

How do business-to-business companies use Twitter? A case study of global forest and paper product companies' tweets

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Tuuli Viinanen
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Author Tuuli Viinanen

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Abstract

The objective of this study is to find out how business-to-business companies are using social media through a case study of global forest and paper product companies' use of Twitter. Previous social media research has placed focus on business-to-consumer types of organizations and this study aims to add to research of business-to-business types of organizations' use of social media through study of Twitter content.

The intention of this study is to answer two main research questions and two sub questions. The first main research question: (1) How do forest and paper product companies use Twitter?, is answered by two sub questions: (1a) What different types of content do forest and paper product companies publish on Twitter?, and, (1b) Do forest and paper product companies use elements that support interaction on Twitter? The second research question asks: (2) Are there differences between North American and Northern European companies?

This research project uses a quantitative content analysis to study the content of tweets and find differences between the chosen companies. This study looks at the 713 tweets published by 16 forest and paper product companies from Canada, Finland, Sweden and the United States of America. Dialogic principles are used to study the use of interaction supporting elements. The main use of Twitter as a communication channel is defined through three main categories composed of fifteen individual tweet types.

The main findings of this study are: (1) forest and paper product companies use Twitter to inform the public, (2) forest and paper product companies use interaction supporting elements in their tweets and (3) North American forest and paper product companies use Twitter to build rapport and interact with the public and (4) Northern European forest and paper product companies use Twitter to inform the public.

These findings implicate that (1) the nationality of a company affects the use of social media, (2) Twitter is not used for mobilization of audiences and (3) business-to-business companies use information messages to both inform and spread a positive image of themselves to the public.

Keywords social media, Twitter, B2B, forest and paper product industry, content analysis

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Tiivistelmä

Tämän tutkielman tarkoitus on selvittää kuinka B2B (yritysten välinen kaupankäynti) yritykset käyttävät sosiaalista mediaa kansainvälisten puu- ja paperituotteiden valmistajien Twitter käytön tapaustutkimuksen kautta. Aikaisempi sosiaalisen median tutkimus on keskittynyt yritykseltä-kuultajalle tyyppisten organisaatioiden tutkimiseen ja tämä tutkimus pyrkii lisäämään tietoa B2B tyylisten organisaatioiden sosiaalisen median käytöstä Twitter sisällön tutkimisen kautta.

Tämä tutkielma pyrkii vastaamaan kahteen pääkysymykseen ja kahteen alakysymykseen. Ensimmäinen pääkysymys on: (1) Kuinka puu- ja paperituotteiden valmistajat käyttävät Twitteriä?, ja sitä vastaamaan auttavat kaksi alakysymystä: (1a) Millaista erilaista sisältöä puu- ja paperituotteiden valmistajat julkaisevat Twitterissä?, ja, (1b) Käyttävätkö puu- ja paperituotteiden valmistajat vuorovaikutusta lisääviä elementtejä Twitterissä? Toinen pääkysymys on: (2) Mitä eroja on pohjoisamerikkalaisten ja pohjoiseurooppalaisten puu- ja paperituotteiden valmistajien välillä?

Tämä tutkimus käyttää kvantitatiivista sisällön analysointia tutkiakseen 713 Twitter viestin sisältöä ja löytääkseen eroavaisuuksia valittujen yritysten välillä. Tutkielmassa tutkitaan yhteensä 16 kanadalaisen, suomalaisen, ruotsalaisen ja yhdysvaltalaisen puu- ja paperituotteita valmistavan yrityksen julkaisemia Twitter viestejä. Vuorovaikutusta lisääviä elementtejä mitataan hyödyntäen dialogisia perusteita. Twitterin pääkäyttötarkoitus viestintäkanavana määritellään kolmen pääkategorian kautta, mitkä koostuvat viidestätoista erillisestä Twitter viestityypistä.

Tämän tutkimuksen päälöydöt ovat: (1) puu- ja paperituotteiden valmistajat käyttävät Twitteriä informoidakseen yleisöä, (2) puu- ja paperituotteiden valmistajat hyödyntävät vuorovaikutusta lisääviä elementtejä Twitter viesteissään, (3) pohjoisamerikkalaiset puu- ja paperituotteiden valmistajat käyttävät Twitter rakentaakseen yhteishenkeä ja vuorovaikutukseen yleisön kanssa ja (4) pohjoiseurooppalaiset puu- ja paperituotteiden valmistajat käyttävät Twitteriä tiedon välittämiseen yleisölle.

Tämän tutkimuksen tulokset implikoivat: (1) yrityksen kansallisuus vaikuttaa sosiaalisen median käyttöön, (2) Twitteriä ei käytetä juuri ollenkaan yleisön mobilisointiin ja (3)-B2B yritykset käyttävät informaatioviestejä tiedon välittämiseen sekä levittämään positiivista imagoa itsestään yleisölle.

Avainsanat sosiaalinen media, B2B, Twitter, puu- ja paperituoteteollisuus

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1. Introduction

Social media is viewed as an important communication channel for all organizations. There have been many studies into the use of social media in the field of corporate communication in recent years. However, studies into the use of social media by business-to-business organizations has been less prevalent than studies of business-to-consumer and non-profit organizations. This thesis aims to look at business-to-business organizations' use of social media through studying forest and paper product companies' use of Twitter.

The use of social media is affecting organizational strategy and how organizations communicate. Social media is defined as communication, which allows entities to share content and build rapport through electronic means (social media, n.d.). The effects of social media can be seen as blurring the line between secondary and primary stakeholders, thus increasing the effect different stakeholders can have on an organization and making organizations recognize the value in all stakeholder groups (Jurgens, Berthon, Egelman & Pitt, 2016). Research has shown that organizational communication in social media differs from organizational communication using more traditional channels (Swani, Brown & Milne, 2014).

Twitter was recognized as the most important social media site for sales prospecting in 2015 (Fidelman, 2015). Twitter is a microblogging service that allows users to write messages up to 140 characters long, has 320 million active monthly users and over twice the amount of total registered users (Twitter, 2016a; Statistic Brain, 2015a). While not the most used social medium, which is Facebook, Twitter is perceived as a valued communication channel by businesses and is the 11th most visited website in the world (Statista, 2016; Fidelman, 2015; Similarweb, 2016).

Industrial organizations, which are generally business-to-business types of organizations, have previously been shown to use social media less than other forms of electronic communication (Karjaluoto, Mustonen & Ulkuniemi, 2015). The barriers against using social media are such factors as management resistance, low perceived benefits and lack

of measurement in terms of return on investment (Holden-Bache, 2011; Michaelidou, Siamagka & Christodoulides, 2011). However, business-to-business companies have been showing an increase in interest to use social media in recent years and plan to increase investment into social media in the future (Wiersema, 2013), but perceive their use of social media to be far from optimized (Holden-Bache, 2011; Swani et al., 2014; Rapp, Beitelspacher, Grewal & Hughes, 2013; Siamagka, Christodoulides, Michaelidou & Valvi, 2015).

The type of message published on social media has been shown to differ between business-to-business and business-to-consumer organizations. The use of social media for direct calls to purchase is less common for business-to-business organizations than business-to-consumer organizations. Business-to-business organizations are hence more likely to advertise their corporate brand on social media, than individual products. Other differences are found in the use of hashtags and other elements found in social media messages. (Swani et al., 2014)

Social media inherently allows for the opportunity of two-way communication between organizations and the public. The use of social media for two-way symmetrical communication has been studied, and results indicate that social media is used mainly as a one-way information channel (Linvill et al., 2012; Thackeray, et al., 2013; Hether, 2014; Lovejoy & Saxton, 2012; Waters & Jamal, 2011; Bortree & Seltzer, 2009) Seeing as business-to-business organizations are entering social media at a later point of time than business-to-consumer and non-profit organizations previously studied, business-to-business organizations could use social media in a different manner.

Due the few studies of business-to-business companies in social media, this study has chosen to investigate the content produced by business-to-business companies in social media. The chosen forest and paper product industry and reasons for choosing this industry are introduced next.

1.1 The global forest and paper product industry

This section will start with introducing the forest and paper product industry and trends of the industry in terms of strategy and communication. Next, the chosen countries for this study will be presented, followed by a glance into previous studies of the communication practices of the forest and paper product industry and reasons for choosing the forest and paper product industry for this study.

The forest and paper product industry is one the largest industrial sectors in the world with an estimated worth of \$256 billion in 2017 and employing 3.5 billion people globally (All About The Pulp, 2016). Over 50% of CEOs of forest and paper product companies expect growth in revenue in the next 3 years (PricewaterhouseCoopers, 2016). The forest and paper product industry produces cellulose-based product from wood, manufacturing different types of papers, paperboard and pulp. Everything from tissue paper to shipping and storage materials and sanitation products are produced by the forest and paper product industry. (All About The Pulp, 2016)

The forest and paper product industry has continuously increased environmental efforts, but the process of making wood into paper and pulp uses natural resources, contributing to climate change (Kinsella, Gleason, Mills, Rycroft, Ford, Sheehan, & Martin, 2007; All About Pulp, 2016). Climate change and scarcity of resources are seen as a trend influencing stakeholder expectation by forest and paper product companies' CEOs (PricewaterhouseCoopers, 2016). As a result, the forest and paper industry is keen on placing emphasis on sustainable practices and certification and over half of forest and paper product companies plan changes in values, ethics and codes of conduct to fulfill stakeholder expectations (PricewaterhouseCoopers, 2016).

The majority of forest and paper product companies' CEOs believe that business success in this century is driven by more than financial profit. Clients are viewed as the most important stakeholder group and 20% of CEOs believe that customers seek relationships with organizations that address issues beyond financial cost, convenience and functionality of product and services. Forest and paper product companies aim to focus

on communication of environmental impact, organizational purpose and values and non-financial indicators, building a good reputation, accountability and introducing tools to measure both direct and indirect success of these measures. (PricewaterhouseCoopers, 2016)

This study will focus on forest and paper product companies from four different countries; Canada, Finland, Sweden and the United States of America, presented next:

Canada

Canada is the second largest exporter of forest products in the world with exports worth of CAD 29 billion. The forest and paper industry accounts for 1,25% of total GDP, and 12% of manufacturing GDP of Canada. The forest and paper industry of Canada directly employs 235 000 people in Canada with 650 Canadian communities relying on forestry for income. (The Forest Products Association of Canada, 2014)

Finland

The forest and paper industry is one of the largest industries in Finland, accounting for about 20% of Finland's export revenue and 18% of Finland's industrial output value. The forest and paper industry directly employees 42 000 people in Finland, accounting for 15% of all industrial jobs in Finland, and 46 000 people abroad. There are around 180 forest and paper product related production facilities in Finland. (Finnish Forest Industries, 2015)

Sweden

One of Sweden's main industries is the forest and paper industry. Sweden is the third largest exporter of paper, pulp and sawn wood products with exports valued at SEK 124 billion in 2014. The forest and paper industry accounts for 9% to 12% of Sweden's industrial total employment, exports, sales and added value. The forest and paper industry directly employs 55 000 people in Sweden, and account for about 120 000 jobs abroad. (Swedish Forest Industries Federation, 2014)

The United States of America

The forest and paper industry of the United States of America accounts for about 4% of manufacturing GDP in the United States of America and produces over USD 200 billion in products annually. The American forest and paper industry is among top 10 manufacturing employers in almost all states and employs 900 000 people in the United States of America. There are around 5 600 forest and paper product manufacturing facilities in the United States of America. (American Forest & Paper Association, 2015)

These countries were chosen for this study because they are comparable to each other, seeing as they are all among the global top ten producers of paper and pulp (Swedish Forest Industries Federation, 2014).

1.1.1 Forest and paper product industry communication studies

Previous research into communication of the forest and paper product industry has looked at corporate social responsibility communication (Toppinen & Korhonen-Kurki, 2013, Lehtimäki, Kujala & Heikkinen, 2011), environmental communication (Korhonen, Toppinen, Lähtinen, Ranacher, Wernder, Stern & Kutnar, 2015) and use of electronic communication channels (Hewitt, Sowlati & Paradi, 2011; Shook, Yun, Braden & Baldrige, 2002; Montague, Gazal, Wiedenback & Shepherd, 2016) among others. Nonetheless, the use of social media by the forest and paper product industry has not been studied to a great extent. Montague et al. (2016) studied the use of electronic communication channels and found that forest product companies used the least amount of electronic communication channels in the global manufacturing industry. Montague et al. also found that Twitter is the third most used social media site by American forest and paper product companies and that Twitter is used by these companies on a daily or weekly basis.

The industry nature of using renewable energy sources, but contributing to climate change offers interesting incentive for paper and product companies to focus on building rapport with the public through increasing communication with the public. Along with the industry size, planned future investments into communication and the scarcity of previous

research into social media use are reasons for choosing the forest and paper product industry for this research project.

Go and You (2016) have shown that energy and utilities manufacturing industries prefer blogs out of all social media. With Twitter being the third most used social media by forest and paper product companies and being valued as the most important sales prospecting channel by communicators, Twitter is chosen for the social medium of this study (Montague et al., 2016; Fidelman, 2015).

1.2 Research objectives

The purpose of this thesis is to find out how forest and paper product companies use Twitter as a communication tool. This will be answered by two different sub questions concerning the content of Twitter posts and use of interaction supporting elements. Secondly, this study aims to find out if North American and Northern European forest and paper product companies post different types of content and elements supporting interaction.

R1 How do forest and paper product companies use Twitter?

S1 What different types of content do forest and paper product companies publish on Twitter?

S2 Do forest and paper product companies use elements that support interaction on Twitter?

R2 Are there differences between North American and Northern European companies?

1.3 Structure of the thesis

This thesis is divided into six chapters. The introductory Chapter 1 has presented the chosen topic area, case study and research objectives. The second chapter of this study will present the main concepts and theories of this thesis; social media, organizational communication theories, trends of business-to-business companies, dialogue, and finally the hypotheses for this study. Chapter 3 shall discuss the chosen data of forest and paper product companies' Twitter messages and methodology used to study these messages.

Next, Chapter 4 will present the findings of this study starting from all studied companies, followed by individual country results, after which consolidated results of North American and Northern European countries will be presented and finally the main differences and similarities found in the results of this study will be explored. After Chapter 4, the next Chapter 5 will aim to connect the results of this study to previously presented data and discuss the results found. The final Chapter 6 will conclude this thesis by presenting the main objectives and findings again, and their implications, limits and suggestions for further research.

2. Literature review

The second chapter of this thesis will first introduce social media as a concept, and depth of global use in section 2.1, followed by the basis of organizational communication theories relevant to this study in section 2.2. Next business-to-business organizations' communication trends will be explored in section 2.3, after which, the focus will turn to dialogue as a concept and main features of dialogic communication in section 2.4. Section 2.5 presents the theoretical framework and hypotheses of this study.

2.1 Social media

This section will first focus on defining social media as a concept. After which, this section will look at the popularity of use of social media followed by an explanation of Twitter and Twitter concepts.

2.1.1 Social media as a concept

There are two useful definitions of social media by the Merriam-Webster dictionary (n.d.) and Kaplan and Haenlein (2010). The Merriam-Webster dictionary describes social media as “forms of electronic communication (as Web sites for social networking and microblogging) through which users create online communities to share information, ideas, personal messages, and other content (as videos)”. Kaplan and Haenlein describe social media through the concepts of Web 2.0 and User Generated Content. Web 2.0 is seen as a technological and ideological platform for content that is reshaped by all users collaboratively. User Generated Content is the total of how social media is used. Therefore, social media is “a group of Internet-based applications that build on the ideological and technological foundations of Web 2.0, and that allow the creation and exchange of User Generated Content” (Kaplan & Haenlein, 2010, p. 61).

Both of these descriptions focus on user based creation and interaction. Thus, social media allows users to create and share content, and build relationships with other users to form communities. Not all social media operate in the same way and Kaplan and Haenlein (2010) categorize social media based on social presence, media richness and social

processes. The categorizations are collaborative projects, content communities, virtual game worlds, virtual social worlds, blogs, and social networking sites.

2.1.2 Social media statistics

Around 2 billion internet users use social media (Statista, 2016) and 58% of these users have a profile in a social networking site (Statistic Brain, 2015b). Growth of these numbers is predicted to continue with increasing use of mobile devices and mobile based social networks (Statista, 2016; Kaplan & Haenlein, 2010). The average desk top social media user spent 6.1 hours per month on social networking sites in Latin America and Europe, and 5.2 hours per month in North America, indicating the high use of social media by the public (Statista, 2015b).

The market leader in social media is Facebook with 1.55 billion monthly active users globally (Statista, 2016). Other known social networking sites are Tumblr, Instagram, Twitter, Pinterest, LinkedIn, Google+, etc. Over half of internet users use Facebook and a tenth Twitter. (Statistic Brain, 2015b). The most popular social networks enable people to connect across economic, geographical and political borders and are available in a number of languages (Statista, 2016). The majority of the 20 most popular social networks in term of users have originated from the United States of America, but a number of Chinese and European social networks have attracted mainstream users because of their local surroundings and content (Statista, 2016).

2.1.3 Twitter

Twitter, based on rapid communication (Statista, 2016), is a microblogging service with 320 million active monthly users (Twitter, 2016a) and a total of 645,750,000 registered Twitter users (Statistic Brain, 2015a). Twitter users have profile pages; which other users can choose to follow. By following a user, all messages posted by the user will appear on the follower's timeline. Followers do not need to be approved and the action of following isn't necessarily followed by a reciprocal action of following. All Twitter users have usernames, preceded by the @ symbol, by which other users can use to attract attention

of other specific users. Twitter is the 11th most visited Internet site in the world and 7th largest in terms of traffic in the United States of America (Similarweb, 2016).

A tweet, is a message posted on Twitter, with a limit of 140 characters. A tweet, in its most basic form, includes the tweet text, timestamp and username. Tweets can be public to all or visible only to followers. About 9 100 tweets are posted every second, with 58 million tweets per day (Statistic Brain, 2015a). Two fifths of Twitter users don't tweet themselves, but use Twitter to follow other peoples' tweets (Statistic Brain, 2015a). Twitter also offers users the opportunity for private messaging through direct messages between users, though public communication through the use of @ symbol and username are generally the more common method to communicate with specific others.

Once a tweet has been posted, other users can choose three main actions: like, retweet or reply. Liking a tweet requires nothing from a user, but clicking a like button. Retweets are tweets replicated in its original form in another user's timeline. As for replying, users can choose to aim tweets towards other specific users with the @ symbol and username. However, the use of @ symbol and username can be used in original tweets to raise attention of specific others without needing any tweet to reply to. (Twitter, 2016b)

The majority of traffic to Twitter by desktop users is from the United States of America (24%), followed by Japan (12%) and the United Kingdom (6%) (Similarweb, 2016). The United States of America and Canada are among top ten countries with most users in Twitter (Semiocast, 2012). The top brands in term of followers on Twitter were Youtube, Instagram, Twitter, CNN Breaking News and CNN corporate in January 2015. Other top brands were either sports or media channels. (Statista, 2015a)

2.2 Organizational communication theories

The previous section introduced social media as a concept and in order to understand social media through a communications point of view, one must first look at the very basic theory of organizational communication. This section will first introduce the four models of public relations and how these models can be adapted to online communication

in subsection 2.2.1. Next the importance of a relationship between organizations and publics will be discussed in subsection 2.2.2, followed by a description of organizations' use of social media in subsection 2.2.3. Two models of communication in social media will be covered in subsections 2.2.4 and 2.2.5, the social media communication model by Swani et al. (2014) and the stakeholder influence model by Sheldrake (2011) respectively. The final section 2.2.6 will present a method of social media messages classification by content.

2.2.1 Four models of public relations theory

In 1984, four models of public relations theory were introduced by James E. Grunig and Todd Hunt (Lattimore, Baskin, Heiman, & Toth, 2012). Public relations as a concept is a part of corporate communication and these theories work as a basis for further communication theories. These four models of public relations are based on ethics, research and communication:

1. The press agency model can be seen as the oldest form of organizational communication. In the press agency model, messages are one-way, from organization to audience. Receivers of the message are not researched and the main objective is to gain recognition within the audience through favorable mentions by media, persuasion of the audience to the organizations wants. Ethically, the press agency model is neither ethical or unethical and don't aim to be either.

2. The public information models aim is to inform the audience, instead of the promotional aspect of the press agency model. The messages are one-way, from organization to audience with research only concerning the comprehensibility of messages. Accuracy of messages is respected, but senders decide what information to send to audiences.

3. In the two-way asymmetrical model the messages are two-way. The model is imbalanced, as the sender strives to identify and study factors which would make their

message more persuasive to audiences, in order to get the audience to function as the sender wants, regardless of the opinions of the audience towards the sender.

4. The two-way symmetrical model is two-way communication with the objective of mutual understanding and benefits between the sender and receivers of messages. Instead of focus on self-interest, focus is on mutual decisions and understanding between organizations and stakeholders.

(Cornelissen, 2014, Lattimore et al., 2012)

The first two models of press agentry and public information focus solely on the messages sent by the organization, while the latter two of two-way asymmetrical and symmetrical communication also focus on the receivers of messages. Hence, representing the evolution of communication theory and practice. However, there is a notable difference between two-way symmetrical communication and the first three models presented. The first three models of public relations focus on the advantage of the organization, while the last model of two-way symmetrical communication aims to benefit both organizations and stakeholders. Many further theories in the field of corporate communication have placed an emphasis on two-way symmetrical communication, and mutual orientation and benefits to be introduced next in this chapter. (Cornelissen, 2014; Lattimore et al., 2012)

2.2.1.1 Adaptation of public relations theory for digital media

David Phillips (2009) adapted Grunig and Hunt's four models of public relations theory to suit online communications. The models of press agentry, public information, two-way asymmetrical and two-way symmetrical models are called respectively propaganda, information, one-way symmetrical and two-way symmetrical. Though Grunig (2009) argues that the digital communications channels force the use of the two-way symmetrical model of communication, Phillips manages to give examples of online communication channels for all four models in his model of social media communication. This model is depicted below in Figure 1 and can also be found in Appendix 1.

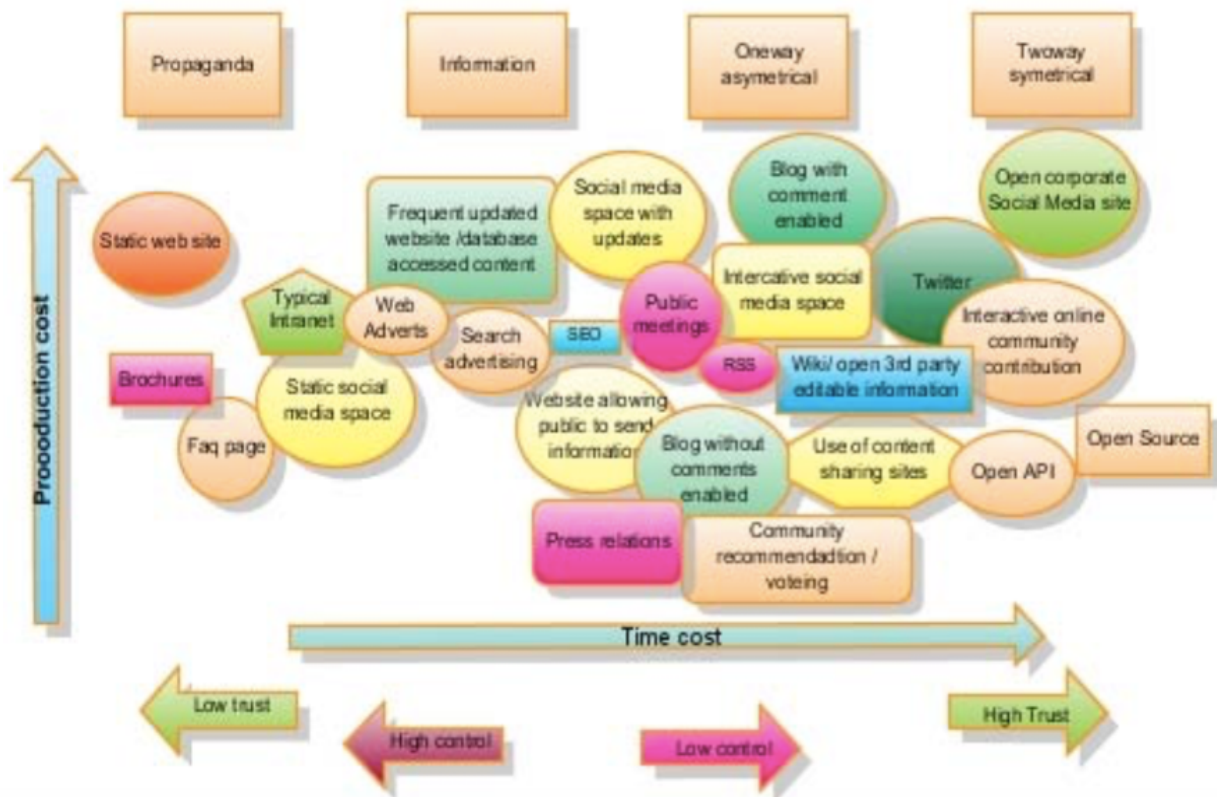


Figure 1. Four models of public relations theory adapted to online communication (Phillips, 2009)

The propaganda and information models can be seen as communication that is highly regulated, while the asymmetrical and symmetrical models require high trust on part of the organization and risk taking as these models are low in control of communication flows. Most social media is categorized under these high trust and low control models, a vast difference from traditional media channels. Phillips (2009) would see that moving towards a more open two-way communication model, would help corporate growth and sustainability. Meanwhile, sticking to only to high control communication channels would result in overall harm for an organization. Therefore, two-way communication would be seen as the theoretical goal for corporate communication online. (Phillips, 2009)

Phillips' (2009) model incorporates time and production costs. The lack of time and resources has been studied as being barriers for organizations entering social media (Michaelidou et al., 2011). Production costs can be high in all types of communication,

according to Phillips, however the more interactive communication is, the more time-consuming it is.

In Phillips's (2009) model, Twitter is located between the two-way asymmetrical and symmetrical model, though a bit more in the two-way symmetrical section of the figure. It is interesting to see Twitter marked as Twitter, since other social media pages are not marked by name in this model. Other methods of digital communication deemed two-way symmetrical in this model are open corporate Social Media sites, interactive online community contribution and open source models. Perhaps the microblogging aspect of Twitter differentiates it from other social media channels to require a separate mention.

The relevance of these models to current times have been discussed and viewed as flawed (Laskin, 2009), though the models have been used in social media research (Waters & Jamal, 2011). The four models of public relations theory can be viewed as a quick look at history, with two-way symmetrical communication as the main goal. Nevertheless, further studies have shown that a mixture of both one-way and two-way communication is viewed as the most effective strategy for organizations (Lovejoy & Saxton, 2012).

2.2.2 Organization-public relationships

As introduced in the previous section, Grunig and Hunt's 1984 model of two-way symmetrical communication focuses on both organization and stakeholder, and so does the organization-public relationship theory. The organization-public relationship theory views communication as relationship management between organizations and their key publics (Ledingham and Brunig, 1998). Ledingham and Brunig (1998) define the ideal organization-public relationship as "the state that exists between an organization and its key publics that provides economic, social, political, and/or cultural benefits to all parties involved, and is characterized by mutual positive regard." (p. 62). Hon and Grunig (1999) write that "good communication changes behavior of both management and publics and, therefore, results in good relationship." (p. 13). Success of organizational goals is found through the alliance of management and stakeholders. Thus, by having a good relationship with the public, organizations can benefit from the public supporting

organizational goals, and good relationships can reduce costs occurring from negative publicity, both intentional and unintentional. (Hon & Grunig, 1999).

It is important to note that the definition of stakeholder and public vary. The concepts can be viewed as interchangeable or as two different concepts (Grunig & Repper, 1992). Stakeholders can be defined as entities with an interest in and being affected by an organization. Examples of stakeholders are customers, investors, employees, political groups, governments, communities, suppliers, trade associations and others. (Sheldrake, 2011; Cornelissen, 2014). Grunig and Repper (1992) view the public as a part of stakeholders; the stakeholders that are active and interested in the organization itself. Grunig and Repper reason that organizations choose their stakeholders while the public chooses to choose the organization. However, Grunig (2009) argues that stakeholders choose the messages they receive, not the organization, therefore giving less power to the thought of organizations choosing stakeholders themselves. Additionally, social media is changing the perceived importance of stakeholders by organizations to be discussed in the next subsection of this section (Jurgens et al., 2016). This study recognizes the differences in the concepts of stakeholder and public, but essentially views them as the same group of people and organizations for this research project, because social media communication can be seen as targeting both active and inactive stakeholders.

Smith (2012) describes a relationship in the field of corporate communication and public relations as “A system of mutual interdependence around common interest toward which resources (stakes), attitudes, and behaviors are contextualized. “ (p. 840). Therefore, a relationship between the public and organization is based on a common interest, which defines relational incentives and risks. Behavior and attitudes in the relationship are concentrated towards the common interest. This common interest can be most any topic, not only critical issues at hand. Furthermore, the nature of relationship between organizations and the public can be varying. Both, one or none of the parties involved may or may not recognize the existence of a relationship, the relationship might be active or passive as well as deliberated or unintended and the relationship can have both positive and negative effects on the parties involved. Hence, the relationship between organizations and publics can emerge and exist in a number of ways. (Smith, 2012)

Ledingham and Brunig (1998) recognized five traits that were found to have an impact on the commitment of the public to organizations they have relationships with. These five features of organization-public relationships are trust, openness, involvement, investment and commitment. These five features of organization-public relationships bear similar traits to the five main features of dialogic communication; mutuality, propinquity, empathy, risk and commitment, to be introduced and discussed further in section 2.4 of this chapter.

2.2.3 Social media as a communication tool

The use of social media for corporate communication has increased rapidly in the past few years (Cornelissen, 2014). Around 73% of Fortune 500 companies used social media to communicate with followers in 2012 (Barnes, Leschault, & Andonian, 2012). Now all stakeholders can act as publishers, commentators and reviewers of organizations and their products and/or services. This has shifted the perceived importance of different stakeholder groups by organizations. Traditionally companies have tried to differentiate between primary and secondary stakeholders. The importance of a stakeholder can be evaluated through their power, legitimacy and urgency. However, social media has influenced the amount of leverage a stakeholder has on a company, introducing new stakeholders and making all stakeholders important for the organization and consequently organizations must actively strive to please these stakeholders to maintain organizational relationships. (Jurgens et al., 2016).

Smith (2012) views social media as a unique context through which relationships with the organization and public are born. Mutuality and common interests, important for organization-public relationship, can be seen in tangible form as ““Tags, keywords, hashtags, retweets, shares, status updates, blog posts, and comments” (Smith, 2012, p. 842) in social media. In addition, interactivity on Twitter increases the quality of relationships between organizations and public (Saffer, Sommerfeldt & Taylor, 2013).

Almost 80% of communication practitioners view Twitter as the most useful social media site for businesses (Fidelman, 2015). Twitter was one of the most commonly used

websites among Fortune 500 companies and only 23% of Fortune 500 companies had neither Twitter nor Facebook accounts in 2012 (Barnes et al., 2012). Hence, Twitter can be seen as acting an important role in social media communications by organizations.

Previous research has shown that non-profit organizations use Twitter mainly for one-way information broadcasting (Waters & Jamal, 2011; Linvill et al., 2012; Thackeray, et al., 2013; Hether, 2014). A study into Fortune 500 companies have demonstrated the similar results (Rybalko & Seltzer, 2010; Han & Cho, 2012). In addition to posting information on Twitter, companies were found to have basic information and links to their corporate websites or social media sites on their Twitter profiles (Han & Cho, 2012). With Twitter offering opportunities for communication beyond information broadcasting, it can be said on a general level that organizations are not using Twitter at an optimal level.

Social media is seen as a useful tool for brand and reputation building, especially if organizations already have existent relationships with the public (Rapp et al., 2013). By building brand loyalty and nurturing relationships, organizations can increase financial performance (Keller, 2009; Lovett, Peres & Schachar, 2013; Kumar & Mirchandani, 2012; Rapp et al., 2013). This requires organizations to not only use social media, but use it in an interactive way to reap full benefits.

Two different models of social media communication are introduced next to further the understanding of how social media is used in the theory of corporate communication.

The first model of social media communication theory will be explained in section 2.2.4 and the stakeholder influence model next in 2.2.5.

2.2.4 Social media communication model

Swani et al. (2014) identify a model for social media communication, based on basic sender and receiver communication models. The social media communication model pictured below in Figure 2 features the communication flow between marketers and consumers when using social media as a communication tool.

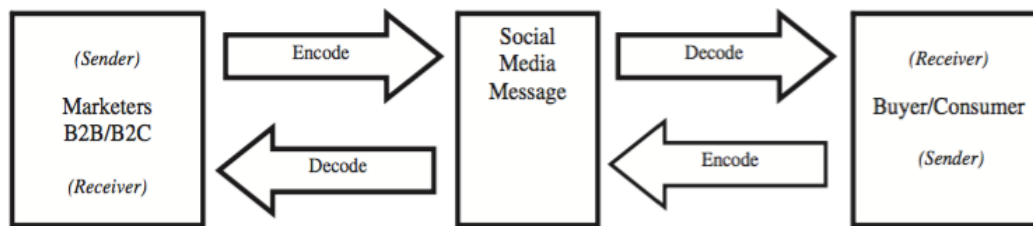


Figure 2. Social media communication model

(Swani et al., 2014, p. 875)

On either end of the model, shown in the Figure 2. above, is a sender and receiver, depending on which role the organization (marketer) or public (consumer) is representing. In the middle is the social media message, which is either encoded by the sender and decoded by the receiver. A continuous feedback loop exists in this model because social media messages can be continuously encoded and decoded, and the actions related to a social media post can be measured. For example, in the case of Twitter, an organization posts a tweet, a consumer reads the message and chooses to either take action or not. If the consumer doesn't take any action, the feedback loop doesn't exist. If the consumer chooses to retweet, like or reply to the social media message, the results can be tracked and monitored by the sending organization. The organization can then choose to take action to in relation to the response by the consumer. (Swani et al., 2014)

Social media offers opportunities for strategic two-way communication by organizations and the public (Smith 2009; Cornelissen, 2014; Grunig, 2009), also represented in Swani et al.'s (2014) social media communication model. A tendency for organizations to use social media that offers numerous opportunities for two-way communication has been proven by Go and You (2016). However, studies show that social media is not used to its full potential in terms of two-way communication by the majority of organizations (Bortree & Seltzer, 2009, Waters & Jamal, 2011, Linvill et al., 2012, Thackeray et al., 2013).

2.2.5 Stakeholder influence model

While Swani et al.'s (2014) model of social media communication focuses on communication between an organization and its public, Sheldrake (2011) proposes another theory for corporate communication in social media. In addition to the

organization and public, Sheldrake's model includes the organization's competition as a factor.

Sheldrake (2011) theorized influence flows between organizations, their stakeholders and competition. Influence is defined as having an effect on the behavior and development of an entity, thus representing communication. Influence is viewed as a one-way process and that is why all six influence flows are marked as separate in Sheldrake's (2011) model. The six influence flows are first listed and then pictured in the Figure 3 below:

1. Our organization's influence with stakeholders
 2. Our stakeholders' influence with each other with respect to us
 3. Our stakeholders influence with our organization
 4. Our competitors' influence with stakeholders
 5. Stakeholders' influence with each other with respect to our competitors
 6. Stakeholders influence with our competitors
- (Sheldrake, 2011, p.18-19)

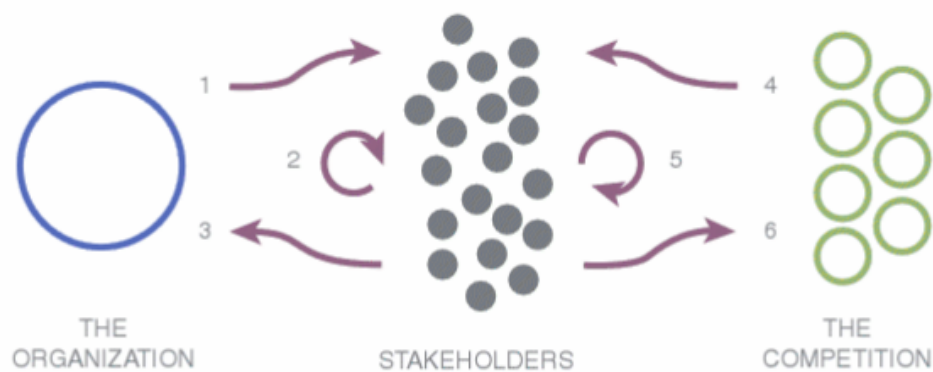


Figure 3. The six influence flows
(Sheldrake, 2012, p. 152)

Sheldrake's (2011) model differentiates between stakeholders and competition. The organization and competition don't share all the same stakeholders, though in the model they are all the same. Sheldrake argues that Grunig and Hunts's four models of public

relations and other previous models focus on the the influence flows 1 and 3, the organization's influence on stakeholders and how stakeholders influence the organization, leaving out the influence stakeholders can have on one another. Sheldrake's model's influence flows 4-6 focus on competition and influence flows between stakeholders and organizations and influence competition has on stakeholders in respect to the competition. (Sheldrake, 2011)

Sheldrake's (2011) model includes stakeholder influence towards each other, based on perceptions of the organization or competition. Social media has opened up doors to use the second and fifth flow of influence, stakeholders' influence with each other in respect to us or competition. Stakeholders can find information from peers, and information of an organization or its products and/or services is not solely coming from the organization itself. Sheldrake's model reflects the influence stakeholders can have on each other through social media. (Karjaluoto et al., 2015; Cornelissen, 2014; Sheldrake, 2011; Smith 2009)

These influence flows manifest themselves in short and long term results. Stakeholders can form opinions on the relevance, resonance and accessibility of an organization in a short time with little contact. A longer process is to create an organizational reputation, trust and significance in the eyes of stakeholders. Reputation and brand management are overall a question of influencing and being influenced in order to ensure that results are favorable for organizational goals. Short term influence can invoke engagement and curiosity of stakeholders and longer term influence authenticity and authority of the organization. (Sheldrake, 2011)

Grunig (2009) argues for organizations not needing relationships with all possible stakeholders due to lack of resources or time. Sheldrake (2011) finds that it would give advantage to organizations to follow on all types of stakeholder relations, because social media communication is a complex system. Organizations should be aware of all flows of influence in their communication strategy, not only focusing on one or two influence flows. Overall, messages can be interpreted to include a different meaning from the intended and organizations should address issues brought up by third parties that could

influence stakeholders and their actions and/or views towards the organization. (Swani et al., 2014; Sheldrake, 2011)

These two theories of social media communication and stakeholder influence presented in two previous subsections demonstrate how social media works. When studying content of social media, it is important to understand that the message sent can be interpreted to contain a different meaning by diverse readers. The organization, public and competition are influenced by one another and organizations should take this into account when planning a communication strategy. The influence of stakeholders on sustainability practices of Canadian forest and paper product companies have been proven by Sharma and Henriques (2005) and the forest and paper product industry as whole aims to focus more on stakeholders (PricewaterhouseCoopers, 2016). Hence, organizations in the same industry or with competing goals may choose different strategies, both organizational and communication related, with stakeholders having an impact on chosen strategy. (Swani et al. 2014; Sheldrake, 2011; Sharma & Henriques, 2005)

2.2.6 Content classification of social media messages

Since this study aims to look at the content of Twitter posts, this section will introduce a classification scheme, on which the content analysis of this research project will be built upon, and stakeholder perceptions of these tweet types will be presented.

Lovejoy and Saxton (2012) studied the content of non-profit organizations' tweets. Based on interpersonal communication studies, Lovejoy and Saxton proposed a categorization scheme for organizational tweets. The study involved 12 subcategories, which were divided under three main categories; information, community and action tweets to be introduced next.

Information

Informational tweets aimed to circulate information of value to stakeholders about the organization, such as reports, news, statistics and facts. Many of these tweets involved links to additional information. The main difference between information tweets to the

other two categories, was the fact that information tweets were composed of one-way information, with its primary purpose to inform, not to ask readers to perform actions or respond in any way. Lovejoy and Saxton (2012) viewed information tweets as a basis for organizations to build dialogue and action upon with stakeholders. In accordance with previous research, the majority of around 60% of all tweets were informational. The only subcategory for information tweets is information. (Lovejoy & Saxton, 2012)

Community

The objective of community tweets is to create networks, build communities, maintain relationships and encourage dialogue and interaction. With information received from informational tweets, the public has knowledge of the organization to facilitate having opinions about the organization. Community tweets either directly engage readers, to facilitate dialogue or acknowledge common events and give recognition to encourage community building. The four subcategories of community tweets are giving recognition and thanks, acknowledgement of current and local events, responses to reply messages and response solicitation. About a quarter of all tweets were about community building, with half of community tweets giving recognition and thanks to supporters and donors of the organization. (Lovejoy & Saxton, 2012)

Action

Action tweets ask the public to perform tasks for the benefit of the organization. Information, community and action tweets can be viewed as three steps in the same order. The final step of action using Twitter users as an asset that can be mobilized to buy products or support the organization. The subcategories of action tweets are promoting an event, donation appeal, selling a product, call for volunteers and employees, lobbying and advocacy, join another site or vote for organization, and learn how to help. Around 16% of all tweets were classified as action tweets, with a large majority focused on promoting events and asking for donations for the organization. (Lovejoy & Saxton, 2012)

Based on three main categories, organizations were then classified as information sources, community builders and promoters and mobilizers respectively by types of

tweets posted. As a result, it was found that 47 out of 59 organizations mainly tweet information, as previous research would indicate. Only eight organizations posted mainly community tweets and four action tweets. No organization posted only community and action tweets, while all organizations posted information tweets. (Lovejoy & Saxton, 2012)

By dividing tweets into subcategories, it is possible to see the division of use of various tweets. Through the main categories, it is possible to see which types of tweets are used the most and how organizations' use Twitter. Next the public's reactions to particular types of tweets will be introduced.

2.2.6.1 Public's reactions to social media messages

Saxton and Waters (2014) built upon previous research into what stakeholders were commenting, liking and sharing on Facebook. Their study of non-profits showed a positive attitude towards all types of tweets, but public reaction to tweets differed depending to on the type of tweet. Informational tweets were shared by the public, while community tweets resulted in more likes and comments. Therefore, if organizations post tweets that promote interactivity, dialogue is more likely to occur. (Saxton & Waters, 2014)

Action tweets were also conducive to interaction and dialogue. Action tweets had the second highest rate of commenting and highest rate of likes in Saxton and Waters' (2014) study. However, actions such as asking for donations or promoting events were viewed less favorable than actions such as specific lobbying or volunteer searches, showing that the content of action tweets matter. (Saxton & Waters, 2014).

The results of Saxton and Waters' (2014) study show that by using messages that built a sense of community, encouraging stakeholders to respond or by responding themselves, are more likely to be responded to. Therefore, organizations play an important role in defining whether their social media is used in an interactive manner or not.

2.3 Business-to-business changing priorities

The previous sections have focused on social media as a concept and communication tool, as well as the importance of stakeholders, relationships, their influence on organizations and how social media messages content can be studied. As this study focuses on the forest and paper product industry, a mainly business-to-business industrial type of industry, the current communications and management trends of business-to-business companies are to be described next two subsections.

Nearly half of business-to-business companies are undergoing major changes in their corporate strategies (Wiersema, 2013). These changes are generally initiated by new technology, changes in global economy and demographic and ambivalent new trends (Wiersema, 2013). The factors affect all B2B companies from industrial, technological and service industries (Wiersema, 2013). Forest and paper product companies are found to be making an effort towards increased communication and sustainable practices (PricewaterhouseCoopers, 2016). Main changes by business-to-business companies were recognized as shifting focuses from operations to customer value, from product to market and from direct customers to end customers, also seen in trend of the forest and paper product industry (PricewaterhouseCoopers, 2016; Wiersema, 2013). These are changes in major values of business-to-business companies, from a self-centric view to a larger focus on the public and relations with them (Wiersema, 2013).

Sharma and Henriques (2005) have shown that stakeholders influence sustainability practices of forest companies in Canada. Sharma and Henriques found in their study that it is important for forest companies to interact with all stakeholders to remain aware of the sustainability practices wanted and required by stakeholders. These stakeholders generally used different influence strategies, with some strategies even increasing environmentally unfriendly practices on part of the organization. Since the Canadian forest industry has generally reached a point where further environmental action requires large investments, some further environmental practices were discarded due to difficulty of measuring or seeing tangible results. These types of investment are not easily

communicated to stakeholders and are not perceived as valuable by Canadian forest and paper product companies. (Sharma & Henriques, 2005)

Technological advancement introduces change in two forms. New technology in operations can make some old practices obsolete, while simultaneously offering opportunities for development. Technological advancement can result in new practices of corporate communication in a business-to-business environment. Technology has changed marketing, sales, innovation as well as buying behavior of consumers. Consumers now use the Internet for data collection and business-to-business organizations must respond by making sure information and interaction is available when needed. (Wiersema, 2013)

2.3.1 Business-to-business increasing focus on communication

The use of social media has been seen increasing from business-to-consumer users to also business-to-business industries in recent years (Swani et al., 2014; Rapp et al., 2013). BtoB Magazine (Holden-Bache, 2011) found that 93% of business-to-business companies are using social media for marketing and the most popular social media channels for business-to-business companies are LinkedIn, Facebook and Twitter.

Karjaluoto et al. (2015) studied industrial companies and their use of digital communication channels. Interestingly, they found that industrial companies use social media less than other digital communication channels, and that digital channels used are not operated in such a manner that the fullest potential of these digital channels would be unlocked. In terms of business-to-business social media usage, Swani et al. (2014) and Rapp et al. (2013) agree that business-to-business marketers are still not using social media most effectively.

The quick transformation of the business-to-business industries in social media is aptly described by results from previous studies. In 2012, Barnes et al. found that the forest and paper industry was not blogging at all, though results showed that other business-to-business and business-to-consumer industries did use blogs. In 2016, Go and You studied

energy, materials, utilities and vehicle manufacturing industries to find that they preferred blogs as their medium of social media. These industries were found to prefer lower levels of interaction, thus showing that large, established organizations prefer to control interactions and avoid risk inherently associated with more interactive communications (Go & You, 2016; Hether, 2014).

The majority of business-to-business companies still view themselves in the early stages of social media use and a rare few view their social media use as optimized. Many marketers find Twitter to be an important piece of social media marketing in 2011, but see it only as a method for supporting website traffic, promotion or investigating their own social media “buzz”. (Holden-Bache, 2011)

The general view of business-to-business and forest and paper product companies is that more could be done to measure their return on investment for use of social media as a communication channel (Holden-Bache, 2011; PricewaterhouseCoopers, 2016; Michaelidou et al., 2011), and forest and paper product companies are planning on increasing investment into measurement of communication (PricewaterhouseCoopers, 2016). Barriers for use of social media as a communication tool are lack of resources, poorly defined success metrics and key performance indicators, lack of knowledge of social media, low perceived benefits and management resistance (Michaelidou et al., 2011; Holden-Bache, 2011).

Relationship cultivation, increasing awareness of their brand, increasing communicative effectiveness and attracting new customers are seen as the main objectives of industrial companies in social media (Michaelidou et al., 2011; Karjaluoto et al., 2015). According to previous studies, the results of using social media in a business-to-business context are highly similar to business-to-consumer companies’ experiences. Hence, as with business-to-consumer companies, the use of social media by business-to-business companies has resulted in increases in sales, loyalty, brand awareness and image, customer relationships and engagement (Swani et al, 2014; Rapp et al., 2013). Additionally, a link between the social media use of a supplier (business-to-business) and social media use of retailers (business-to-consumer) and end users has been shown (Rapp et al. 2013).

Most previous studies of social media concern business-to-consumer examples (Swani et al., 2014; Rapp, et al., 2013). However, empirical research of social media in a business-to-business context is still in its early stages. Therefore, the lack of research could also affect the use of social media by business-to-business companies due to the lack of proof of efficacy of use of social media (Rapp et al., 2013). Wiersema (2013) hypothesizes that the lack of case studies of business-to-business companies and social media is a result of the unique situations faced by business-to-business type companies, which need a more unique approach to each situation. The experiences of other business-to-business companies are not viewed as comparable nor increase the want for transferal of experiences and ideas. Wiersema also offers another explanation that business-to-business social media use is still in a growth stage and common practices will take time to emerge. Meanwhile Michaelidou et al.'s (2011) study has 61% of respondents plainly not seeing the benefits of social media for their business-to-business company, though unfamiliarity to social media was also seen as reasoning.

2.3.2 Business-to-business message styles in social media

Swani et al. (2014) compared the message strategies of business-to-business and business-to-consumer companies in social media. They found that business-to-business companies were more likely to include corporate brand names in their social media messages, though it was shown that product brand names don't necessarily appear more frequently in business-to-consumer accounts. This is in line with Mudambi's (2002) study of business-to-business branding, that business-to-business companies focus more on their corporate brand than individual brand names. The use of corporate brand in social media helps build brand image and reputation (Swani et al., 2014). Companies that have a beneficial reputation are likely to be engaged by the public, because consumers prefer being associated with brands that are known for their reputable character (Swani et al., 2014).

In addition, direct calls to purchase are very rare for business-to-business companies in social media (Swani et al., 2014). Rapp et al. (2013) found social media to be a very useful tool for relationship building, and less appropriate for direct sales. Swani et al.'s (2014)

research found hashtags and cues and links for information search much more common, than sales pitches. Thus, business-to-business companies can provide audiences information about their brand to positively influence relationships with stakeholders (Swani et al., 2014). Overall, business-to-business brands were found to include links in their informational social media messages, while business-to-consumer companies generally used more hashtags (Swani et al., 2014).

According to Swani et al. (2014), previous research had indicated that for business-to-business companies, a functional message appeal was the most effective in marketing. However, Swani et al. found that emotional appeals were more common in business-to-business social media messages. This proves that marketing and communication strategies that were efficient in traditional media, are not the same in social media. Additionally, emotional appeals can help increase customer engagement and relationships with the corporate brand. (Swani et al., 2014)

The relationship building tools that social media offers could be an asset for business-to-business companies. Since business-to-business companies are majorly represented in industrial lines of business, the process of selling product and/or service is generally a longer and costlier process than with business-to-consumer and direct end consumers. Therefore, building a lasting relationship could be seen as more important than for business-to-business companies, than for business-to-consumer companies (Homburg, Klarmann, & Schmitt, 2010; Rapp et al., 2013).

2.4 Dialogue

This section will first discuss dialogue as concept and principle of dialogic communication in subsections 2.4.1 and 2.4.2. Next engagement will be studied as a concept in subsection 2.4.3, followed by a review of previous studies into social media and dialogue in subsections 2.4.4 and 2.4.5. Finally, dialogue will be discussed as part of an overall communication strategy in subsection 2.4.6.

2.4.1 Dialogue

As previous research and theories have shown, using a two-way symmetrical model of communication, focused on mutual benefits and understanding, can be beneficial to an organization in a number of ways (Keller, 2009; Lovett, 2013; Kumar et al., 2012; Rapp et al., 2013). Kent and Taylor (1998) define “any negotiated exchange of ideas and opinions” (p.325) as dialogic communication. The concept of dialogue has many names in corporate communication; discourse, process and dialectic and are used (Kent & Taylor, 2002). Kent and Taylor (1998) explain the relationship between dialogic communication and Grunig and Hunt’s two-way symmetrical communication in the following way:

The relationship between two-way symmetrical communication and dialogic communication can be seen as one of process and product. That is, two-way symmetrical communications theoretical imperative is to provide a procedural means whereby an organization and its publics can communicate interactively... ..In contrast, dialogic communication refers to a particular type of relational interaction — one in which a relationship exists. Dialogue is product rather than process. (p. 323)

Kent and Taylor’s (1998) description of dialogue includes the assumption of relationship between communicators. Two-way symmetrical communication can exist without a relationship between communicators. Dialogue requires a further understanding between communicators, it can be seen as a goal of a relationship between organization and the public (Taylor & Kent, 2014).

Dialogue exists when communication parties choose to engage with each other in a positive manner. Participants may disagree, but dialogic communication can be seen as the understanding of others, and open negotiation and discussions to reach mutually beneficial positions. Dialogue is produced by continuous relationships and communication. It requires effort from both parties. If a partner in communication is using undermining techniques, such as exclusion, manipulation, disconfirmation, the product

of this relationship and communication is not dialogic. In order for organizations to have dialogue with stakeholders, organizations must commit to mutually supportive relationship building through communication. Dialogue is a result of engagement, trust, interaction and risk (Kent & Taylor, 2002; Taylor & Kent, 2014; Cornelissen, 2014).

From a historical viewpoint, philosophers consider dialogue a most ethical form of communication. (Kent & Taylor, 1998, 2002). In organizational communication, dialogue has been considered as a framework for fulfilling and ethical relationships. However, dialogue itself, isn't ethical nor is more ethical than one-way communication styles (Kent & Taylor, 1998, 2002).

There are five main features to dialogic communication:

1. Mutuality — the realization that the relationship between organizations and the public are inseparable.
2. Propinquity — the amount of and timing of communication to the public by organizations and the public's willingness to respond to communication.
3. Empathy — acknowledgement, sympathy and support of public interests
4. Risk — being aware of possible vulnerability and unexpected consequences when communicating with the public.
5. Commitment — devotion to genuine communication, understanding and interpreting communication with the public. (Kent & Taylor, 2002)

As mentioned in the previous section, these five features dialogic communication have similarities to the five features of an organization-public relationship. The five features of successful organization-public relationships are trust, openness, involvement, investment and commitment (Ledingham & Brunig, 1998). Both features contain elements of commitment, propinquity and investment; and mutuality and involvement. The two remaining features of relationships are trust and openness and; risk and empathy for dialogic communication. Kent and Taylor's (1998) description of dialogue included a relationship with parties. By trusting stakeholders and by being open, organizations are as a result able to empathize and take risk in communication with the public. By communicating and acting in a manner dictated by all of these features, organizations are

generally communicating in a two-way symmetrical manner and allowing for the possibility of relationships and dialogue.

However, these dialogic principles presented previously shouldn't be mixed with dialogue itself. The difference between dialogue and dialogic is vast, according to Taylor and Kent (2014). Dialogic means the operations involved to create dialogue, while dialogue is a result of acting with dialogic principle in mind (Taylor & Kent, 2014).

There is discussion concerning the concept of dialogue and its use in studies of corporate communication. According to Taylor and Kent (2014), dialogue is wrongly viewed as an equivalent of two-way symmetrical communication in previous research. Theunissen and Wan Noordin (2012), and Taylor and Kent argue for dialogue to be studied as a complex philosophical concept, since the underlying philosophical issues and practical effects are very different from that of two-way symmetrical communication. In essence, can an organization that communicates in a two-way symmetrical manner to improve corporate performance really be focused on mutual benefits, instead of its own? Thus, is dialogue even possible for organizations? (Theunissen & Wan Noordin, 2012; Taylor & Kent, 2014)

This study chooses to view dialogue as a goal of an interactive relationship between organizations and the public. By using dialogic elements and principles in communications, organizations aim to build and strengthen relationships and increase engagement and interaction between the parties involved.

2.4.2 Principles of dialogic communication

To aid organizations in building relationships with the public, Kent and Taylor (1998) proposed five principles of dialogic communication. Though originally intended as tools for strategic communication on corporate webpages, with an aim for dialogue, the tools have also been researched and tested in the context of social media as well (Bortree & Seltzer, 2009; Waters & Jamal, 2011; Linvill et al., 2012; Thackeray et al., 2013; Seltzer & Mitrook, 2007; Lovejoy & Saxton 2012).

The five principles are introduced next with examples for Twitter:

1. Dialogic loop

The first principle concerns the propensity of public to question organizations as well as the possibility for organizations to reply to possible concerns, problems and questions of the public. In the case of Twitter, the public and organizations can direct tweets toward specific entities or to the general public, thus allowing for a feedback loop, where responses can be directed back to the sender and back again if needed. If the public tweets are not addressed in a timely manner, the dialogic loop won't work. In addition, the quality of response plays an important part in building relationships between communicators. (Kent & Taylor, 1998)

2. Usefulness of information

The second principle is related to the content produced in organizational communication. For Twitter, pages of organizations as well as tweets should offer informational value to all types of audiences in order for audiences to be able to have content to read and address the organization with. The content should be interesting to users and have users find the information valuable, which users can use in order to build relationships with organizations. (Kent & Taylor, 1998; Rybalko & Seltzer, 2010)

3. Generation of return visits

The third principle focuses on encouraging the public to return to organizations' digital communication channels. Such features in Twitter are, frequent tweets and correspondence with the public and for example contests or forums or asking the opinion of users on subjects. By updating information and by providing information that is deemed valuable by the public, the perceived credibility and responsibility of an organization is increased. (Kent & Taylor, 1998)

4. The intuitiveness / ease of interface

The fourth principle turn the focus to the design of organizational internet channels. For organizations using Twitter, they cannot affect the ease of use of Twitter since Twitter

decides on the foundation of their service. Overall, digital channels should not be too difficult to use, or use a structure that is hard to navigate through. Current needs often prefer different websites for mobile application versus access by computer. The digital channel should also encourage the public to use them and allow interaction with their use. (Kent & Taylor, 1998)

5. Conservation of visitors

The fifth principle warns to be careful about links shared by organizations on their digital channels. Though links be enable organizations to share valuable information, leading the reader away from your digital channel can result in them never returning. Pages linked to should offer a clear path which through to return to the original starting page. Since tweets are limited by space, the sharing of links is common. The conservation of visitors in Twitter could be seen as linking to corporate webpages, products or other social media pages of the same organization, as well as posting frequency. (Kent & Taylor, 1998; Rybalko & Seltzer, 2010)

The use of these tools in communications research has been criticized by Taylor and Kent (2014) themselves. Taylor and Kent propose that the use of these principles has oversimplified the concept of dialogue, with the idea that dialogue should be viewed as an “orientation that valued sharing and mutual understanding between interactants rather than as web site design features” (p.388). Dialogic principles can help emergence of dialogue, but the principles aren’t mandatory for dialogue to exist, yet these principles can help find out if organizations are trying to communicate in a more interactive manner with stakeholders.

2.4.3 Engagement

The concept of stakeholder engagement can be described overall interaction between organizations and stakeholders (Cornelissen, 2014; Bruce & Shelley, 2010). Engagement involves organizations taking stakeholders into consideration when making decisions, and effective engagement should be able to better social, financial and environmental performance of organizations as well as strengthening reputation, goodwill and

relationships between organizations and the public (Bruce & Shelley, 2010; Cornelissen, 2014).

Bruce and Shelley (2010) view engagement as an umbrella term for all interactions between stakeholders and organizations while Kent and Taylor (2014) position the concept of engagement under dialogue theory, with the concept of engagement as a property of dialogic propinquity introduced in the previous section. Therefore, engagement can only exist if dialogue exists, therefore a relationship must exist as well. Engagement is defined as an orientation that affects communication as well as an approach for guiding communication actions with results in the creation of social capital. Social capital is defined as something that can aid both those involved and uninvolved in the communication processes and is in fact a substantial outcome of engagement in relationships. (Taylor & Kent, 2014)

Taylor and Kent (2014) view that engagement cannot happen on social media. Engagement is necessary feature for dialogue to occur and dialogue means participants understanding, interacting and spending time together and that is why posts in social media cannot be seen as dialogic interaction or dialogue. Therefore, viewing, liking, commenting and sharing are not enough to result in engagement. (Taylor & Kent, 2014)

However, Sweetser, English and Fernandes' (2015) study of political organizations' relationships building with the public through social media proved that by tweeting at an organization, even for a short time, the public perceived having a deeper relationship with an organization. The public also felt that if an organization replied or retweeted one's tweet, a connection existed to build a relationship upon (Sweetser et al., 2015). Consequently, Facebook and Twitter exchanges can be seen as a tool for dialogic conversation, engagement and as a relationship building tool (Sweetser et al., 2015; Lovejoy & Saxton, 2012).

Meanwhile Men and Tsai (2014) and Smith and Gallicano (2015) found in their studies that it is possible for engagement to lead to a relationship between the public and

organizations. Millennials were found to want to build relationships with organizations of their choice, and that communication was initiated by millennials, with a hope of organizations responding (Smith & Gallicano, 2015). Additionally, the nature of engagement was both planned and spontaneous (Smith & Gallicano, 2015).

This study will not look at engagement as a concept of dialogue. The definition of engagement by Bruce and Shelley (2010) that classifies all interaction between organizations and stakeholders as engagement will be used.

2.4.4 Use of dialogic elements in social media

If the full potential of social media is taken into account, Grunig (2009) believes that corporate communications can become truly interactive, symmetrical or dialogical and responsible. Much of previous research into the content of digital media channels has focused on non-profit organizations (Water & Jamal, 2011; Linvill et al., 2012; Briones, Kuch, Fisher Liu & Jin, 2011; Rodriguez, 2016; Saxton & Waters, 2014; Lovejoy & Saxton, 2012; Thackeray et al., 2013; Hether, 2014), environmental agencies and/or activist and watchdog groups (Seltzer & Mitrook, 2007; Bortree & Seltzer, 2009; Kent, Taylor & White, 2003). Park and Reber (2008), and McCorkindale and Morgoch (2013) studied corporate website design while Rybalko and Seltzer (2010) focused on the use of Twitter by Fortune 500 companies.

The majority of studies focusing on social media and dialogic elements come to the conclusion of organizations underutilizing the dialogic features provided by social media and mostly use social media as a one-way information channel (Bortree & Seltzer, 2009; Waters & Jamal, 2011; Linvill et al., 2012; Thackeray et al., 2013). Others have found that use of social media by organizations is more dialogic in nature than the same organization's use of websites (Seltzer & Mitrook, 2007; Lovejoy & Saxton 2012). Corporate websites were found, however, to incorporate more dialogic features than corporate websites designed for mobile use (McCorkindale & Morgoch, 2013).

Unlike results from most other studies, Briones et al. (2011) discovered the US Red Cross to be successful in dialogic communication over a number of social media channels with the younger demographic and media. Rybalko and Seltzer (2010) also found in their study that 61% of Fortune 500 companies had dialogic features in their tweets, and Hether (2014) also concluded that dialogic elements existed in corporate communication. Saxton and Waters (2014) studied the reactions of stakeholders to organizational tweets and found that the public has a preference towards dialogue and particular types of mobilization tweets, but were more likely to share content on their own social media if the tweet was informational.

2.4.4.1 Use of dialogic elements in Twitter

The majority of research into the dialogical elements of organizational communication in Twitter has also focused on non-profit organizations (Waters & Jamal, 2011; Linvill et al., 2012; Saxton & Waters, 2014; Thackeray et al., 2013, Hether, 2014).

Rybalko and Seltzer (2010) focus on tweets and Twitter profiles of Fortune 500 companies. Over 95% of Twitter profiles included a link to the corporate website and around 80% included a brief biography of the company. Rybalko and Seltzer used dialogic principles to study individual tweets and found the dialogic loop being the most often used principle. Other principles were used in a descending order from generation of return visits, conservation of visitors and usefulness of information. The ease of interface principle was not used in Rybalko & Seltzer's study due to the nature of Twitter.

Rybalko and Seltzer (2010) found it interesting that the usefulness of information was the least used principle in tweets. It was theorized that the profile pages of a corporation provide enough details about the corporation, but that it would be useful to tell the public who is tweeting for the company in order to help build relationships between audiences and the public. The most prevalent dialogic features in tweets were “organizational response to a specific user's post”, “posting of newsworthy information about the company” and “attempting to stimulate dialogue by posing a question” (Rybalko, Seltzer,

2010, p. 339). Links to Flickr, LinkedIn, industry news and corporate investor relations websites were least used in tweets. (Rybalko, Seltzer, 2010)

In their study, Rybalko and Seltzer (2010) noticed that 60% of Fortune 500 companies responded to other users' comments and 30% tried to start dialogue through asking questions on Twitter. Park and Reber (2008) had come to the conclusion that corporate websites were mainly aimed at media, investors and consumers, while Rybalko and Seltzer's study showed that Twitter was aimed towards a more general unspecific audience.

Rybalko and Seltzer (2010) divided companies into dialogic (61%) and non-dialogic (39%) by the responsiveness of the organization. Dialogic companies aim to keep users engaged by frequent updates and almost 70% of companies posted new tweets within 24 hours of their profile being viewed by another party. Frequent posts keep their corporate Twitter interesting for users and shows commitment by the organization to upkeep of communication and dialogue. (Rybalko & Seltzer, 2010)

Companies that were deemed dialogic were more likely to use the conservation of visitors principle in their tweets than non-dialogic companies. Non-dialogic companies were more likely to use the generation of return visits principle than dialogic companies. Rybalko and Seltzer (2010) try to explain this, that by linking to information, companies are using Twitter in a more traditional informational one-way communication model. (Rybalko & Seltzer, 2010)

Kent & Taylor (1998) originally theorized the five principles of dialogue would help facilitate dialogue in corporate websites. Rybalko and Seltzer (2010) found in their study that the generation of return visits principle would have a negative effect on the dialogic orientation of a company in Twitter. Consequently, using the five principles of dialogue for studying dialogue in social media could be seen as outdated. However, the generation of return visits principle was described in Rybalko and Seltzer's research as making people want to return, and coded as links to media sites with news of the company and the company's own corporate websites. Therefore, the principle of generation of return

visits was basically coded as one-way information dissemination and viewed as an element of non-dialogic companies.

2.4.5 Dialogue as part of communication strategy

Though discourse and feedback are pictured as the ideal model of corporate communications, all communication cannot ja shouldn't be dialogic or two-way symmetrical. Controversial and/or complex issues open to interpretation are better used in a context where feedback can be received and messages accommodated to the public wants and needs. Standard data and easily understood messages with informational value are better sent through more one-way channels to the public. Furthermore, information sharing over social media can be seen as a tool for increasing perceived trustfulness of an organization by the public (Waters & Jamal, 2011). Accordingly, dialogue shouldn't be seen as the superior model of communication. (Taylor & Kent, 2002; Cornelissen 2014; Theunissen & Wan Noordin, 2012)

In addition, the best communication strategy in theory and practice can differ. The two-way symmetrical and dialogic model of communication can be viewed as idealistic, and not feasible for real life practice (Laskin, 2009; Hether, 2014). It has not been proven that the use of the two-way symmetrical model of communication is predominant in practice (Laskin, 2009). True dialogue involves risk and not all organizations are willing to risk control in favor of dialogue (Hether, 2014).

While much of previous research considers Twitter as a suitable platform for two-way symmetrical communication, LoveJoy and Saxton (2012) came to the conclusion that the most effective communication strategy on Twitter would not necessarily be focusing only on dialogic tweets. Each organization should use a communication strategy, that suits the organization's needs, others requiring a more dialogic approach while others focusing on informational value to build a ground for the possibility of dialogue. In addition, for different types of social media, different types of strategies must be used to increase engagement and conversation (Shin, Pang & Kim, 2015). In the case of Twitter, retweeting useful information and responding to tweets in a timely manner were viewed

as favorable for the organization (Shin et al., 2015). Furthermore, organizations may not be looking for dialogue as their end result of stakeholder communication, but using Twitter for promotion, marketing and mobilization of audiences (Lovejoy & Saxton, 2012).

Perhaps dialogue and one-way communication models are connected to each other. Theunissen (2015) proposes something called the Per-Di Principle. Based on quantum physics and communication, Per means persuasion and Di Dialogue. Social media is seen as a platform for both models of communication. It doesn't matter if communication persuasion or dialogue, but the content instead. Modeled upon Schrödinger's cat, either or can exist and perceptions can change as communication strategies change. Therefore, what is being observed is what is happening at that particular time and may change in the future or have been different in the past. Dialogue is less likely in the beginning of a relationship, and as social media can be defined as a relationship building tool, when the relationship matures, dialogue may emerge. (Theunissen, 2015)

2.5 Theoretical Framework

This section will present the six hypotheses generated for this study concerning the use of Twitter by the forest and paper product industry.

The aim of this study is to find out how the forest and paper product industry is using Twitter to communicate with the public and if there are differences between companies with headquarters in different geographical locations. Six hypotheses based on previous research have been created to help answer the first question of how forest and paper product companies use Twitter. The six hypotheses are:

H1 Forest and paper product companies use Twitter to inform.

Large, established organizations, such as companies in the forest and paper product industry, have been shown to prefer control of communications over the risk associated with a more interactive communication style (Go & You, 2016, Hether, 2014). Previous research has shown that most companies use social media mainly as a tool for information

spreading (Linville et al., 2012; Thackeray, et al., 2013; Hether, 2014; Lovejoy & Saxton, 2012; Waters & Jamal, 2011; Bortree & Seltzer, 2009).

H2 The most common information tweet used by forest and paper product companies is environmental information.

Forest and paper product companies rely on sustainable practices and aim to further invest in ecological practices in the future (PricewaterhouseCoopers, 2016). Communication of these ecological operations is considered important by forest and paper product companies (PricewaterhouseCoopers, 2016; Sharma & Henriques, 2005), but mostly when the results of these sustainable practices are tangible, and hence easily communicated to stakeholders (Sharma & Henriques, 2005).

H3 Forest and paper product companies will reply more often than seek responses.

The use of tweets encouraging interaction and community have been show to affect the amount of engagement between organizations and the public (Saxton & Waters, 2014). Therefore, organizations themselves help define the amount of engagement between stakeholders and organizations. Two thirds of Fortune 500 companies respond to other users' posts and a third ask questions on social media, which would logically indicate that business-to-business companies will also place a focus on replying to the public (Rybalko & Seltzer, 2010).

H4 The most common community mobilization and promotion tweet used by forest and paper product companies is promotion of corporate brand.

The forest and paper product industry is taking a more customer-oriented approach to organizational strategy and is increasing use of social media as a communication tool, following global trends in use of social media by business-to-business organizations for corporate communication (PricewaterhouseCoopers, 2016; Wiersema, 2013). Twitter is viewed as useful marketing tool for for organizations (Fidelman, 2015), but the messages published in Twitter by business-to-business companies are likely to focus on corporate brand rather than direct sales (Mudambi, 2002, Swani et al., 2014).

H5 Forest and paper product companies will use elements that support interaction in their tweets.

Dialogue is a result of such things as interaction and engagement (Kent & Taylor, 2014; Taylor & Kent, 2002; Cornelissen, 2014). Therefore, the use of dialogic elements in tweets can be viewed as elements that support interaction. Being interactive on Twitter has been shown to increase the quality of relationships between organizations and the public (Saffer et al., 2013). The majority of Fortune 500 companies have been shown to use dialogic elements in their social media messages (Rybalko & Seltzer, 2010), though the perceived existence of dialogue in social media has remained low (Rodriguez, 2015; Bortree & Seltzer, 2009; Linvill et al., 2012; Park & Reber, 2008; Kent et al., 2003).

The second question concerning differences in use of Twitter by forest and paper product companies located in different nations will be answered through content analysis and use of interaction supporting elements. Content analysis and interaction supporting elements will be further introduced in section 3.2, Methods, of the next Chapter 3.

3. Data and methods

The first section 3.1 of chapter will introduce and explain the data chosen for this study, starting with reasoning for the chosen companies and countries, followed by a description of identifying Twitter accounts for the chosen companies. The second section 3.2 will focus on the methodology, classification of tweets and use interaction supporting elements in these tweets. Finally, trustworthiness of this study will be looked at in section 3.3.

3.1 Data

In this research, tweets of 16 forest and paper product companies from 4 different countries are studied. The forest and paper product industry was chosen for this study because of the industry's large size and basic characteristics. The global forest and paper product industry is mainly comprised of industrial business-to-business oriented companies, and generally business-to-business companies are still in early phases of using social media for strategic communication (Holden-Bache, 2011). Additionally, though the forest and paper product industry uses renewable energy sources, but uses high amounts of resources in production (Kinsella et al., 2007; All About Pulp, 2016). Hence, the industry is generally not viewed as environmentally friendly, which enhances the importance of relationships with their stakeholders and general public. By choosing one industry, comparison between companies and countries is possible and 16 companies were chosen give a large sample size.

The 16 companies were chosen from the Paper and Pulp International's Top 100 Listing 2015 and PricewaterhouseCoopers 2015 Top listing of 100 forest, paper and packaging companies. Though ranks of companies differ, the majority of companies listed in the top 100 by Paper and Pulp International and PricewaterhouseCoopers are similar. The Paper and Pulp International Top 100 is an annual listing based on sales of pulp, paper conversion and merchandising operations of paper and pulp producers. In the list of 100 companies; 34 are European, 28 North American, 27 Asian and 11 from Latin America, Oceania and Africa. The PricewaterhouseCoopers Top 100 listing of forest, paper and

packaging companies are also based on overall sales. The Paper and Pulp International's Top 100 and PricewaterhouseCoopers' Top 100 lists are lacking in number of privately owned companies, that are not required to publish financial results, mainly from Asia, but aim to get as many results as possible from privately owned companies to make the list. (A PPI Special Report, 2015; PricewaterhouseCoopers, 2015)

3.1.1 Chosen countries

Finland, Sweden, Canada and the United States of America were chosen for this study as they all represent countries that are known for their forest and paper industry. They are all among top producers and exporters of paper and pulp, and have at least four companies represented in the Paper and Pulp International's Top 100 2015 and PricewaterhouseCoopers' Top 100 2015 lists. Total sales of the Paper and Pulp International Top 100 companies were worth 319 408 million USD in 2014, with European and North American companies accounting for 69.8% of these sales. In terms of Paper and Board production, North American companies produced around 61, 000 thousand tonnes and European companies 67, 000 thousand tonnes of paper and board in 2014, each accounting for about 30% of total manufactured paper and board. (A PPI Special Report, 2015)

Geographically Finland and Sweden, and the United States of America and Canada are neighboring countries and can be seen as representing the geographical areas of Northern Europe and North America respectively. The forest and paper industry can be seen as one of the main pillars of the economies of Finland and Sweden. Canada and the United States of America are large producers of paper and pulp products, but their economies rely also on a number of other industries. (Finnish Forest Industries, 2015; The Forest Products Industry of Canada, 2014; Swedish Forest Industries Federation, 2014, American Forest & Paper Association, 2015)

Four companies from each country were chosen to bring enough variety into study. If a country category had more than four possible candidates, candidates were chosen on the basis of having Twitter accounts and amount of sales. By choosing companies of with

similar amounts of sales, this study aims to collect results of companies comparable to each other. The chosen companies are divided into three different categories in terms of sales, pictured in the Table 1 below:

Table 1. Companies divided in terms of sales from PPI Top 100 List

Over 10 000\$ million in consolidated sales (PPI top 10)	Over 3 000\$ million in consolidated sales (PPI rank 10-40)	Under 3 000\$ million in consolidated sales (PPI rank 40+)
Kimberly Clark	Metsä Group	Södra Group
SCA Group	Packaging Corporation of America	The Holmen Group
Stora Enso	Domtar Corporation	Ahlstrom Group
UPM-Kymmene Corporation	Sonoco Products	Verso Corporation
	Resolute Forest Products	Catalyst Paper Corporation
	Cascades	
	BillerudKorsnäs	

3.1.2 Identification of Twitter profiles

After companies based in Canada, Finland, Sweden and the United States of America were collected from the Paper and Pulp International and PricewaterhouseCoopers Top lists, Twitter accounts were identified for each. Twitter accounts were identified through corporate website links to Twitter. If links were not found, search was conducted through Google with the keywords “company name” and “Twitter”. If profiles were not found through these methods, the company name was inserted into Twitter’s search function and found with this method. Some companies had more than one Twitter account and in these cases the general corporate account posting in English was primarily chosen.

A preliminary study was conducted in November 2015. Twitter accounts were considered active if the company posted at least one original tweet between November 17 and 25th 2015. Accounts deemed active were considered for the study. The study aims to focus on tweets posted in English for reasons of comprehension and English tweets can be viewed

as aimed towards a global audience. Companies that tweeted in English and another language were considered if the majority of tweets were in English, or if the majority of tweets were posted twice, in English and another language.

For two companies the main corporate profiles were not chosen. The pool of Swedish candidates was small, and active corporate group member Twitter accounts were favored over Swedish posting, inactive or nonexistent main corporate accounts. In the case of Södra Group, the corporate Twitter profile posts tweets solely in Swedish, while Södra Cell, in charge of paper and pulp operations, tweets solely in English. This can be seen as a strategic choice by the Södra Group, and that is why the Södra Cell account chosen to represent Södra Group for this study. In the case of the Holmen Group, the group didn't have a corporate Twitter profile, but corporate group member Iggesund posted all tweets in English and was chosen to represent the Holmen Group.

The chosen companies for this study are Ahlstrom Group, Billerudkorsnäs, Cascades, Catalyst Paper Corporation, Domtar Corporation, Kimberly-Clark Corporation, Metsä Group, Packaging Corporation of America, Resolute Forest Products, Sonoco Products, Södra, Stora Enso, The Holmen Group, UPM-Kymmene Corporation and Verso Corporation.

The chosen companies, Twitter usernames nationality are listed in the Table 2 below:

Table 2. Chosen companies, headquarter bases and Twitter usernames

Company name	Headquarters based in	Twitter username
Ahlstrom Group	Finland	@Ahlstromgroup
Billerudkorsnäs	Sweden	@BillerudKorsnas
Cascades	Canada	@CascadesSD
Catalyst Paper Corporation	Canada	@catalyspaper
Domtar Corporation	Canada	@DomtarCorp

Kimberly-Clark Corporation	United States of America	@KCCorp
Metsä Group	Finland	@MetsaGroup
Packaging Corporation of America	United States of America	@packagingcorp
Resolute Forest Products	Canada	@resolutefp
SCA Group	Sweden	@SCAeveryday
Sonoco Products	United States of America	@Sonoco_Products
Södra Group	Sweden	@Sodrapulp
Stora Enso	Finland	@storaenso
The Holmen Group	Sweden	@iggesundAB
UPM-Kymmene Corporation	Finland	@UPM_News
Verso Corporation	United States of America	@Versoco

Data was collected for three months in this study between January 1st and March 31st 2016. Tweets and related information was collected using the tool ExportTweet, available at exporttweet.com. ExportTweet collects all tweets, retweets, directed tweets and likes into data files. A collection of 1224 tweets were collected, of which 713 tweets were within parameters of the study. Retweets by the chosen companies were collected, but not included in the content analysis of this study, because this study aims to study content of original tweets be the chosen companies. The tweets were then analyzed using methods described next.

3.2 Methods

A quantitative content analysis was chosen for analysis of data in this study. A quantitative content analysis in communication is described as a pragmatic method of studying either live or recorded communication in a systematic, quantitative and intersubjective manner (Scheufele, 2016). Quantitative research is seen as suitable for large amounts of information. In quantitative analysis, data must be coded into

measurable elements that can be processed in order to be able to analyze the data. (Bryman & Bell, 2003)

The aim of this study is to find out how forest and paper product companies use Twitter and if there are difference between North American and Northern European forest and paper product companies. Therefore, a framework was produced to differentiate between content, and find out if elements supporting interaction are used through the study of dialogic principles.

For categorization of content and study of dialogic elements, Lovejoy and Saxton's (2012) model of tweet classification was used, with slight alterations for for-profit organizations. Additionally, companies' use of interaction supporting elements is measured through a variation on dialogic principles by Kent and Taylor (1998).

3.2.1 Information

The main purpose of these tweets is to disseminate information about the organization or other topics. Since previous research has shown informational messages as the most common type of message sent by organizations in social media, additional categories were added to find out what type of information is sent. The five categories of informational tweets are financial information, environmental information, community information, technological information and general facts to be defined next.

1. Financial information: Information related to the financial performance of the company, such as annual reports and other financial news.
2. Environmental information: Information related to sustainability practices of the company.
3. Community information: Information about internal company operations, appointments, and company-community efforts and visitations.
4. Advancement information: All information related to the advancement of the company, either as new building, extensions as well as technological advancements.

5. General information: The focus in these tweets is information that isn't directly communication about operations, processes and actions by the company, but about third parties or generalized information about the previous topics or industry news without in-text word relating the information to the company. This category differs from the previous information categories in the sense that the information isn't directly linked to the company, though it can be industry related.

3.2.2 Community

These tweets aim to increase interactivity between organization and the public as well as tweets that aim to strengthen the relationship between the organization and public without the expectation of interactivity. Lovejoy and Saxton (2012) define community tweets as tweets that aim towards building an online community. Tweets that promote interactivity between organizations and public are replies and response solicitation. Tweets that focus on community-building are giving recognition and thanks, and acknowledgement of current and local events.

6. Replies: tweets that are seen as responses to messages sent by other users. Generally, these tweets are aimed at specific users with the use of @username and could be viewed as answers and comments to other users.

7. Response solicitation: Tweets that aim to gather responses, through questions, competitions, polls and surveys.

8. Recognition and thanks: Acknowledging and/or thanking other parties for a variety of reasons, both directed at specific users and unspecified thanks.

9. Acknowledgement of current and local events: Tweets that acknowledge the existence of current and local events.

3.2.3 Mobilization and promotion

These tweets focus on the general promotion of brand, products and services and promotion of events and actions that would mobilize the public to join in or do something for the organization.

10. Promotion of event: Tweets that promote an event, either physical or online.
11. Promotion of company: The main aim of the tweet is to promote the corporate brand, part of the corporate group, its products and/or services. Direct calls to purchase are also in this category.
12. Recruitment: Tweets that promote an open position and call for people to apply to work for the company.
13. Lobbying and advocacy: Tweets that focus on asking the public to lobby for or advocate specific issues.
14. Calls to vote for company or join another site: This category focuses on asking people to vote for the company on another site or join another site altogether.
15. Tips and Help: Tweets that are aimed at teaching the public and hence getting the public to do something.

In the case of tweets containing more than one type of content categorization, a primary purpose was identified for each tweet.

3.2.4 Measurement of engagement

Previous research has used dialogic principles as tools for measuring how dialogic organizations are (Rodriguez, 2015; Bortree & Seltzer, 2009; Linvill et al., 2012.; ...) The five principles are usefulness of information, dialogic loop, conservation of visitors, generation of revisits and ease of interface. The five principles in their simplified state of website or social media features are not enough by themselves to prove if organizations are aiming towards dialogue. However, since dialogue is a result of interaction and engagement, the principles of dialogic communication can be used to see if companies are using elements that would make interaction between organizations and stakeholders possible.

Since all information can be seen as useful to some stakeholder or public, all informational tweets, except the general information types of tweets, are found to represent the usefulness of information principle. The dialogic loop is recognized in the replies and response solicitation types of tweets, because these tweets aim to promote

interactivity between participants. The ratio of use of these types of tweets will be used as measurement. The dialogic loop is also recognized in ratio of use of retweets, though retweets are not direct responses nor aim to get others to respond. However, the use of retweets can be seen as an indirect response to other users' communication. The two principles of conservation of visitors and generation of revisits are measured as tweet frequency and relative amount of links leading to the companies' own websites and social media. The fifth principle of ease of use is not used in this study as Twitter can be seen as a platform that companies' use, and the companies' cannot affect the ease use of Twitter.

The measurements presented previously are viewed as methods to see if dialogic features are used in tweets, therefore supporting emergence and existence of interaction between organizations and the public.

3.3 Trustworthiness of the study

A study is valid if it is reliable and reliability is measured through the consistency of a concept (Bryman & Bell, 2003). This study uses methods of measurement from previous studies. However, the measurements and classifications in this study are not all directly comparable due to definitions and measurements of particular concepts that differ from previous studies. This study may also be replicated, but the results may differ in time due to changes in communication strategies on part of the studied organizations or due to completely different communication strategies of studied organizations.

The choice of Swedish companies Twitter accounts may affect the results of this study. For the other three countries represented in this study, the Twitter accounts found for each company represented the general Twitter account of the main company or group. Due to the small number of Swedish companies using Twitter at all or in English, two Twitter accounts were chosen, that did not directly state to be representing the company or group as a whole on global scale. Thus, these two companies' Twitter profile results may misrepresent results of this study.

Additionally, this study has only one observer. Therefore, consistency of categorization of tweets should be reliable. However, personal bias can affect how the primary purposes of tweets are viewed and other researchers could come to different results with the same tweets.

4. Findings

This chapter will explore the finding of this study, starting from an overview of all results and hypotheses in section 4.1, followed by country specific results of Canada, Finland, Sweden and the United States of America in section 4.2. Next, the consolidated results from the geographical areas of North America and Northern Europe will be introduced in sections 4.3 and 4.4 respectively. Finally, the differences found in tweet content and use of element that support interaction will be discussed in section 4.5.

4.1 Forest and paper product industry results

The purpose of this section is to answer the first research question of how the forest and paper product industry uses Twitter. First the data studied will be presented, followed by the results of each hypothesis presented in the theoretical framework of this study.

In this study, 1224 tweets and retweets posted by the chosen companies were collected altogether. Out of these 1224 messages, 212 messages were retweets and 299 messages were written in a language other than English. This study chose to exclude tweets in another language than English and retweets were only studied in relative amount to overall tweets, not in terms of content. From the original 1224 tweets, the content of 713 tweets were studied. The ratio of studied tweets by country are introduce in the Figure 4 below.

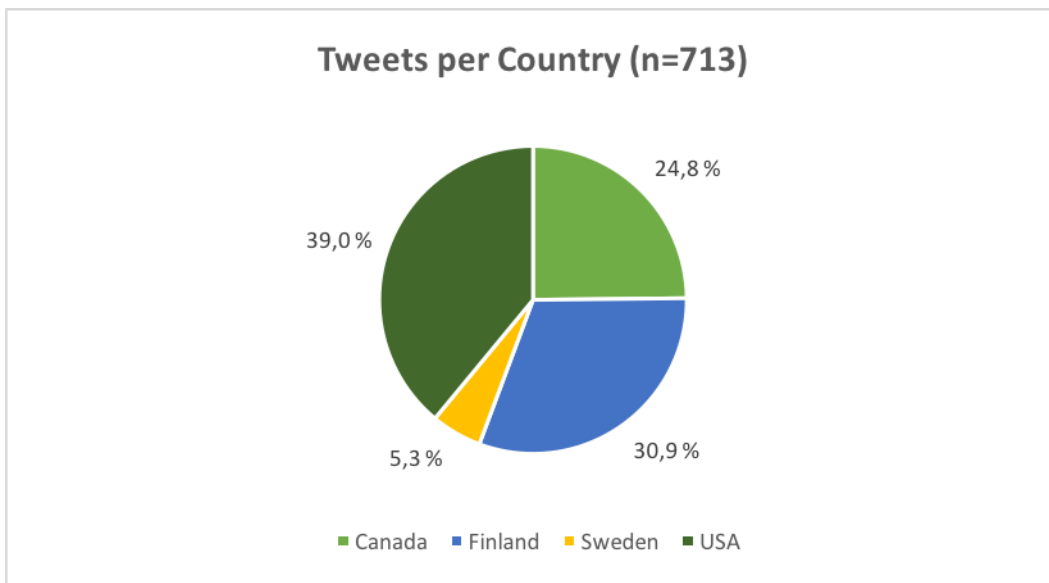


Figure 4. The ratio of tweets by country

As seen in the Figure 4 above, companies based in the United States of America posted the most tweets during the study period, amounting to 39.0% of all tweets with 278 tweets. Companies based in Finland accounted for 30.9% of all tweets with the amount of 220 tweets and Canada based companies represented 24.8% of all tweets with 177 tweets. Tweets from Swedish based companies accounted for merely 5.3% of all tweets, with the amount of 38 tweets from all Swedish companies in the chosen study period.

4.1.1 Forest and paper product hypotheses results

H1 The forest and paper product industry uses Twitter to inform.

The global forest and paper product industry uses Twitter to inform audiences. Out of the three main categories of information, community, and mobilization and promotion tweets, nearly 50% of all tweets, with the amount of 341 tweets, accounted for the information types of tweets, as seen in the Figure 5 below. Tweets aimed building a community were the second most popular category of tweets accounting for 36.6% of all tweets with the amount of 261 tweets represented in this category. From all results, mobilization and promotion tweets accounted for only 15.6% of all tweets posted with 111 tweets altogether.

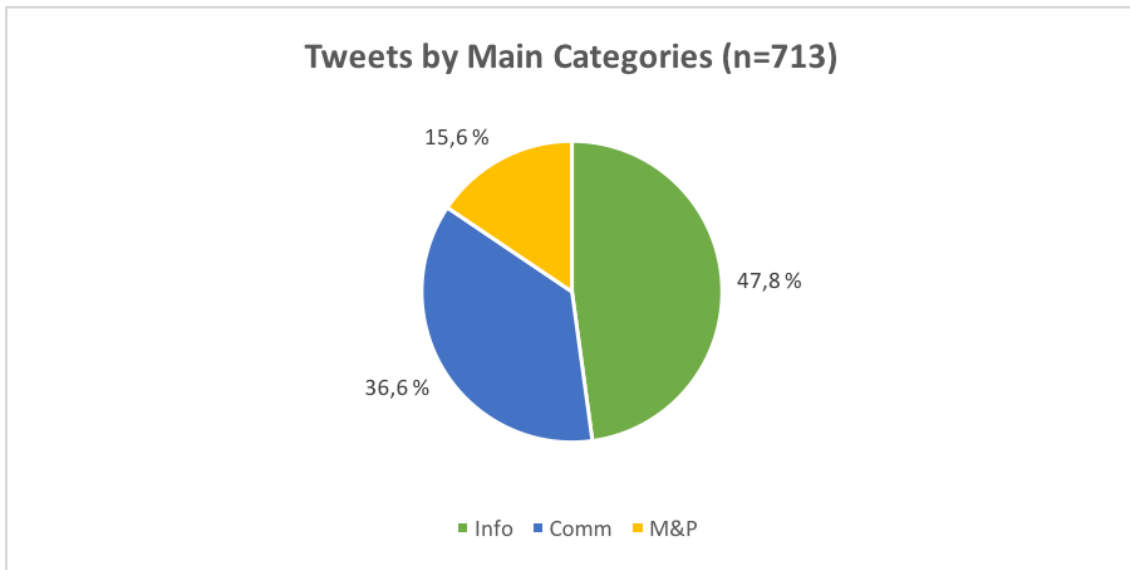


Figure 5. Tweets of all companies by main categories

Out of all the fifteen subcategories introduced in the methodology section of this report, the most popular one type of tweet for forest and paper product companies was the reply type of tweet accounting for almost 20% of all types of tweets, with 135 tweets altogether. Out of individual subcategories, general information, environmental information and financial information were the next most common type of tweet in descending order. It is interesting to see that though the information as a main category was the clearly to most common type of tweet, out of individual tweets, replies, a subcategory part of the community type of tweets, was individually overwhelmingly the most common type of tweet. The least popular one type of tweet is lobbying and advocacy, with 0 tweets in this subcategory. The results of all subcategories are displayed in the Figure 6 presented next and explained in the Table 3 below.

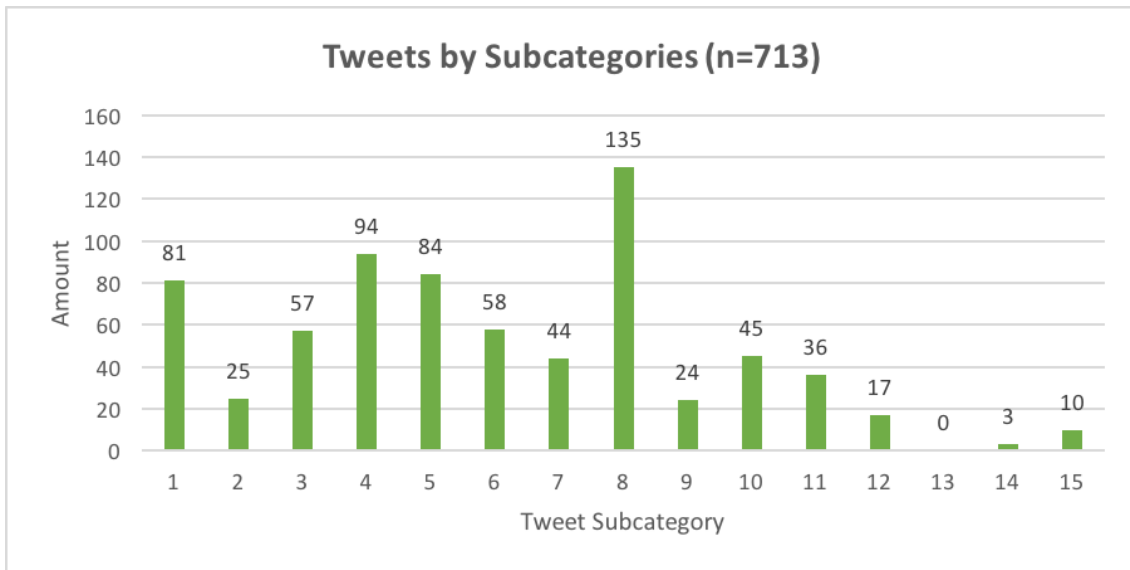


Figure 6. Tweets of all companies by subcategories

Table 3. The 15 subcategories divided by main type

Information	Community	Mobilization & Promotional
1. Financial Information	6. Recognition and Thanks	10. Promotion of Event
2. Advancement Information	7. Acknowledgement of Current and Local Events	11. Promotion of Company
3. Community Information	8. Replies	12. Recruitment
4. General Facts	9. Response Solicitation	13. Lobbying and Advocacy
5. Environmental Information		14. Calls to vote for company or join another site
		15. Tips and Help

H2 The most common information tweet used by forest and paper product companies is environmental information.

Environmental information is not the most common informational tweet. The tweets 1-5 in the Figure 6 above represent the information categorization of tweets. Representing 47.8% of all tweets, this category contains the largest amount of tweets posted of all subcategories. The most common type of tweet is general information, accounting for 27.5% of all informational tweets. An interesting fact, as general information is the only information category type of tweet not focused solely on company information, but

general information both related and unrelated to the forest and paper product industry as a whole. As a close second and third, environmental information and financial information are also disclosed in tweets. Community information types of tweets are clearly less common than general fact, environmental and financial information types of tweets, but is still the 6th most common type of tweet out of all subcategories. The least common type of information tweet by the forest and paper product industry is advancement information, information about new ventures or technological innovation, accounting for around 7.3% of all information tweets.

H3 Forest and paper product companies will reply more often than seek responses.

Reply tweets are used more often than tweets seeking responses. Community tweets are represented as subcategories 6-9 in the Figure 6. As previously mentioned, the most common individual type of tweet is replies type of tweets, with an amount of 135 tweets accounting for 18.9% of all tweets. The next most popular type of community tweet is recognition and thanks types of tweets with the amount of 58 tweets followed closely by acknowledgement of current and local events types of tweets with the amount of 44 tweets. The least used category of community tweets is the response solicitation subcategory with 24 tweets accounting for 9.2% of all community tweets.

H4 The most common community mobilization and promotion tweet used by forest and paper product companies is promotion of corporate brand.

The most common type of mobilization and promotion tweet is the promotion of event type, followed by promotion of company. Therefore, promoting corporate brand is not the most common of all mobilization and promotion tweets. The subcategories 10-15 in the Figure 6 represent mobilization and promotion tweets. These types of tweets are the least common types of tweets used by the forest and paper product industry. The most common types of mobilization and promotion tweets are the promotion of an event and promotion of the company, together representing 73% of all mobilization and promotion tweets. These two tweet types can be viewed as representing the promotional aspect of the main category. The remaining subcategories 12-15 represent the least common types of tweets in both the mobilization and promotion category and out of all tweets. Recruitment, and tips and help types of tweets together account for 3.8% of all tweets.

Only 3 tweets posted apply to the calls to vote for company or join another site subcategory and 0 tweets were found in the lobbying and advocacy subcategory.

H5 Forest and paper product companies will use elements that support interaction in their tweets.

Four out the five dialogic principles were used to look at the propensity of the forest and paper product industry to support interaction. The forest and paper product industry was found to use all types of dialogic elements studied in this research project. The usefulness of information principle was represented by all information types of tweets except the general information type of tweet. Therefore, 247 tweets were found to contain “useful” information, accounting for 34.6% of all tweets. Thus the usefulness of information principle is quite common, over a third of all tweets. The dialogic loop was recognized in tweets that aimed to increase interaction; replies and solicitation types of tweets and retweets. Response and solicitation types of tweets accounted for 22.3% of all tweets, with 159 tweets altogether. Together useful information, replies and response solicitation types of tweets accounted for 56.9% of all tweets. Retweets, a tool for acknowledging and sharing messages originally sent by other entities were posted 213 times, accounting for 23.0% of all tweets. All companies use retweets, except one Swedish company.

The principles of generation of revisits and conservation of visitors are measured through tweet frequency and amount of links linking back to the company’s own website or social media. On average, companies in the forest and paper product industry tweeted 17.1 tweets per month, more than one tweet every other day. Out of all links posted, 66.3% of links were found to link back to the company’s own internet presence. Therefore, forest and paper product companies are found to actively link back to their own internet presence.

4.2 Results from all countries

This section will explore the results of this study from each individual country. Starting with results from Canadian forest and paper product companies, followed by results from Finland, Sweden and the United States of America. All country results will follow the

same order, first covering the main three categories of tweets, followed by an analysis of individual subcategories and last review the use of principles that support interaction.

4.2.1 Results of Canadian forest and paper product companies

The four Canadian companies chosen tweeted 177 times during the course of this study, accounting for about one quarter of all tweets. Unlike industry wide results of information tweets being most common, Canadian companies were found to largely focus on community tweets, with 55.9% of all tweets being in this category with the amount of 99 tweets, pictured in the Figure 7 below. The second most common tweet type are information tweets, 50 tweets accounting for 28.2% of all tweets and corresponding with industry wide results, mobilization and promotion tweets were the least used, accounting for a relatively similar 15.8% of tweets with the amount of 28 tweets. These results show that Canadian companies are using Twitter in a manner that would aim to build relationships and interaction with readers.

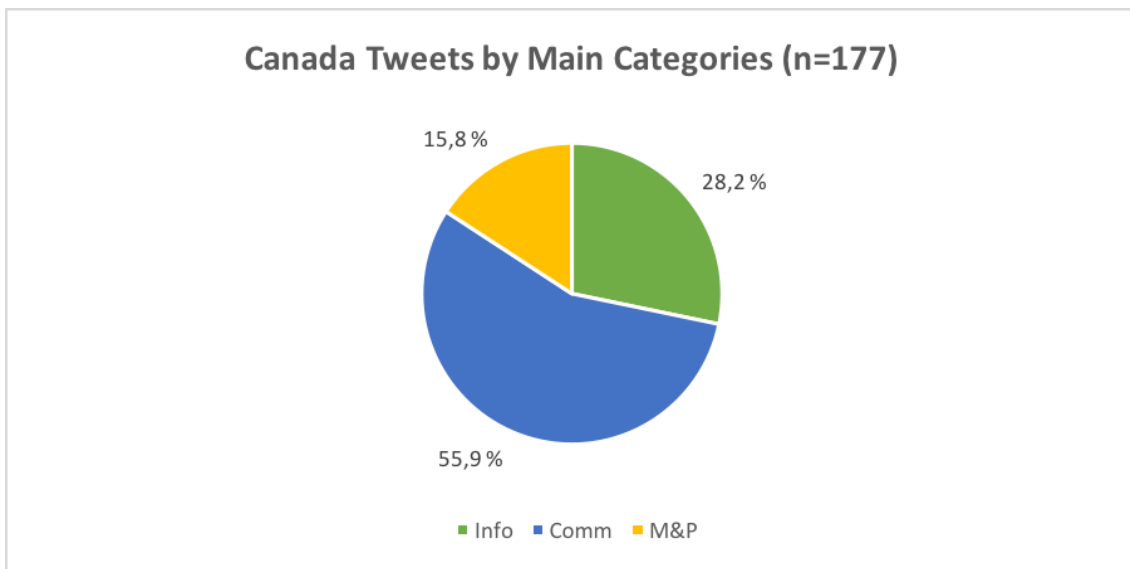


Figure 7. Tweets by main categories for Canadian companies

4.2.1.1 Tweets used by Canadian companies

As pictured in the Figure 8 below, Canadian companies clearly focused on replies types of individual tweets, these accounted for 39.0% of all tweets, with all other categories

lagging behind with over 40 tweets less than replies types of tweets. The second most common type of tweet were environmental information tweets accounting for 11.9% of all tweets. In addition to no tweets in the lobbying and advocacy category, Canadian companies also had no tweets classified as advancement information, promotion of company and calls to vote for company or join another site.

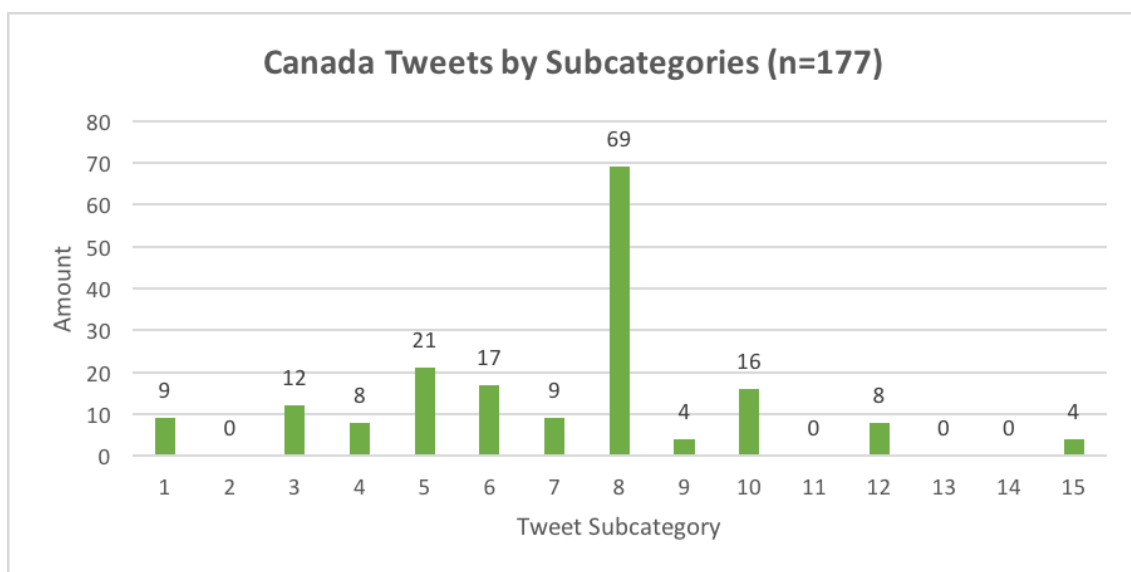


Figure 8. Tweets by subcategories for Canadian companies

Information Category, 1-5

The most common information type of tweet for Canadian forest and paper product companies, was environmental information, with 21 tweets, solely accounting for 42% of all information tweets. The second most common type of information tweet is community information, with 12 tweets, followed by financial information and general information, with 9 and 8 tweets respectively. The clear gap between environmental and the other categories shows that Canadian companies are most interested in informing audiences about their environmental efforts in comparison to other topics. Canadian companies had 0 tweets relating to advancement information, which was also the least common type of tweet in industry wide results.

Community Category, 6-9

As industry wide results, the most common type of community tweet is replies types of tweets with 69 tweets accounting for 39.0% of all tweets and 69.7% of all community tweets. Following industry results, the second most common type of community tweet were recognition and thanks, followed by acknowledgement of current and local events and response solicitation with 17, 9 and 4 tweets respectively. The community main category was the most often used type of tweet for Canadian companies, representing a much higher percentage of tweets than the information types of tweets generally most commonly used in the forest and paper product industry.

Mobilization and Promotion Category, 10-15

The least used type of tweets were mobilization and promotional main category types of tweets. This is reflected in three categories in this main category containing 0 tweets altogether. These three categories, as previously stated, are lobbying and advocacy, promotion of company and calls to vote for company or join another site. The most common type of tweet in the mobilization and promotional tweets is promotion of event, with 16 tweets, which is also the 4th most common type of tweet out of all Canadian tweets. Canadian companies also use Twitter, to some extent for recruitment purposes, with recruitment type of tweets accounting for 8 tweets and 28.6% of mobilization and promotional tweets. Tips and help types of tweets are quite uncommon, with only 4 tweets and is among the lowest used types of tweets.

4.2.1.2 Use of interaction supporting principles by Canadian companies

The results of dialogic elements in Canadian forest and paper product companies reflect the general categorization findings presented previously. The number of tweets representing the dialogic loop were much higher at 73 tweets, at 41.3% of all tweets than tweets containing useful information. Retweets were posted on average with industry wide results at 23.1% with 53 retweets. Only 42 tweets, 23.7%, of all tweets contained useful information, which is almost 10% less than the 34% found in the industry wide results.

As for the principles of generation of revisits and conservation of visitors, Canadian companies had links in 88 tweets, with 52 linking to the company's online presence, a percentage of 59.1% of all links, a number slightly lower than industry average. Canadian companies were also found to tweet slightly less than the industry average at 14.75 tweets per month, though tweeting almost every other day on average.

4.2.2 Results of Finnish forest and paper product companies

Finnish companies are on average the second most active in use of Twitter with 220 tweets over the course of three months. Finnish companies use Twitter mainly for information dissemination, the purpose of 169 tweets, almost 80%, of all tweets was to spread information. This number is much higher than the industry average of almost 50%. Also unlike the industry average with community tweets as the second most common type of tweet, the second most common type of tweet for Finnish companies was mobilization and promotional tweets, with 31 tweets accounting for 14.1% of all tweets. Finnish companies are using Twitter to a less extent for community building as community types of tweets only accounted for 9.1% of all tweets with the amount of 20 tweets, pictured in the Figure 9 below.

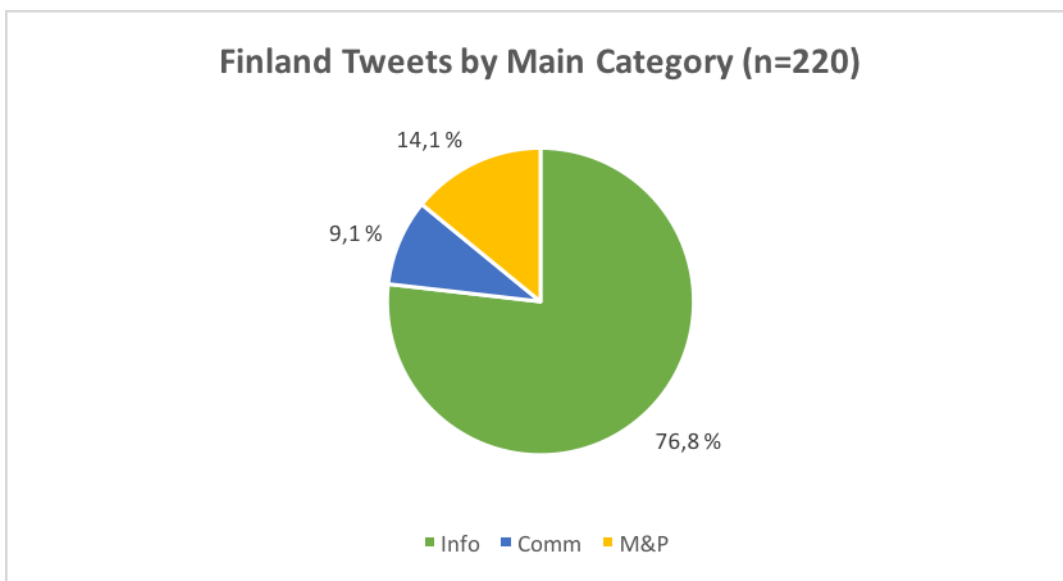


Figure 9. Tweets by main categories for Finnish companies

4.2.2.1 Tweets used by Finnish companies

As Finnish companies use Twitter mostly for informing audiences, accordingly, the most common type of tweet is Financial information accounting for 27.3% of all tweets as can be seen from the Figure 10 below. The five most common types of tweets by Finnish companies are all the five information categories. The least common types of tweets used by Finnish companies are replies, response solicitation, lobbying and advocacy and, calls to vote for company or join another site, with all categories having one or none tweets assigned. All of these subcategories are also in lowest scoring categories of industry results, except the replies subcategory, which is the one highest used subcategory of all in industry wide results.

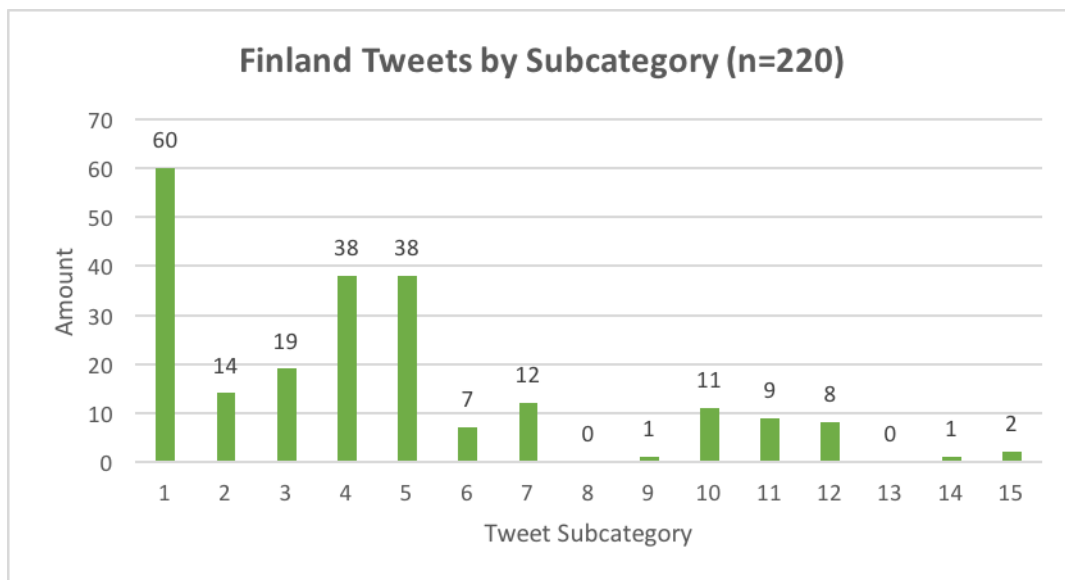


Figure 10. Tweets by subcategories for Finnish companies

Information category, 1-5

As can be seen from the Figure 10 above, the top five types of tweets are all in the information main category. Containing over 20 tweets more than any following category, the most common type of tweet by Finnish companies is financial information with 60 tweets. General information and environmental information, both at 38 tweets, are the second most common type of tweet. Among industry average, the two least common information types of tweets are advancement and community information, with the amount of 14 and 19 tweets altogether.

Community category, 6-9

Community types of tweets are the least used types of tweets used by Finnish companies. The most used category in the community tweets is acknowledgement of current and local events accounting for 60%, at 12 tweets, out of all community type tweets. With almost half the amount of tweets, at 7 tweets, the second most used community tweet is recognition and thanks. Finnish companies did not use Twitter for replies at all, with the result of 0 tweets in this category and only tweeted once in a manner that could be classified as response solicitation.

Mobilization and promotion category, 10-15

The mobilization and promotion main category of tweets is the second most common type of tweet used by Finnish companies at 14%. The three most common types of tweets in this main category are promotion of event, promotion of company and recruitment tweets with 11, 9 and 8 tweets respectively. Like industry average, the least common types of mobilization and promotional tweets are lobbying and advocacy, calls to vote for company or join another site and tips and helps types of tweets with 0, 1 and 2 tweets respectively.

4.2.2.2 Use of interaction supporting principles by Finnish companies

As can be seen from the results explored in the previously, Finnish companies are mainly using Twitter to inform publics. Out of all 191 links posted, 81.7% lead back to Finnish companies' social media or corporate website. Additionally, the usefulness of information is high, with 131 tweets, 59.1% of tweets containing information viewed as useful. Finnish companies tweet a bit more often than the forest and paper product industry average with 18.33 tweets per month and use retweets relatively to a much larger extent with 98 retweets accounting for 30.7% of tweets.

The community building types of tweets were least used by Finnish companies and tweets aimed towards increasing interactivity directly were nearly non-existent. With only one tweet, only 0.005% of all tweets were replies or response solicitation by Finnish

companies. This is interesting seeing that all other measurements of dialogic principles were higher than the industry average.

4.2.3 Results of Swedish forest and paper product companies

The amount of tweets posted by Swedish companies in this study was very low, accounting for only 5% of all tweets with 38 tweets from four companies. Like the forest and paper product industry average, information tweets are the most common type of tweet with 27 tweets, 71.1% of all tweets as can be seen from the Figure 11 below. The remaining 29% of tweets are almost half aimed at mobilization and promotion, and community building at 16.8% and 13.2% respectively, with the amounts of 6 and 5 tweets respectively. Also unlike the industry average, mobilization and promotional tweets are slightly more common than tweets aimed at community building.

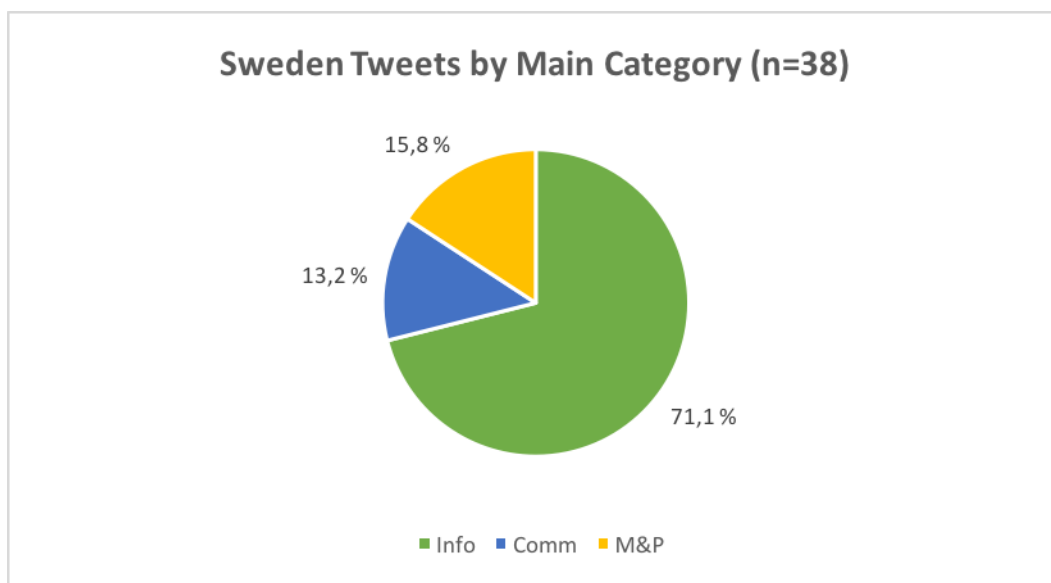


Figure 11. Tweets by main categories for Swedish companies

4.2.3.1 Tweets used by Swedish companies

The most commonly used one type of tweet by Swedish forest and paper product companies is financial information, with 10 tweets, amounting to 26.3% of all tweets. The second most common type of tweet is environmental information, with 6 tweets, with the rest of all tweet types containing the amount of 0 to 4 tweets altogether. There are five

tweet categories not represented at all, lobbying and advocacy, a type of tweet that is not posted by any other forest and paper product company either, replies, response solicitation, calls to vote for company or join another site and, tips and help. The results are pictured in the Figure 12 below.

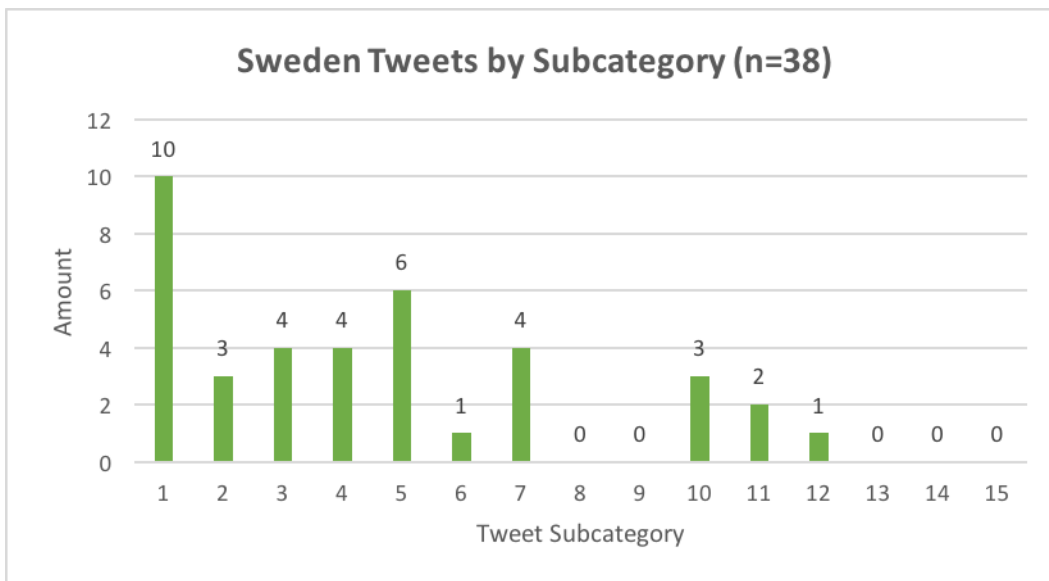


Figure 12. Tweets by subcategories for Swedish companies

Information category, 1-5

The majority of Swedish companies' tweets are found in this category, with the most common tweet type being financial information with 10 tweets, followed by environmental information with 6 tweets. Community information and general information are both just as common with 4 tweets and advancement information nearly as common with 3 tweets.

Community category, 6-9

The least amount of tweets is found in this category. Most tweets acknowledge current and local events, with 4 tweets and one tweet is used to give recognition and thanks. No tweets are used to reply or as response solicitation, unlike the forest and paper product industry average where replies are the most common type of tweet used.

Mobilization and promotion category, 10-15

This main category contains unused categories, lobbying and advocacy, calls to vote for the company or join another site and tips and help with 0 tweets in each category. These results coincide with industry results that find these categories to be the three least most used types of tweets. The three most used types of tweets from this main category are in a descending order from 3 tweets to 1 tweet, promotion of event, promotion of company and recruitment.

4.2.3.2 Use of interaction supporting principles by Swedish companies

As Swedish companies are found to use Twitter mainly for information distribution, a large percentage of 60.5% of tweets, an amount of 23 tweets, were found to contain useful information. With 92.6%, almost all links in tweets lead to corporate websites or social media pages, a percentage much higher than the forest and paper product industry average of about 66%.

Swedish companies do not use Twitter frequently with an average of 3.2 tweets per month meaning less than one tweet per week. The lack of use of community building tweets can be seen in the engagement of the company, 0% of tweets tried to promote interaction between companies and the public and only 11.6%, at 5 retweets, of all tweets are retweets. With the industry wide results being between 22% and 23% for replies and response solicitation, and low percentage of retweets leaves the Swedish forest and paper product industry at very low level of trying to interact with their stakeholders.

4.2.4 Results of American forest and paper product companies

Tweets of American forest and paper product companies account for the majority of all study results at 278 tweets, accounting for 40% of all tweets studied. American companies are found to use Twitter as a tool for community building, with 137 tweets at 49.3% of all tweets, differing from the forest and paper product industry average. The second most common type of tweet is informational tweets at 95 tweets and 34.2% followed by mobilization and promotional tweets at 46 tweets and 16.5%. The percentages of all main categories are highly similar to industry average, though the two most common types of tweets are in opposite order, pictured in the Figure 13 below.

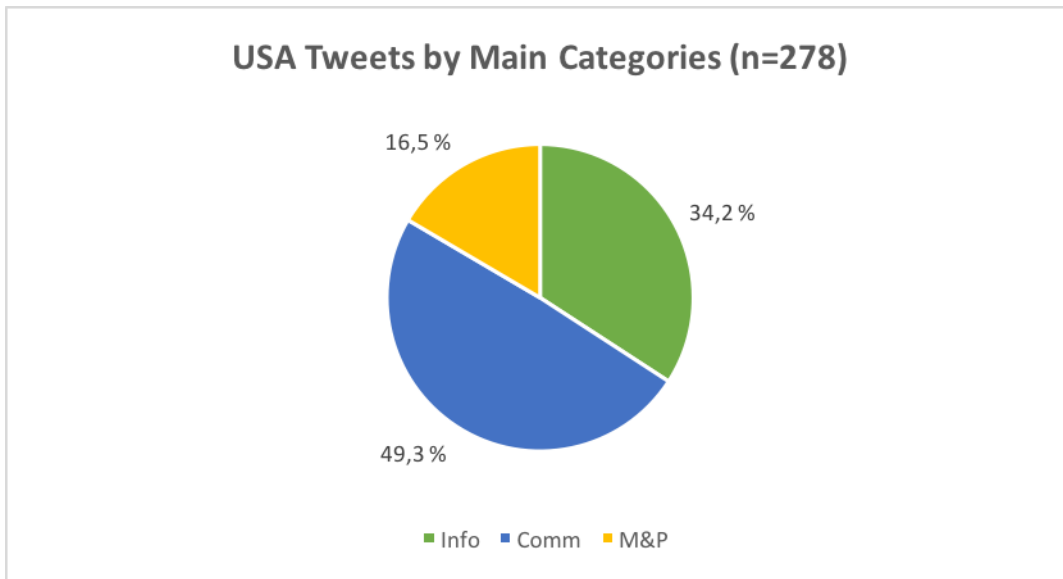


Figure 13. Tweets by main categories for American companies

4.2.4.1 Tweets used by American companies

The three most common types of individual tweets for American companies are replies at 66 tweets, accounting for 23.7% of all American tweets, general information at 44 tweets and recognition and thanks at 33 tweets. The two most used tweet types are similar with the forest and paper product industry average. In this study, no American company used Twitter for recruitment purposes or lobbying and advocacy. Additionally, use of Twitter for spreading financial information or getting audiences to vote for the company or join another site were very low at 2 tweets per category. Results of the study for American companies are pictured in the Figure 14 below and explained in more detail after.

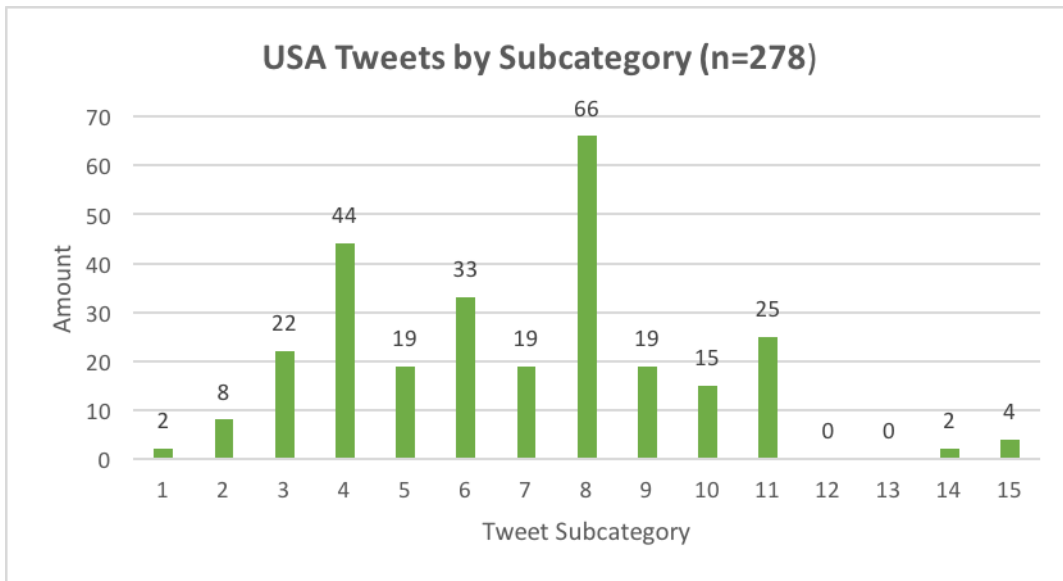


Figure 14. Tweets by subcategories for American companies

Information category, 1-5

Accounting for 46.3% of all information tweets, the most common type of information tweet is general information, placing a focus on information outside the company itself. The other top two information tweet types are community information and environmental information with amount of 22 and 19 tweets respectively. The least used tweet types are advancement information with 8 tweets and financial information with 2 tweets. The high number of general information and low number of advancement information coincide with the industry average gained in this study.

Community category, 6-9

The most common type of tweet for American companies is replies, accounting for 48.2% of all community tweets, followed by recognition and thanks types of tweets at half the amount. The two lesser used community tweets are acknowledgement of current and local events, and response solicitation, both at 19 tweets. American companies are therefore placing a larger focus on responding to and thanking their followers, in other words, interacting with the public and their messages, than asking for responses or building rapport through mutual celebrations of current and local events.

Mobilization and promotion category, 10-15

In the category of mobilization and promotional tweets, American companies use twitter most likely for promotion of the company and its brand at 25 tweets and 54.4% of all mobilization and promotional tweets. Promotion of events is the eighth most common type of tweet out of all tweets and the second most common type of mobilization and promotional tweet. Two of the least used tweets are tips and help, and calls to vote for the company or join another site at 4 and 2 tweets respectively, followed by recruitment, and lobbying and advocacy tweets with 0 tweets in this category.

4.2.4.2 Use of interaction supporting principles by American companies

All measurements based on dialogic elements are found in American companies' tweets. With the amount of 51 tweets, 18.3% of all tweets contain useful information. The conservation of visitors is lower than industry average at 41.9% of all tweets containing links linking to corporate websites of social media. The average amount of tweets per month per company is at 23.2, higher than the industry average with 0.77 tweets per day.

With 57 retweets amounting to 17% of all tweets, retweets are less commonly used by American forest and paper product companies than the industry average. Meanwhile, use of replies and response solicitation is more common than industry average at 30.6% with 85 tweets aimed at responding and getting audiences to respond to tweets, coinciding with the findings of community building tweets being the most common type of tweet.

4.3 Consolidated results of North American forest and paper product companies

The previous sections 4.1 and 4.2 of this chapter have introduced the results of this study as an industry and country specific results. Sections 4.3 and 4.4 will focus on the results of the combined geographical areas of North America and Northern Europe, followed by a comparison of the results of the two geographical areas in section 4.5. First this section will introduce the main three categories used, followed by the 15 subcategories of tweets used by North American forest and paper product companies. Next the measurements for

support of interaction based on dialogic elements will be discussed, followed by a conclusion of the main findings for this geographical area.

North American forest and paper product companies, companies from the United States of America and Canada, communicate in Twitter in a manner that would be conducive towards interaction and building an online community as can be seen in the Figure 15 below. Over half, 51.9%, of all tweets are categorized as community tweets, a logical outcome as the most common type of tweet is community tweets for both Canada and the United States of America. The secondary use for Twitter is posting information with informational tweets accounting for almost a third of tweets posted by North American companies. Mobilization and promotional tweets are the least used by North American companies with only 16% of tweets sorted into this group.

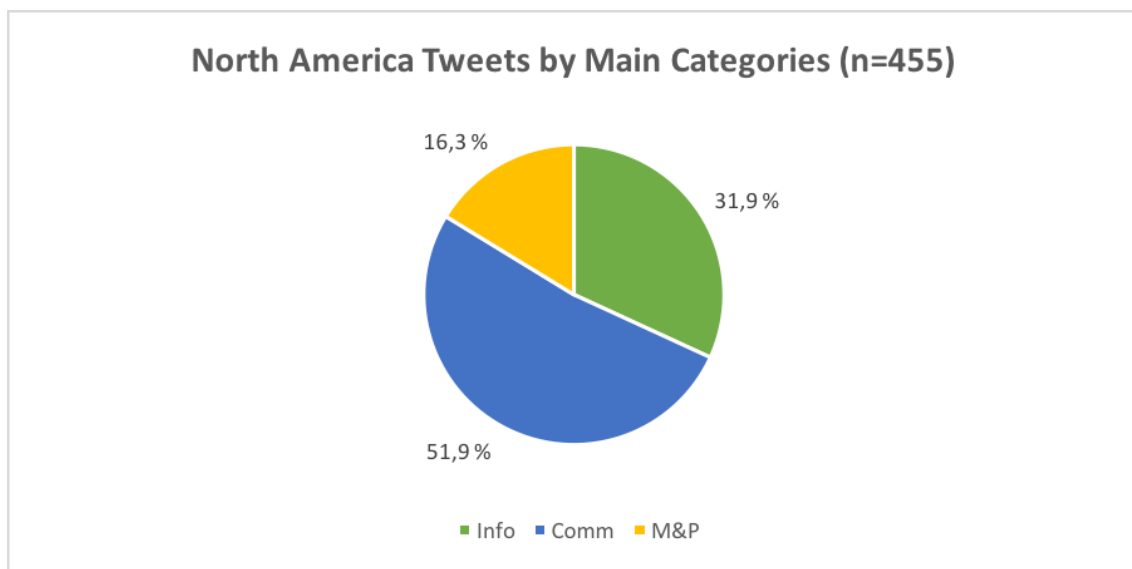


Figure 15. Tweets by main categories for North American companies

4.3.1 Tweets used by North American companies

As can be seen from the Figure 16 below, there is a clear spike in the use of replies type of tweets by North American companies. These types of tweets amount to 135 tweets and 29.6% of all tweets and contribute to the high amount of community type tweets. The second most common type of tweet can be found in the information category, with 52 tweets with the primary purpose of spreading general information. A close third with 50

tweets, is the subcategory of recognition and thanks, a part of the main category of community tweets. Out of the 455 tweets studied for North American companies, none are found in the lobbying and advocacy subcategory and 2 tweets call for votes for the company or asks readers to join another website. Both of these least used types of tweets are found under the main category of mobilization and promotional tweets, which is also the least common main category of tweets.

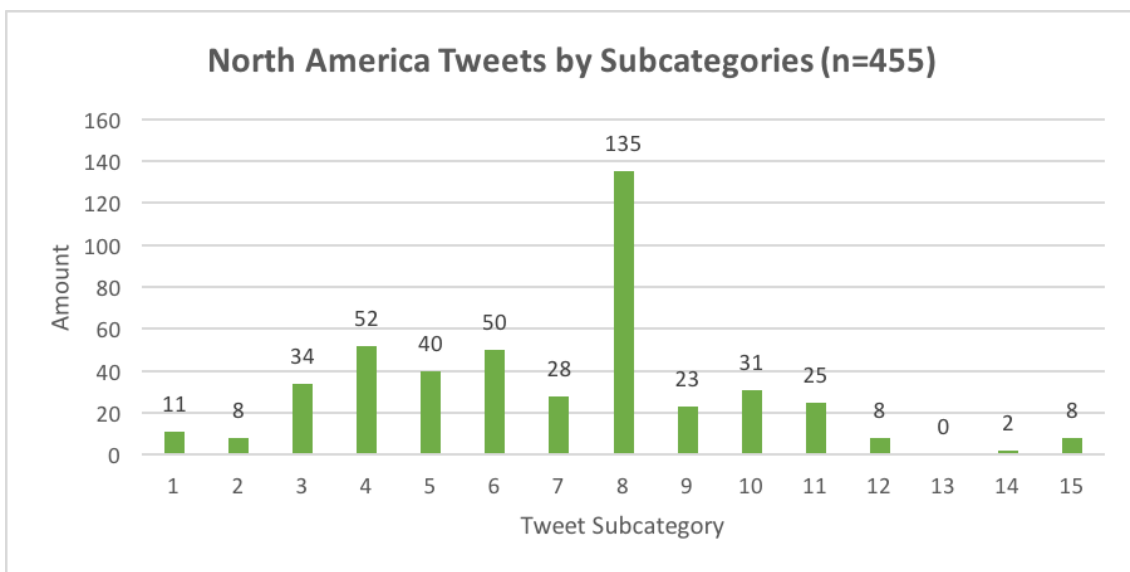


Figure 16. Tweets by subcategories for North American companies

Information category, 1-5

As mentioned in the previous section, the second most common type of tweet by North American forest and paper product companies is general information, and this is the most common type of information tweet with 52 tweets. As general information is information that is not directly linked to the company itself, North American companies therefore mainly inform audiences with facts that might relate to industry, but are not facts directly about the company itself. The fourth and fifth most common types of tweets out of all tweets are environmental information with 40 tweets and community information with 34 tweets. Twitter is mainly not used to provide information about finances or advancements, with these two types of tweets in the six least types of tweets posted.

Community category, 6-9

Almost a third of all tweets by North American forest and paper product companies are classified as replies to other users. Giving recognition and thanks is listed as the third most popular type of tweet out of all tweets and the second most popular tweet of community tweets. Acknowledging current and local events with 28 tweets, and response solicitation with 23 tweets are the 7th and 9th most common types of tweets respectively. These types of tweets are used, but less often than the three most used information types of tweets.

Mobilization and promotion category, 10-15

As the least used tweet main category, the mobilization and promotion tweet main category contains four of the least used tweet types; tips and help with 8 tweets, recruitment with 8 tweets, calls to vote for the company or join another site with 2 tweets and lobbying and advocacy with 0 tweets. The mobilization and promotional tweet category also include the 6th and 8th most common types of tweets, promotion of event with 31 tweets and promotion of company with 25 tweets respectively.

4.3.2 Use of interaction supporting principles by North American companies

North American forest and paper product companies use Twitter in a more interactive manner than the forest and paper product industry average. The amount of informational tweets is lower than industry average at 20.4% while replies and response solicitation types of tweets account for 34.7% of all tweets, over 10% more than the industry average. The use of retweets is slightly lower than industry average at 19.3%, meaning that North American companies use more original types of tweets. Tweet frequency is higher than industry average at 19 tweets per month, showing that North American companies use Twitter for communication quite often. Conservation of visitors is lower than industry average at 49% of all links leading to a company's own internet presence, meaning that over half of links are leading to sites that are not under the control of the company in question.

4.4 Consolidated results of Northern European forest and paper product companies

This section will introduce the consolidated results of forest and paper product companies chosen for this study located in the Northern Europe, in Finland and Sweden. Northern European companies tweeted 258 times during the course of this study. As results for Finland and Sweden both favored the information type of tweet, the grand majority of tweets, at 76.0%, are tweets that aim to inform audiences. Hence, Northern European forest and paper product companies are using Twitter mainly as an information channel for the public, as seen in the Figure 17 below.

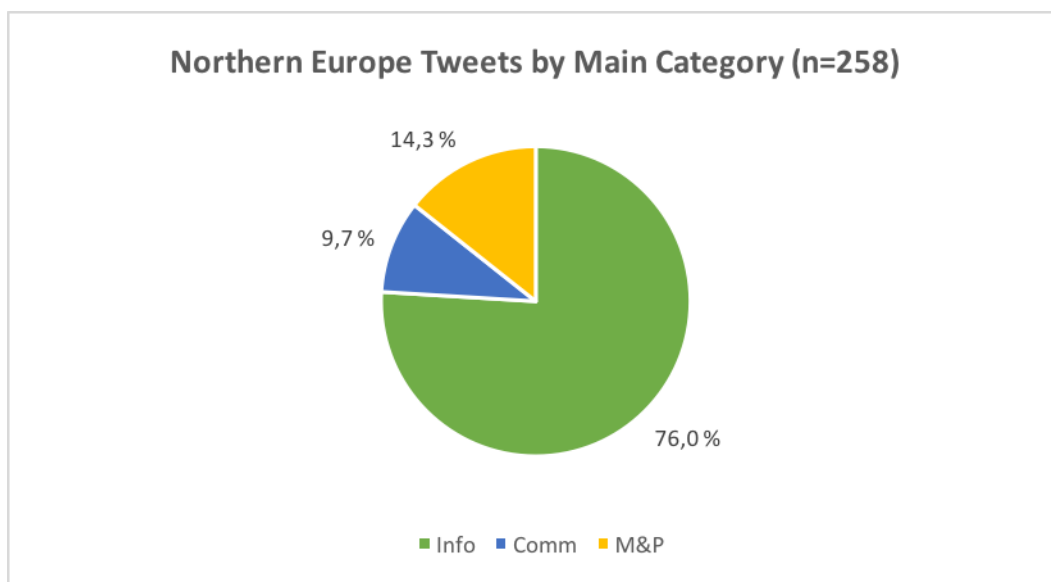


Figure 17. Tweets by main categories for Northern European companies

Unlike the industry average that places mobilization and promotional tweets as the least used tweet type, mobilization and promotional tweets are the second most used tweet type by Northern European forest and paper product companies with 14.3% of tweets in this category. The least used tweet type is community tweets, with 9.7% of tweets classified in this category. The difference between these two tweet types is not large, but these results indicate that Twitter is used as a tool for promotion and mobilizing stakeholders rather than as a tool for relationship building and two-way symmetrical communication.

4.4.1 Tweets used by Northern European companies

Northern European forest and paper product companies use Twitter to inform the public about financial information, with 27.1% of all tweets studied in the financial information category. The second and third most used tweet types are also found in the information category of tweets, they are environmental information and general information, in descending order. All results can be seen in the Figure 18 below. Northern European companies are found to not use Twitter at all in replying to audiences, or lobbying and advocacy efforts. This is an interesting result as replies types of tweets are found to be the most common type of tweet for forest and paper product industry, while no lobbying or advocacy tweets were found in this study by forest and paper product companies.

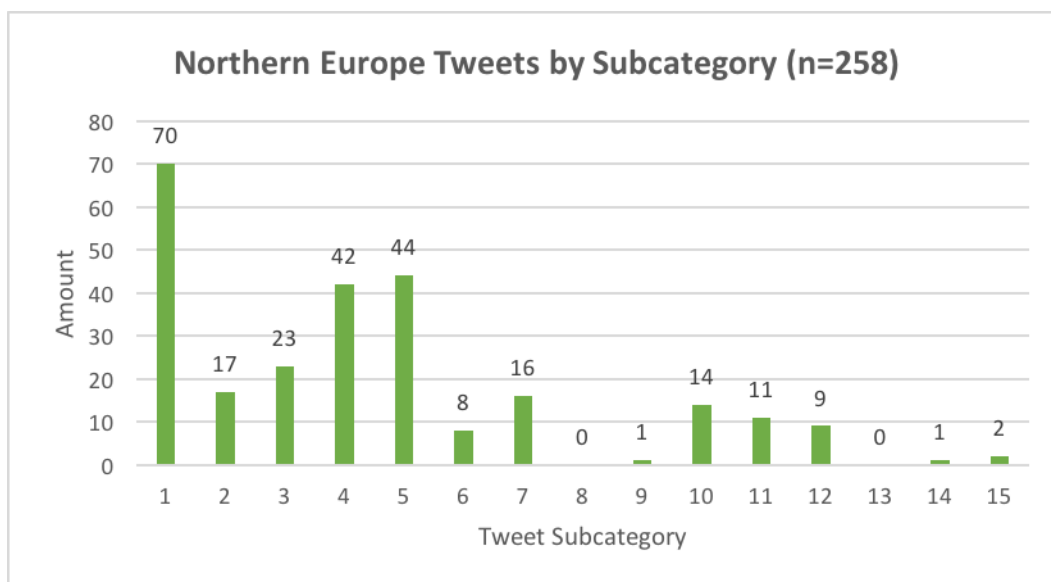


Figure 18. Tweets by subcategories of Northern European companies

Information category, 1-5

As can be seen from the Figure 18 above, the chart is skewed very much towards the first five categories, with the top five most used tweet types in the information main category. Over a third of all information tweets are financial information tweets. The second and third most common types of tweets are environmental information and general information accounting each for 21-22% of all information tweets. While in the top five of all tweets, the least common information tweet is community information and advancement information in descending order.

Community category, 6-9

The community types of tweets are the least used tweet type by Northern European forest and paper product companies. Community category tweets are focused on recognition and thanks, and acknowledgement of current and local events types of tweets, with the latter amounting to the 6th most used tweet type by Northern European companies. Recognition and thanks types of tweets are half the amount of acknowledgement of current and local events types of tweets and in the top ten used tweet types out of all tweets. Coinciding with Finnish and Swedish companies' results, the least used tweet types are found to be replies and response solicitation types of tweets with 0 and 1 tweet respectively.

Mobilization and promotion category, 10-15

The top three mobilization and promotion tweet subcategories in descending order are promotion of event, promotion of company and recruitment types of tweets, with the amount of 14, 11 and 9 tweets respectively. These three are also the most common type of mobilization and promotion tweets by the average results of the studied forest and paper product companies. Like in the community category, two tweet types are used once or not at all. These two tweet types are calls to vote for company or join another site, with 1 tweet and lobbying and advocacy with 0 tweets. Tips and help types of messages were found in two tweets, among the bottom 5 least used tweet types out of all tweets.

4.4.2 Use of interaction supporting principles by Northern European companies

Northern European forest and paper product companies have been shown to use Twitter mainly for informational purposes. Hence, the percentage of tweets containing useful information is almost twice the industry average at 59.7% out of all tweets. Out of all links provided in tweets, 83%, the majority of links, lead to the company's own internet presence. Tweet frequency is low with 10.75 tweets per month, with an average of only 0.36 tweets per day. Community type tweets are least used and the sum of response solicitation and replies types of tweets is 1 tweet, 0.004% of all tweets. Northern European

companies also use less original content and use more retweets with 28.5% out of all tweets as retweets, higher than industry average.

4.5 Differences and similarities between North American and Northern European companies

This section will discuss the differences and similarities found in tweet content of North American and Northern European forest and paper product companies. Starting with an overview differences and similarities of main categories and subcategories, followed by differences in measurement of interaction inspired by dialogic principles.

North American and Northern European forest and paper product companies publish different types of content on Twitter. Northern European companies mainly focus on informational value while North American companies place a focus on interaction and building rapport with the public on Twitter, as can be seen from the Figure 19 below. The secondary and tertiary types of tweets also differ. As a secondary purpose, Northern European companies use Twitter for mobilization of audiences and promotional purposes and third as a tool for building community and increasing interaction with the public. Meanwhile, North American companies use Twitter for informational purposes second and mobilization and promotional means third.

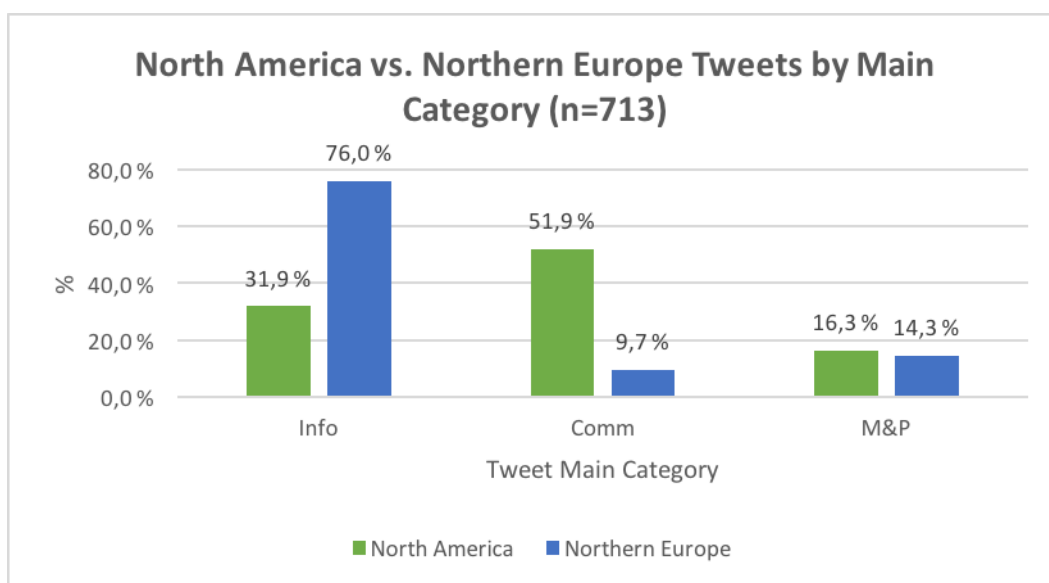


Figure 19. Differences in main categories by geographical location

However, Northern European forest and paper product companies focus on information types of tweets to a much higher extent than North American companies. Only 24.0% of Northern European tweets are not of primarily informational purposes. For North American companies, the two less common tweet main categories amount to almost 50% of all tweets. Hence, North American companies use all three types of tweets in a more equitable manner, with less focus on only one tweet type.

Relatively, the amount of mobilization and promotion tweets are similar for both North American and Northern European forest and paper product companies with an average of 15.3% out of all tweets. The differences in the other two main categories are much larger, over a 40% difference between relative amounts of tweets in both information and community categories. The similar amount of mobilization and promotional tweets are an interesting result seeing as mobilization and promotional tweets as a main category differed in popularity of use between North American and Northern European companies.

4.5.1 Variety in use of tweet subcategories

The singular types of tweets used differ between Northern European and Northern American forest and paper product companies. As presented previously, the most commonly used tweet type is replies for North American companies and financial information for Northern European companies. These two singular tweet types align with overall results of informational tweets being used the most by Northern European companies and community tweets by North American companies. The percentage of the most popular type of tweet for both geographical locations account for around the same percentage of all tweets with 27.1% for Northern Europe and 29.7% for North America as can be seen in the Figure 20 below.

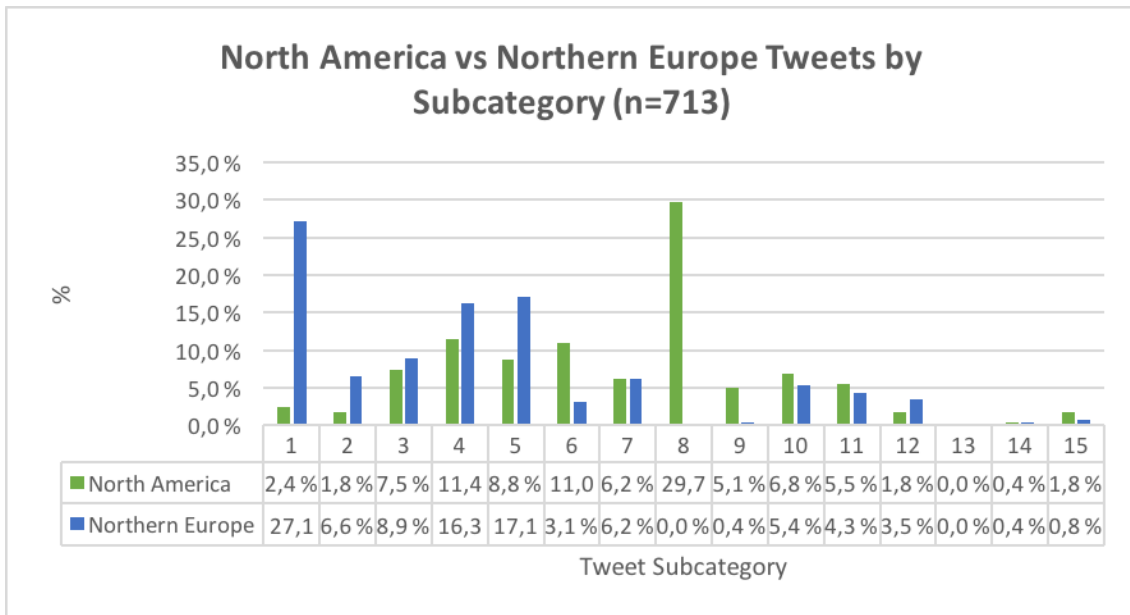


Figure 20. Differences in subcategories by geographical location

The most popular one type of tweet for companies in one geographical area is among the least used tweets for the companies in the other geographical area. As financial information types of tweets are the most common for Northern European companies, it only accounted for 2.4% of all North American companies' tweets. As for replies types of tweets that are most used by North American companies, Northern European companies do not use any replies types of tweets at all.

Tweets of the mobilization and promotion category were not found among the top five tweets of either North American or Northern European companies. For Northern European companies, all top five tweets come from the information main category and for North American companies, three out of the top five tweets are informational and two from the community category. Accordingly, the bottom five tweets contained three and four tweets from the mobilization and promotional category, for Northern European and North American companies respectively.

Information category similarities and differences

Both Northern European and North American companies use all five types of information tweets, though Northern European companies have higher ratio of use of all five

information categories than North American companies, as can be seen from the Figure 20 above. Companies from both geographical locations have a similar percentage for community information type tweets at 7.5% for North American and 8.9% Northern European companies. The second most common type of informational tweet is environmental information and advancement information is the least commonly used informational tweet for companies from both geographical locations. As previously mentioned, the most common type of information tweet, financial information, of Northern European companies is the second least used information type tweet for North American companies. General information, which is the most commonly used informational tweet by North American companies, is the third most common information tweet type for Northern European companies.

Community category similarities and differences

North American and Northern European companies use the acknowledgement of current and local events type of tweet exactly as often, 6.2% of all tweets are in this subcategory for companies from both geographical locations. This percentage also leaves acknowledgement of current and local events as the 6th most used tweet for Northern European companies and the 7th for North American companies. North American companies are far more likely to use recognition and thanks types of tweets with 11.0% of all tweets in this subcategory to Northern European companies 3.1%. Also response solicitation and replies types of tweets are more likely to be used by North American companies, with higher percentages for both types of tweets. Out of Northern European companies' tweets, only 0.4% are categorized as response solicitation and 0% as replies.

Mobilization and promotion similarities and differences

For companies from both geographical areas, with highly or completely similar percentages, among the five least used tweet types are tips and help, calls to vote for company or join another site and, lobbying and advocacy types of tweets in descending order. In the case of lobbying and advocacy, no companies from either geographical area use this type of tweet. The calls to vote for company or join another site types of tweets are both used in 0.4% of all tweets by companies in both geographical areas. Tips and help types of tweets are more likely to be used by North American companies, however,

the percentages are very low at 1.8% for North American and 0.8% for Northern European companies.

Among the two most common types of mobilization and promotional tweets for companies from both geographical locations are promotion of company and promotion of event types of tweets. These two types of tweets are more likely to be used by North American companies, but overall, the percentage of use is highly similar for companies from both geographical locations. Northern European companies are more likely to use Twitter for recruitment purposes with the largest difference in this main category of tweets with a difference of 1.7%.

4.5.2 Differences in using interaction supporting elements

The five measurements of interaction supporting elements are all different for North American and Northern European companies, as can be seen from the Table 4 below. Both geographical locations were found to use all types of tweets designated for measurement of interaction through dialogic elements, however the result of 0.004% in promotion of interaction is very low for Northern European companies.

	All results	North America	Northern Europe
Useful info	34.0%	20.4%	59.7%
Replies + response solicitation	22.3%	34.7%	0.004%
Ratio of retweets (retweets / tweets + retweets)	22.9%	19.3%	28.5%
Tweet frequency (tweets/month/company)	17.1	19	10.8
Ratio of links (links to own online site / all links)	66.3%	49.0%	83.0%

Table 4. Table of interaction supporting elements

As reflected in amounts of tweets in main categories, North American companies' tweets contain less useful information and use more of response and reply types of messages than Northern European companies. The difference is over 30% for both of these measurements and the next measurement presented. Northern European companies are more likely to link back their own social media or corporate website than North American companies. Therefore, differences in use of Twitter are large in respect to spreading useful information and linking back the company's own internet presence.

The amount of retweets is more similar, with 19.3% for North American companies and 28.5% for Northern European companies. While Northern European companies are less likely to ask for responses or reply to audiences, they are more likely to share content produced by others. Northern European companies post messages on Twitter less frequently than North American companies, with an average of 0.36 tweets per day, while North American companies tweet 0.63 tweets per day on average.

While there are many differences to be found in the use of Twitter by North American and Northern European companies, there are also surprising similarities. The amount of similarities in relative use of the most common tweet and a number of other tweets is surprising and while results of the three main categories being completely different, there are similarities in the five least used types of tweets by both North American and Northern European companies. However, in a general sense, the type of content posted by North American and Northern European companies is similar, but used in different ways.

5. Discussion

The objective of this chapter is to discuss the findings of this study, introduced in the previous Chapter 4, in relation to the theory and framework produced in Chapter 3. The aim of this study was to find out how forest and paper product companies use Twitter and if there are differences between companies from North America and Northern Europe. This section will first discuss how Twitter is used based on results of content analysis of tweets in sections 5.1 and 5.2, followed by a discussion on elements that support interaction in section 5.3. Last, the main differences between North American and Northern European companies will be examined in section 5.4.

5.1 Twitter as tool to inform

The results of this study indicate that companies of the forest and paper product industry use Twitter to mainly inform audiences, as previous research has also shown (Bortree & Seltzer, 2009; Waters & Jamal, 2011; Linvill et al., 2012...). However, the results of this study also show that over a third of all tweets by forest and paper product companies aim to build rapport and interact with the public. These results are similar to the results found in non-profit organizations' use of Twitter and would hint at forest and paper product companies using a communication strategy of using different types of messages in Twitter (Lovejoy & Saxton, 2012). Forest and paper product companies are therefore more interested in using Twitter for informing, increasing two-symmetrical communication and building relationships with the public rather than promoting corporate brand and events or mobilizing the public. None of the results for countries studied in this research project found community, and mobilization and promotion tweets to be the two most common tweet types used, demonstrating the high use of information type tweets.

The high use of informational tweets would suggest that forest and paper product companies prefer control over communication on Twitter over risks related to a more interactive communication style. Manufacturing industries have been shown to prefer a less interactive communication style in social media (Go & You, 2016). The use of informational tweets can be seen as increasing the perceived trustfulness of an

organization by the public (Waters & Jamal, 2011), which would be beneficial for establishing relationships with stakeholders. Organization-public relationships have been shown to have tangible benefits for organizations (Keller, 2009; Lovett et al, 2013; Kumar & Mirchandani, 2012; Rapp et al., 2013) and are viewed as very important for business-to-business types of organizations (Homburg et al., 2010; Rapp et al., 2013).

Environmental tweets are the third most common individual type of tweet used by forest and paper product companies. This would coincide with forest and paper product companies aim to focus on communication of sustainability efforts (PricewaterhouseCoopers, 2016). Interestingly, the most common type of information tweet was general information, which would suggest that Twitter is also used to communicate to the public about information not directly linked to the company. However, such information can also be industry news and facts, which was classified in this study to be general information, which could be seen as affecting the results of this study.

The forest and paper product industry uses Twitter more for promotion than mobilization of the public. Promotion tweets are among the top ten most used tweets, while mobilization tweets are in the bottom four. None of the companies studied use Twitter for advocacy or lobbying of an issue. This is an interesting result seeing as the forest and paper product industry is viewed as environmentally harmful in nature. Hence, forest and paper product companies could use Twitter to influence stakeholders in matters and legislation concerning the industry. However, previous research would indicate that this is something Twitter is not used for by non-profit organizations either (Lovejoy & Saxton, 2012), though use of lobbying in social media was considered as positive by audiences of non-profit organizations (Saxton & Waters, 2014).

5.2 Twitter as tool to reply

The one singular type of tweet that is most used by the forest and paper product industry companies are replies. This type of tweet was most common for companies from North America and hardly used at all by Northern European companies. North American

companies account for over 60% of all tweets studied and can be viewed as influencing the seemingly high use of replies at the industry wide level. The result of high use of reply types of tweets by North American forest and paper product companies can be explained partially by one Canadian company. During the course of this study, an unfavorable press release was published concerning Resolute Forest Products (Resolute Forest Products, 2016) and Twitter was used by Resolute Forest Products to address concerns and questions by the public, taking the form of replies. While similar situations may have arisen for other companies studied, a clear pattern was found only for Resolute Forest Products.

By excluding replies types of tweets by Resolute Forest Products, the outcome of this study would change to general information being the most common singular type of tweet for forest and paper product industry. However, the order of the three main categories in terms of use would remain the same for industry results. The results of this study for Canadian companies would change; the most common type of tweet would in turn be environmental information and information types of tweets would be most common. For North American companies, replies would still remain the single most popular type of tweet and community types of tweets as the most used main tweet category. Since the aim of this study was to find out how Twitter is used, not why Twitter is used in a certain way, by forest and paper product companies, the results from Resolute Forest Products will remain as part of the study.

5.3 Twitter as a tool to engage

This study found most forest and paper product companies to use all dialogic elements in their tweets. It would seem that they are using Twitter in a manner that would allow for possibility of interaction, engagement and two-way symmetrical communication. Companies from Sweden differed from other studied companies due to lack of use of certain dialogic elements. Companies from other studied countries all used all dialogic elements. However, the sample size from Swedish companies is small and could affect study results. These results do not necessarily mean that Swedish companies do not use

dialogic elements, but in this study Swedish companies are found to not use all dialogic elements in their tweets.

Rybalko and Seltzer (2010) found that the majority of companies publish content on Twitter within 24 hours of someone viewing the account. This study found forest and paper product companies to be tweeting on average about every other day, thus tweeting every 48 hours, a similar result to Rybalko and Seltzer's findings. A fifth of all tweets by the forest and paper product industry are retweets and all, except one company, were found to use retweets. Shin, Pang and Kim (2015) found the use of retweets beneficial for an organization on Twitter and retweets can also be seen as tangible result of mutual interests between an organization and the public (Smith, 2012).

The two measurements of usefulness of information and part of the dialogic loop are measured through specific content. Therefore, the results of these two measurements align with industry results presented previously. The ratio of useful information is higher than the ratio of tweets that promote interaction. Two thirds of all links in tweets lead to corporate websites or social media. Hence, the content published in these instances aim to keep readers on websites directly related to the organization.

Since the chosen measurements based on dialogic elements differ from previous studies, industry results are viewed as average and comparable to results of the geographic division, to be introduced in the next section of this chapter.

5.4 North American and Northern European companies use Twitter in a different manner

This study found Northern European and North American forest and paper product companies to use a different communication strategy with focus on different types of content. North European companies are found to use Twitter mainly for informing the public, but North American companies are found use Twitter to mainly build rapport and communicate in a two-way symmetrical manner. The results of the most used subcategory tweet types align with the most used tweet main category for both geographical areas.

Northern European companies favor financial information and North American companies replies types of tweets. Interestingly, the favored singular tweet type for geographical group of companies, are among the least used tweet types for the companies in the other geographical location.

While information tweets are found to increase trustfulness, replies to tweets are also viewed as favorable for the organization by the public (Waters & Jamal, 2011, Shin, Pang & Kim, 2015). Men and Tsai (2014) found that millennials initiate tweeting to an organization and hope the organization will answer. The absence of replies types of tweets by Northern European countries can be either seen as part of communication strategy or perhaps as a result of lack of tweets aimed at Northern European forest and paper product companies to answer to.

These different main uses of Twitter and favored content could be result of either different communication approaches or North American companies having more experience of Twitter. In terms of users, the UNITED STATES OF AMERICA and Canada are among top markets for Twitter (Semiocast, 2012) and accounted for the majority of tweets studied. Wiersema (2013) and, Lovejoy and Saxton (2012) theorized that after focusing on distribution of information, organizations may enter the next phase of communication, which places a focus on two-way symmetrical communication. This theory would place Northern European forest and paper product companies in earlier stages of Twitter use than North American companies.

The popularity of the remaining main categories also differed for Northern European and North American forest and paper product companies. Northern European companies are shown to favor informational tweets to a greater extent than North American companies favor community type tweets. This leads to results where mobilization and promotion tweets are used to the same extent by both Northern European and North American companies, though ranked differently in popularity. Similarities are found in the use of subcategories of the mobilization and promotional main category. The ratio of these subcategories are all similar to one another in unpopularity. While Northern European companies can be said to clearly favor information types of tweets, North American

companies are shown to favor a mixture of information and community type tweets, corresponding with the theory of Lovejoy and Saxton (2012) presented in the previous paragraph.

North American and Northern European forest and paper product companies are shown to favor different dialogic elements that support interaction. As with industry results, companies that use Twitter for information purposes have a higher percentage of tweets contain useful information than tweets aimed to support interaction and the other way around. However, North American companies are still shown to use the principle of usefulness of information, while nearly none of Northern European companies use tweets that support interaction. Northern European focus on information is also seen through high use of linking back to company's own online presence.

North American companies tweet much more often than Northern European ones, possibly due to the larger use of Twitter in North American countries compared to Northern European ones (SemioCast, 2012). Northern European companies have been shown to use a larger amount of retweets than North American companies. Since Northern European companies generally did not use tweets that directly promote interaction through replies and response solicitation, perhaps they try to build rapport with the public through retweets.

6. Conclusion

This chapter will first summarize research results of this study into the use of Twitter by forest and paper product companies in section 6.1. Next the practical implications of this study will be explored in section 6.2, followed by limitations of this study in section 6.3. Last suggestions for further research will be looked at in section 6.4.

6.1 Research summary

Previous studies into social media have mainly focused on business-to-consumer and non-profit organizations (Thackeray et al., 2013; Hether, 2014; Rodriguez, 2016; Saxton & Waters, 2014...). Studies of business-to-business companies have focused on a number of industries, including the manufacturing industry (Go & You, 2016), using the Internet as a communication tool (Karjaluo et al., 2015), and sometimes social media (Wiersema, 2013). However, studies into the use of social media by forest and paper product companies has been little (Hewitt et al., 2011; Montague et al., 2016).

The forest and paper product industry is looking to invest in environmental efforts and communication of these efforts as well as overall stakeholder communication (PricewaterhouseCoopers, 2016). Many of business-to-business types of organizations feel that they are still in early stages of social media adoption (Holden-Bache, 2011). Hence, it is interesting to look at current use of social media by the forest and paper product industry, of which forest product producers have been shown to be among the lowest adopters of internet channels for communication in the global manufacturing industry (Hewitt et al., 2011).

The purpose of this study was to look at how global companies of the forest and paper product industry are using Twitter and if there are differences in social media use by these global companies. To study use and differences, a quantitative approach of content analysis was selected. This research project looked at the content of tweets published by forest and paper product companies with general headquarters located in Canada, Finland, Sweden and the United States of America.

To find out how forest and paper product companies are using Twitter, the dialogic elements of tweets were studied and tweets were classified as serving one primary purpose on basis of content. The classification scheme was built upon a previous classification scheme by Lovejoy and Saxton (2012) for non-profit organizations use of social media and adapted to suit for-profit organizations. Dialogic elements were used in this study to see if organizations offer a platform on which interaction can be increased. Dialogic elements were studied through content, use of retweets and links, and frequency of tweets.

The results of this study show that forest and paper product companies, especially Finnish and Swedish companies, most use tweets that primarily aim to spread information. Canadian and American companies were shown to use a larger variety of different types of tweets than Finnish and Swedish ones, with North American companies using mostly tweets aimed at interacting and building rapport with the public. North American companies tweet more frequently than Northern European ones, while Northern European companies are more likely to conserve visitors on their internet presence through links, and use retweets more often. Forest and paper product companies were shown to least use mobilization tweets in all sectors studied.

Previous research has shown organizations to use Twitter mostly as another information channel, which corresponds with the results of this study. This study found that no forest and paper product company uses Twitter only for building rapport and interaction, and promotion and mobilizing audiences, demonstrating the importance of information broadcasting for organizations. However, North American companies were found to use Twitter as community builders rather than as information sources. Nevertheless, the use of information spreading messages was rather common for North American companies as well.

Communication of environmental efforts was considered an important strategy for forest and paper product companies (Sharma & Henriques, 2005; PricewaterhouseCoopers, 2016). This research found environmental information to be the third most used

individual tweet type by forest and paper product companies, showing emphasis placed on environmental communication. None of companies were found to use Twitter for advocacy and lobbying, which coincides with Lovejoy and Saxton's (2012) study of non-profit organizations not using lobbying and advocacy tweets.

Studies into dialogic elements have examined dialogic elements as a prerequisite for dialogue. Many of these studies have shown the use of dialogic elements, but have also indicated that organizations have generally not succeeded in dialogue with the public on social media. (Thackeray et al., 2013; Hether, 2014; Rodriguez, 2016; Saxton & Waters, 2014...) With this study using dialogic elements for measurement of support for interaction, this study found that all forest and paper product companies on average and that North American companies use all dialogic elements. Finnish and Swedish companies were found to not use the principle of dialogic loop through replies and response solicitation, which were among the most common types of dialogic principles used by companies in Rybalko and Seltzer's (2010) study. However, Finnish and Swedish companies may compensate the lack of direct response tweets through the use of retweets, which was highest for Northern European companies.

6.2 Practical implications

The findings of this study would suggest that there are differences in use of social media as a communication channel, which is affected by the nationality of an organization. The amount of social media users in a country would seem to affect how social media is used by organizations in a country. However, this study did not look into cultural differences or activity of users in the studied countries, which could also play a role in the type of and how frequently content is produced by organizations to social media. The differences found between North American and Northern European companies can be a result of different message strategies or as an evolution of using social media as a communication tool.

The lack of use of mobilization tweets would indicate that Twitter is generally not used as a tool for mobilization of audiences by organizations. Since not all mobilization

messages are considered negative by readers, organizations could increase the use of messages that would encourage mobilization of the public in social media.

The high use of informational messages in this study shows that Twitter is seen as a channel for informing the public. Since end consumers of the forest and paper product industry products generally don't buy goods directly from the companies themselves, their knowledge of specific forest and paper product companies may be low. Therefore, Twitter is used to spread positive information about the company, resulting in a positive image of the brand, which influences buying behavior of customers. Hence, Twitter is used as a sort of marketing channel of the company itself through information, even with little use of direct sales on social media.

6.3 Limitations of the study

This research project was somewhat limited by data studied and lack of previous research into communication in social media by business-to-business and forest sector companies. A weakness of the data collected was the small amount of results from Swedish forest and paper product companies, from which generalizations of Swedish forest and paper product companies are difficult to make. The small amount of data for Swedish companies also affects overall results, with Swedish companies contributing very little to found industry-wide outcomes. Also using companies from four countries could be viewed as flawed to make industry-wide generalizations since there are more than four countries among the top ten manufacturers of paper and pulp products.

The tweets studied for this research project were given one primary purpose, though tweets could have multiple objectives, which could affect the results of this study. This study also only looked at one type of social medium. The same company may use a completely different strategy in another type of social medium, and therefore the results of this study may be further used for other research into Twitter, but not necessarily into other social media.

6.4 Suggestions for further research

Further research in this topic area could benefit from similar research into use of social media by other business-to-business industries and their comparison. Also since this study only looked at the content of social media messages, a study into reactions of the public to certain types of messages by the forest and paper product industry and other industries would be useful. These results would show how the public reacts to certain types of tweets by a specific industry and help organizations formulate effective social media message strategies.

A further study into the top producers of forest and paper products would help in making more generalizable results for the forest and paper product industry. A glance of different social media or comparison of use of different social media by forest and paper product companies would increase knowledge of how the forest and paper product industry is using social media overall. Also, a study into the same companies used in this study in the future would show if the content used in Twitter changes over the course of time.

This study did not look for reasons why organizations from different countries use social media differently. Studies into how people from different nations use specific types of social media and their reactions to others social media messages could further help understand the differences found in the results of this study.

Forest and paper product companies will continue using Twitter for as long as they perceive it as important and studies into the use of Twitter will continue in the field of corporate communication as long as there are phenomena to study. This research explores the use of Twitter by forest and paper product companies, who are still recognizing the importance of stakeholder communication and plan to further invest in communication with the public. This study may help illustrate how use of social media may or may not change in the future to come.

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APPENDIX 1 Four models of public relations theory adapted to online communication (Phillips, 2009)

