a firm-level capability and interactive influence of a customer-centric management system and social media technology use on social media CRM capabilities is established. More interestingly, the authors showed that for B2B companies, there is a direct influence of customer-centric management systems on social CRM capabilities, while for B2C, this link is not so strong. Both in consumer and industrial markets, a recent trend has been to focus on the performance, i.e., outcomes of the use.

[Järvinen and Karjaluoto \(2015\)](#) focused on the marketing performance measurement in B2B companies. A specific focus was on the digital marketing performance, namely, web analytics. They employed a single case study of three companies with 14 key-informants which were interviewed. As a result, the authors highlighted the role of a complex selling process, and how companies can still harness web analytics, while previous studies have focused on the simpler selling processes and use of web analytics. In detail, they showed 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. In other words, it seems that organizations' content, process, and context have influence on the digital marketing performance measurement.

In many social media campaigns, the content is a pertinent element when driving sales. Along these lines, [Järvinen and Taiminen \(2016\)](#) investigated the organizational processes for developing content that is both valuable and timely, that ultimately meets customer needs, and which is integrated in the B2B selling process. The authors utilized a single case study approach by focusing on the marketing automation technologies utilized in the B2B sector for content marketing efforts. [Järvinen and Taiminen \(2016\)](#) showed organizational processes that fostered the creation and delivery of valuable and timely content, generated high-quality sales leads when behavioral targeting and content personalization was utilized. Interestingly, the content that solves customer problems is key, instead of just promoting company products. The authors also showed that the integration of sales (CRM) and content marketing (marketing automation) into one funnel creates advantages for the companies by increasing the efficiency of marketing and sales units.

3.5. Public relations and marketing and other functions

As there is only one contribution in 'public relations' and in the

‘marketing and other functions’ categories, they are described here, under one section. From the ‘public relations’ perspective, [Steyn, Salehi-Sangari, Pitt, Parent, and Berthon \(2010\)](#) provided a research note on the acceptance of use social media release by influential bloggers in the business-to-business segment. Overall, the study found that in 2009, the exposure to this new technology was limited.

Alignment has been an important concept for studying inter-departmental cooperation. Along these lines, [Pardo, Ivens, and Wilson \(2013\)](#) focused on the internal alignment of new marketing units such as digital managers, content managers, and social media managers. They presented challenges and facilitating conditions of the alignment process. [Pardo et al. \(2013\)](#) showed that working harmoniously in cooperation with the co-existing units smoothed the interaction and coordination internally and with customers.

3.6. Marketing communications

[Karjaluoto, Mustonen, and Ulkuniemi \(2015\)](#) focused on the industrial marketing communication tools and the role of digital channels. Based on six case studies with 61 interviews, the authors identified marketing communication goals and three important areas in which digital marketing communications were used. The goals were: maintaining the communication with existing customers, providing support to the selling process, and building general awareness among stakeholders. The three areas are customer relationships, sales support, and building awareness, while the latter is the least important. [Karjaluoto et al. \(2015\)](#) highlighted that customers are becoming active participants in the communication process and soft-selling via digital content has been increasing. They also pointed to the fact that digital marketing communication has a lead generation role in the future. An important aspect in the communication process is the coordination of messages.

[Valos, Turner, Scheepers, and Stockdale \(2015\)](#) focused on the implementation issue of online communities. With seven interviews, [Valos et al. \(2015\)](#) identified B2B marketers’ implementation issues in online communities. The framework consisted of eight elements that were sequential internal employees, business customers, channels of distribution, and customers of the channels, which were reached via inbound-outbound messages that are direct and indirect by nature. Additional elements are control, including immediacy and engagement and measurement as an individual entity. As a result, they propose that coordination of messages and interaction within the community are leading towards successful implementation. Besides coordination of messages, the content of the messages is a crucial aspect of any communication.

[Huotari, Ulkuniemi, Saraniemi, and Mäläskä \(2015\)](#) identified content marketing in the B2B context as a rarely studied area. By performing a conceptual analysis, a literature review and four expert interviews, they identified how B2B marketers can influence content creation on social media. [Huotari et al. \(2015\)](#) identified a direct influence by adding new content, participating in discussions, removing content through corporate user accounts, and directly controlling employee social media behavior or indirectly controlling employees by training them to create desired content and performing marketing activities that influence other users to create content that is favorable to the company.

Branding has been of increasing interest in industrial marketing and similar areas, therefore, [Lipiäinen and Karjaluoto \(2015\)](#) researched the pertinent issues of industrial branding logic and how B2B brands are built in the digital age. The authors utilized a single case study of five expert interviews in the Finnish energy sector (generator supplier). As a central finding, the authors illustrate that companies that have a strong market orientation and a holistic branding approach with a robust

integration of their other functions, are better set for branding efforts in the digital age. Additionally, it was shown that strong internal communication and consistent external communication helps when a company seeks positioning the brand in topical conversations. It was also depicted how industrial companies can take a leading role (opinion leader) in relevant content creation through various social media channels.

Also, [Nguyen, Yu, Melewar, and Chen \(2015\)](#) focused their research efforts on branding, especially on the links between brand innovation and social media in China, via an online survey of 357 small and medium-sized companies. [Nguyen et al. \(2015\)](#) identified that brand innovation is affected by both the knowledge acquisition from social media and market orientation (responsive and proactive). Also, the moderator social media strategic capability was identified, which positively effects brand innovation and moderates the relationship between knowledge acquisition, market orientation, and brand innovation.

Messages have been an important research aspect in the marketing communications area, and the study of [Mehmet and Clarke \(2016\)](#) continues this tradition. [Mehmet and Clarke \(2016\)](#) provide a single case study with a B2B social media semiotic study. Their research is focused on the meanings in online conversations (Facebook, Twitter, and websites). [Mehmet and Clarke \(2016\)](#) identified how marketing posts create virtual conversations around Fairtrade Australia. Out of the 10 themed clusters over a period from 2012 to 2014, three were analyzed in the case study. In particular, the authors proposed using a novel method, called the Social Semiotic Multimodal (SSMM) framework, in which semiotics of content in multiple marketing communication channels were examined. The authors identified the risks (challenging and contradicting message) as well as the benefits (co-creation and fostering an online community) of utilizing social media in B2B communication.

The utilization of the Task Media Fit Model is popular in the communications field and is also gaining popularity in the industrial marketing field. [Leek, Canning, and Houghton \(2016\)](#) shed light on how business markets use Twitter, and especially how followers respond to Twitter messages by utilizing the Task Media Fit Model. The authors collected tweets in three rounds. They categorized tweets based on content and function. As a result, [Leek et al. \(2016\)](#) highlighted that marketers use different embedded media (video, image, URL, and text) according to function (problem-solving, information sharing, public relations, sales, customer endorsement, and conversation) of a tweet message. Follower responses do not vary with the task performed by the tweet, but differ in the type of embedded link. For example, they found that an embedded link, be it a company website or a website and PDF, yielded significantly more Facebook likes.

Different types of applications and mobile services have mushroomed over a decade or so. They have their role in the field of industrial marketing, as well. [Wang et al. \(2016\)](#) focused on social media app (SMA) use to improve SMEs marketing communication and business performance. In their empirical study of five case studies with five expert interviews, they focused on small and medium-sized companies in the service and manufacturing sector in East Asia. They applied the Media Synchronicity Theory (MST), in which five capabilities: 1) transmission velocity, 2) parallelism, 3) symbol sets, 4) rehearsability, and 5) reprocessability were key elements, influencing communication performance. Communication performance then influences the SMEs business performance in the B2B context. As a result, [Wang et al. \(2016\)](#) presented that SMA capabilities can be explained by MST. More importantly, they identified information security and control as a new capability, which impacts business performance that is measured through marketing, innovation, and collaboration.

Besides applications, emotions have also been of increasing interest to marketing scholars. Swani, Milne, Brown, Assaf, and Donthu (2017) focused their research efforts on identifying the key factors that contribute to the Facebook brand popularity metrics (number of likes and comments). They analyzed 214 Facebook brand pages of Fortune 500 companies. Pages were followed over a week in September 29th 2011. Altogether 1467 messages were analyzed. As a result, the authors showed that inclusion of corporate brand names, functional and emotional appeals, and information search cues increased the popularity of B2B messages compared with B2C messages. Interestingly, Swani et al. (2017) found that B2B content messages demonstrate a higher message liking rate, but a lower message commenting rate than B2C messages.

3.7. Sales

The sales field has been keenly focusing on social media since its conception. Special interest was on the use of social media. Agnihotri, Kothandaraman, Kashyap, and Singh (2012) developed a conceptual framework that details the mechanisms through which salespeople use social media to create value. Based on relationship marketing, task-technology fit theory, and sales service behavior, they came up with a social media strategy for business-to-business sales organizations with relational selling objectives. The framework describes how social media tools (social content and network enablers) can help salespeople perform service behaviors (information sharing, customer service, and trust building), leading to value creation.

In addition to general use, the use in the sales process as well has gained considerable attention. First, Andzulis, Panagopoulos, and Rapp (2012) provided a review paper of the role of social media in the sales force and the sales process. They provided a definition for social media and discussed the challenges (e.g., corporate culture) of social media in the sales and marketing interface. Additionally, Andzulis et al. (2012) identified the different stages in the sales process (understanding the customer, approaching the customer, needs discovery, presentation, close, and follow-up) and illustrated how social media (e.g., Twitter use in approaching customers) influences each individual step.

Schultz, Schwepker, and Good (2012) presented a profile of B2B sales professionals, who employ social media. By using a survey of 273 salespeople, they showed that younger sales people were more likely to use social media. It was also found that the use of social media in sales positively influenced sales performance. Social media, according to Schultz et al. (2012), is used throughout the sales process, as proposed by Andzulis et al. (2012) in their conceptual paper. For example, LinkedIn is used for asking for references while building awareness, but also for keeping relationships with existing customers.

Moore, Hopkins, and Raymond (2013) focused on the social media utilization (categories) of professional salespeople. They conduct a survey of 395 salespeople, of which 197 were in the B2B markets. As a result, they showed that B2B practitioners tend to use media targeted at professionals as opposed to the general public social media, which is used by B2C salespeople. Additionally, they showed that B2B professionals tend to use relationship-oriented social media technologies for prospecting, handling objections, and after-sale follow-up. This result of utilizing social media throughout the sales process is in line with Schultz et al. (2012).

Rapp, Beitelspacher, Grewal, and Hughes (2013) focused on the contagious effect in social media use. Specifically, they researched the social media use across business suppliers, retailers, and consumers. After scale development and multiple studies, the authors interestingly showed that when suppliers use social media, it has influence on retailer social media use, which in turn has impact on customer social media use. This relationship is moderated by brand reputation and

service ambidexterity. Rapp et al. (2013) also conceptualized service ambidexterity as the ability to deliver high-quality service, while proactively seeking ways to improve service.

Besides the contagious effects of social media, the people utilizing the social media in sales have also been of interest recently. Lacoste (2016) focused on the key-account management use of social media. Based on interviews with 20 key account managers in France, the author presented a model of key account manager use of social media and linked that to a customer engagement model. In particular, the key account managers used social media to connect with the customer, and when connection was established, they used social media to build the relationship. In order for the connection to be formed, they also used social media for reputation building. Interestingly, Lacoste (2016) showed that when key account managers wanted to engage with customers, they used the more traditional face-to-face approach.

Agnihotri, Dingus, Hu, and Krush (2016) focused on the importance of social media in the industrial selling context. Via a survey of 110 salespeople, the authors focused on information communication behaviors. As a result, it was shown that salesperson use of social media had an impact on information communication behaviors (e.g., frequency), which were found to enhance salesperson responsiveness, and more importantly, customer satisfaction. Additionally, they showed that if a sales person is responsive, there was a positive relationship with customer satisfaction.

Guesalaga (2016) focused their research efforts on social media use in sales. A survey of 220 sales executives in USA was conducted. As a result, it was shown that organizational competence and commitment (e.g., training) with social media were key determinants of social media usage in sales. Also, individual commitment (i.e., being active) influences social media use. Additionally, when customers are engaged with social media, it will follow that sales also use social media. Interestingly, Guesalaga (2016) found evidence of synergistic effects between individual competence and commitment (high commitment – high competence), which was not found at the organizational level.

3.8. An integrative framework of existing research

Most of the existing research could be categorized and looked upon differently, as many of the articles employ multiple theories and even integrate different methods. An example of this is Wang et al. (2016), whose work could easily categorize as a buyer-seller relationships article or as a sales article. One may attempt to develop theoretical thematic topic category level (Reid & Plank, 2000) summary matrix to illustrate areas of existing research. In here, we have selected to develop an integrative framework of existing research. As the details of the articles and each contribution are presented in the Table 2 we aim to integrate the existing research into a wider perspective of industrial marketing system (Fig. 1).

Fig. 1 integrates the previous research, detailed in Table 2, under common themes of industrial marketing. Both supplier firms and the customers are utilizing social media in different ways in the marketing and purchasing efforts. For both, there are several business relationships and customer acquisition specific objectives e.g. maintaining and developing trust, improving processes, and creating value. Social media influences varies and in increasing amounts is managed and measured systematically. Both the suppliers and customers that utilize social media aim for specific business outcomes identified by the previous research. As additional theme one could add competition i.e. marketing actions are conducted in parallel to competitors actions but existing research is limited on this topic.

Table 2
Summary of the key contributions of the identified articles.

| Authors | Methodology | Theory | Context | Results |
|---|---|---|---|--|
| Advertising Michaeldidou et al. (2011) | Survey of 102 B2B SMEs (roughly 25% using social media) | Practice-orientated social media use barriers and benefits as well as metrics | UK, various industrial sectors | A majority of the companies consider use irrelevant, i.e., perceived relevance for them is at low levels, while those using it are using it for three purposes, namely, attracting new customers, cultivating relationships, and increasing brand awareness |
| Brennan and Croft (2012) | Content analysis of 10 large B2B businesses | Branding and business relationships | UK high-technology sector | Shows that companies were using almost all the mainstream social media channels, but adoption was not universal |
| Swani et al. (2013) | Content analysis of 1143 Facebook wall post messages from 193 companies | Services advertising and communication | Fortune 500 listed companies | Facebook posts are more effective, if they include corporate brand names and avoid explicitly commercial statements and hard sell strategies. Including emotional sentiments in Facebook posts is a particularly effective social media strategy |
| Swani et al. (2014) | Content analysis of 289 companies with over 7000 tweets. Longitudinal setting of 3270 unique tweets and 3827 tweets (first phase – week of March 29, 2011 and week of September 29, 2011) | Social media communications theory | Fortune 500 listed companies | B2B companies tend to use more emotional than functional appeals in their tweets, while neither B2C, nor B2B marketers have adopted hard sell message strategies. B2B companies use corporate brand names and utilize more links and cues for information search |
| Holliman and Rowley (2014) | 15 key-informant interviews | Buying process, branding, trust, and content use | B2B services and manufacturing companies in UK, USA, and France | Empirically grounded definition for content marketing is developed. Creating content that is valuable (useful, relevant, compelling, and timely) for B2B audiences demands a “publishing” approach, which involves developing an understanding of the audience and, more importantly, it requires a cultural change from “selling” to “helping” |
| Buyer-seller relationships and business networks Sood and Pattinson (2012) | Literature review and conceptual development | IMP Interaction approach | NA | IMP interaction model is applicable to the social media age |
| Niedermeier, Wang, and Zhang (2016) | Survey of 42 and three interviews | Social media use by salespeople and business relationships | China, pharmaceutical industry | Salespeople are highly familiar with social media, companies support social media use and use it to build guanxi with customers. |
| Singaraju et al. (2016) | Conceptual | Exchange and value co-creation, resource integration | NA | They show that the role of social media platforms is to act as a technological platform, where resources can be pooled to enable higher order resource formations through the active participation of non-intermediary actors (i.e., customers and companies), which otherwise limits the ability of companies and customers to realize their optimal value co-creation potential |
| Quinton and Wilson (2016) | Netnography of 554 LinkedIn group interactions and 12 interviews with industry professionals | Exchanges, network and trust formation, sharing vs. reciprocity | Wine industry | A four-stage model is formed, in which social media networks contribute to business performance enhancement. The four-stage model includes: 1) behaviors exhibited in business social media networks (trust, sharing, reciprocity, and altruism), 2) network creation opportunities (emergent and strategic), 3) relationship types that create value (transactional and relational), and 4) business performance enhancement (new business contracts and collaborative problem-solving) |
| Computers in business marketing Lehtimäki et al. (2009) | 10 key informant interviews | Practice-orientated, focus on social media use | Finland | B2B companies were hesitant to adopt the social media tools in 2008–2009, but they were experimenting with blogs, wikis, and video sharing for marketing purposes |
| Salo et al. (2013) | Six case studies with 14 interviews (12 key informant case interviews and two topic experts) | Practice-orientated, focus on social media use and content | Finland | Five social media tool categories were identified. Blogs were used for creating awareness and building industry leadership role, while social networks were used for creating word-of-mouth by engaging opinion leaders. Online communities and content communities were used for creating contacts with potential customers, but also for knowledge sharing with the (continued on next page) |

Table 2 (continued)

| Authors | Methodology | Theory | Context | Results |
|---|--|---|---|---|
| Jussila et al. (2014) | Survey of 125 SMEs operating in B2B markets | Practice-orientated, focus on social media use and challenges | Finland | community They show that close to 30% of the companies use social media. Mostly, the companies use social media for internal communication, but close to 13% of the companies utilized social media for customer/partner communication It is suggested that perceived usefulness of social media within B2B organizational contexts is determined by organizational innovativeness, image, perceived ease of use, and perceived barriers |
| Siamagka et al. (2015) | Survey of 105 companies and nine interviews | Technology acceptance model and resource-based theory | UK | Private social media usage has the most significant relationship with the social media business use. Colleagues at work are also supporting B2B social media use and personal characteristics are also of importance. Surprisingly, the perception of usability of social media for B2B use did not explain social media business use |
| Keinänen and Kuivalainen (2015) | Survey of 82 companies | Social media private use and corporate culture | Information technology service companies customers in Finland | Lipäinen (2015) shows that Public social media tools played almost no part in CRM, but closed, e.g., private social media, systems might have potential in the future By utilizing electronic marketing orientation (EMO), they conceptually illustrate that each of the four components of the EMO (philosophical issues, initiation component, implementation component, and adoption component) may address different implementation issues faced when implementing social media They show that marketer perception of the usefulness, usability, and utility of social media sites drive their adoption and use in the B2B sector |
| Lipäinen (2015) | 10 semi-structured interviews in three case companies | Customer relationship management and implementation issues | Finland | |
| Habibi et al. (2015) | Conceptual analysis | Characteristics of B2B marketing and implementation | NA | |
| Lacka and Chong (2016) | Survey of 181 companies | Technology acceptance model and Attributes of Systems Acceptability | China | |
| Decision support and management science Järvinen et al. (2012) | Survey of 145 companies in B2B markets | Practice-orientated. Focuses on the use, barriers, and measurement | Finland | Provides a realistic overview of the social media marketing usage, measurement practices, and barriers to use. The authors showed that companies are lacking capabilities and resources to fully implement social media |
| Trainor et al. (2014) | Survey of 308 top-management team members (187 B2B companies) | Capabilities, CRM systems, and performance | Across industries in the United States | Social CRM capability was identified as a firm-level capability. Interactive influence of customer-centric management system and social media technology use on social media CRM capabilities was established. More interestingly, for B2B companies, only a direct influence of customer-centric management systems on social CRM capabilities exists They show 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 They show how the organizational processes, that foster the creation and delivery of valuable and timely content, generate high-quality sales leads, when behavioral targeting and content personalization are utilized. Interestingly, the content that solves customer problems is key, instead of just promoting company products. The integration of sales (CRM) and content marketing (marketing automation) into one funnel creates advantages for the companies by increasing the efficiency of marketing and sales units |
| Järvinen and Karjaluoto (2015) | Single case study with three companies (14 interviews) | Performance measurement process and metrics | Finland | |
| Järvinen and Taiminen (2016) | Case study with nine interviews (six were case interviews, while three were content marketing experts) | Selling process, content marketing and automation | Finland | |
| Marketing and other functions Pardo et al. (2013) | Literature review and conceptual development | Theory of alignment | NA | Focus on internal alignment. Show that cooperation with co- (continued on next page) |

Table 2 (continued)

| Authors | Methodology | Theory | Context | Results |
|---|--|---|--|--|
| Marketing communication Karjaluoto et al. (2015) | Six case studies with 61 interviews | Digital marketing communication (brand and sales) | Finland | existing units is needed Identifies marketing communication goals and three important areas in which digital marketing communications is used: 1) customer relationships, 2) sales support, and 3) building awareness |
| Valos et al. (2015) | Literature review, conceptual development, and seven interviews | Online communities and integrated marketing communications | Services, manufacturing, and IT sector: Australia | Developed a decision framework for B2B marketers to implement online communities (social media). The authors proposed an eight-stage sequential adoption model |
| Huotari et al. (2015) | Four expert interviews | User classification and content creation | Finland | B2B marketers can influence content creation in social media through direct and indirect activities |
| Lipiäinen and Karjaluoto (2015) | Single case study with five interviews | Industrial branding | Finland, energy sector | Having a strong market orientation and a holistic branding approach with a robust integration of their other functions helps companies, when they engage in branding efforts in the digital age. Industrial companies benefit from being opinion leaders in their expert areas and creating relevant content in relation to their expertise |
| Nguyen et al. (2015) | Online survey of 357 companies | Innovation, knowledge acquisition, strategic capability, and market orientation | Chinese small and medium-sized companies | They identify a relationship between market orientation types (responsive/proactive) and brand innovation. Additionally, they show that social media strategic capability is key in achieving more radical brand innovation |
| Mehmet and Clarke (2016) | Single case study with semiotic analysis of three themed clusters | Semiotics and multimodality | Australia, Fairtrade | They propose using a novel method labeled the Social Semiotic Multimodal (SSMM) framework, in which the semiotics of content in multiple marketing communication channels are examined |
| Leek et al. (2016) | Tweet collection. Preliminary study of 189 tweets over a 10-day period in 2014. Second study of 493 tweets over a 16-day period in 2014, and the main investigation – 848 twitter posts over 49 days in four different companies | Task Media Fit Model | Consulting, IT, financial services, and engineering. Healthcare was context for the main study | They further develop the Task Media Fit Model for Twitter channels. They show that marketers use different embedded media (video, image, and other media) according to the function of a tweet message. Follower responses do not vary with the task performed by the tweets, but differ with the type of embedded link |
| Wang et al. (2016) | Five-case study with five interviews | Media Synchronicity Theory (MST), capabilities, and performance measurement | Services and manufacturing sector in East Asia | The authors use the Media Synchronicity Theory (MST). They identified information security and control as a new capability, which impacts business performance that is measured through marketing, innovation, and collaboration |
| Swami et al. (2017) | 214 Facebook brand pages of Fortune 500 companies were followed over a week in September 29th 2011. 1467 messages were analyzed | Psychological motivation theory and communication theory | Selected Fortune 500 companies | Using the psychological motivation theory, the authors show that inclusion of corporate brand names, functional and emotional appeals, and information search cues increase the popularity of B2B messages compared with B2C messages. It was also found that B2B content messages demonstrate a higher message liking rate, but a lower message commenting rate than B2C messages |
| Sales Agnihotri et al. (2012) | Conceptual | Service behaviors and value creation | NA | Conceptual framework was developed, which describes how social media tools (social content and network enablers) can help salespeople perform service behaviors (information sharing, customer service, and trust building), leading to value creation |
| Andzulis et al. (2012) | Conceptual | Sales process | NA | Identified the different stages in the sales process (understanding the customer, approaching the customer, needs discovery, presentation, close, and follow-up) and illustrated how social media (e.g., Twitter use in approaching customers) influences each individual step |
| Schultz et al. (2012) | Survey of 273 salespeople | Media use, performance, and sales | | Younger sales people are more likely to use social media. The (continued on next page) |

Table 2 (continued)

| Authors | Methodology | Theory | Context | Results |
|--|---|--|-------------------------------------|---|
| Moore et al. (2013) | Survey of 395 salespeople, 197 in B2B markets | person characteristics Selling process and social networking theory | | use of social media in sales positively influences sales performance. Social media is used throughout the sales process B2B practitioners tend to use media targeted at professionals as opposed to the general public. Also, they tend to use relationship-oriented social media technologies for prospecting, handling objections, and after sale follow-up |
| Rapp et al. (2013) | Study one: with a scale development (first step: 10 managers and 10 B2B salespeople, second step: panel of 20 experts, and step three: survey of 106 B2B sales people). Study two: with multilevel data (28 salespeople, 144 retailers, and 445 consumers) | Social media contagion | | The authors show that interestingly, when suppliers use social media, it has influence on retailer social media use, which in turn has impact on customer social media use. This relationship is moderated by brand reputation and service ambidexterity. |
| Lacoste (2016) | Interviews with 20 key account managers | Key account managers and social media use | France | Key account managers use social media to connect with customers, and when connection is established, they use social media to build the relationship. In order for the connection to be formed, they also use social media for reputation building. Interestingly, the study shows that when key account managers want to engage with customers, they use the face-to-face approach |
| Agnihotri et al. (2016) | Survey of 111 salespeople | Information communication, customer satisfaction | USA | Salesperson use of social media is found to impact information communication behaviors (e.g., frequency), which are found to enhance salesperson responsiveness, and more importantly, customer satisfaction. Additionally, they show that if a sales person is responsive, there is a positive relationship with customer satisfaction |
| Guesalaga (2016) | Survey of 220 salespeople | Customer engagement | USA | It was shown that organizational competence and commitment (e.g., training) with social media are key determinants of social media usage in sales. Also, individual commitment (i.e., being active) influences social media use |
| Public relations Steyn et al., 2010 | Survey with 332 influential bloggers with technology and service B2B comments | Technology acceptance model (TAM) | B2B technology and service industry | A majority of bloggers (57,5%) were not exposed to the social media release in 2009 |

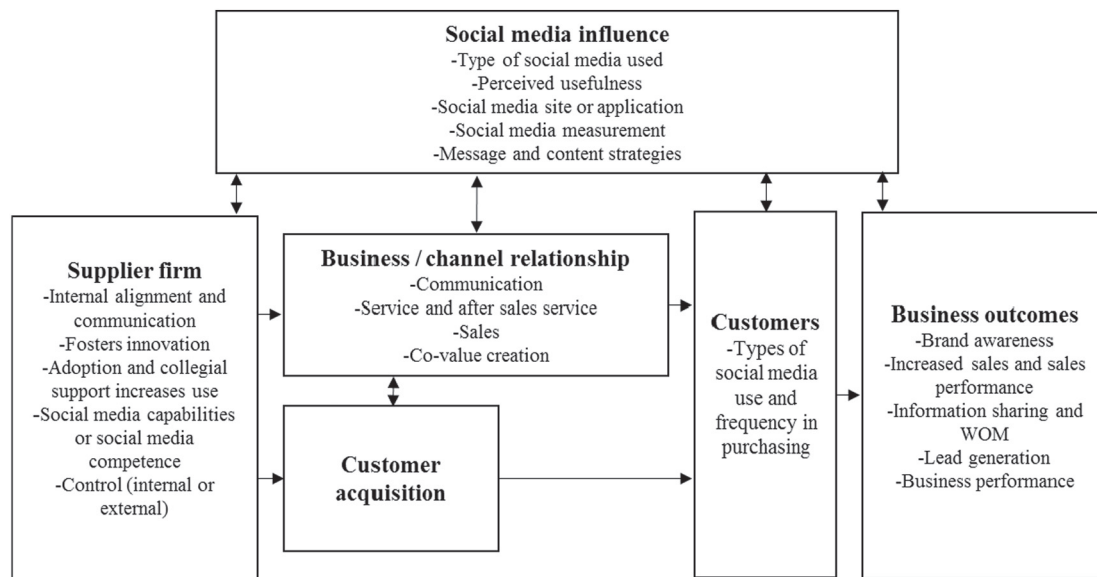


Fig. 1. An integrative framework of the established research topics and their linkages.

4. Proposed future research directions

Future research directions are derived from multiple sources. First, we cross-checked, the research articles proposed future research avenues for existing research conducted after publication. Second, we have also looked upon the Marketing Science Institute and Smeal College of Business Institute for the Study of Business Markets (ISBM) research priorities along with key industry reports and trend analyses in relation to social media and information technology use within the industrial marketing field to assess future research importance. Whenever possible, we have linked the proposed research directions with existing seminal research articles that may help in pursuing that research direction.

4.1. Social media influence

Social media influences customers and wider audience similar to mechanisms found in advertising. In the industrial advertising content, the type and selection of channels have impact on the desired marketing outcome (e.g., brand awareness, sales, and customer service). In the consumer markets, the virality or WOM of advertising content has been one of the key research areas (Hinz, Skiera, Barrot, & Becker, 2011) which could also be seen as important in the industrial marketing domain, i.e., how does content (type, channel, and quality) influence the virality of the content? Along the lines of Hinz et al. (2011), seeding strategies in the industrial domain could be looked upon. In other words, what type of content in what channel (e.g., augmented or virtual reality) and what type of seeding strategies should be used to gain desired business outcomes (e.g., orders, leads, and brand equity)?

One of the areas which advertising in the industrial markets is particularly aimed at is the members of the buying center, which is focus in the organizational buying behavior (OBB) literature (Webster & Wind, 1972). Hence, the question of how a buying center can be influenced with social media advertising, e.g., in LinkedIn, Twitter, and Facebook can be proposed. The question of what the spillovers of social media channels into other channels or between channels are can also be raised, and also, how those may influence the OBB when acquiring inventory, e.g., industrial equipment and complex solutions (e.g., ship building, paper mills and trucks).

Overall, it can be seen that social media adoption, implementation, and perhaps to some extent, integration with some information systems is partly covered in the previous studies. However, there is a lack of

research on, e.g., mobile and location-specific social media use, and how that may influence buyer or sellers of any given organization or buyer-seller relationships (Salo, 2012; Stender & Ritz, 2006). Similarly, how social media influences the creation, delivery, and branding of industrial services is of increasing interest (Leek & Christodoulides, 2011). Also, taking into account the social media aspect, what type of pricing algorithms might one use in industrial marketing is not well addressed in the academic literature (Tellis, 1988). Location of the user and e.g. backlog of orders may influence the pricing algorithm differently (Lohr, 2015).

Additionally, new devices are appearing on the market, e.g., tablet devices, sensors, glasses, wearables and other novel mobile devices are already used in the industry, e.g., sales presentations, collecting inventory data, or for other purposes, which are not yet covered in the academic literature (Lohr, 2015). Some of these enable the merge of virtual reality and augmented reality (Ma, Fan, Gausemeier, & Grafe, 2011). Along similar lines, how novel technologies in customer experience management (social login, website morphing, robotization of service) are influencing the field of industrial marketing is not adequately addressed yet (Karr & Freeman, 1998; Lohr, 2015).

4.2. Suppliers, customer acquisition and customers

Even though sales have been researched a lot in recent years, there are multiple areas of research. First of all, more quantitative research with e.g. experiments could be used to isolate and verify influences of social media. One of the key questions is in what phase of sales and how should social media be used? What type of social media yields desired results in each phase? The content used is one of the crucial issues – what type of content converts? How is social media used for content creation that leads to qualified sales leads and sales? What types of social media applications can be used? and what are the analytics available to manage sales and applications (Boire, 2014)? Are augmented reality solutions, e.g. holograms, increasing sales or brand awareness and leading to sales? For each of the sales-related future research areas, we can think of the context of selling, in which there is a continuum, ranging from one end of selling materials, resources, and operational goods (MRO), like steel, to the other end – of selling complex solutions like cruise ships.

For both suppliers and customers one of the key internal management questions is what kind of skills and resources (Teece, Pisano, & Shuen, 1997) are needed in the process of understanding and

measuring the social media? Interestingly, several new job titles in relation to digital marketing (digital marketing officer) and digital business (data scientist) have appeared recently. What are the roles and responsibilities of such employees? What skills and capabilities do they have, and how should those be aligned with others and different functions (Lewis & Heckman, 2006)? How and with whom these resources should co-locate with? How should reporting and management be organized in the industrial organization when young digital talent and the older meet?

4.3. Buyer-seller relationships and business networks

Still, relatively little is known in this area. First, from the IMP interaction model perspective (Håkansson & Snehota, 1989), we can safely assume that the structure and the process elements of business relationships are influenced differently by social media. What are these impacts? How does social media alter dependence and power relations (El-Ansary & Stern, 1972) in the buyer-seller relationships? Besides focusing only on the positive effects of social media one can rightfully ask what are the other possibly negative consequences, e.g., conflicts (Gemünden, 1985), that may arise due to social media? More studies are also needed in the business network level. How is social media influencing networks e.g. triads (Halinen, Salmi, & Havila, 1999), focal networks (Alajoutsijärvi, Möller, & Rosenbröjjer, 1999), business networks (Möller & Halinen, 1999) and strategic nets (Möller, Rajala, & Svahn, 2005)? Besides the types of networks also the role of companies and individuals might be altered as well. Hence, following questions are proposed: does social media alter network positions (Håkansson, 1982), pictures (Ford & Redwood, 2005), and mental models of managers (Porac & Thomas, 1990)?

4.4. Business outcomes

As suggested by many of the researchers, starting to measure digital marketing actions is an important stepping stone for any company. From the research and business perspective one of the key questions is how one isolates the impacts of specific social media marketing actions to show their impact on the desired business outcomes. For example utilizing one social media channel to promote offer of a service or product that is not launched elsewhere is one option in attempts to track the effectiveness and efficiency of a specific social media channel. Hence, specific questions linked to business outcomes can be proposed

e.g. how is social media channel like LinkedIn in a campaign of a new legal service influencing, e.g., brand awareness or sales? Besides looking at individual social media channels also multiple existing data sources are integrated with social media. Hence, question can be proposed in a following form: how is, e.g., machine-to-machine internet data (e.g., telematics and sensor data) managed and measured in relation to social media activities (Chui, Löffler, & Roberts, 2010) to assess the interlinkages?

Overall, the focus is shifted from individual social media channel optimization into a wider view of digital analytics and performance assessment and measurement. This is conducted synchronously with multiple tools (marketing automation, web analytics, and other digital analytics) to better manage sales, brand awareness marketing units, customer service, or advertising in different industrial contexts (Järvinen, 2016).

In summary, it can be said that there are multiple research areas within the industrial marketing field that benefits from increased social media focus. Both the Marketing Science Institute, Smeal College of Business Institute for the Study of Business Markets (ISBM), and others have research priorities that are somewhat similar and also arguably different to what has been proposed here. In addition to theoretical focus areas mentioned above also developments in the field of information technology and research methodologies undoubtedly influences the social media research in the industrial marketing field. This study aims to synthesize previous discussion, and based on the synthesis, provide an overview of the research areas that are important to the industrial marketing field (Table 3).

5. Conclusions

We started this research by asking the following question: How much research exists in the social media deployment in the industrial marketing area, and what are the possible future research directions for industrial marketing? By reviewing 40 research articles, we divided them into eight theoretical thematic topic categories, adopted and revised from influential industrial marketing state of the art literature review by Reid and Plank (2000). These are presented in detail in the literature review and corresponding Table 2. Overall, it can be seen that partly due to the novelty of the research field, current research has been focusing on the tactical use of social media, rather than a more strategic use. Without doubt also one of the reasons to start from the tactical use is that it is simpler to grasp and measure while the strategic use of social

Table 3
Avenues for extending the developed integrative framework.

| Theme | Main topic | Key question |
|------------------------------------|---|---|
| Social media influence | Digital (social media as part) analytics and performance measurement | What type of social media content in what type of channel yields desired business outcomes? How social media technologies e.g. wearables, pricing algorithms, IoT/machine-to-machine internet and information technologies should be utilized individually and jointly in industrial marketing? |
| Supplier firm | Social media skills, resources and capabilities Social media understanding/use in top management | In what phase of selling and how social media should be used in the future? How social media should be measured and managed in the future? How firms should organize around social media as part of digital strategy? |
| Customer acquisition | Social media influences on lead generation and pricing strategies | What type of social media content in which channel creates increased brand awareness and sales? What seeding strategies work in industrial markets? |
| Customers | Content media and type selections | How customers of various kinds use different types of social media in different stages of purchasing process? |
| Business relationship and networks | Dependence and power | How is social media influencing the business relationship elements such as trust, social exchange and amount of conflicts? Is social media altering business networks and firm roles in the networks? |
| Business outcomes | Managing social media impacts | How to isolate and measure the impacts of social media on business outcomes? How ethics are infused to social media use? How social media is used for co-innovation? |
| Competition | Competitive actions and reactions | What are the impacts of novel social media technologies on brand awareness or sales? Should we lead or follow the industry development in relation to social media use? How competitors marketing actions in social media should be reacted? |

media that influences supplier firms and customers at multiple levels is more complex to measure.

Marketing communications, sales, and advertising, in addition to computers, in business marketing are areas which have witnessed a steady growth of research contributions. Also, a majority of the research in advertising, marketing communications has been customer-focused, while sales and computers in business marketing have been focused on the organization, rather than the customer.

In addition to the literature review, the second part of the research question calls for pinpointing future research directions. These are summarized in Table 3. One specific area of future research is digital analytics and performance measurement, in which objective measures in particular and KPI-specific research, that isolates the impact of social media, is called for. It is shown in Table 2 that current research focused on the adoption and use of social media (Twitter and Facebook) on a tactical level, while a more strategic focus, e.g., on detailed measuring of effectiveness and efficiency of social media use, is a rarity. By applying the works of e.g., Tellis (1988), the researcher can look at the pricing and especially predictive or genetic algorithms, which are based on previous pricing information and customer behavior that matches them. Some of the categories proposed by Reid and Plank (2000) are empty when it comes to social media research. For example, the ethics of social media use in the industrial marketing field are limited. One can ask what type of content in different social media channels is ethically acceptable, and how unethical behavior might influence, e.g., brand equity or corporate reputation. In addition to ethics, segmentation and forecasting are also rather empty categories. One can also infer from Table 3 that social media skills and social media in top management among others are proposed as future research areas. What are the

skills required, and how is the use of said skills linked to performance measures? In other words, if the employees are effectively using social media, does the firm outperform competitors? Besides looking at the theories employed by researchers, one can look at the industries and firms to understand what is occurring in the industry, and how that is altering the current perception of industrial marketing theories. For example, Royal Bank of Scotland is testing the Luvo artificial intelligence robot for business and individual banking services and aims to eliminate 550 expert jobs (Dunkley, 2016).

One can say that for any literature review and synthesis of research, there are several limitations, like with most of the research. First, one can criticize how we selected the articles influences the key contributions that are highlighted in the summary Table 2. To alleviate this pain, we first focused on the highly appreciated academic publication outlets and selected the seed contributions for further analysis as well. Second, besides selecting the research articles, the way each article is divided into theoretical thematic categories and analyzed can also be criticized. Even the selection of the thematic categories (Reid & Plank, 2000) can be criticized. We have tried to explain the process in detail to alleviate selection bias. And third, the question of how one derives future research areas is equally important. Here, one has to have knowledge of the current contributions, what is in the press at the moment, what type of future research is called for in the different marketing bodies, and what technology enables it now and perhaps in the future. These three limitations, choices, and restrictions are what we have done during the research process and without a doubt, like in any research, those will influence what is presented as an answer to the research question.

Appendix 1. Broad thematic categories, year and number of publications.

| Thematic category | Year | n |
|--|------|---|
| Advertising | 2011 | 1 |
| | 2012 | 1 |
| | 2013 | 1 |
| | 2014 | 2 |
| Buyer-seller relationships and business networks | 2012 | 1 |
| | 2016 | 2 |
| Computers in business marketing | 2009 | 1 |
| | 2013 | 1 |
| | 2014 | 1 |
| | 2015 | 4 |
| | 2016 | 1 |
| Decision support and management science | 2012 | 1 |
| | 2014 | 1 |
| | 2015 | 1 |
| | 2016 | 1 |
| Marketing and other functions | 2013 | 1 |
| Marketing communication | 2015 | 5 |
| | 2016 | 4 |
| Sales | 2012 | 3 |
| | 2013 | 2 |
| | 2016 | 4 |
| Public relations | 2010 | 1 |

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