

# The use of social media marketing in B2B services: A look at some “conservative” industries

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## Abstract

*Purpose.* This study aims at reviewing extant literature on social media marketing (SMM) in B2B service contexts, scrutinizing and categorizing potential benefits, which originate from the adoption of SM tools by B2B service firms in conservative industries. The study also empirically investigates two relevant B2B service sectors, which show some of the typical characteristics of commodity-based service industries.

*Methodology.* We performed a systematic literature review to achieve a deeper understanding of the current state of knowledge on social media in B2B services. For this purpose, we scrutinize leading peer-review international journals using the Scopus database and performing *ad-hoc* queries with pre-defined keywords. In addition, an empirical research is conducted on 60 firms, i.e. tanker shipping companies and ocean carriers, bringing some descriptive statistics on their SM activity on Facebook, Twitter and LinkedIn.

*Findings.* The outcomes from sample firms unveil the adoption rate of the most diffused social media tools, the broadness of the digital networks of stakeholders (number of followers), the intensity of the communication activity (number of posts, shares, photos, videos) and the activated reactions (number of likes and shares).

*Practical implications.* Empirical evidence suggest to managers that social media might be an easy-accessible and low-cost option for keeping the pace of sectorial transformations and creating a competitive advantage even in conservative sectors.

*Originality/value.* This paper, by investigating B2B service sectors, addresses an interesting gap in SMM literature as prior studies mostly focused on B2C industries and manufacturing contexts.

## Keywords

social media marketing; B2B services; conservative industries; literature review; benefits

## 1. Rationale of the study

Since the late-'90s, technological development in Information and Communication Technologies (ICT) has dramatically changed the business landscape and managerial processes. In particular, the advent of web 2.0 technologies and related applications such as Social Media (SM) tools, have allowed for a more direct, rich, interactive form of communication where users play an active role in generating and sharing brand- and product-related content (Akrimi and Kheakhem, 2012; Siamagka et al., 2015).

Several social media definitions exist in the current literature. According to Kaplan and Haenlein (2010, p. 61) social media refer to “[. . .] a group of Internet-based applications build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content”. More recently, social media have been defined as “[. . .] digital communication platforms and services that allow parties to connect with each another, to share information, engage in dialogue and in which organizations and individuals post content and messages to engage participants and to interact with others by contributing to their discussions” (Huotari et al., 2015). This definition stresses the key elements of SM, i.e. technology and its applications, online contents, the active role played by users, networking and digitally based social relationships, opportunity for engagement.

In this context, social media marketing refers to the actual use of social media applications for marketing purposes (Tuten and Solomon, 2013). Several applications may serve as social media marketing channels to provide and promote social media services. Among others, the most popular are (Keinänen e Kuivalainen, 2015): i) blogs, i.e. online personal journals, one of the earliest well-known web 2.0 applications and microblogs (i.e. Twitter); ii) social networks, i.e., applications enabling users to build personal web sites accessible to other users for the exchange of personal contents and communication (e.g. Facebook; LinkedIn); iii) (content) communities, i.e., web sites meant for organizing/sharing particular types of contents (e.g. YouTube; Snapchat; Instagram); iv) forums/bulletin boards, i.e. sites for exchanging ideas and information usually around special interests; v) content aggregators, i.e. applications allowing users to fully customize the web content they would like to access.

In recent years, an increasing number of companies have adopted digital social media for supporting their marketing activities. Scholars recognized the potential of the interactive two-way online communication and collaboration (Michaelidou et al., 2011). Marketing academics have also highlighted that these emerging tools can make the exchange process between buyers and sellers more efficient and effective (Agnihotri et al., 2016; Marshall et al., 2012) and can foster effective marketing activities and processes even in small and medium sized enterprises (SMEs), overcoming resource limitations (Vescovi, 2000; Brink, 2017).

The application of social media via web 2.0 is expected to foster B2B collaboration between sellers, buyers and partners, thus also supporting innovation and co-creation (Jussila et al. Brink, 2017). Relatedly, several B2B companies have begun to evaluate how to incorporate social media channels in their marketing efforts (Keinänen and Kuivalainen, 2015). Nonetheless, despite their undoubted value and perceived relevance in B2B, extant literature on the implementation of social media tools by these firms “*is still in its embryonic stage, with only handful of studies exploring the marketing potential of social media in industrial settings*” (Siamagka et al., 2015).

In particular, the studies on the diffusion of social media in B2B service industries are still extremely limited and literature appears even more fragmented than in manufacturing contexts. As the major implications of the development of internet-based technologies for marketing communications are “interactivity, transparency and memory” (Huotari et al., 2015), service industries due to their intrinsic characteristics (e.g., intangibility, heterogeneity, co-production, etc.) should strongly benefit from social media marketing. Social network

sites, in fact, are expected to enable interactions with customers for creating value, and pave new avenues for building relationships with business partners (Michaelidou et al., 2011).

Moreover, as services cannot be experienced before purchase and service firms are demonstrated to significantly rely on word-of mouth (WoM) to attract new clients and improve customers' loyalty, it appears even more surprising the scarce attention demonstrated by both academics and practitioners on the usage of social media marketing in B2B services. By generating and influencing conversations in communities and networks, in fact, social media tools have proved to influence WoM communication (Trusov et al., 2009; Huotari et al., 2015).

In this perspective, extant studies in the service domain have predominantly focused on innovative and/or high-tech business (e.g., information technology, creative industries, life science, etc.), whereas more conservative industries (e.g. professional services, transports, energy, etc.) still appear under researched. Conservative industries are typically characterized by a business environment that is not inclined to managerial changes and, broadly speaking, to innovation (Keegan and Turner, 2001; Kannan and Thangavel, 2007). In these sectors, family-firms and public ownerships are rather common, although general rules about ownership patterns are difficult to be established. In activities such as consultancy and brokerage the firm owner can still belong to the founding family and quite often the executive power is solidly in the hands of family members. In sectors such as public utilities, infrastructure management, ports, etc. we easily find State-Owned Enterprises (SOEs) running the business and making huge investments. Indeed, conservative industries are sometimes heavily influenced by a strict regulatory regime that set numerous rules and constraints limiting the strategic behavior of incumbents as well as the entry of potential newcomers.

Aged and scarcely open-minded executives with modest professional experiences in other business contexts often manage firms operating in conservative industries. The narrow background of managers drives to an insufficient pro-activeness in taking business decisions and to a humble attention to managerial processes and operational routines (e.g., CSR, customer care, etc.) (Shaw et al., 2005). In this domain, the organization is mostly focused on the production function, neglecting the role of ICT and innovation, as well as underestimating the relevance of the marketing function, which is typically underdeveloped or even missing. Conservative firms require rather long time-to-market processes as they neglect the expectations and the "voice" expressed by the demand and are not able to manage quickly New Product Development (NPD) processes. These firms are often unaware of the economic benefits of segmentation and pursue heavy investments in physical assets with an expected long lifecycle. In this regard, they seem to pursue quite fuzzy long-term objectives without grounding on a sophisticated knowledge of market needs in its own variety and opportunities of differentiation. Hence, cost leadership is perceived as the most preferred and "safe" option, as market knowledge and related marketing activities are rarely recognized as powerful tools for creating and delivering value to customers.

Despite the above picture, questioning about the adoption of social media tools in conservative industries is not a trivial exercise. Growing competition and technological pressure are becoming pervasive also in these businesses and therefore firms are forced to rethink the managerial approach to communication, value delivery and stakeholder management. Indeed, social media might be an easy-accessible and low-cost option for keeping the pace of sectorial transformations and thus creating a competitive advantage.

Given the above, the study aims to point out which SM tools B2B service firms operating in conservative environments have adopted, and how do they use them for business purposes. More specifically, our study pursues three distinct and interrelated research objectives:

- RO.1: to review extant literature concerning social media marketing (SMM) in B2B service contexts in order to systematize prior contributions on this issue;
- RO.2: to scrutinize and categorize the potential benefits originating from the adoption of SM tools by the B2B service firms operating in conservative industries;
- RO.3: to analyze through an empirical research the current adoption and use of SM marketing tools by B2B service firms operating in conservative industries.

The remainder of the paper is organized as follows. We first present and discuss the results of the literature review, highlighting the main benefits deriving from the adoption of SM tools in the context of conservative service businesses (Section 2). Section 3 provides insights on the method applied in our empirical research conducted on 60 firms operating in two conservative industries (i.e. tanker shipping companies and ocean carriers) and gives some descriptive statistics about our sample. Section 4 illustrates the results emerging from the analysis of data collected through direct observations of the most common SM tools selected for the analysis (i.e., Facebook, Twitter and LinkedIn). We then propose a brief discussion of the main preliminary findings stemming from the empirical research, indicating future research avenues on the topic (Section 5). Finally, we conclude by recognizing the limitations of the study (Section 6).

## 2. Social media marketing in B2B services

### 2.1. Literature review

To address RO.1 we performed a systematic literature review to achieve a deeper understanding of the current state of knowledge on social media in B2B services. For this purpose, we focused our attention on academic contributions published on leading peer-review international journals that provided a significant advance to the scientific debate. The papers were scrutinized using the Scopus database by performing ad-hoc queries with pre-defined “hot” words (i.e., “social media”, “marketing”, “B2B” and “services”) that were searched in the main title, in the abstract and in the keywords of each manuscript. Alternative specifications for each word were tempted, in order to identify all relevant documents (e.g., “BtoB” and “business-to-business” as synonymous for “B2B”). For ensuring homogeneity and consistency, book chapters, conference papers and PhD dissertations were ironed out from the analysis.

After initial queries, a preliminary database of 74 papers was obtained, covering a ten-year period (2008-2017). Then, each paper was further examined by the three researchers involved in the project, for assessing its real pertinence and potential contribution to the selected topic. Only contributions validated by all the researchers were maintained in the sample, leading to a final list of 31 papers.

Each sample manuscript was categorized according to the following analytical dimensions: authors’ name, year of publication, core topics, theoretical perspective, paper type, method, focus on specific markets (B2B vs B2C; service vs manufacturing), sample industry/sector, geographic coverage, temporal coverage, and main findings.

The literature review outcomes are reported in Table 1. When it comes to the temporal distribution of the sample manuscript, 26 out of 31 papers have been published since 2014, demonstrating the newness of the concept of social media marketing in the B2B service domain.

We analyzed the adopted approaches (“type of paper”) for understanding the most diffused analytical perspective, going from conceptual contributions to works that are more empirical. Over 50% of manuscripts are quantitative research papers (16), whereas qualitative empirical studies rank second (9), followed by conceptual paper (5). Only a literature review paper has

been identified, further demonstrating the need for additional efforts in systematizing prior research in this field.

Technology Acceptance Model (TAM) (e.g., Steyn et al., 2010; Siamagka et al., 2015), Task-Technology Fit Model (e.g., Keinänen and Kuivalainen, 2015; Guesalaga, 2016), communication and WoM theories (e.g., Swani et al., 2014; Swani et al., 2017), and social network theories (Swani et al., 2013) emerge as the preferred theoretical perspectives to investigate social media marketing in the B2B services.

Overall, 23 out of 31 contributions are fully focused on B2B industries, whereas in three cases the authors do not explicitly discriminate between B2B and B2C contexts. Finally, in four studies, the authors specifically compare industrial settings with consumer ones (Swani et al., 2013; Bernard, 2016).

Concerning the services vs. manufacturing focus of the study, 22 out of 31 manuscripts deals with industries in both contexts, but without making explicit distinctions or categorizations. Conversely, six papers specifically address SM marketing in B2B services (e.g., Royle and Laing, 2014; Leek et al., 2016). Three works discussing manufacturing companies' behaviour have been included in the sample as they also provide useful comments generalizable to service industries.

The analysis of the sample industries/subsectors provides further insights into extant academic discussion on this topic. In particular, prior studies mostly focus on high-tech or innovative industries (e.g., technology, creative industries, life science and healthcare, information technologies), being more traditional and conservative industries (e.g. professional services, financial services, trade, energy, industrial goods and services) quite neglected.

When addressing the spatial scope of papers reviewed, additional interesting outcomes emerge. A number of papers does not provide information concerning geographic references (8 cases), whereas only few papers apply a multi-regional perspective.

Unsurprisingly, most contributions examine SM marketing strategies performed by companies originating from Anglo-Saxon countries, e.g., USA, UK, Australia, etc. (9). The North Europe context attracted the attention of several scholars (6 studies), too. A number of geographic areas are still underexplored (Europe, Middle East and Asia).

As concern the temporal coverage of the studies included in the analysis, only 16 manuscripts clearly report the timeframe of their empirical investigation. The meta-analysis performed on sample manuscripts unveils that data have predominantly been gathered in the 2011-2013 period, signaling a certain "wave of interest" on this issue.

The review of prior studies concerning the adoption of SM marketing tools in B2B service contexts enables to differentiate from B2C sectors and manufacturing industries. In their pioneering contribution, Kärkkäinen et al. (2010) address the role of SM in innovation activities, performing an empirical investigation on 122 B2B Finnish companies operating in both service and manufacturing industries. B2B companies are found to use social media slightly less than B2C companies. In their study, the greatest potential for social media use in B2B companies' innovation process is seen at the front-end stage of New Product Development (NPD) process, and in the launch/commercialization phase. Relatedly, Negrusa et al. (2014) challenge the role of innovative tools in communication by business networks and clusters, and scrutinize the life science industry.

Swani et al. (2013) investigate the message strategies most likely to promote online "word-of-mouth" (WoM) activity for business-to-business (B2B)/business-to-consumer as well as product/service Facebook accounts. Their findings suggest that B2B Facebook account posts are more effective if they include corporate brand names and avoid "hard sell" or explicitly commercial statements. Moreover, the Authors argue that, contrary to conventional wisdom and practices, including emotional sentiments in Facebook posts is a particularly effective

social media strategy for B2B and service marketers. Similarly, Swani et al. (2014) analyze customer experience in SM communications, and compare Twitter communications in B2B and B2C domains, by performing a longitudinal content analysis on over 7,000 tweets from Fortune 500 companies. Again, their outcomes profile empirical support to the hypothesis that B2B marketers focus on promoting their corporate brands rather than their product brands in their tweets. Companies with reputable brands are suggested to leverage their brand image through SM, because customers who prefer to be associated with reputable brands are likely to engage with them, by spreading positive WoM. In this perspective, emotional appeals are more common than functional appeals in B2B tweets. Emotional cues are important for B2B marketing too and may be effective in SM communications. Hard sell tweets are demonstrated to be infrequent. In this perspective, the Authors argue that this SM platform (Twitter) is not well suited to serving as a selling tool, whereas it is more useful for developing customer relationships.

Royle and Laing (2014) focus on the digital marketing skills gap in communication industries and proposes a “Digital Marketer Model” for this service industry, highlighting the key competencies and skills needed by an excellent digital marketer. The research concludes that guidance on best practice, focusing upon evaluation metrics, future proofing and strategic integration, needs to be developed for the communication industry.

A stream of literature has also drawn attention on the antecedents of B2B social media use. In this vein, Keinänen and Kuivalainen (2015), paving on the assumptions of the Theory of Acceptance Model (TAM) and those from the Task-Technology Fit Model, try to identify the most significant determinants explaining the adoption of SM marketing tools in B2B settings. By scrutinizing 82 companies located in Scandinavia, Russia and Poland, and operating in the IT service industry, the authors investigate the influence of corporate culture, colleagues’ support as well as personal and psychological factors on customer behavior toward SM business use. In this vein, private SM usage is found to hold the most significant relationship with SM business use. Colleagues at work also support B2B SM use and personal characteristics act as antecedents of SM adoption in B2B contexts. Relatedly, Siagmagka et al. (2015) further investigate this valuable issue, grounding on TAM and Theory of Reasoned Action. In particular, empirical evidence from various industry including aerospace and healthcare suggest that the perceived usefulness of SM within B2B organizational context is determined by several factors (in particular image, perceived ease of use and perceived barriers). In addition, the adoption of social media is found to be significantly affected by organizational innovativeness and perceived usefulness. Lacka and Chong (2016) investigates the usability of social media sites by addressing for the first time the Chinese market. Grounding on empirical evidence from an online survey to 181 bloggers, they conclude that marketers’ intentions to use SM sites for B2B marketing affect the adoption and use of those sites. Further, results show that the intention to use is influenced by users’ perceptions of those sites usefulness, whereas perceived usefulness is affected by perceived utility and perceived usability.

More recently, some academics have started to focus on customer reactions to companies’ corporate communication through social media, assessing post reactions and followers’ responses to companies’ tweets, messages, posts, etc. In this perspective, Rooderkek and Pauwels (2016) include in their analysis on SM marketing in service B2B contexts both posts and reactions. By addressing the health care industry, they examine the implications of new media platforms for B2B marketing communications, and new opportunities for seeding customer-to- customer interactions. Their empirical findings enable firms hosting online discussion forums to start more promising discussions and thus to increase the appeal of the forum. Analogously, in their work, Leek et al. (2016) focus on business marketer use of Twitter and followers’ responses to messages tweeted. Their outcomes show that Twitter is

exploited for three broad functions, namely: information sharing, problem solving and PR. In addition, business marketers use different embedded media according to the function of a tweet message. Follower responses to messages do not vary with the task performed by the tweet, whereas responses differ with the type of embedded link.

The in-depth literature review performed on prior studies facing SM marketing challenges in B2B services suggests that, although the rate of adoption of social media within B2B organizations is slower than in B2C contexts (Michaelidou et al., 2011) and academic contributions related to B2C businesses outnumber studies dedicated to B2B companies, appreciable efforts have been done recently in this perspective. Current studies have mostly emphasized the role of SM marketing tools in supporting innovation activities and co-creation in B2B contexts (e.g., Wang et al., 2016; Brink 2017, etc.), in developing supply chain relations (e.g., Negrusa et al., 2014; Huotari et al., 2015) and in fostering positive WoM from customers (e.g., Swani et al., 2013; Leek et al., 2016). Antecedents of SM usage and barriers for SM adoption constitute further valuable fields of investigation until do far (e.g., Keinänen and Kuivalainen, 2015; Siamagka et al., 2015, etc.), whereas conversations between firms and customers as well as interactions between customers are expected to raise additional interests from both scholars and academics (Leek et al., 2016; Swani et al., 2017).

At the same time, the literature review unveils that extant literature on services is still lacking and fragmented. Only few studies have already challenged how SM adoption in service companies may differs from SM communication strategies pursued in the manufacturing domain. In this perspective, the academic debate should greatly benefits from an in-depth investigation of the advantages related to the introduction of SM marketing tools in B2B services.

Moreover, prior studies have predominantly scrutinized high-tech or innovative sectors, whereas more conservative industries still appear under researched. This evidence raises some concerns about the generalizability of current findings with regard to those traditional B2B services, where SM capabilities are not widespread and cultural barriers toward digital innovation persists. In this perspective, an assessment of potential benefits originating from SM marketing tools in B2B conservative service industry should provide useful insights for both academics and practitioners.

In addition, significant limitations emerge from the review of extant literature on SM marketing in B2B services: they relate to the spatial and temporal dimensions characterizing prior empirical investigations and the analysis of SM tools usage by companies. As most contributions examine SM marketing strategies pursued by companies originating from Anglo-Saxon countries, a number of geographic areas are still underexplored (e.g., Europe, Middle East and Asia), as well as multi-regional studies and cross-cultural perspectives have not been exploited adequately, yet. When it comes to the temporal coverage of prior empirical research, most contributions focus on limited timeframe, while longitudinal analysis should provide additional insight concerning SM marketing tactics developed by B2B service companies.

Finally, almost all the empirical investigations have been performed by addressing only a specific SM tools, whereas an overarching examination on the SM integrated communication strategies and tactics from B2B companies is still lacking.

Table 1. Social media marketing in B2B services: a literature review

Authors	Year	Main topics	Theoretical perspective	Paper Type	Method	B2B vs. B2C	Serv. vs. Manuf.	Industry/sector	Geograph. Coverage	Temporal coverage	Main findings
Steyn P., Salehi-Sangari E., Pitt L., Parent M., Berthoin P.	2010	Social Media release; Bloggers; Technology acceptance theory.	TAM	Research paper (quantitative)	Online survey to bloggers (N = 332); 5-point Likert scale questions.	B2B	Both	Technology	Undiscl.	Undiscl.	Bloggers are influenced in their intentions to use social media releases (SRMs) not only by their current use of the device, but also by their perceptions of their effectiveness and the use of SMRs by others. Moreover, PR practitioners are invited to educate bloggers concerning the effectiveness of SMRs and also about which organizations are using them and how well they are working.
Kärkkäinen H., Jussila, J., Väisänen J.	2010	Social media in B2B innovation	-	Research paper (quantitative)	Interviews	B2B	Both	Various	Finland	Undiscl.	B2B companies used social media slightly less than B2C companies. The greatest potential for social media use in B2B companies' innovation process is seen in the front end phase of NPD process, and in the launch/commercialization phase. The four major challenges in adopting social media in innovation, are: the lack of understanding the possibilities in innovation; difficulties of assessing the financial gains; difficulties in adopting new mental models and practices; the lack of evidence of similar cases using social media in innovation.
Michaelidou N., Siamakga N.T., Christodoulides G.	2011	B2B Branding; Social Networking Sites (SNS).	-	Research paper (quantitative)	Questionnaire to marketing director (N = 102).	B2B	Both	Various	UK	2009 - 2010	The study highlights the main barriers to adoption of SNS and points out the limited extent of metrics used by B2B SMEs to evaluate the effectiveness of SNS.
Jussila, J.J., Kärkkäinen, H., Leino, M.	2011	Social media benefits in B2B.	-	Conceptual paper	Literature review	B2B	Both	Undiscl.	Undiscl.	Undiscl.	The literature review reveals many benefits for industrial firms coming from the use of social media in NPD. Reported benefits are predominantly qualitative, non-quantified. Interesting output-related benefits dealing with the core of social media (increased enabling of interaction) included benefits coming from widespread employee-customer interactions, as well as significant increases in customers starting interaction with each other. Actual outcome-related reported benefits (e.g. improved solving time of customer problems) are quite few.
Swani, K., Milne, G., Brown, B.P.	2013	Online WOM in social media; Social Media messages; One-click social plug-in.	Social network theory; Hansen's psychological choice model (1976).	Research paper (quantitative)	HLM poisson model; Content analysis; Corporate Facebook accounts (N = 193); Corporate wall posts from (N = 1,143).	B2B vs. B2C	Both	Various	USA	Mar. 2011 - Apr. 2011	B2B Facebook account posts are more effective if they include corporate brand names and avoid "hard sell" or explicitly commercial statements. Moreover, research outcomes suggest that including emotional sentiments in Facebook posts is a particularly effective social media strategy for B2B and service marketers.
Royle J., Laing A.	2014	Digital marketing skills gaps.	Digital Marketer Model	Conceptual paper	Qualitative approach (interviews, focus group).	B2B	S	Creative industries (communication)	Undiscl.	2013	The study develops a Digital Marketer Model, highlighting the key competencies and skills needed by an excellent digital marketer. The research concludes that guidance on best practice, focusing upon evaluation metrics, future proofing and strategic integration, needs to be developed for the communication industry.
Negrusa A.L., Rus R.V., Sofica A.	2014	Social media tools; Networking & cluster; Innovation.	None	Research paper (qualitative)	Single case study	B2B	S	Life science	Romania	Mar. 2012	The paper demonstrate the existance of different approaches of social media tools used for networking propose which can be adopted by networks and clusters interested in innovation and know-how exchange.
Bruhn M., Schnebelen S., Schafer D.	2014	B2B Branding; Social Networking Sites (SNS); C2C interactions in B2B brand communities.	Social exchange theory, uses and gratifications approach and value-in-the-experience	Research paper (qualitative)	Structural equation modeling (SEM)	B2B	M	IT-sector	Various	2013	Brand trust has a positive impact on brand community trust. Brand community trust leads to an increase in the quality of C2C interactions in B2B brand communities. The quality of C2C interactions in B2B brand communities is proved to hold a positive impact on functional, experiential, and symbolic brand community benefits, which, in turn, foster brand loyalty.
Jussila J.J., Kärkkäinen H., Aramo-Immonen H.	2014	Opportunities & challenges in B2B social media marketing; Differences between B2B and B2C.	-	Research paper (quantitative)	Questionnaire to experts (N = 143).	B2B	Both	Technology industries	Finland	May 2011	The paper suggests that there is a significant gap between the perceived potential of SM (social networking site, discussion forums, wikis) and SM use with customer and partners in B2B Finnish companies operating in the technology industry sector. The most common reasons for not using SM are other projects been more important for managers and the companies not being able to measure or assess the benefits for business.
Holliman, G., Rowley, J.	2014	B2B digital content marketing	Relational marketing	Research paper (quantitative)	Interviews	B2B	Both	Various	USA; UK; France	Undiscl.	The article points out the role of digital content marketing (DCM) in communication strategy, thereby contextualising the findings from this study within a broader exploration of the role of digital content in marketing and relational exchanges. Moreover it stresses the importance of finding a right balance between paid DCM, unpaid DCM and social DCM for effective communication.



Table 1. Social media marketing in B2B services: a literature review (continued)

Authors	Year	Main topics	Theoretical perspective	Paper Type	Method	B2B vs. B2C	Serv. vs. Manuf.	Industry/sector	Geograph. Coverage	Temporal coverage	Main findings
Swani K., Brown B.P., Milne G.R.	2014	Customer experience in B2B.	Communication and WOM theories; Organization buying literature	Research paper (quantitative)	Longitudinal content analysis; Regression models; Sample of tweets (N = 7,000).	B2B vs. B2C	Both	Various	USA	Undiscl.	B2B marketers are found to focus on promoting their corporate brands rather than their product brands in their tweets. Companies with reputable brands can leverage their brand image through SM, because customers who prefer to be associated with reputable brands are likely to engage with them, by spreading positive WOM. In this perspective, emotional appeals are more common than functional appeals in B2B tweets. Emotional cues are important for B2B marketing too and may be effective in SM communications. Hard sell tweets are demonstrated to be infrequent. The SM platform is not well suited to serving as a selling tool; it is more applicable for building customer relationships.
Leeftang P.S.H., Verhoef P.C., Dahlström P., Freundt T.	2014	Digital marketing organization issue.	None	Research paper (quantitative)	Questionnaire to marketing executives (N = 777)	Both	Both	Professional services; Financial services; High-tech & TLC; Manufacturing.	Undiscl.	Oct. 2011	The findings demonstrate that prominent challenges for digital marketers are: i) the ability to generate and leverage deep customer insights; ii) managing brand health and reputation in a marketing environment where social media plays an important role; iii) assessing the effectiveness of digital marketing.
Keinänen, H., Kuivalainen, O.	2015	Antecedents of B2B social media use.	Theory of planned behavior; TAM; Task-Technology Fit Model	Research paper (quantitative)	Online questionnaire to customers (N = 82); Partial least squares (PLS) path modeling.	B2B	S	Information technology service company	Scandinavia; Russia; Poland	Spring 2011	The paper investigates the influence of corporate culture, colleagues' support and personal and psychological factors on customer behavior toward social media business use. Private SM usage has the most significant relationship with SM business use. Colleagues at work also support B2B SM use and personal characteristics are found as antecedents of SM usage in B2B contexts.
Siamagka N.-T., Christodoulides G., Michaelidou N., Valvi A.	2015	Determinants of social media adoption.	TAM; Theory of Reasoned Action	Research paper (quantitative)	Structural equation modeling (SEM); Mailed questionnaire to senior marketing executive (N = 104).	B2B	Both	Aerospace; Healthcare; others.	UK	Undiscl.	Perceived usefulness of SM within B2B organizational context is determined by image, perceived ease of use and perceived barriers. In addition, the adoption of social media is found to be significantly affected by organizational innovativeness and perceived usefulness.
Huotari L., Ulkuniemi P., Saraniemi S., Mälaskä M.	2015	Content marketing; User-generated content (UGC); Personal relationships & interactions.	-	Research paper (qualitative)	Semistructured interviews to experts (N = 4); Abductive reasoning.	B2B	Both	Wholesale vendor of agricultural products; LED lights & related software; Softwarehouse; etc.	Various	Undiscl.	B2B companies can influence content creation in SM directly by adding new content, participating in discussions and removing content through corporate user accounts. Moreover, they can use SM tools for controlling employee and their social media behavior or indirectly by training employees to create desired content and performing marketing activities that influence other users to create content that is favorable for the company.
Karjaluoto H., Mustonen N., Ulkuniemi P.	2015	Industrial marketing communication tools; Digital channels; Custom relationship communications.	Digital marketing communication, rooted in Interactive marketing and one to one marketing	Research paper (qualitative)	Multiple case study conducted among six industrial firms	B2B	Both	Companies operating internationally as providers of high tech solutions	Undiscl.	Undiscl.	Although Digital Marketing Communication is one of the most important industrial marketing communication tools, firms have not yet used it to its full potential. Firms use DMC to enhance customer relationship communications, support sales and create awareness; conversely, firms have not yet employed social media tools as a part of DMC as widely as traditional digital tools.
Lipäinen H.S.M., Karjaluoto H.	2015	B2B branding; Digital media.	Digital Branding	Research paper (qualitative)	Single case study: components supplier and service provider in the energy sector	B2B	Both	Energy	Finland	November 2011 - February 2012	The study describes the overall branding logic of an international industrial new company and responds to calls for empirical research on how to build a B2B brand in the digital age and how digital media can be used for branding. Branding in the digital age requires strong internal communication and consistent external communication, but also positioning of the brand in topical conversation.
Mehmet M.I., Clarke R.J.	2016	B2B social media marketing communications.	Social Semiotic Multimodal framework	Research paper (qualitative)	Single case study: Australian Fairtrade Fortnight 2012 campaign (scrutinizing marketing conversations).	B2B	S	Fair trade	Australia	2012	By mapping and analyzing conversation between Fairtrade Australia and its B2B stakeholders through SM (Facebook and Twitter), the paper aims at providing a comprehensive understanding of how B2B online marketing posts create virtual conversation and what kind of meaning these communication events construct and convey. B2B social media communication provides opportunities for co-created material, leveraging relationships for mutual benefits and creating and fostering an online community.
Rooderkerk R.P., Pauwels K.H.	2016	Posts & reactions.	Theory of conversation	Research paper (quantitative)	Collection of threads (post and comments); Negative-Binomial analysis; Count data models.	B2B	S	Health care	Various	Oct. 2009 - Jun. 2010	The study addresses the implications of new media platforms for marketing communications, in particular how firms can best seed customer to customer interactions. Research results may enable firms hosting online discussion forums to start more promising discussions and thus increase the appeal of the forum.
Leek S., Canning L., Houghton D.	2016	Social media & new market channels; Twitter and followers' responses to tweet messages.	Task Media Fit Model; Media Richness Theory	Research paper (quantitative)	Non-participant observation; Quantitative content analysis; Twitter accounts (N = 4); Tweets' content and function (N = 838).	B2B	S	Engineering & consulting (healthcare)	Various	Nov. 2014 - Jan. 2015	The paper scrutinizes business marketer use of Twitter and followers' responses to messages tweeted. Results show that Twitter is used for 3 broad functions: information sharing, problem solving and PR. Business marketers use different embedded media according to the function of a tweet message. Follower responses to those message do not vary with the task performed by the tweet, whereas responses differ with the type of embedded link.

Table 1. Social media marketing in B2B services: a literature review (continued)

Authors	Year	Main topics	Theoretical perspective	Paper Type	Method	B2B vs. B2C	Serv. vs. Manuf.	Industry/sector	Geograph. Coverage	Temporal coverage	Main findings
Jarvinen J., Taiminen H.	2016	B2B customer purchasing decisions; Digital content.	Content marketing theories	Research paper (qualitative)	Single case study; Semi-structured interviews.	B2B	M	Industrial goods and services	Finland	Undiscl.	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.
Agnihotri R., Dingus R., Hu M.Y., Krush M.T.	2016	Channel multiplicity.	Information communication in buyer-seller processes	Research paper (quantitative)	Structural equation modeling (SEM).	B2B	Both	Various	Undiscl.	2012 - 2013	SM use by salespeople influences customers satisfaction. Data supports the positive relationships between responsiveness and customer satisfaction, suggesting that customers appreciate timely responses from salespeople.
Guesalaga R.	2016	Use of social media in sales.	Interactional psychology theory; Task-technology fit theory	Research paper (quantitative)	Multiple regression analysis; Mailed questionnaire to sales executives (N = 220).	B2B	Both	Undiscl.	USA	Undiscl.	Both organizational competence and commitment with social media as well as individual commitment are key determinants of social media usage in sales.
Wang W.Y.C., Paulen D.J., Zhang T.	2016	Social media App; Individual communication	Media Synchronicity Theory (MST)	Research paper (qualitative)	Face-to-face interviews with marketers (N = 5)	B2B	Both	Various	East Asia	Undiscl.	The findings reveal a missing SMA capability, that of information security and control, which is added to the proposed model and which may be an important addition to MST. This study calls for more research to verify this finding.
Lacka E., Chong A.	2016	Social media sites' adoption; Technology acceptance model.	TAM; Nielsen's model of Attributes of System Acceptability	Research paper (quantitative)	Online survey to bloggers (N = 181); 7-point Likert scale questions.	B2B	Both	Various	China	Undiscl.	Marketers' intentions to use SM sites for B2B marketing affect the adoption and use of those sites. Further, it reveals that the intention to use is influenced by users' perceptions of those sites usefulness. Third, the study demonstrate that perceived usefulness is affected by perceived utility and perceived usability.
Bernand M.	2016	B2B social media tools.	-	Conceptual paper	Theory building with anecdotal evidence	B2B vs. B2C	Both	Various	Uk; Ireland	2011 - 2015	The paper brings insights to the challenges facing CMO in the use of social media. The manuscript provides useful suggestions concerning the link between SM and sustainability and sheds lights on how SM marketing can support managers in informing strategic decisions.
Ananda A.S., Hernández-García A., Lamberti L.	2016	Transactional and relationship marketing.	Marketing organization theory	Conceptual paper	Systematic literature review.	Both	Both	Undiscl.	Undiscl.	2009 - 2015	The study offers valuable theoretical insight on SM marketing actions and the deployment of SM marketing strategies in companies. The investigation also provides hints about how to maximize the benefits from SM marketing for customer-oriented, market-driven organizations.
Brink T.	2017	Customer Engagement; Co-creation.	Business model literature	Research paper (qualitative)	In-depth case study.	B2B	M	Plastic-producer	Denmark	Oct. 2013 - Oct. 2014	Open collaborative business model innovation is needed to apply SM in local business processes. Central and distributed leadership must be integrated to create ownership and responsibility across the SME organization, beyond to customers and partners.
Felix R., Rauschnabel P.A., Hinsch C.	2017	Research priorities for the science of services.	-	Conceptual paper	Theory building	Both	Both	Undiscl.	Undiscl.	Undiscl.	SM marketing scope represents a range from defenders to explorers. In addition, SM marketing culture is suggested to include the poles of conservatism and modernism whereas social media marketing structures are demonstrated to fall between hierarchies and networks.
Swani K., Milne G.R., Brown B., Assaf A.G., Donthu N.	2017	Popularity of brand posts.	Traditional communication model; WOM psychological motivation theory	Research paper (quantitative)	Logistic regression using Bayesian analysis; Bivariate poisson regression results; B2B messages (N = 326) and B2C messages (N 1,141)	B2B vs. B2C	Both	Various	USA	Undiscl.	B2B buyers are more likely to be motivated to like content containing corporate brand names. B2B marketers might benefit from directing functional appeals to prospects who are looking for information on new offerings (e.g., new task purchase situations) and emotional appeals to customers who want to build on preexisting customer relationships. B2B buyers have turned to SM as a source of information on brands and offerings.
Alalwan A.A., Rana N.P., Dwivedi Y.K., Algharabat R.	2017	Web 2.0 technology & social media platforms; Advertising through social media; Interactions.	-	Literature review	Concept-driven systematic review approach.	Both	Both	Various	Undiscl.	Undiscl.	The researchers provide an overview of the main themes and trends covered by the relevant literature such as the role of SM on advertising, the electronic word of mouth, customers' relationship management, and firms' brands and performance. In their review, the Authors investigate the most common research approaches adopted to examine the related issues of SM marketing.

Source: Authors' elaboration

## 2.2. Benefits of SM adoption

In order to address RO.2 we further elaborated the outcomes of the literature review, by scrutinizing and categorizing potential benefits, which originate from the adoption of SM tools by B2B service firms operating in conservative industries.

In this vein, previous studies on SM marketing highlighted the wide potential for benefits deriving from SM adoption by firms, focusing in particular on B2C markets, where the new communication tools have enabled new forms of relationships between firms and their customers, revolutionizing the role of clients in marketing processes (Prahalad and Ramaswamy, 2004).

Blogs, social networking sites, user-generated content sites and countless communities across the web may be used by firms for attaining a fine tuning with their customers while, at the same time, they seem to have increased the shift of market power from companies to customers (Pires et al., 2006; Cucco and Dalli, 2008; Poggiani and Pratesi, 2014). On the web, greater information about the market is complemented by larger choice alternatives, the ability to exchange information and opinions with peers, in order to rapidly change one's own perceptions and behavior, define brands in a creative manner, and customize products. These trends may defeat the ability of firms to control and manage the traditional marketing process (Wathieu et al., 2002).

Social Media may enable firms to stimulate perceptions, attitudes and behavior through the accumulation of rational, emotional and social contents (Graffigna and Gambetti, 2011). In some cases, they may even become platforms where traditional branding practices (once fully controlled by the firm) are replaced by a co-creation approach, through the manipulation of the signs and symbols that define the brand's role in customers' actual use and real life (Cova and Pace, 2006; Lush and Vargo, 2006; Prahalad and Ramaswamy, 2004b).

Less attention, up to now, has been given to SM in B2B contexts (Michaelidou et al., 2014; Jussila et al., 2014), even if they may guarantee substantial benefits to firms adopting them in marketing processes.

The lower diffusion of these tools between B2B firms may originate from some specificities of their marketing processes. First, in B2B contexts it is a conventional wisdom that branding is not as relevant as in B2C markets: many managers are indeed convinced that it is a phenomenon confined only to consumer products and markets (Kotler and Pfoertsch, 2007). Their justification often relies on the fact that they are in a commodity business or specialty market and that customers naturally know a great deal about their products as well as their competitors' products; moreover, organizational buyers tend to perceive higher levels of performance and economic risk and as a consequence they are more involved in the purchasing decision. To mitigate risk perceptions, both buyers and sellers strive to establish long-term, collaborative relationships, unlike typical end consumers (Homburg, Klarmann, and Schmitt, 2010; Zablah, Brown and Donthu, 2010). In addition, B2B offerings tend to be more technical and utilitarian. Therefore, B2B buyers use a more formal and generally longer group buying process (Swani et al., 2017).

One of the most important outcome of these specificities is that B2B marketers tend to promote their corporate brands more than their individual product brands (Mudambi, 2002) and communicate to their audience using a rational tone and highlighting functional characteristics of the offer (Kotler and Pfoertsch, 2007). In addition, B2B selling practices are more based on information dissemination practices than on pull strategies (Swani et al., 2014).

Furthermore, in B2B marketing personal relationships and interactions between sales representatives and customers play a fundamental role not only in selling processes but also in post-selling activities, being at "*the heart of effective customer relationship management*" (Ford et al., 1998; Huotari et al., 2015).

Social media tools are indeed becoming an interesting component of B2B marketing because of the roles of personal relationships and interactions in these markets. Not only marketing communications and branding have emerged as important areas of management in B2B marketing (Mäläskä et al., 2011), but it has also become more common for professionals to share content within brand communities (Huotari et al., 2015). In addition, social media application is beneficial -

especially for small and medium sized enterprises – in order to overcome resource limitations and create business opportunities through collaboration. Notwithstanding, their diffusion is evolving relatively slowly (Brink, 2017).

In order to urge and promote the usage and diffusion of SM tools among B2B service companies, especially those that operate in conservative businesses, we develop an overarching conceptual model that summarizes all the potential benefits of SM marketing tools, grounding on a meta-analysis of prior contributions focused on this issue (Table 2).

*Table 2. Benefits of social media marketing tools in B2B services*

Category	B2B peculiarities	Services peculiarities	Benefit	Literature
<i>Customer_Business Intelligence</i>	Thanks to strong relationships with customers, in B2B and service markets firms may obtain relevant information about emerging needs and competitors' offering directly from customers.		Obtain marketplace insights and discover needs	Negrusa et al., 2014; Siamagka et al., 2015; Guesalaga, 2016; Bernard, 2016.
			Receive (real-time) feedback	Jussila et al. 2011; Negrusa et al., 2014; Swani et al., 2014; Siamagka et al., 2015.
<i>Customer_NPD</i>	Products are, generally speaking, more complex and the development of new products takes significantly more time (than in B2C contexts). Furthermore, customers are often a relevant source of new ideas and they tend to cooperate during the development process in a direct and intense manner.		Develop products and services	Jussila et al. 2011; Siamagka et al., 2015.
			Facilitate co-creation	Jussila et al. 2011; Leeflang et al., 2014; Leek et al., 2015.
<i>Customer_Branding</i>	B2B marketers tend to promote their corporate brands more than their individual product brands.	Brand meaning is co-created through interactions between customer and supplier and through interactions between customers	Increase brand awareness	Michaelidou et al., 2011; Swani et al., 2014; Siamagka et al., 2015; Guesalaga, 2016; Swani et al., 2017.
			Enhance brand value	Siamagka et al., 2015.
			Engage customers	Guesalaga, 2016.
			Increase traffic/subscribers	Negrusa et al., 2014.
			Enhance brand engagement, brand prestige and brand reputation	Leeflang et al., 2014; Leek et al., 2015; Swani et al., 2017.
			Increase brand loyalty	Bruhn et al., 2014
			Attract new customers	Michaelidou et al., 2011; Royle and Laing, 2014; Leek et al., 2015; Guesalaga, 2016; Swani et al., 2017.
<i>Customer_Selling</i>	The sales cycle is often long, complex and multifaceted. Moreover, it usually involves many participants. The availability of up-to-date, rich information to all people involved in the various stages of the buying process is valued by B2B customers.		Improve sales	Siamagka et al., 2015; Swani et al., 2017.
			Improve customer service and product trials	Jussila et al. 2011.
			Promotion and distribution of products/services	Negrusa et al., 2014.
			Generate qualified leads	Swani et al., 2014; Guesalaga, 2016; Swani et al., 2017.
			Create new demand	Bernard, 2016.
			Enable different stages in the sales process	Leek et al., 2015.
			Sustain customer loyalty	Jussila et al. 2011; Leeflang et al., 2014; Guesalaga, 2016; Swani et al., 2017.
<i>Customer_CRM</i>	B2B and service companies often develop long-term relationships with their customers and are increasingly engaged in the co-creation of mutual value.		Increase customer satisfaction (responsiv., customer care, etc.)	Jussila et al. 2011; Siamagka et al., 2015; Agnihotri et al., 2016.
			Manage relationships with customers	Swani et al., 2014; Guesalaga, 2016.
			Provide post-sale service	Leek et al., 2015; Guesalaga, 2016.
			Create customer trust	Leeflang et al., 2014; Negrusa et al., 2014.
			Generate positive customer WoM	Siamagka et al., 2015.
<i>Employees</i>	In service industry sectors, employees are a critical driver of service quality and customers' satisfaction.		Support recruitment process	Leeflang et al., 2014; Bernard, 2016.
			Establish eminence for individuals	Bernard, 2016.
			Support internal knowledge management	Bernard, 2016.
			Generate corporate WoM	Leeflang et al., 2014.
			Overcoming resource limitations	Brink, 2017.
<i>Supply chain &amp; Business community</i>	B2B companies and service suppliers offer promises and marshal resources together for customers: the ability to organize complex networks of partners co-creating value is of paramount importance for firm' competitive advantage.		Interact with suppliers and cultivate relationships	Michaelidou et al., 2011; Swani et al., 2014; Siamagka et al., 2015; Swani et al., 2017.
			Create new business partnerships	Bruhn et al., 2014; Siamagka et al., 2015; Bernard, 2016; Swani et al., 2017.
			Generate exposure for business improved search ratings	Negrusa et al., 2014.
			Create discussion, debate, etc.	Leeflang et al., 2014; Negrusa et al., 2014.
			Enable influencing online conversation	Huotari et al., 2015; Bernard, 2016.
			Create educational platform	Leek et al., 2015.

Source: Authors' elaboration

For this purpose, we grouped benefits according to the main target of each SMM activity (i.e. customers, employees as well as supply chain and business community). Then we disarticulated the group of benefits related to customers, along with each phase of the marketing process. Findings, indeed, suggest that SM can affect the entire marketing process (Guesalaga, 2016). Understanding the customer (e.g., participating in LinkedIn groups); approaching the customer (e.g., posting news in Facebook or Twitter); discovering needs (e.g., generating blogs to ignite debate); promoting the

value proposition (e.g., through a Youtube video); closing a sale (e.g., driving customers from Facebook to a sales channel); providing post-sale service (e.g., following customers on Twitter).

As regards post-selling activities oriented to customer loyalty, Trainor (2012) suggests that the emphasis of social Customer Relationship Management (CRM) technologies must be placed on having many-to-many relationships between customers and organizations, establishing interactive dialogs and information sharing, and promoting value co-creation processes with customers. The author suggests that by doing this, and mediated by co-created customer experience companies should attain customer-based profit performance, customer-based relational performance and new product performance (Guesalaga, 2016).

### 3. Data and Method

#### 3.1. *Empirical background*

This paper looks at two relevant B2B service sectors (tanker shipping and ocean carriers), which show some of the typical characteristics of commodity-based service industries (Johnston and Clark, 2012), even if some differences between the two industries emerge. Commonly, the sample industries are perceived as rather conservative, because firms are traditionally slow in adopting innovation. Indeed, over the last decade, the growing multiple pressure globally exerted by (supra-) national institutions and various groups of interests is injecting some “green” consciousness in these sectors, thus triggering initiatives oriented to innovation and to a stronger attention to stakeholders.

Half of the sample is composed by shipping companies carrying energy raw materials (e.g., oil, derivatives, etc.) on a global scale. These firms have to take care of the logistics of homogeneous goods, which need to be stored and transported on long-range distances. In this business, the number of yearly transactions with customers is relatively limited, but the associated financial magnitude and commercial risk often become rather high. This B2B industry is dominated by a handful of big players, dealing with a relatively small number of potential customers. Hence, the buying process and the contents of business transactions are quite specific and closely affected by customer needs and bargaining games.

Typically, the requested service quality is low, making difficult to the logistics provider to undertake any form of differentiation. Next to this, firms have to perform heavy investments in physical assets (e.g., vessels, equipment, etc.) characterized by modest technological levels. The commoditization of services and related physical assets drive to a business model that is essentially price taker.

Corporate organization is rather simple, with a limited number of employees (in comparison with the amount of assets), with a “flat” and spatially concentrated organizational structure, even for global firms. The executive power is in the hands of few top managers or directly exerted by the entrepreneur, in family-owned enterprises.

The other firms of the sample belong to the liner shipping industry in maritime transportation chains. Their core business is to manage the supply chains of manufactured goods across distant geographical locations. Ocean carriers have to deploy their production capacity in advance, taking big financial and commercial risks. One of their main challenges is to go beyond the break-even-point in the exploitation of the capacity in each production plant (i.e. vessels), by attracting huge demand volumes on a regular basis. In this industry, demand is expressed by thousands of atomized customers, each one expressing specific expectations as well as holding a different bargaining power. Hence, shipping lines are forced to commercially deal with a broad array of B2B clients from various places asking for high quality services in terms of service reliability and customer care.

These firms have to invest a large amount of money in physical assets highly standardized. Revenues come from even millions of transactions with customers holding a very diverse bargaining power. Hence, shipping lines build up large cross-border organizations with thousands

of employees for addressing market needs and establishing ad-hoc relationships with the main customers. Despite the adoption of technological innovations and the required service quality are higher than in the transport of energy commodities, cost leadership is dominant also in this business. Nonetheless, some interesting differentiation areas emerge thanks to some customer segmentation opportunities and the growing resort to CSR activities.

### 3.2. Sample

Table 3 reports some descriptive statistics on the sample (60) companies, providing data related to firm size, country of origin and listing status.

*Table 3. Sample companies: descriptive statistics*

<i>Business</i>			<i>Companies' country of origin (geographic area)</i>		
	<i>No. of company</i>	<i>%</i>			
Tanker shipping companies	30	50.0%	Asia	30	50.0%
Ocean carriers	30	50.0%	Europe	18	30.0%
			Middle East	9	15.0%
			North America	3	5.0%
<i>Size (measured as fleet's capacity)</i>					
	<i>Average mln. DWT</i>				
Tanker shipping companies	7.57				
	<i>No. of company</i>	<i>%</i>	<i>Listing status</i>		
> 10.00 mln. DWT	9	30.0%	Not listed	27	45.0%
5 mln. mln DTW < x < 9.99 mln DTW	12	40.0%	Listed	33	55.0%
< 4.99 mln. DWT	9	30.0%	New York SE	7	11.7%
<i>Average TEUs</i>			Tokyo SE	5	8.3%
Ocean carriers	624,154		Hong Kong SE	4	6.7%
	<i>No. of company</i>	<i>%</i>	Copenhagen SE	3	5.0%
> 1.000.000 TEUs	6	20.0%	London SE	3	5.0%
500.000 TEUs < x < 999.999 TEUs	5	16.7%	Shanghai SE/ Hong Kong SE	3	5.0%
100.000 TEUs < x < 499.999 TEUs	8	26.7%	Taiwan SE	3	5.0%
< 100.000 TEUs	11	36.7%	Others	5	8.3%

Source: Authors' elaboration

The sample is equally distributed between the two selected type of firms, i.e. tanker shipping companies and ocean carriers. Technical data related to the capacity of each fleet have been used to assess the firm size of the sample companies. In particular, the size of tanker shipping companies is measured in mln. DWT (i.e., deadweight tonnage), whereas the fleet of ocean carriers is expressed in TEUs (twenty-foot equivalent units). The average size of firms is 7.57 mln. DWT and 624,154 TEUs for tanker shipping companies and ocean carriers, respectively. In addition, we normalize the firm size ( $0 \leq \text{size} \leq 1$ ) in order to overcome the different unit of measure applied in each sub-sample (DWT vs. TEUs). Firms with a size below 0.34 are considered “small”; firms with a size between 0.34 and 0.66 are labelled as “medium”; whereas firms above 0.66 are considered “big”. The overall outcomes show that 13 firms are “big”, 9 are “medium” and the remaining 39 are “small”. Indeed, firm size in the two sub-samples is distributed quite differently. In the energy transport sector we find 10 big firms whereas only three ocean carriers achieve this status. This evidence confirms that the liner shipping industry is much more concentrated than the other one.

When it comes to the country of origin of the sample companies, Asia emerges as the dominant geographic area (50%); Europe (18) and Middle East (9) are well represented, too. Conversely, the presence of North American firms is rather limited (3). The spatial dimensions related to the sample are consistent with the main trends experienced by the two industries; nevertheless, this profile is expected to influence research outcomes, being cultural dimensions significant predictors of the attitude towards the adoption of SM marketing tools.

We also investigate the listing status of the sample companies, as this is expected to affect their disposition towards external communication and, specifically, institutional communication (Williams and Pei, 1999). In this vein, 55% of the sample companies are listed on an International

Stock Exchange. Preferred capital markets are New York SE (7 companies); Tokyo SE (5) and Hong Kong (4).

### *3.3. Data gathering*

To investigate the SM marketing strategies and tactics pursued by the sample B2B service companies, we scrutinize their approach toward the most common social networking sites (Negrusa et al., 2014), i.e. applications that enable users to connect, namely Facebook, Twitter and LinkedIn (Michaelidou et al., 2011; Jussila et al., 2014; Siamagka et al., 2015; Bernard, 2016; Guesalaga, 2016).

Facebook is the largest and most popular social media site, and it grounds on the widely used one-click social plugin, “Like” (Swani et al., 2014). This social networking site has over one billion registered users with more than 60% of them connecting to it every day ([www.facebook.com](http://www.facebook.com)). The Facebook Likes plugin is the most diffused one-click social plugin in the social media space: nowadays, in fact, almost every web site has integrated “Facebook” functionalities in their interface (Swani et al., 2014). In this vein, B2B service companies may benefit when users like the content these companies share, because by this way customer-customer and firm-customer interactions are encouraged. In addition, the dynamics of this social networking site may increase the popularity of companies’ posts, allow users to provide their personal endorsements (Godes and Mayzlin, 2009), thus supporting brand engagement. Companies may create a single corporate Facebook account or multiple Facebook accounts in order to interact with their customers (Jansen et al., 2009). When a Facebook user becomes a fan of a corporate account (by liking the relative page), all new wall posts of the company start to stream on the user’s news feed (Swani et al., 2014). Each Facebook fan can engage with company’s wall posts or messages, by liking, commenting or sharing them (Swani et al., 2017). By this way, Facebook fans may affect WoM (De Vries et al., 2012).

Given that, for each sample company we deeply investigate all relevant information related to their usage of Facebook. In particular, we gathered data concerning: the adoption of the tool, the date of the initial registration; the number of followers, the number of likes to the corporate page, the total amount of uploaded photos and videos, as well as the number of posts created in the last year. In order to assess how effectively and frequently these companies rely on Facebook for their communication activities, we also gathered several data concerning the last month available (01.06.2017 – 30.06.2017), by scrutinizing the total number of posts, likes, shares and comments.

Twitter, i.e. a successful social networking site launched in 2007, is a free service that allows people to communicate in real time with groups of friends using any one of a number of devices, including cell phones. Twitter is basically a form of group instant messaging, which permits to generate “real-time” (positive or negative) WOM (Huotari et al., 2015; Swani et al., 2015). Thanks to Twitter platform, registered users can send tweets, which may generate instant feedback. Accordingly for each sample company, we collect several data concerning the use of this platform, including: the number of followers and following users, the year of initial subscription, the total amount of tweets posted since the initial registration and in the last month, the total number of likes obtained by twitter fun, and the number of shares, photos and videos.

LinkedIn, finally, is a social network for businesspeople, which enjoyed a rush of popularity in late 2007. Members can search other contact and connect to known business contacts as well as use those people’s connections to find other members and increase their network (Keinänen and Kuivalainen, 2015). For the aim of the study, for each sample B2B service company we investigate the adoption/non adoption of the tool, the total number of followers, as well as the total amount of company’s employees who have their own LinkedIn page.



#### 4. Preliminary findings

In this Section we provide some preliminary results of our empirical investigation about the usage of SM and the associated digital activities by firms operating in conservative B2B service businesses (for a detailed review of the findings, please see Annex II and Annex III).

Our investigation focuses on three very common digital platforms, i.e. Facebook (Table 4), Twitter and LinkedIn (Table 5). The outcomes show that LinkedIn is the most used tool, with a 93.3% of adoption rate, followed by Facebook (80%). Twitter is, indeed, utilized by a much smaller group of firms (only 33.3%). By taking into account the other analytical dimensions, we realize that in terms of adoption rate the core business does not affect much the decision of the firm to join a social media tool or not. On the contrary, firm size seems to influence the willingness of the firm to use Twitter. Typically, big companies unveil a higher attitude to subscribe this digital platform. As regards the country of origin, it does not appear to be a strong influential factor of the adoption rate. Nonetheless, Asian firms clearly show a lower attitude to join social media tools such as Facebook (70%) and LinkedIn (86.7%).

*Table 4. The usage of Facebook in the sample B2B service companies*

	Yes	%	No	%	Followers (No.)	Likes to corporate page	Uploaded photos	Uploaded videos	Posts (last year)	Posts (last month)	Likes (last month)	Shares (last month)	Comments (last month)	Year of initial subscription	Post per day (last year)	Post per day (last month)
Overall sample	48	80,0%	12	20,0%	35.200,8	34.838,7	165,7	7,1	29,9	3,9	2.763,2	168,9	27,3	2012,9	0,08	0,13
<i>Business</i>																
Ocean carriers	26	86,7%	4	13,3%	55.820,6	55.165,5	197,5	7,0	34,5	4,2	2.029,6	249,8	35,2	2013,2	0,09	0,14
Tanker ship. comp.	22	73,3%	8	26,7%	9.671,6	9.672,1	126,4	7,2	24,2	3,5	3.671,5	68,8	17,7	2012,5	0,07	0,12
<i>Size</i>																
Large	10	76,9%	3	23,1%	138.101,1	136.389,1	442,2	20,8	72,6	12,2	10.617,5	581,5	101,7	2012,0	0,20	0,41
Medium	8	88,9%	1	11,1%	8.732,6	8.775,0	85,8	2,8	23,8	2,5	2.520,1	240,5	28,0	2013,5	0,07	0,08
Small	30	78,9%	8	21,1%	7.019,5	7.011,2	92,5	3,5	16,9	1,4	121,9	6,9	1,5	2013,0	0,05	0,05
<i>Geographic area</i>																
Asia	21	70,0%	9	30,0%	6.039,0	6.033,9	121,1	3,9	8,6	0,7	25,0	2,0	0,5	2012,8	0,02	0,02
Europe	15	83,3%	3	16,7%	92.302,5	91.174,4	218,5	8,5	50,5	6,0	3.549,1	434,0	59,4	2013,1	0,14	0,20
Middle East	9	100,0%	0	0,0%	5.382,9	5.368,8	116,4	6,3	39,4	6,4	859,2	23,1	7,3	2012,3	0,11	0,21
North America	3	100,0%	0	0,0%	47.317,5	47.385,5	460,5	32,5	57,5	11,0	34.187,5	589,0	159,0	2014,5	0,16	0,37
<i>Listing status</i>																
Not listed	21	77,8%	6	22,2%	11.647,2	11.605,0	121,2	4,4	34,4	4,6	1.261,8	120,4	20,2	2012,7	0,09	0,15
Listed	27	81,8%	6	18,2%	54.224,9	53.604,3	201,7	9,2	26,3	3,3	3.975,9	208,1	33,1	2013,0	0,07	0,11

Source: Authors' elaboration

By scrutinising the broadness of the relational network, Facebook emerges as the tool where the sample firms are able to activate the highest number of followers (over 35,000, on average). LinkedIn accounts show, on average, almost 17,000 followers, whereas on Twitter the activated network is slightly smaller (10,500 followers). As regards the network, its wideness is highly influenced by external dimensions such as the core business, the firm size, the geographic area of origin, etc. In particular, bigger firms tend to hold much wider social networks perhaps because they need to interact with a bigger range of stakeholders. Ocean carriers, that have to deal with a highly fragmented and geographically outstretched plethora of customers and stakeholders present a superior number of followers than tanker shipping companies (5.8x on Facebook, 2.5x on Twitter and 3.4x on LinkedIn).

This difference is closely associated to the diverse business model adopted in the two industries. Firm size also discriminates the capacity of firms to build relational networks. Bigger firms disclose a higher capacity to create large networks than small firms do (19.7x on Facebook, 34.8x on Twitter and 5.3x on LinkedIn). Looking at geographical dimensions, Asian firms confirm to be far less active on social media respect to European and North American firms. This is particularly evident on Facebook, where European and North American enterprises have 15x and 7.9x of followers, respectively. Unsurprisingly, listed firms build on average broader relational networks than unlisted companies (4.7x on Facebook).



Table 5. The usage of Twitter and LinkedIn in sample B2B service companies

	Twitter														LinkedIn					
	Yes	%	No	%	Followers (No.)	Following (No.)	Tweets (total)	Tweet (last month)	Likes	Shares	Photos and videos	Year of initial subscrip.	Average tweet per day (last year)	Average tweet per day (last month)	Yes	%	No	%	Followers	Employees
Overall sample	20	33.3%	40	66.7%	10,543.0	115.2	918.3	14.6	325.9	203.5	242.2	2012.7	2.65	0.44	56	93.3%	4	6.7%	16,833.5	1,335.5
<i>Business</i>																				
Ocean carriers	11	36.7%	19	63.3%	14,400.7	141.3	1,159.8	13.0	423.4	257.0	177.4	2013.4	3.50	0.43	26	86.7%	4	13.3%	26,729.5	2,164.3
Tanker ship. comp.	9	30.0%	21	70.0%	5,828.0	79.3	623.1	17.0	200.6	119.4	384.8	2011.9	1.71	0.44	30	100.0%	0	0.0%	7,961.2	592.4
<i>Size</i>																				
Large	7	53.8%	6	46.2%	27,718.7	236.1	1,602.3	25.8	575.3	543.7	664.8	2010.8	5.12	0.86	13	100.0%	0	0.0%	42,807.5	3,388.8
Medium	3	33.3%	6	66.7%	2,953.7	108.0	351.0	24.7	290.0	128.7	61.7	2011.0	0.96	0.82	9	100.0%	0	0.0%	11,372.4	830.0
Small	10	26.3%	28	73.7%	796.8	23.4	609.7	2.5	127.6	1.7	45.8	2014.3	1.67	0.07	34	89.5%	4	10.5%	8,090.6	664.5
<i>Geographic area</i>																				
Asia	9	30.0%	21	70.0%	818.7	34.3	149.9	3.1	173.0	7.9	11.0	2014.2	0.41	0.08	26	86.7%	4	13.3%	5,922.1	644.2
Europe	7	38.9%	11	61.1%	21,837.3	213.6	1,756.0	21.0	542.3	414.4	325.3	2011.2	5.61	0.70	18	100.0%	0	0.0%	33,215.7	2,590.3
Middle East	3	33.3%	6	66.7%	15,444.3	62.7	534.3	26.7	128.5	227.7	280.7	2011.7	1.46	0.89	9	100.0%	0	0.0%	10,667.7	686.7
North America	1	33.3%	2	66.7%	4,298.0	231.0	3,122.0	21.0	124.0	24.0	1,015.0	2011.0	8.55	0.70	3	100.0%	0	0.0%	38,987.5	1,949.5
<i>Listing status</i>																				
Not listed	9	33.3%	18	66.7%	7,094.4	124.8	1,010.9	17.1	173.7	110.3	187.4	2012.9	3.12	0.50	24	88.9%	3	11.1%	17,553.3	1,314.8
Listed	11	33.3%	22	66.7%	13,364.5	108.2	842.5	12.9	444.3	278.1	297.0	2012.5	2.31	0.39	32	97.0%	1	3.0%	16,276.2	1,351.5

Source: Authors' elaboration

As regards the contents of the conversations activated on SM, we may observe a quite limited use of photos and videos, motivated by the fact that informational contents maybe considered more appropriate for activating a dialogue with stakeholders in these industries.

The frequency of publication is quite low: on average, we have counted one post every two weeks on Facebook, each post having a low number of shares and comments. More intense the publication of tweets: the average tweet per day over the last year has been 2.65 (referred to the overall sample) and this practice is even more intense in ocean carriers (up to 3.50). Similarly, the activity on Twitter is more accentuate in large firms (5.12), as well as in North American (8.55) and European firms (5.61). As regards the listing status, it is interesting to observe that non-listed firms seem to be more active on this SM tool. The "richness" of conversation on Twitter is higher: on average, a larger number of videos and photos are uploaded (242.2 vs 172.8 on Facebook) and tanker shipping companies seem to be more "creative" than ocean carriers. Actually, most of the photos uploaded on Twitter accounts show some crew members and/or scenes from official meetings, thus confirming the importance of using this SM to stimulate conversations and dialogue between employees or assuring external stakeholders about the high quality of firms' human resources.

As regards instead the year of initial subscription, we may observe that the first Twitter account dates back to 2010, while the first Facebook account goes back to 2012. Maybe early adopters operating in these conservative industries have initially appreciated most the easy way of managing conversations on Twitter (very short messages, more "informational" than emotional), while in a later stage of SM diffusion the majority entered on Facebook, the most popular SM even if with a lower commitment.

By scrutinizing the behavior of the sample firms in SM activities, three major clusters emerge (see Annex II and III). A group of pioneering firms paved the way in the utilization of social media for experiencing innovative forms of communication and dialogue with stakeholders. Companies like Maersk Line, Teekay Corp., NSC of S.A. Bahri and CMA-CGM Group, not only preceded their competitors in establishing such relational platforms but also created a broad network of followers characterized by an intense digital dialogue (e.g., posts, tweets, likes, shares, etc.). The second cluster is made up by some "followers". These firms, at the very beginning of the phenomenon, were probably not fully convinced of the economic benefits of SM and therefore waited some time before introducing them in their marketing strategy, in order to observe the impact of such technology on the early-adopters. Afterwards, these enterprises decided to utilize

some SM tools, but without an underlying convincing strategy for communication and CRM activities. Most of these firms, like for instance Minerva Marine, Yang Ming Marine Transport and PIL (Pacific International Line), after an initial phase of temporary success and intense digital activity, progressively reduced their commitment in social media dialogue. It would be interesting to know if this dis-engagement on SM is accompanied by an increased focus on more traditional forms of communications.

The last group of players, instead, demonstrated to be strongly adverse to the use of SM. Some of these firms, such as SICT and Quanzhou An Line Corporation are not even registered in any social media tool, probably because of their cultural approach to communication and their traditional way of conceiving customer management. This cluster is composed by firms with a relatively narrow portfolio of clients, which can be still managed using traditional forms of selling and customer care.

Preliminary findings suggest that companies operating in conservative B2B services pursue different strategic approaches toward SMM and develop ad hoc communication tactics. Nonetheless, to be successful in managing SM tools, a high degree of commitment (including both managerial and human resources, as well as financial slack) and a clear vision concerning the role of SM within communication and marketing strategy is necessary. Isomorphic behaviors, which do not ground on a clear marketing and communication plan, trigger companies toward unsuccessful experiences.

## **5. Discussion and further research**

This study investigates the adoption and usage of SM tools by B2B service companies, which operate in conservative businesses. In particular, the paper aims at reviewing extant literature on SMM in B2B service contexts (RO.1), scrutinizing and categorizing potential benefits, which originate from the adoption of SM tools by B2B service firms operating in conservative industries (RO.2), and empirically analyzing their current use of SMM tools (RO.3).

As concerns RO.1, the in-depth literature review performed on prior studies facing SMM challenges in B2B services provides useful insights for both academics and practitioners. The findings suggest that although the rate of adoption of social media within B2B organizations is slower than in B2C contexts and academic contributions related to B2C businesses outnumber studies dedicated to B2B companies, appreciable efforts have been recently done in this perspective.

In this vein, current studies have predominantly stressed the role of SM marketing tools in supporting innovation activities and co-creation in B2B contexts, in developing supply chain relations and in fostering positive WoM from customers. Antecedents of SM usage and barriers for SM adoption constitute further valuable fields of investigation until so far, whereas conversations between firms and customers and interactions among customers are expected to award greater attention from both scholars and academics in the future.

Nonetheless, the review of prior studies unveils that extant literature on SMM in B2B services is still lacking and fragmented. Only few studies have already challenged how SM adoption in service companies may differ from SM communication strategies pursued in the manufacturing domain. Relatedly, the academic debate should greatly benefit from an in-depth investigation of the advantages related to the adoption of SMM tools in B2B services.

In addition, prior studies have predominantly scrutinized high-tech or innovative sectors, whereas conservative industries appear still under researched. This evidence raises some concerns about the generalizability of current findings with regard to those traditional B2B services, where SM capabilities are not widespread and cultural barriers toward digital innovation persist. In this perspective, an assessment of the potential benefits originating from SM marketing tools in B2B conservative service industry should provide useful insights for both academics and practitioners.

The outcomes of the literature review provide useful insights for further studies in this field, suggesting viable research patterns for future investigations. In this perspective, most contributions examine SM marketing strategies pursued by companies from Anglo-Saxon countries, and thus a number of geographic areas are still underexplored (e.g., Europe, Middle East and Asia). The academic debate, indeed, should greatly benefit from multi-regional and cross-cultural studies.

When it comes to the temporal coverage of prior empirical studies, most contributions focus on a limited timeframe: useful insights, however, may derive by future studies introducing a longitudinal perspective in their theoretical framework. This approach should indeed provide additional acumen concerning SM marketing tactics developed by B2B service companies.

Finally, almost all the empirical investigations address only a specific SM tool, therefore we suggest developing empirical researches which ground on an overarching examination on the SM integrated communication strategies from B2B companies.

Consistent with RO.2, we grouped benefits which originate from the adoption of SMM, according to the main target of each SMM activity (i.e. customer, employees as well as supply chain and business community). In addition, we disarticulated the group of benefits related to customers, along with each phase of the marketing process. Our conceptual framework suggests that SM can affect the entire marketing process of B2B service firms, even if operating in conservative industries. For example, by participating in LinkedIn groups, these companies may foster the understanding of their customer, whereas posting news in Facebook or Twitter, may enable them to activate alternative channels for approaching the customer. SM tools unveil undoubted potential also in discovering needs, presenting value, closing a sale and providing post-sale service.

The overarching conceptual model proposed, by summarizing all the potential benefits of SM marketing tools, may favor the usage and diffusion of SM tools among B2B service companies, especially those that operate in conservative businesses.

Moreover, preliminary empirical findings suggest that companies operating in conservative B2B services pursue very heterogeneous strategic approaches toward SMM. Analogously, their communication tactics tend to differ significantly one from each other. In some cases, SMM is perceived as a viable option for reaching multiple marketing objectives: nonetheless, to develop successful SMM strategies, a high degree of commitment and a clear vision concerning the role of SMM within the company is strongly recommended. Isomorphic behaviors, which do not ground on a clear marketing and communication plan, in fact, are demonstrated to trigger companies towards unsuccessful experiences with SM tools.

## **6. Limitations and conclusion**

Despite the contribution provided, this study contains some inherent limitations. First, the paper investigates only two industries and therefore results might have been partially biased by the specific characteristics of the sample firms. Future academic works are encouraged to explore other service sectors in order to validate our findings. Second, this paper gives a picture of social media behaviors of the firms operating in conservative industries, by presenting some descriptive statistics. Basically, we investigated the adoption rate of the most diffused social media tools, the broadness of the digital networks of stakeholders (number of followers), the intensity of the communication activity (number of posts, shares, , photos, videos) and the activated reactions (number of likes and shares). Although this approach enables to appreciate the attitude of firms towards social media marketing, it does not provide evidence on the contents disclosed and the main topics discussed on-line. Hence, future studies could bring empirical support by performing a content analysis on the posts and documents disclosed on social media. This would allow an in-depth analysis on the nature and scope of the activities performed on social media by the most active firms in conservative B2B services.

In a similar vein, scholars could investigate the impact of social media marketing behavior on firm performance. By adopting OLS regression techniques, future studies might evaluate to what extent the use of SM affect financial performance, selling activity, market share, etc.

The present contribution is focused on conservative industries. Thus, it would be worth to undertake a comparison with more dynamic service industries (e.g., ICT, creative industries, life science, etc.), for identifying those factors characterizing various business models that affect more intensely firms in social media utilization. In addition, we could also investigate in which business contexts social media activity does contribute more to the achievement of satisfactory business performance.

Finally, future research dealing with social media marketing in service industries is encouraged to take into account the influential role played by managerial culture and firm organization. In this regard, studies should include in the analysis managerial insights that might originate either from the country of origin of firms (i.e., “cultural clusters”; see Gupta et al., 2002) or from corporate governance settings, i.e., ownership patterns and governance mechanisms. These factors, indeed, could have a deep impact on the attitude of firms in social media communication.

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## Annex I – Sample companies

ID	Company's name	Capacity*	Capacity share (top-30)	Country of origin	Geographic Area	Age	Listed/not
<i>Tanker</i>							
T_1	NYK	12.5	5.51%	Japan	Asia	1875	Tokyo SE
T_2	Frontline	12.47	5.49%	Oslo	Europe	1985	New York SE
T_3	Maersk Tankers	12.47	5.49%	Denmark	Europe	1928	Copenhagen SE
T_4	SCF group	11.45	5.04%	Russia	Asia	1988	London SE
T_5	Teekay Corp	11.4	5.02%	Bahamas - Canada	North America	1973	New York SE
T_6	AET tanker (MISC Berhad)	11.39	5.02%	Singapore	Asia	1968	Bursa Malaysia SE
T_7	NITC (National Iranian Tanker Company)	11.39	5.02%	Iran	Middle East	2009	None
T_8	NSC of SA Bahri	11.04	4.86%	Saudi Arabia	Middle East	1978	None
T_9	MTM	10.15	4.47%	Singapore	Asia	1980	None
T_10	Dynacom Tankers	9.97	4.39%	Greece	Europe	1991	None
T_11	OSG (Overseas Shipping Group)	9	3.96%	USA - Manila	North America	1949	New York SE
T_12	China shipping development	8.51	3.75%	China	Asia	1997	Shanghai SE/ Hong Kong SE
T_13	MOL (Mitsui O.S.K. Lines)	8.22	3.62%	Japanese	Asia	1884	Tokyo SE
T_14	Ocean Tankers	7.72	3.40%	Singapore	Asia	1978	Cyprus / Athens SE
T_15	Euronav	7.59	3.34%	Belgium	Europe	1995	New York SE
T_16	Torm	6.73	2.96%	Denmark	Europe	1889	Copenhagen SE
T_17	Oman shipping	6.32	2.78%	Oman	Middle East	2003	None
T_18	Thenamaris	5.87	2.59%	Greece	Europe	1970	None
T_19	Dalian Ocean Shipping (COSCO Group)	5.82	2.56%	China	Asia	1978	Shanghai SE/ Hong Kong SE
T_20	Bw Maritime	5.52	2.43%	Hong Kong	Asia	1955	None
T_21	Minerva Marine	5.1	2.25%	Greece	Europe	1996	None
T_22	SK shipping	4.94	2.18%	South Korea	Asia	1982	None
T_23	ACM Shipping (Braemar ACM)	4.72	2.08%	Uk	Europe	1982	None
T_24	SCI	4.6	2.03%	India	Asia	1961	Bombay SE
T_25	TEN (Tsakos Energy Navigation)	4.38	1.93%	Bermuda - Greece	Europe	1993	New York SE
T_26	BP Shipping	4	1.76%	UK	Europe	1915	London SE
T_27	Tanpac (Tanker Pacific Management)	3.83	1.69%	Singapore	Asia	1989	None
T_28	Chevron*	3.52	1.55%	USA	North America	1911	New York SE
T_29	KOTC - Kuwait Oil Tanker Company S.A.K	3.31	1.46%	Kuwait	Middle East	1957	None
T_30	NAT - Nordic American Tankers	3.12	1.37%	Bermuda - Norway	Europe	1995	New York SE
<i>Ocean carriers</i>							
C_1	Maersk Line	3,358,346	17.94%	Denmark	Europe	1928	Copenhagen SE
C_2	MSC Shipping	3,056,560	16.32%	Switzerland - Italy	Europe	1970	None
C_3	CMA CGM Group	2,316,751	12.37%	France	Europe	1978	None
C_4	COSCO Shipping CO.	1,734,419	9.26%	China	Asia	1961	Shanghai SE
C_5	Hapag-Lloyd	1,529,732	8.17%	Germany	Europe	1970	Xetra SE
C_6	Evergreen Line	1,024,118	5.47%	Taiwan	Asia	1968	Taiwan SE/ London SE
C_7	OOCL (Orient Overseas Container Line)	686,484	3.67%	Hong Kong	Asia	1969	Hong Kong SE
C_8	NYK Line	585,172	3.13%	Japan	Asia	1875	Tokyo SE
C_9	Yang Ming Marine Transport	581,431	3.11%	Taiwan	Asia	1972	Taiwan SE
C_10	Hamburg Sud Group	562,764	3.01%	Germany	Europe	1871	None
C_11	MOL (Mitsui O.S.K. Lines)	518,185	2.77%	Japan	Asia	1884	Tokyo SE
C_12	PIL (Pacific International Line)	371,833	1.99%	Singapore	Asia	1967	Hong Kong SE
C_13	Hyundai M.M.	366,692	1.96%	South Korea	Asia	1976	Korea SE
C_14	K-LINE	358,498	1.91%	Japan	Asia	1919	Tokyo SE
C_15	Zim	340,976	1.82%	Israel	Middle East	1953	Tel Aviv SE
C_16	Wan Hai Lines	225,575	1.20%	Taiwan	Asia	1965	Taiwan SE
C_17	X-Press Feeders Group	143,723	0.77%	Singapore	Asia	1972	None
C_18	KMTC	119,228	0.64%	South Korea	Asia	1954	None
C_19	SITC	103,115	0.55%	China	Asia	1991	Hong Kong SE
C_20	IRISL Group (Islamic Rep. of Iran Shipping Lines)	97,671	0.52%	Iran	Middle East	1979	None
C_21	Zhonggu Logistics Corporation	94,168	0.50%	China	Asia	na	None
C_22	Arkas Line / EMES	71,331	0.38%	Turkey	Middle East	1996	None
C_23	SM Line Corporation (prior Hanjin Shipping)	68,083	0.36%	South Korea	Asia	2016	None
C_24	Sinotrans	65,947	0.35%	China	Asia	1950	Hong Kong SE
C_25	Quanzhou An Sheng Shipping	65,891	0.35%	China - Singapore	Asia	2011	None
C_26	TS Lines	61,373	0.33%	Hong Kong	Asia	2001	None
C_27	Simatech	58,495	0.31%	UAE	Middle East	1992	None
C_28	UniFeeder	55,508	0.30%	Denmark	Europe	1977	None
C_29	Emirates Shipping Lines	51,933	0.28%	UAE	Middle East	2006	None
C_30	Grimaldi Lines Cargo	50,622	0.27%	Italy	Europe	1947	None

\* Total capacity is expressed in DWT million for tanker shipping companies, whereas it is expressed in TEUs (twenty equivalent units)

Source: Authors' elaboration.

## Annex II – Descriptive statistics related to Facebook

Company's name	Facebook (1/0)	No. of corp. pages	Initial subscrip. (date)	Followers (No.)	Likes to corp. page	Uploaded photos	Uploaded videos	Posts (last year)	Posts (last month)	Likes (last month)	Shares (last month)	Comments (last month)
<i>Tanker</i>												
NYK	1	12	17.10.2013	8,889	8,887	186	32	17	0	0	0	0
Frontline	0	-	-	-	-	-	-	-	-	-	-	-
Maersk Tankers	1	3	17.11.2011	21,710	21,655	8	0	1	0	0	0	0
SCF group	0	-	-	-	-	-	-	-	-	-	-	-
Teekay Corp	1	1	17.05.2012	88,296	88,435	919	65	113	20	68,160	1,134	314
AET tanker (MISC Berhad)	1	1	28.05.2013	8,241	8,233	54	0	22	2	46	0	0
NITC (National Iranian Tanker Company)	1	1	27.03.2012	5,177	5,155	39	1	0	0	0	0	0
NSC of SA Bahri	1	1	10.12.2011	19,187	19,188	457	11	156	37	6,495	140	38
MTM	0	-	-	-	-	-	-	-	-	-	-	-
Dynacom Tankers	1	1	03.04.2012	2,331	2,329	3	0	0	0	0	0	0
OSG (Overseas Shipping Group)	1	1	24.06.2017	6,339	6,336	2	0	2	2	215	44	4
China shipping development	0	-	-	-	-	-	-	-	-	-	-	-
MOL (Mitsui O.S.K. Lines)	1	6	11.07.2011	3,057	3,045	1	0	0	0	0	0	0
Ocean Tankers	1	1	22.06.2015	1,776	1,786	427	0	10	1	5	0	0
Euronav	1	1	10.02.2011	530	526	1	0	0	0	0	0	0
Torm	1	6	02.11.2012	4,176	4,158	28	0	6	1	20	0	1
Oman shipping	1	1	02.09.2014	3,034	3,031	9	0	6	0	0	0	0
Thenamaris	1	4	06.10.2014	4,290	4,308	119	5	84	6	1,743	84	6
Dalian Ocean Shipping (COSCO Group)	1	1	20.06.2016	4,233	4,279	33	1	23	3	338	42	6
Bw Maritime	1	3	23.11.2011	5,203	5,206	6	0	0	0	0	0	0
Minerva Marine	1	1	27.10.2012	2,674	2,660	2	0	0	0	0	0	0
SK shipping	0	-	-	-	-	-	-	-	-	-	-	-
ACM Shipping (Braemar ACM)	0	-	-	-	-	-	-	-	-	-	-	-
SCI	0	-	-	-	-	-	-	-	-	-	-	-
TEN (Tsakos Energy Navigation)	0	-	-	-	-	-	-	-	-	-	-	-
BP Shipping	1	2	31.12.2011	2,087	2,106	42	0	3	0	0	0	0
Tanpac (Tanker Pacific Management)	1	2	03.01.2012	1,672	1,671	5	0	4	2	79	0	2
Chevron*	1	1	07.03.2012	1,162,379	1,132,442	921	136	160	8	3,007	457	183
KOTC - Kuwait Oil Tanker Company S.A.K	1	1	24.01.2011	10,161	10,079	310	36	62	0	0	0	0
NAT - Nordic American Tankers	1	1	18.10.2015	40	41	3	0	0	0	0	0	0
<i>Container lines</i>												
Maersk Line	1	3	17.11.2011	1,119,837	1,103,349	1,508	72	215	31	14,561	2,310	314
MSC Shipping	1	2	09.06.2015	1,354	1,357	4	0	3	0	0	0	0
CMA CGM Group	1	4	13.03.2013	105,989	105,303	1,244	27	199	32	16,913	2,231	351
COSCO Shipping CO.	1	1	08.01.2013	282	279	24	1	9	0	0	0	0
Hapag-Lloyd	1	3	01.06.2015	50,667	51,039	194	21	157	16	19,921	1,880	219
Evergreen Line	1	4	27.03.2014	3,404	3,404	18	0	14	1	2	0	0
OOCL (Orient Overseas Container Line)	1	7	17.11.2010	3,579	3,565	52	4	18	3	37	0	2
NYK Line	1	12	17.10.2013	8,889	8,887	186	32	17	0	0	0	0
Yang Ming Marine Transport	1	4	23.08.2011	931	926	1,329	9	0	0	0	0	0
Hamburg Sud Group	1	1	06.10.2016	425	433	5	0	5	0	0	0	0
MOL (Mitsui O.S.K. Lines)	1	6	11.07.2011	3,057	3,045	1	0	0	0	0	0	0
PIL (Pacific International Line)	1	4	22.04.2012	21,932	21,893	44	1	10	0	0	0	0
Hyundai M.M.	1	6	12.05.2015	443	448	103	1	15	2	19	0	0
K-LINE	1	4	16.07.2011	23,318	23,256	12	0	0	0	0	0	0
Zim	1	3	06.10.2016	206	205	12	0	12	5	49	0	0
Wan Hai Lines	1	3	19.08.2015	183	184	3	0	0	0	0	0	0
X-Press Feeders Group	1	1	-	28	29	0	0	0	0	0	0	0
KMTC	1	1	08.02.2013	83	84	3	0	0	0	0	0	0
SITC	0	-	-	-	-	-	-	-	-	-	-	-
IRISL Group (Islamic Rep. of Iran Shipping Lines)	1	2	11.07.2012	1,010	1,009	30	0	10	1	15	0	0
Zhonggu Logistics Corporation	0	-	-	-	-	-	-	-	-	-	-	-
Arkas Line / EMES	1	2	04.10.2012	6,240	6,227	185	9	109	15	1,174	68	28
SM Line Corporation (prior Hanjin Shipping)	1	1	26.08.2012	3,875	3,859	1	0	0	0	0	0	0
Sinotrans	1	11	09.09.2015	23,745	23,745	55	1	21	0	0	0	0
Quanzhou An Sheng Shipping	0	-	-	-	-	-	-	-	-	-	-	-
TS Lines	0	-	-	-	-	-	-	-	-	-	-	-
Simatech	1	1	20.05.2012	1,045	1,045	5	0	0	0	0	0	0
UniFeeder	1	1	03.03.2013	15	15	1	0	0	0	0	0	0
Emirates Shipping Lines	1	1	17.11.2013	2,386	2,380	1	0	0	0	0	0	0
Grimaldi Lines Cargo	1	2	28.10.2015	68,412	68,337	116	3	84	4	79	5	0

\* Data refer to the Corporate Facebook page of the Chevron Group, which does not hold an ad-hoc page for its tanker division. Relatedly, these data have been ironed out from the analysis.

Source: Authors' elaboration.



### Annex III – Descriptive statistics related to Twitter and LinkedIn

Company's name	Twitter									LinkedIn		
	Twitter (1/0)	Initial subscrip. (date)	Followers (No.)	Following (No.)	Tweets (total)	Tweet (last month)	Likes (total)	Condivision (last month)	Photos & videos	LinkedIn (0/1)	Follower	Employees
	Tanker									Tanker		
NYK	0	-	-	-	-	-	-	-	-	1	23,336	2,398
Frontline	0	-	-	-	-	-	-	-	-	1	1,508	258
Maersk Tankers	1	Jun. 2009	272	10	3	3	145	118	0	1	8,129	875
SCF group	0	-	-	-	-	-	-	-	-	1	1,945	158
Teekay Corp	1	Feb. 2011	4,298	231	3,122	21	124	24	1,015	1	59,927	3,347
AET tanker (MISC Berhad)	1	Oct. 2011	30	73	458	-	2	-	-	1	14,097	1,525
NITC (National Iranian Tanker Company)	0	-	-	-	-	-	-	-	-	1	8,645	342
NSC of SA Bahri	1	Aug. 2011	41,500	0	743	32	2483*	509	427	1	11,581	233
MTMaritime management Group	0	-	-	-	-	-	-	-	-	1	2,174	206
Dynacom Tankers	0	-	-	-	-	-	-	-	-	1	880	458
OSG (Overseas Shipping Group)	0	-	-	-	-	-	-	-	-	1	18,048	552
China shipping development	0	-	-	-	-	-	-	-	-	1	139	53
MOL (Mitsui O.S.K. Lines)	0	-	-	-	-	-	-	-	-	1	1,078	120
Ocean Tankers	0	-	-	-	-	-	-	-	-	1	349	158
Euronav	0	-	-	-	-	-	-	-	-	1	4,866	498
Torm	0	-	-	-	-	-	-	-	-	1	12,824	1,091
Oman shipping	1	Aug. 2013	1,462	177	311	46	253	170	135	1	9,922	260
Thenamaris	1	Jul. 2013	299	67	99	8	65	1	67	1	14,623	460
Dalian Ocean Shipping (COSCO Group)	0	-	-	-	-	-	-	-	-	1	71	15
Bw Maritime	1	May 2013	94	0	0	0	0	0	0	1	9,729	443
Minerva Marine	0	-	-	-	-	-	-	-	-	1	2,717	165
SK shipping	0	-	-	-	-	-	-	-	-	1	16	12
ACM Shipping (Braemar ACM)	0	-	-	-	-	-	-	-	-	1	2,444	68
SCI	1	May 2015	1,126	65	323	7	811	10	-	1	5,566	1,785
TEN (Tsakos Energy Navigation)	0	-	-	-	-	-	-	-	-	1	724	61
BP Shipping	0	-	-	-	-	-	-	-	-	1	2,327	553
Tanpac (Tanker Pacific Management)	0	-	-	-	-	-	-	-	-	1	5,551	341
Chevron*	0	-	-	-	-	-	-	-	-	1	1,303,300	65,683
KOTC - Kuwait Oil Tanker Company S.A.K	1	Jan. 2011	3,371	11	549	2	4	4	280	1	7,467	739
NAT - Nordic American Tankers	0	-	-	-	-	-	-	-	-	1	191	5
	Container lines									Container lines		
Maersk Line	1	Feb. 2011	131,000	635	4,538	67	2,290	2,413	1,295	1	207,008	13,865
MSC Shipping	1	Sep. 2014	32	0	0	0	0	0	0	1	93,454	9,281
CMA CGM Group	1	Apr. 2012	16,900	704	2,352	32	891	198	587	1	123,813	11,108
COSCO Shipping CO.	1	Dec. 2011	3,190	103	482	12	214	45	50	1	11,988	818
Hapag-Lloyd	1	Nov. 2009	4,209	44	260	16	403	171	0	1	43,138	3,920
Evergreen Line	0	-	-	-	-	-	-	-	-	1	20,861	1,012
OOCL (Orient Overseas Container Line)	1	Jun. 2011	2,837	11	43	0	n.a.	0	0	1	11,403	2,568
NYK Line	1	Mar. 2016	21	1	5	0	n.a.	0	4	1	23,336	2,398
Yang Ming Marine Transport	0	-	-	-	-	-	-	-	-	1	811	129
Hamburg Sud Group	0	-	-	-	-	-	-	-	-	1	67,515	2,856
MOL (Mitsui O.S.K. Lines)	1	Feb. 2017	18	17	32	3	10	0	12	1	1,078	120
PIL (Pacific International Line)	0	-	-	-	-	-	-	-	-	1	169	4
Hyundai M.M.	1	Feb. 2017	9	0	2	0	0	0	0	1	10,953	1,262
K-LINE	0	-	-	-	-	-	-	-	-	1	127	51
Zim	0	-	-	-	-	-	-	-	-	1	12,196	1,379
Wan Hai Lines	0	-	-	-	-	-	-	-	-	1	4,769	751
X-Press Feeders Group	0	-	-	-	-	-	-	-	-	1	2,709	183
KMTC	1	Jul. 210	43	4	4	0	1	0	0	1	51	19
SITC	0	-	-	-	-	-	-	-	-	0	-	-
IRISL Group (Islamic Rep. of Iran Shipping Lines)	0	-	-	-	-	-	-	-	-	1	840	817
Zhonggu Logistics Corporation	0	-	-	-	-	-	-	-	-	0	-	-
Arkas Line / EMES	0	-	-	-	-	-	-	-	-	1	41,812	1,903
SM Line Corporation (prior Hanjin Shipping)	0	-	-	-	-	-	-	-	-	0	-	-
Sinotrans	0	-	-	-	-	-	-	-	-	1	1,599	167
Quanzhou An Sheng Shipping	0	-	-	-	-	-	-	-	-	0	-	-
TS Lines	0	-	-	-	-	-	-	-	-	1	69	52
Simatech	0	-	-	-	-	-	-	-	-	1	633	168
UniFeeder	1	Sep. 2013	150	35	5,040	0	2	0	3	1	3,668	257
Emirates Shipping Lines	0	-	-	-	-	-	-	-	-	1	2,913	339
Grimaldi Lines Cargo	0	-	-	-	-	-	-	-	-	1	8,053	846

Source: Authors' elaboration.

