Big Responsible Oil?

A comparison between European and American oil majors in the topics of Corporate Social Responsibility communicated on Facebook using content analysis.

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Abstract

This research aimed to provide explorative insights on the influence of institutional context on the communication of CSR related information on social media. In order to achieve this goal, it is examined to what extent European and American oil companies differ in their CSR topics communicated on Facebook. The oil majors: BP, Shell, Total, Chevron, Exxon Mobil and Philips66 are examined on their communication of corporate social responsibility (CSR) on Facebook. A content analysis has been conducted of a random sample (N=580) of the Facebook posts in the period of 2013-2018. Overall, it was found that the oil majors use a proportional amount of CSR communication in their overall Facebook communication (41%). Furthermore, CSR related posts communicated by oil companies on Facebook are found to be highly visual and one-way communication still dominates. Next, it was found that the American companies focus on the social aspect of CSR, whereas European companies tend to focus on the environmental aspect of CSR when communicating CSR on Facebook. Furthermore, it is shown that the dimensions of CSR communication are arguably influenced differently by institutional context. European oil majors adopted only a few categories in their configuration of the environmental dimension of CSR, whereas American companies tended to include a broader range of categories in their configuration of the environmental dimension of CSR. On the social dimension of CSR, it was found that European and American oil companies did not differ in the configuration of categories. It is argued that the similarity in the configuration of the social dimension of CSR could be explained by globally acting institutional forces and emerging global industry standards. Furthermore, the configuration of categories within the environmental dimension of CSR and the choice of dimension addressed could arguably be explained by the locally acting institutional forces. Therefore, this empirical research forms evidence that European and American oil companies are adapting to their institutional context when communicating CSR information on social media in order to attain organizational legitimacy (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017; Matten & Moon, 2008). Although this research has some limitations, it has become clear that the CSR topics disclosed differ between European and American oil companies. This research provides empirical groundwork and general direction in the limited body of literature on the influence of institutional context on CSR information disclosed on social media. Furthermore, this research provides insights for CSR practitioners about the CSR information communicated on Facebook by six leading oil companies. These insights can be used by practitioners for formulating and benchmarking their own CSR information enclosed on Facebook.

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1. Introduction

CSR (Corporate Social Responsibility) is not a new concept as it can be dated back to early corporate social initiatives such as Port Sunlight, where Unilever housed workers with benefits such as school for workers' children and gave sickness benefits to their workers more than a century ago (Mirvis, 2011). Throughout its long history, the public has not paid as much attention to CSR as it does now (Becker-Olsen & Guzmán, 2017; Mögele & Tropp, 2010). Recently, consumers have become increasingly expecting companies to make a broader contribution to society (Cone, 2015; Dolnicar & Pomering, 2007). Moreover, consumers increasingly want additional information about corporate practices to make sure that companies act in accordance with the norms of society (Cone, 2015; Jahdi & Acikdili, 2009). The public no longer thoughtlessly trust companies CSR practices without any evidence of what and how they are doing it (e.g. Becker-Olsen & Guzmán, 2017; Cone, 2015; Dolnicar & Pomering, 2007; Jahdi & Acikdili, 2009; Mögele & Tropp, 2010).

Next to the increased attention towards CSR of the general public, another major development is the use of social media and the internet in order to diffuse information about CSR (Becker-Olsen & Guzmán, 2017; Capriotti, 2017; Capriotti & Moreno, 2007). The rise of the internet and the growth of social media usage drastically increased the accessibility of information about the responsible behavior of organizations to the general public (Becker-Olsen & Guzmán, 2017; Capriotti & Moreno, 2007; Leonard & McAdam, 2003). In a global survey conducted by Cone (2015), which included 9,709 citizens, more than half (61%) of the respondents indicated using social media to address or engage with companies about CSR. Therefore, from a corporate perspective, communicating CSR through social media has become of paramount importance, as citizens expect companies to address and engage with their audience about CSR on social media.

In general, CSR communication can be explained as a means for companies to attain or protect their organizational legitimacy (Arvidsson, 2010; Gulyas, 2011), where social media forms a framing mechanism of the CSR message communicated (Du & Vieira, 2012). In the literature about CSR communication it is argued that companies disclose CSR information, because they want to justify or legitimize their corporate operations to society (Deegan & Rankin, 1996; Du & Vieira, 2012; Hooghiemstra, 2000). CSR communication is important for organizational survival as it can lead to a diverse set of positive outcomes and can be leading in generating favorable stakeholder attitudes and stakeholder support behaviors (Du, Bhattacharya & Sen, 2010).

Despite that CSR and CSR communication are acknowledged to be important for generating and maintaining organizational legitimacy, they are neither universally adopted nor universally understood concepts (Freeman & Hasnaoui, 2011; Karmasin & Apfelthaler, 2017). CSR and CSR communication are social constructs and therefore cannot be universally defined (Karmasin & Apfelthaler, 2017; Sarkar & Searcy, 2016). Therefore, it is difficult to isolate CSR and CSR communication from the institutional environment in which they are embedded (Bekmeier-Feuerhahn, Bögel, & Koch, 2017), consequently hindering similar understanding and adaptation of CSR and CSR communication. Karmasin and Apfelthaler (2017) state similarly: *"It seems that there is little doubt that different cultural contexts call for different approaches to CSR and CSR communication"* (p. 241). Therefore, it can be expected that companies from different institutional environments have a different understanding of the CSR that should be communicated and how this should be configured in their information disclosed.

The institutional environment of an organization, which influences the CSR articulated by a company, can be explained by the organizational field of the company and the historically grown national institutional framework (Matten & Moon, 2008). Firstly, neo-institutionalism utters that organizations operating in the same organizational field will lead to isomorphism and thus will lead towards similar adaptation of organizational CSR communication practices (DiMaggio & Powel, 1983; Matten & Moon, 2008; Scott, 2013). Therefore, when organizations operate in the same organizational field similar CSR disclosure practices could be the result of the isomorphic forces originating from the organizational field over time. Secondly, historically grown national institutional frameworks influence the different business systems companies operate in (Matten & Moon, 2008). The different business systems are ranging from liberal to coordinated market economies and are mentioned as factors explaining the differences within CSR communication (Matten & Moon, 2008). Therefore, the national business system a company operates in might determine differences in the disclosure of CSR (Matten & Moon, 2008).

Wanderley, Lucian, Farache and Sousa Filho (2008) confirm that differences in CSR disclosure can be found on the internet. Wanderley et al. (2008) analyzed the disclosure of CSR information on corporate websites and found that the country of origin strongly influenced the information disclosed. For multinational companies, CSR communication in different institutional contexts is more complex, as they are limited in their decision-making capability due to globally and locally acting institutional forces (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017). Companies operating in a global context deal with both global and local institutional forces, therefore their CSR communication fluctuate between their given local

national conditions and emerging global standards (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017). In line with this institutional perspective, it can be expected that there are differences in CSR communication and the CSR related information disclosed by multinational companies originating from different continents, through the different local and globally acting institutional forces (Bashtovaya, 2014; Escobar & Vredenburg, 2011; Karmasin & Apfelthaler, 2017; Matten & Moon, 2008, Wanderley et al., 2008). However, what those differences are and how they manifest in the information disclosed on social media is still not known.

The CSR information disclosed on social media can vary in a wide range of topics, ranging from biodiversity, energy efficiency, gender diversity, inclusion, human rights, and more (Coombs & Holladay, 2012; Du & Vieira, 2012; Global Reporting Initiative, 2016). Primarily, the CSR information disclosed can be divided into three dimensions: the economic responsibility of a company, the social responsibility of a company and the environmental responsibility of a company (Elkington, 1998; Global Reporting Initiative, 2016). These three dimensions of CSR can be addressed when communicating information about CSR, where the economic responsibility forms the baseline for the other two to exists (Sarkar & Searcy, 2016). Therefore, when examining the information of CSR disclosed on social media only the environmental and social dimensions of CSR are examined, as they go beyond the minimal economic requirement of a company (Coombs & Holladay, 2012; Sarkar & Searcy, 2016).

A common problem identified and addressed in CSR communication literature is the lack of empirical research on the CSR disclosure of companies on social media (e.g. Capriotti, 2017; Colleoni, 2013; Cortado & Chalmeta, 2016; Eberle, Berens & Li, 2013; Etter & Plotkowiak, 2013). Most research focused on the extent and way that CSR is communicated rather than the content of the information that is communicated. Furthermore, no research has discussed the influence of institutional context on the CSR information communicated on social media, despite the significance of the institutional dependent nature of CSR communication (Bekmeier-Feuerhahn et al., 2017; Bortree, 2014; Karmasin & Apfelthaler, 2017). Overall, the literature does not provide any clear directions on the way the content of CSR communication differs between companies originating from different institutional contexts on social media. Therefore, the problem addressed is the lack of empirical evidence about the influence of institutional context on the communication of CSR related information on social media.

In order to contribute in solving this problem a goal statement has been derived. The goal of this research is to provide explorative insights on the influence of institutional context on the communication of CSR related information on social media. This goal is attained by examining European and American oil companies on Facebook and their differences in CSR

topics disclosed. First of all, European and American companies have been chosen as they are believed to operate in different institutional contexts and their presence on Western social media. Secondly, oil companies have been chosen as they are heavily influenced by increased expectations of society due to recent scandals surrounding the ethical behavior of these companies (e.g. Boele, Fabig & Wheeler, 2001; Huffington Post, 2015; The Guardian, 2017, 2018). Thirdly, the social medium Facebook is chosen because it is the largest social media platform with 2.2 billion active users each month and empirical studies about CSR communication are in scarce amounts (Cortado & Chalmeta, 2016; Facebook, 2018).

1.1 Research question

In the introduction the research problem and the goal of this research have been defined. The following research question is formulated to attain this goal:

To what extent do European and American multinational oil companies differ in the communication of CSR related topics on Facebook?

In order to answer the research question, four sub-questions have been derived. To further examine what CSR entails, CSR should be first defined. Therefore, the first sub-question is: 1) *"How is corporate social responsibility defined?"*. After defining CSR, it is necessary to examine what dimensions and categories can be distinguished within this definition of CSR to assess the differences in topics disclosed when comparing European and American oil companies. Therefore, the second sub-question is: 2) *What dimensions and categories can be distinguished in this definition of CSR?"*. After defining CSR and distinguishing the dimensions and categories of CSR, it is necessary to explore how these CSR categories are communicated and what the characteristics of CSR communication are, hence the following sub-question has been derived: 3) *"What is CSR communication and what are the key characteristics?"*. Additionally, it is necessary to examine the possible differences between European and American CSR communication. Therefore, the last sub-question is: 4) *"How can these dimensions and categories of CSR be expressed differently in the information disclosed on Facebook by European and American oil companies?"*. All four sub-questions questions will be answered in the theoretical chapter of this thesis.

1.2 Theoretical Relevance

This research is providing empirical groundwork about the influence of institutional context on the communication of CSR related information on social media. This research is providing empirical evidence in the limited body of literature about the differences in the topics disclosed by oil companies originating from different continents on social media. This research follows the research direction provided in the paper of Bortree (2014) and the suggestion of Du and Vieira (2012) to examine CSR communication on social media within different contextual and global environments. Furthermore, this research will contribute to the lacking empirical evidence of CSR communication on Facebook. On Facebook, little research has been conducted about CSR communication, foremostly because of the dominant role of Twitter in research (e.g. Colleoni, 2013; Cortado & Chalmeta, 2016; Etter, 2013; Lee, Oh & Kim, 2013).

1.3 Practical Relevance

Besides the theoretical relevance, this research carries practical value as well. While there has been done a substantial amount of research on CSR and the oil industry (e.g. De Roeck & Delobbe, 2012; Frynas, 2005; Spangler & Pompper, 2011), research on CSR communication in the oil industry is in small amounts (Du & Vieira, 2012; Wanderley et al., 2008). Oil companies can use these findings to understand the extent institutional context influences their CSR communication on Facebook. Secondly, oil companies can use these findings as a benchmark to their own CSR communication practices on Facebook. These results can offer an understanding of their current state of their own CSR communication and can be used to further develop their own CSR communication strategies. Thirdly, policy makers can use these findings to judge if the CSR disclosure of oil companies on Facebook is desirable behavior, as the oil companies can overstate or frame their CSR topics disclosed in their own (biased) way.

1.4 Outline of thesis

In this chapter, an introduction of this thesis was given. In **chapter 2**, the central concepts and theories will be explored. In **chapter 3,** there will be elaborated on the methodology used. In **chapter 4,** an overview of the collected data will be given and the results of the analysis. In **chapter 5**, the thesis is wrapped up with the discussion and conclusion.

2. Literature review

2.1 Corporate social responsibility: core concepts and definitions

CSR can be explained as an umbrella term as it is not a universally adopted nor universally understood concept (Freeman & Hasnaoui, 2011). A few attempts were made for mapping the different definitions, theories and concepts related to CSR (e.g. Carroll, 1991; Dahlstrud, 2008; Elkington, 1998; Garriga & Melé, 2004, Sarkar & Searcy, 2016). Dahlstrud (2008) compared 37 definitions of CSR and found that there are many definitions available and they are consistently referring to the same five dimensions: the stakeholder dimension, the social dimension, the economic dimension, the voluntary dimension and the environmental dimension.

More recently, Sarkar and Searcy (2016) compared 110 definitions of CSR and found six reoccurring dimensions underpinning CSR: the economic, ethical, social, stakeholder, sustainability and voluntary dimension. In comparison to Dahlstrud (2008), Sarkar & Searcy (2016) add the ethical dimension to their conceptualization of CSR. Sarkar & Searcy (2016) argue that despite the widespread of definitions, the 'economic' dimension has been maintained as a main element of CSR in the definitions of CSR over time. This suggests that there is a common consensus that the first act of 'doing good' is doing "economically good" (Sarkar & Searcy, 2016). Sarkar and Searcy (2016) argue that the economic dimension of CSR forms the needed foundation for CSR. However, businesses need to look beyond the basic economic requirements in order to be perceived as responsible (Coombs & Holladay, 2016; Sarkar & Searcy, 2016). Sarkar and Searcy (2016) propose the following description of CSR:

*"CSR implies that firms must foremost assume their **core economic responsibility** and **voluntarily** go beyond legal minimums so that they are **ethical** in all of their activities and that they take into account the impact of their actions on **stakeholders** in **society**, while simultaneously contributing to global **sustainability**."* (p. 1433)

Following this description, it becomes clear that CSR entails a wide range and diverse set of voluntary economic, social and environmental topics. CSR can therefore include a wide range of topics such as: biodiversity, energy efficiency gender diversity, inclusion, human rights, and more (Du & Vieira, 2012; Global Reporting Initiative, 2016). A note should be made that these topics are closely interlinked with sustainability and can be perceived as one and the same.

Foremostly, in this research CSR disclosure is explained as the voluntarily disclosure of information about ethical corporate practices and their impact on its environment and society.

Primarily, the CSR information disclosed can be divided into three dimensions of CSR: the economic responsibility of a company, the social responsibility of a company and the environmental responsibility of a company (Elkington, 1998; Hall, 2011). These three dimensions of CSR can be addressed when communicating content about CSR where the economic responsibility forms the baseline for the other two to exists (Coombs & Holladay, 2012; Sarkar & Searcy, 2016). Therefore, when examining the CSR information disclosed on social media the environmental and social dimension are discussed as they go beyond the minimal economic responsibility of a company. This is in line with the reasoning of Coombs and Holladay (2012), that also explains that the information communicated about CSR can be divided into these two dimensions. Therefore, when examining CSR and the CSR topics communicated, only the **social dimension** and the **environmental dimension** of CSR are discussed. Next paragraphs, a categorization of these dimensions is introduced to further elaborate on the potential differences in configuration of CSR information.

2.1.1 Social dimension of CSR

The **social dimension of CSR** can be broadly defined as *"the impact an organization has on the social systems within which it operates"* (Global Reporting Initiative, 2016, p. 292). The Global Reporting Initiative (GRI) is a global standard and represent global best practices for reporting on economic, environmental and social issues. The GRI of 2016 has an effective date of the first of July of 2018, before this date the G4 guidelines are maintained. The G4 guidelines of the GRI (2014) further breaks down the social dimension into four categories: "labor practices and decent work", "human rights", "society" and "product responsibility".

Firstly, the category **"society"** can be defined as: *"impacts that an organization has on society and local communities"* (GRI, 2014, p. 76). Secondly, the category **"human rights"** can be defined as *"the extent to which processes have been implemented, incidents of human rights violations, and changes in stakeholders' ability to enjoy and exercise their human rights."* (GRI, 2014, p.70). Thirdly, the category **"labor practices and decent work"** has been mentioned as a category. This category does not include a clear definition, as the category is based on universal labor standards (GRI, 2014). Labor practices and decent work can therefore be explained as the extent to which internationally recognized universal labor standards are incorporated into the organization's practices. Fourthly, **"product responsibility"** is identified

as a category. Product responsibility can be explained as: *"The products and services that directly affect stakeholders, and customers in particular"* (GRI, 2014, p.80).

Whereas the GRI does provide categories for the social dimension of CSR, it is not tailored to the context of CSR information beyond sustainability reports. The GRI does not include the overall CSR information about a company, such as the sustainability reports, sustainability rewards and compliance with the global reporting standards. Therefore, lastly, the category of **"responsible governance"** is added in this research to the categorization of the GRI. This category can be explained as the extent to which companies disclose CSR related information on the governance and overall CSR practices of an organization. Some examples of this category of CSR are: sustainability reports, sustainability rewards, transparency, executive board compensation and gender participation on governance entities.

A cross-examination of literature describing other categorizations and topics is used to validate the before mentioned categorization. The categories of the social dimension are cross-examined with the suggestions of the GRI report (2013), Coombs & Holladay (2012) and Du and Vieira (2012). More details about the cross-examination and the categorization of the social dimension of CSR can be found in Appendix A and B.

2.1.2 Environmental dimension of CSR

The **environmental dimension of CSR** can be explained as *"an organization's impacts on living and non-living natural systems, including ecosystems, land, air, water and ecosystems"* (Global Reporting Initiative, 2016, p. 170). Whereas the G4 guidelines of the GRI incorporate categories for the social dimension of CSR, only aspects of the CSR environmental dimension are identified by the GRI (2014). To construct a categorization for the environmental dimension of CSR a cross-examination of the topics and categorizations have been used of different sources. The categorization developed for the environmental dimension of CSR has been constructed out of the GRI report (2013), the GRI G4 guidelines (2014), Coombs & Holladay (2012) and Du and Vieira (2012). More details about the categories can be found in Appendix A and B.

Firstly, **"energy efficiency"** is adopted as a category as it is mentioned in by the GRI (2013, 2014), Du and Vieira (2012) and Coombs and Holladay (2012). This category encompasses the energy efficiently of (existing) end products and operations. Secondly, **"reducing emissions and climate change"** is adopted as the second category. This category can be explained as on organization's effort to reduce emissions and fight climate change. This

category includes topics such as reducing greenhouse emissions and the investment in renewables. Thirdly, **"biodiversity and ecosystems"** is adopted as a category. This category can be explained as on organization's effort to protect and maintain biodiversity and ecosystems. Biodiversity and ecosystems are combined in one category as they both encompass preserving nature. Fourthly, **"risk management and reporting of environmental tragedies"** has been adopted as fourth category. This category relates closely to "products and services" and "sustainability of manufacturing". This category can be explained as on organization's effort to manage and report risks that could lead to environmental tragedies. Fifthly, **"reducing waste and recycling"** is adopted as fifth category as it is mentioned in by the GRI (2014), Du and Vieira (2012) and Coombs and Holladay (2012). This category can be explained as on organization's effort to reduce waste and recycle their products. Lastly, **"water management and withdrawal"** has been adopted. This category can be explained as on organization's effort to manage water and withdrawal to limit their impact on existing water systems.

It can be summarized that both categorization of the environmental and the social dimension entail a wide diversity of different topics. Consequently, companies can address a wide diversity of CSR related topics and therefore CSR information disclosed by companies can differ within a wide range of different configurations. Hence, the categorization can be used to order the topics disclosed and give a clear understanding of differences of CSR information communicated by companies and their different configurations of CSR information disclosed.

2.2 CSR communication and characteristics

Acting in a responsible way is not enough, to attain all the benefits CSR brings companies need to communicate their environmental and social responsibilities as well (Du et al., 2010; Etter, 2013). **Communication** can be defined as *"the practice of producing and negotiating meanings, a practice which always takes place under specific social, cultural and political conditions."* (Schirato & Yell, 1997, p. 21). This definition of communication incorporates the contextual embeddedness of communication. When dealing with transferring information of the environmental and social responsibilities of a company the different institutional contexts will ask for different approaches to CSR communication (Bekmeier-Feuerhahn et al., 2017; Karmasin & Apfelthaler. 2017).

In line with the contextual embedded nature of CSR, Coombs and Holladay (2012) argue that CSR communication cannot simply be described as the transmission of CSR information, because CSR communication is facing some notable challenges. The first major challenge is

the *"CSR promotional communication dilemma"* (Coombs & Holladay, 2012). Stakeholders demand information about CSR, nevertheless, when the message of a company is overly self-promoting then this can negatively impact the credibility of the company's message (Coombs & Holladay, 2012). The second major challenge is that not all stakeholders want the same information about CSR initiatives (Coombs & Holladay, 2012). Therefore, the CSR information should be overall consistent but tailored to the communication needs of each individual group of stakeholders (Pomering & Dolnicar, 2009). A lack of consistency can be detrimental for a company's CSR communication, because it can awake skepticism about the commitment or sincerity of the companies' CSR initiatives (Coombs & Holladay, 2012).

Next to these notable challenges, CSR communication can be explained by the characteristics of them. Bekmeier-Feuerhahn et al. (2017) characterized CSR communication into five characteristics: 1) Process-orientated, 2) Target-group-specific, 3) Dialogical, 4) Contextually-dependent, 5) Integrated discourse. Firstly, CSR is a strategic approach and therefore is in an ongoing process (Bekmeier-Feuerhahn et al., 2017), CSR communication should therefore be characterized as **process-oriented** and not merely characterized from the functional perspective. Secondly, CSR communication is **target-group-specific**. As stated earlier, the CSR information transmitted should be overall consistent but tailored to the communication needs of each individual target groups (Pomering & Dolnicar, 2009). Thirdly, CSR communication is **dialogical** and should create a two-way shared understanding between the parties involved. (Bekmeier-Feuerhahn et al., 2017; Schultz & Wehmeier, 2010). Fourthly, CSR communication is **contextually-dependent** and can be influenced by a multitude of factors such as political, cultural, legal technological and industrial structures (Bekmeier-Feuerhahn et al., 2017; Du et al., 2010).

Bekmeier-Feuerhahn et al. (2017) argue that the first four characteristics determine the appropriate communicative content and channels for target groups. When a company incorporates the first four characteristics in their CSR communication, its CSR communication will be better in attaining beneficial CSR communication outcomes (Bekmeier-Feuerhahn et al., 2017; Du et al., 2010). When linking CSR communication to the previous section, the social and environmental responsibilities communicated should be perceived as the content transmitted. Social media can be explained as one of the communication channels that carry the CSR information transmitted.

The last characteristic of CSR communication identified is **integrative discourse** (Bekmeier-Feuerhahn et al., 2017). The integrative discourse characteristic of CSR communication encompasses that all stakeholders of organizations are addressed and

incorporated into the CSR communication. The integrative discourse also means coordination of communication channels and CSR content in terms of timing, structure and consistency in order to convey CSR communication effectively (Bekmeier-Feuerhahn et al., 2017; Coombs & Holladay, 2012).

The characteristics and notable challenges of CSR communication should be examined carefully as they contribute to the effectiveness of CSR communication, which can ultimately lead to a diverse set of positive outcomes (Bekmeier-Feuerhahn et al., 2017; Du et al., 2010). CSR communication can be leading in generating favorable stakeholder attitudes and stakeholder support behaviors (Du et al., 2010; Etter, 2013). Furthermore, companies can, over the long run, build strong and credible corporate image, strengthen relationships between stakeholders, company and enhance advocacy behaviors (Du et al., 2010; Etter, 2013). One of the tools with increased attention of scholars and businesses for communicating CSR effectively is the use of social media (Becker-Olsen & Guzmán, 2017; Capriotti, 2017; Capriotti & Moreno, 2007).

2.3 CSR communication and social media

The internet and social media have become of main importance for companies to diffuse information about corporate social responsibility (Becker-Olsen & Guzmán, 2017; Capriotti, 2017; Capriotti & Moreno, 2007; Mangold & Faulds, 2009). Social media are tools with increased attention from scholars and practitioners for communicating CSR on the internet (Capriotti, 2017). Social media have become the place for consumers to discuss and express their critical views of companies towards their CSR practices (Becker-Olsen & Guzmán, 2017; Mangold & Faulds, 2009). As Becker-Olsen and Guzmán (2017) state: *"There is no doubt that social media is increasing awareness for CSR and changing the baseline expectation for consumers."* (p. 308). Furthermore, social media forms an important place for companies to disclose CSR information, as they can justify or legitimize their corporate operations to society towards a wider public (Deegan & Rankin, 1996). Kim and Rader (2010) investigated the main corporate communication strategies of Fortune 500 on their corporate websites and found that the CSR-focused communication strategy is the most dominant one for the largest 100 corporation. Therefore, it can be argued that the use of the internet to diffuse CSR information on the internet is a common practice among large corporations (Kim & Radar, 2010).

Although, the importance of social media is widely acknowledged, there is still a widespread of definitions of what social media entail. This is caused by a swift change of

technology and the different types of social media (Brodie, Hollebeek, Jurić. & Illić, 2011). In this research the comprehensive definition of Kaplan and Haenlein (2010) is used for social media. Kaplan and Haenlein (2010) define **social media** as: *"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"* (p. 61). Social media are therefore communicative tools where users can interact and interchange information on the internet.

Social media offer interactive ways of communicating that can be of critical importance for communicating responsible behavior to stakeholders effectively (Eberle et al., 2013). Social media leads to a higher perceived interactivity of a company, which can lead to higher message credibility that is necessary for communicating CSR effectively (Eberle et al., 2013). Therefore, Social media can lead to new opportunities for companies to communicate CSR and frame their CSR information disclosed (Du & Vieira, 2012; Eberle et al., 2013). The interactive capabilities of social media constitute the dialogical characteristic of CSR communication identified in a previous section. These interactive capabilities of social media can be used to engage in a two-way exchange to create shared understanding between companies and Facebook users (Cortado & Chalmeta, 2016). This dialogical characteristic of CSR communication on social media can be further explained by public relations theory.

Public relations theory makes a distinction between one-way communication, two-way asymmetric communication and two-way symmetric communication (Grunig & Hunt, 1984). **One-way communication** is when information is transferred in one direction only, whereas **two-way communication** indicates an interchange of information between the receiver and the sender of the message (Grunig & Hunt, 1984). Morsing & Schultz (2006) identify three different kinds of CSR communication strategies corresponding with the distinction made by Grunig and Hunt (1984): the stakeholder information strategy, the stakeholder response strategy and the stakeholder involvement strategy. Colleoni (2013) examined the CSR communication strategies suggested by Morsing & Schultz (2013) of companies on Twitter with the use of network analysis. She used the typology made by Morsing and Schultz (2006) to identify the different CSR communication strategies used on Twitter. Colleoni (2013) found that only two strategies are being used: the self-centered communication strategy and the dialogical CSR communication strategy. Cortado and Chalmeta (2016) found similarly that one-way communication still dominates the use of two-way communication to a large extent when communicating CSR on social media. Therefore, when comparing companies, a more general distinction between one-way and two-way communication strategies seem more fitting as actual

involvement in the adoption of CSR is still barely observed in the case of social media (e.g. Colleoni, 2013; Cortado & Chalmeta, 2016; Eberle et al., 2013).

2.4 CSR communication and organizational legitimacy

A major goal identified in the CSR literature for communicating CSR is to achieve or protect organizational legitimacy (Arvidson, 2010; Du & Vieira 2012; Gulyas, 2011). Attaining legitimacy through CSR communication is of main importance because the perceived legitimacy of the organization can constrain or empower the organization (Du et al., 2010; Suchman, 1995). Companies should therefore understand the many institutional forces that influence the organization and its legitimacy (Karmasin & Apfelthaler, 2017).

From a context-dependent view of legitimacy, **legitimacy** can be defined as: "*A generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions*" (Suchman, 1995, p. 574). Thus, legitimacy is controlled from outside the organization and the organization is trying to maintain its relationship with their environment, what has the power to determine the legitimacy of an organization (Pfeffer & Salancik, 2003). Likewise, legitimacy of an organization can be understood as a reflection of an organization's relationship with its environment (Patel, Xavier & Broom, 2005).

Legitimacy is a major theme when examining the normative and cognitive forces because they can constrain and empower organizations (Schuchman, 1995). Consequently, legitimacy and CSR are closely connected with one another, as they both deal with norms, values and expectations from society (Du & Vieira, 2012; Fernando & Lawrence, 2014). Deegan and Rankin (1996) state that companies will disclose information to justify or legitimize the company's continued operations within society. Consequently, it is suggested that voluntary, social and environmental disclosure in corporate communication is a strategy to attain organizational legitimacy (Hooghiemstra, 2000).

Therefore, from a legitimacy perspective, an organization CSR communication is to protect, maintain, establish or extend organizational legitimacy (Arvidson, 2010; Du & Vieira 2012; Gulyas, 2011, Tilling 2004). Du and Vieira (2012) conducted a qualitative research on online CSR communication as a means to attain organizational legitimately. They found several mechanisms used for framing the CSR information disclosed on the internet to attain organizational legitimacy. One of these framing mechanisms is the use of social media. In

Figure 1, the role of a social media as a framing mechanism for CSR communication to attain organizational legitimacy is illustrated.
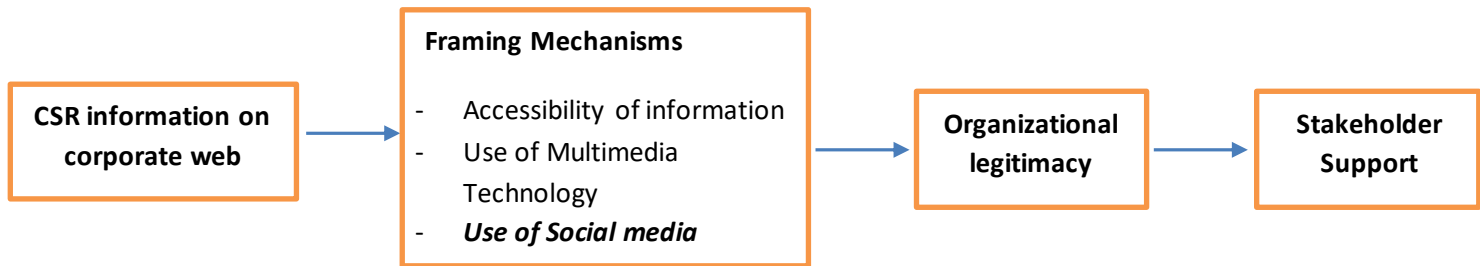
Figure 1. Social media as a framing mechanism for CSR communication to attain organizational legitimacy. *Adapted from "Striving for legitimacy through corporate social responsibility: Insights from the oil companies" by S. Du & E.T. Vieira, 2012, Journal of Business Ethics, 110(4), 413-427.*

When applying the definition of Suchman (1995) of legitimacy to Figure 1, it can be argued that social media is used to create and frame the *"perception or assumption that the actions of companies are desirable, proper or appropriate in the given set of socially constructed system of norms values, beliefs and definitions"* (p. 574). The use of social media as a framing mechanism for CSR information will ultimately lead to stakeholder support behavior. Social media can therefore be identified as an instrument which companies can use to frame their CSR information to attain organization legitimacy from their environment (Du & Vieira, 2012; Capriotti, 2017). The environment where an organization operates in can be described by the many formal and informal institutions (North, 1990).

2.5 CSR communication and institutional context

Institutions can be described as human constructed constraints that structure human interactions (North, 1990). Institutions exist out of formal rules and informal constraints. Formal rules are reflected in regulations and laws, whereas informal constraints are reflected in norms of behavior, conventions and codes of conduct (North, 1990). Organizations try to pursue their interest within their institutional context and therefore they incline to comply to the rules, expectations and beliefs of the institutional environment they operate in (DiMaggio & Powell, 1983; Oliver, 1997). Organizations adopt practices *"they believe their institutional environment deems appropriate or legitimate regardless of whether these practices increase organizational efficiency or otherwise reduce costs relative to benefits"* (Campbell, 2004, p. 18). Organization

gain legitimacy from the external environment by representing alignment with other organizations within their institutional context. Consequently, this can help organizations attain social acceptance and resources to sustain the operations of an organization in a competitive environment (Suchman, 1995; Scott, 2013). Whenever organizations want to survive, they need to have both economic efficiency and legitimacy to grow and survive in a challenging environment (DiMaggio & Powell, 1983; Scott, 2013).

Neo-institutional theory suggests that organizational survival does not simply depend on the material resources and technical information, but also on the organization's perceived legitimacy (DiMaggio & Powell, 1991). Neo-institutional theory's main argument is that organizations adopt practices that are considered acceptable and legitimate within their environment or **"organization field"**, which typically transfers into similar structures and processes (DiMaggio & Powell, 1983). The organizational field of a company can be defined as: *"sets of organizations that, in the aggregate, constitute a recognized area of institutional life; key suppliers, resource and product consumers, regulatory agencies, and other organizations that produce similar services or products".* (DiMaggio & Powel, 1983, p. 148-149). This process of organizations to gradually resemble each other within the same institutional environment is identified as "**institutional isomorphism**" (DiMaggio & Powel, 1983; Scott, 2013). DiMaggio and Powel (1983) identified thee isomorphic forces in the organizational field of the company: **coercive isomorphisms, mimetic processes, and normative pressures**. These three forces are sometimes overlapping and accommodate the adaption of similar practices in the organizational field of the company in order to become legitimate within their institutional environment (DiMaggio & Powel, 1983; Suchman, 1995). Coercive isomorphism can be described as external pressures coming from the expectations of society. Mimetic isomorphisms can be described as the tendency of organizations to imitate other organizations practices. Normative isomorphism can be explained as the pressure for companies to deliver according to contextual expected standards. These forces of isomorphism influence the corporation and their form of corporate social responsibility communicated (Matten & Moon, 2008).

Matten and Moon (2008) investigate CSR in both Europe and the United States (America) and make a distinction between implicit and explicit CSR. Matten and Moon (2008) identify the organizational field of a company and historically grown national institutional frameworks as factors influencing the CSR communicated by the company. Matten and Moon (2008) argue that historically grown national institutional framework shapes the national business system, which influences the CSR articulated. The historically grown national

institutional frameworks can be described by four key features: the political system, the financial system, the education and labor system, and the cultural system (Whitley, 1999). These institutional forces have shaped the American and European national business systems, specifically in terms of the nature of the firm, the organization of market processes, the coordination and control systems (Matten & Moon, 2008; Whitley, 1999).

National business systems are commonly described by two opposite systems; **the liberal market economies** (LME) and the **coordinated market economies** (CME). European countries are closer towards the CME system, whereas the United States is closer to the LME system. LME's rely on market-based coordination, whereas CME's rely on institutionalized coordination (Golob, Verk & Podnar, 2017). The United Kingdom and Ireland form an exception and are traditionally operating closer to the LME system (Hassel, 2014). The differences between American and European CSR communication is regularly attributed to their national business systems (Golob et al., 2017). This difference in CSR communication is commonly explained by the American focus on the individual responsibility, whereas European countries have a stronger role of the state in managing ethical market problems (Golob et al., 2017; Groddeck, 2011). Similarly, Gjølberg (2009) states that the institutionalized governmental regulation and corporate agreements sustain important leverage on the CSR behavior of corporations.

When describing the differences between American and European CSR communication, Matten and Moon (2008) make a distinction between **implicit CSR** and **explicit CSR**. The first distinction they make between European and American companies is the language companies use to address the relationship of a company with the society. As they argue: *"Companies practicing explicit CSR use the language of CSR in communicating their policies and practices to their stakeholders, whereas those practicing implicit CSR normally do not describe their activities this way."* (p. 410). The second distinction they make is the difference in intent. Implicit CSR can be similar to explicit CSR practices, however implicit CSR is "*a reaction to, or reflection of, a corporation's institutional environment, whereas explicit CSR is the result of a deliberate, voluntary, and often strategic (Porter & Kramer, 2006) decision of a corporation*" (p. 410). The explicit approach results in most cases into more deliberate communication, while the implicit approach often leads to poor communication (Habisch, Patelli, Pedrini & Schwartz, 2011; Schmeltz, 2014; Becker-Olsen & Guzmán, 2017). Matten and Moon (2008) argue that convergence towards more explicit approaches will occur, whereas other authors state that European companies will hold on to their own distinctive approach (Hartman, Rubin & Dhanda, 2007). LME's are distinguished as leaning to a more explicit approach of communicating CSR,

whereas CME's lean towards a more implicit approach (Matten & Moon, 2008). Early empirical research suggests that companies from the United States more explicitly mention CSR on the internet than European countries (Maignan & Ralston, 2002). However, some more recent studies suggest that European companies have become considerably more explicit in their CSR communication (Strand, Freeman & Hockerts, 2015).

Overall, it is evident that there are differences in CSR communication of companies originating from different institutional contexts. Gulyas (2011) identified country of origin as an important factor that influences both the content and the extent of CSR communication. Wanderley et al. (2008) confirm that differences in CSR disclosure can be found on the internet, as they analyzed the CSR information disclosure on the corporate websites and found that country of origin strongly influenced the information disclosed. These differences are most likely attributed to the organizational field and the business systems companies operate in (Matten & Moon, 2008).

2.6 Hypotheses and conceptual model

It is expected to find different approaches to CSR communication due to the different institutional environment companies operate in (Becker-Olsen & Guzmán, 2017; Golob et al., 2017; Matten & Moon, 2008). This can also be reflected on the content and communication strategies used by oil companies on social media. Based on the literature review, the following conceptual model was drawn. Figure 2 presents the conceptual model of this research.

Figure 2. Conceptual model.
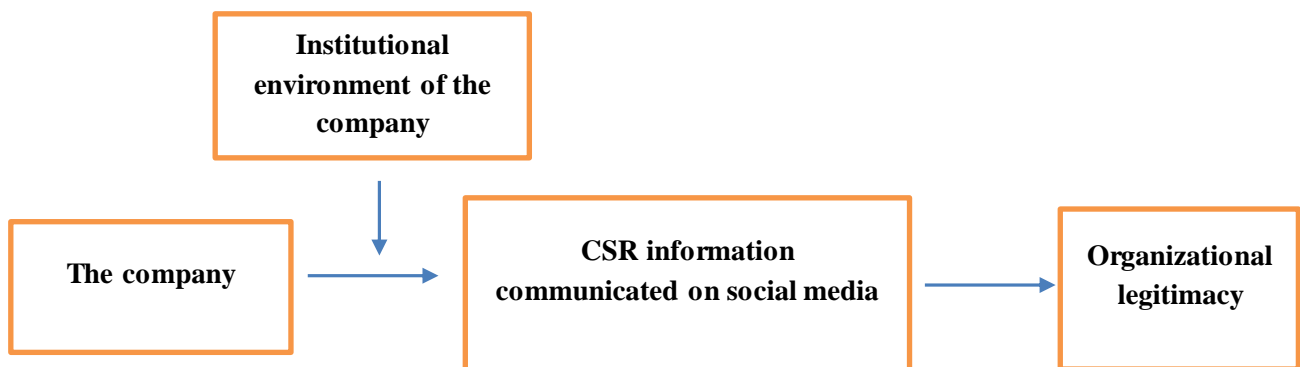
In the first section of this chapter, the two sub-questions were answered: *"How is corporate social responsibility defined?"* and *"What dimensions and categories can be distinguished in this definition of CSR?"*. Corporate social responsibility has been described as: *"CSR implies that firms must foremost assume their **core economic responsibility** and **voluntarily** go beyond*

*legal minimums so that they are **ethical** in all of their activities and that they take into account the impact of their actions on **stakeholders** in **society**, while simultaneously contributing to global **sustainability**."* (Sarkar & Searcy, 2016, p. 1433). Foremostly, in this research CSR disclosure is perceived as the voluntarily disclosure of information about ethical corporate practices and their impact on its environment and society. Next, two dimensions of CSR were distinguished: the social and environmental dimension. Furthermore, it has been argued that companies can address a wide diversity of CSR related topics and therefore CSR information disclosed can differ within a wide range of different configurations.

Afterwards the question *"What is CSR communication and what are the key characteristics?"* has been answered. It is noticed that CSR cannot be simply described as a simple transition of information, as CSR communication has some notable characteristics and challenges (Bekmeier-Feuerhahn et al., 2017; Coombs & Holladay, 2012). The characteristics of CSR communication are: 1) process-orientated, 2) target-group-specific, 3) dialogical, 4) contextually-dependent, 5) integrated discourse (Bekmeier-Feuerhahn et al., 2017). The dialogical characteristic has been explained as the extent of two-way communication, and the contextual dependency has been explained as the institutional context of a company.

Next, the last sub-question has been answered: *"How can CSR be expressed differently in the CSR information disclosed on Facebook by European and American oil companies?"*. When examining CSR communication, in early literature it is suggested that American companies tend to be more explicit about their CSR communicated (Matten & Moon, 2007). Yet, recent literature is describing an explicit approach of European companies as well (Strand et al., 2015). Furthermore, it is argued that the differences of CSR communication between European and American multinational companies is more complex as they are limited in their decision-making capability due to different globally and locally acting institutional forces (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017). Multinational companies operating in a global context consequently fluctuate between their given local national conditions and emerging global standards when communicating about CSR (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017).

Overall, the literature does not provide clear directions on the way CSR information disclosure differs between European and American companies in the context of social media. Therefore, the hypothesis derived are foremostly **explorative** and guiding. However, there are some theoretical perspectives there can be drawn from. Matten and Moon (2008) identify the organizational field of a company and historically grown national institutional frameworks as a factor influencing the form of CSR articulated by the company. Isomorphic forces in the

organizational field of the companies can result in similar adaptation of organizational CSR communication practices (DiMaggio & Powel, 1983; Matten & Moon, 2008; Scott, 2013). Local institutional pressures can encourage differences in organizational CSR communication practices, whereas global institutional forces can encourage similarities in organizational CSR communication practices (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017). Furthermore, the historically grown national institutional framework has shaped the American and European national business systems, specifically in terms of the nature of the firm, the organization of market processes, the coordination and control systems (Matten & Moon, 2008; Whitley, 1999).

The differences between American and European CSR communication is commonly attributed to their national business systems (Golob et al., 2017). Furthermore, the difference in CSR communication is commonly explained by the American focus on the individual responsibility, whereas European countries have a stronger role of the state in managing ethical market problems (Golob et al., 2017; Gjølberg, 2009; Groddeck, 2011). American companies are considered to be more explicit in their CSR communication, as they originate from a LME and European companies less explicit as they originate from a CME (Maignan & Ralston, 2002; Matten & Moon, 2008). However, more recent studies suggest that European companies have become considerably more explicit in their CSR communication (Strand, Freeman & Hockerts, 2015). There are differences in the institutional environments of American and European companies, therefore there can be expected that there are differences in the extent CSR is communicated on social media as well. Whereas, there is no clear direction on the current state of the extent CSR information disclosure differs between European and American companies in the context of social media, a two-way explorative hypothesis has been derived:

H1. *American and European companies differ in the extent CSR related information is part of the overall information disclosed on social media.*

Furthermore, American and European companies can also differ in the type of information used when communicating CSR. Du and Vieira (2012) mentioned the use of multimedia technology, such as videos, photos and other rich media, to transmit CSR information. As social media can incorporate many different types of information, companies can choose the richness of information based on the requirements of their institutional environment (Becker-Olsen & Guzmán, 2017; Brodie et al., 2011; Matten & Moon, 2008). In the literature there is no clear direction on the way the type of information used differs between European and American companies in the context of social media, therefore a two-way explorative hypothesis has been derived:

H2. *American and European companies differ in the type of information used when communicating about CSR on social media.*

Furthermore, American and European companies can also differ in the dimension of CSR addressed when they communicate about CSR. It is possible that the stronger role of the state in managing ethical market problems in a CME creates a stronger focus on the environmental aspect of CSR, whereas the American focus on the individual responsibility might create opportunity for more emphasis on the social dimension of CSR (Golob et al., 2017; Gjølberg, 2009; Groddeck, 2011). Furthermore, LME's are distinguished as leaning to a more explicit approach of communicating CSR, whereas CME's lean towards a more implicit approach (Matten & Moon, 2008). The implicit approach is the response on regulation and laws, whereas the explicit approach is more on a deliberate and voluntarily basis (Matten & Moon, 2008). Where the social dimension of CSR can be grounded on a more voluntarily basis, the environmental dimension is grounded more on a regulative basis. American companies might therefore tend to include more of their CSR communication about the social dimension of CSR and European companies more about the environmental dimension of CSR. Therefore, the following one-way hypothesis has been derived:

H3. *American companies tend to communicate more of their CSR information on the social dimension of CSR on social media.*

As mentioned in the literature review, the environmental and the social dimension of CSR include a wide range of CSR related topics and categories. Consequently, the CSR information disclosed by companies can differ within a wide set of different configurations of categories within their own CSR disclosure. Therefore, the distribution of categories within the dimension of CSR can be diverse. The configuration within the dimensions of CSR might explain where the differences in the CSR dimension addressed originates from.

Aligned with the reasoning of the previous hypothesis, the institutional environment can influence the configuration of categories disclosed within the social and environmental dimension of CSR. It can be expected that different categories are believed to be more important to address in different institutional environments when communicating CSR on social media. Therefore, the following explorative two-way hypothesis can be derived about the social dimension of CSR:

H4. *American and European companies differ in the configuration of categories addressed on the environmental dimension of CSR on social media.*

Subsequently, the following explorative hypotheses can be derived about the environmental dimension of CSR:

H5. *American and European companies differ in the configuration of categories addressed on the social dimension of CSR on social media.*

Next to the dimensions of CSR, there can also be a difference in the way American and European companies use two-way communication to communicate CSR related messages. As described in the literature review, public relations theory makes a distinction between one-way communication and two-way communication (Grunig & Hunt, 1984). When comparing companies, a general distinction between one-way and two-way communication strategies seem more fitting as actual involvement in the adoption of CSR is still barely observed on social media (e.g. Colleoni 2013; Cortado & Chalmeta, 2016; Eberle et al., 2013). In the literature there is no clear direction on the way institutional environment influences the extent of two-way communication used on social media. Therefore, the following explorative two-way hypothesis has been derived:

H6. *American and European companies differ in the use of two-way communication of CSR information on social media.*

3. Methodology

3.1 Content analysis

In order to answer the research question and test the hypotheses a content analysis has been conducted. Content analysis can be defined as "*a summarizing, quantitative analysis of messages that follows the standards of the scientific method and is not limited as to the types of variables that may be measured or the context in which the messages are created or presented*" (Neuendorf, 2016, p.40). More broadly, Pashakahanlou (2017) defines content analysis as "*a research method that systematically analyzes the content of communication*" (p. 449). In this research the content of CSR information communicated, the type of information and the extent of two-way communication is examined.

The method of content analysis has been chosen for several reasons. Firstly, there is already established literature about CSR communication (e.g. Du & Vieira, 2012; Coombs & Holladay, 2012), and CSR communication on Facebook (e.g. Colleoni, 2013; Cortado & Chalmeta, 2016). Because there is already some prior knowledge about CSR communication a quantitative approach of content analysis is chosen (Vennix, 2011). Secondly, content analysis is a flexible method and can bring the flexibility necessary when conducting explorative research and working in an iterative way (Pashakahanlou, 2017). Consequently, the meaning of the quantitative findings can be enhanced by integrating qualitative insights derived from this research, enabling an integrative approach (Pashakahanlou, 2017). Thirdly, with content analysis, data can be compared and collected in a reliable and uniform way (Neuendorf, 2016; Vennix, 2011). Content analysis offers the possibility to compare European and American oil companies in a uniform way. The coded data can be used for objective comparison of the different oil companies and can be used to explore the extent European and American multinational companies differ in their CSR communication. Content analysis further provides comparison possibilities with previous and forthcoming research findings that also uses content analyses of CSR related messages (e.g. Cortado & Chalmeta, 2016).

Besides the methodologic reasons for choosing content analysis, it is also in line with the methods used in previous research about CSR communication on social media. Cortado and Chalmeta (2016) used content analysis to compare the amount of CSR related posts on Facebook and Twitter of twenty Spanish companies with the highest market capitalization. Etter and Plotkowiak (2013) used content analysis on Twitter in order to look at the CSR communication strategies employed. McCorkindale (2010) conducted a content analysis of the

Fortune 50's Facebook networking sites and included CSR in their analysis as well. Consequently, the choice for content analysis has been made.

3.2 Case selection and research material

The units of analysis are the European and American multinational oil companies in the top 100 of the Fortune global 500. Facebook is chosen as social media platform because it is the largest social medium with 2.2 billion active users each month and empirical studies about CSR communication on Facebook are in scarce amounts (Cortado & Chalmeta, 2016; Facebook, 2018). The units of observation are the Facebook posts produced by the European and American multinational oil companies in the Fortune global 500. The Fortune global 500 consists out of 28 multinational oil companies. Six are based in the US, six in Europe (excluding Russia), and sixteen originate from the other continents (Appendix E). Russia is excluded in the case selection because Russia is believed to be exposed to a different institutional context than the other European countries.

Data was collected from the corporate Facebook pages of the largest three European and the largest three American oil companies based upon the Fortune global 500 of 2016. The oil companies are chosen based on the highest ranked oil companies in the Fortune Global 500, as they are believed to be driving organizations for the oil industry. These oil companies are used as a benchmark for the other oil companies and therefore are used as a reference for the rest of the industry. The same reason for case selection based on the size of a company has been given by Cortado and Chalmeta (2016).

A sample size of six is chosen because it covers the top 100 oil companies of the Fortune global 500 without compromising too much depth within this explorative research. Some general characteristics of the selected oil companies are described in Table 1. As shown in Table 1, the selected companies differ in terms of size, profits and number of employees even though they are all part of the top 100 of the Fortune global 500. The selection of two different continents is based on the recommendation of Du and Vieira (2012) and Bortree (2014), where they recommend to further explore differences in CSR communication between continents and the institutional context companies operate in. The United States and Europe are chosen because of accessibility and readability (in English) of the oil companies Facebook pages and the differences in institutional context (Morsing & Schultz, 2006).

Table 1.

General statistics of companies researched.

Company name	Revenue (USD Millions)	Profit (USD Millions)	Number of Employees	Headquarters
Shell	240,033	4,575	89,000	The Hague, Netherlands
Exxon Mobil	205,004	7,840	72,700	Irving, TX, United States
BP	186,606	115	74,500	London, Britain
Total	127,925	6,196	102,168	Courbevoie, France
Chevron	107,567	- 497	55,200	San Ramon, CA, United States
Phillips66	72,396	1,555	14,800	Houston, TX, United states

Note. Source: Fortune Global 500 of 2016 (Fortune, 2017).

3.3 Method of data collection

The data was collected with the use of Netvizz. Netvizz is *"a data collection and extraction application that allows researchers to export data in standard file formats from different sections of the Facebook social networking service"* (Rieder, 2013, p.1). This application is used to easily extract the Facebook posts and comments of the oil companies in a standardized format. No other functions then extracting and adapting the data in an Excel format where used. After extracting the data from Facebook, the total amount of Facebook posts enclosed by the six oil companies in the period of 2013-01-01 until 2017-12-31 is 5,759. After scanning the data, some posts where removed due to missing links. When screening the data, BP posted a small amount of posts in Arabic with the same content as the previous or succeeding English post. After careful examination these posts were removed from the dataset. Shell also published some posts in Dutch and Total posted some in French. These were not excluded as they offered different content than the previous or ascending posts. Total included an English translation in their Facebook posts and therefore the (partly) French Facebook posts have been kept present in the data set. As Dutch is the mother tongue of the author these posts have been kept in the data set as well. After cleaning the data, the total number of the 5,665 remained in the overall dataset. The European oil companies posted a total amount of 3,405 posts, where the American oil companies posted a total amount of 2,260 posts (Appendix F).

When examining social media, there are two methodological approaches that can be taken. The first is the big data approach, where all the existing content is analyzed using key words and computer guided analysis (Kim, Jang, Kim & Wan, 2018). The main drawback of this method is that complex variables, such as CSR, that are nuanced in text, pictures and videos

are not meaningfully identified and categorized (Zamith & Lewis, 2015). Therefore, the second approach of human coding is used. Consequently, a sample has been drawn out of the existing data set, as the coding of the whole data set would not fit the goal of this research.

Kim et al. (2018) suggest that it is necessary to produce a 'sufficient' sample size when analyzing content on social media. This means data should be added to the sample until deemed "sufficient" by the researcher (Kim et al., 2018; Neuendorf, 2016). Although there is no consensus on the sample size in content analysis, a common practice is to base sample size on previous research (Kim et al., 2018; Neuendorf, 2016). An example of previous research is Cortado and Chalmeta (2016), that used the month November of each year to sample their Facebook data for three years, attaining a total of 413 Facebook posts. Neuendorf (2016) suggests examining a probability sample of 384 for achieving a 95% level of confidence with a sampling error of 5%. To achieve higher confidence and "sufficient" data to perform the qualitative component of this analysis the amount of posts has been increased. A total of 570 has been randomly sampled, this sample contained 10% of the Facebook posts of every company in each year. Random sampling is used instead of using a single month or constructed month sampling, because it is suggested to be more efficient in obtaining a representative sample when analyzing social media data (Kim et al., 2018). Moreover, besides the textual Facebook posts also Facebook posts containing photos and other rich media are included in the analysis, because media richness forms part of the social media environment.

3.4 Method of data analysis

Although the data analysis of content analysis seems clear-cut, the opposite is true. Content analysis is an iterative and flexible method with no simple guidelines and thresholds for data analysis (Neuendorf, 2016). Therefore, it is important to give a systematically and detailed explanation of the coding procedure (Neuendorf, 2016). Consequently, a codebook is designed to systematically and objectively analyze the Facebook posts and comments of the selected oil companies (Appendix B). Next to the codebook, a coding handbook has been developed in order to help the coder make decisions about the right allocation of the different coding choices (Appendix C). Both the coding handbook and the codebook are used to analyze the different CSR topics communicated by the selected oil companies on Facebook, and to examine if the oil companies interact with users in the comment section. Before the primary data collection, a test run has been made by the researcher with the first ten posts of each oil company using the codebook and the coding handbook. After the pilot study, the codebook has been revised for

missing concepts and other irregularities. Two major adjustments have been made. The first adjustment that has been made is that oil companies in a small amount of cases tend to include more CSR related topics in their CSR related posts. In the coding handbook, the instructions changed to select the environmental or social category that is most prominently present in the Facebook post. Secondly, some categories were changed or specified due to some overlay in the original categorization used. After these adjustments, the full dataset has been coded by the researcher.

When analyzing categorial data, Pearson's chi-square test can be used to determine if there is a relationship between two categorial variables (Field, 2013). In the analysis it is tested if there is a relationship between two categorial variables and therefore coded data is analyzed using Pearson's chi-square tests. An alpha level of 0.05 is used to determine whether hypotheses are accepted. There are two assumptions that should be met when using a Chi-square test. The first assumption is the independence of residuals and the second assumption is the expected frequencies (Field, 2013). The first assumption of interdependence describes that only one subject contributes to only one cell of the contingency table (Field, 2013). This means, that one Facebook post cannot attribute to more than one of the variables in the contingency table. Therefore, a Facebook post cannot load on both the social and environmental dimension of CSR, otherwise this assumption would have not been met. The second assumption of the Pearson's chi square test is the expected frequencies of the contingency tables (Field, 2013). The general rule is that all the expected counts should be greater than one and no more than 20% of the expected counts should be less than 5 (Field, 2013). If this assumption is not met, a Likelihood ratio chi-square (Likelihood ratio or G test) can be used, which is preferred when the samples are small (Field, 2013). Whenever the second assumption is violated a Likelihood ratio chi-square is used to determine if there is a relationship. However, when the second assumption is violated interpreting the results of the Likelihood ratio chi-square should be done with care, because the explanatory power of the test still decreases (Field, 2013; Özdemir & Eyduran, 2005).

3.5 Research variables

As described in the theoretical chapter, CSR is described as: *"CSR implies that firms must foremost assume their **core economic responsibility** and **voluntarily** go beyond legal minimums so that they are **ethical** in all of their activities and that they take into account the impact of their actions on **stakeholders** in **society**, while simultaneously contributing to global*

sustainability." (Sarkar & Searcy, 2016, p. 1433). This definition explains CSR as an additional activity beyond their core economic responsibility towards society. Therefore, the social and environmental dimension of CSR are described as the information disclosed about CSR. The social dimension of CSR, the environmental dimension of CSR, the type of information and two-way communication are the research variables.

Type of information

When companies communicate information on social media they use a wide range of multimedia technologies to transmit information about CSR (Du & Vieira, 2012). On Facebook the multimedia technologies that can be used can mainly be divided into four different types of information. The first option is to share a purely textual status update. The second option is to share a photo and a possibility of including a textual description. The third option is to link to an external website and a possibility to include a textual description. The fourth option is to share a video and a possibility to include a textual description

Social dimension of CSR

The social dimension of CSR entails the categories: labor practices and decent work, human rights, society and product responsibility (GRI, 2014). These categories seemed fitting when analyzing the Facebook posts in the pilot study. This categorization was almost fully adapted, except for the addition of the category responsible governance. Whenever one of these categories is identified, the post is marked as CSR related and the dimension has been marked as present in the Facebook post. The categories are measured by preassigned topics assembled in the coding handbook (Appendix C).

Environmental dimension of CSR

The categories of the environmental dimension that are used in compiling the adopted categorization are made up out of the categorization of Du and Vieira (2012), Coombs and Holladay (2012), the categorization of the Global Reporting Initiative (GRI, 2014) and the GRI sector specific topic report (GRI, 2013). The pilot study did not change the categorization made in the theoretical chapter. However, the specification of what belongs to the category energy efficiency and what belongs to the category reducing emissions has been made more distinctive in the coding handbook. Whenever one of these categories is identified, the post is marked as CSR related and the environmental dimension has been marked as present in the Facebook post. The categories are measured by preassigned topics assembled in the coding handbook (Appendix C).

Two-way communication

Besides the different dimensions of CSR communicated, the extent of two-way communication of oil companies with Facebook users is examined. This is measured by determining any direct interaction between Facebook users and the company in the comment section of a CSR related post. When the company does not respond to any of the comments provided by the Facebook users about the Facebook post, it will be coded as one-way communication. When there are no comments, it will be coded as "cannot be coded" and will be excluded from the analysis in determining the extent of two-way communication. The variables are summarized in Table 2.

Table 2.

Overview of research variables.

Variable	Measure
Type of information	1. Text 2. Link 3. Photo 4. Video
CSR environmental dimension	A topic of the following categories has been identified in the examined Facebook post: 1. Energy efficiency 2. Reducing emissions 3. Biodiversity and ecosystems 4. Risk management of environmental tragedies (e.g. leakage, oil spills, fires, water pollution and explosions) 5. Reducing waste and recycling 6. Water management and withdrawal
CSR social dimension	A topic of the following categories has been identified in the examined Facebook post: 1. Labor Practices and Decent Work 2. Human Rights 3. Society 4. Product responsibility 5. Responsible governance (e.g. sustainability reports and sustainability rewards)
Two-way communication	There is direct interaction between the Facebook user and the company in comment section of CSR related post.

3.6 Quality of research

The quality of content analysis is determined by two factors. The first factor is the reliability of the research which means the ability to measure the results of a variable consistently every time it is measured (Neuendorf, 2016). In order to determine the reliability of content analysis, different coders should find the same result of each variable included in this research. When human coders are used in content analysis, intercoder reliability should be measured (Neuendorf, 2016). The intercoder reliability measures the level of agreement of two coders. There should be at least a ten percent overlap in the coding to determine the overall reliability of this research (Neuendorf, 2016). In this research, a second coder has been asked to code 10% of the sample. Initially, the CSR related intercoder reliability has been calculated with all the examined posts. Afterwards, of the shared identified CSR related posts the agreement on the dimension selection of CSR has been measured. Following, the reliability of the category selection has been measured based on the similarly coded dimensions. The intercoder reliability is assessed using Krippendorff's alpha (Krippendorff, 2004). The SPSS add-on KALPHA of Hayes and Krippendorff (2007) has been used to calculate the values. In the Table 3, the results can be found. Two-way communication and type of information have not been included as these variables are not dependent on the judgement of the human coder.

Table 3.

Inter-coder reliability in percentage and Krippendorff's.

Variable	Average agreement in percentage	Krippendorff's Alpha
CSR Related	91.17%	0.827**
Dimension of CSR	85.71%	0.674*
Social category of CSR	84.61%	0.697*
Environmental category of CSR	100%	1.000**

Note. Krippendorff's Alpha agreement levels, ** a > 0.7, * 0.5 < a < 0.7

In the ideal situation, it would be optimal to rely on only alpha's higher than 0.8. (Hayes & Krippendorff, 2007; Krippendorff, 2004). It is recommended that variables with reliabilities between a =.667 and a =.800 only should be used for drawing tentative conclusions

(Krippendorff, 2004). It should be noted that the second coder had limited training and knowledge about CSR and therefore it was more difficult to make correct judgements in the categorization of the Facebook posts. Therefore, the Krippendorff's Alphas give an indication of the reliability, however, with more knowledge about CSR and the coding procedure, the reliability could have been higher. Afterwards, the codebook and coding handbook have been adjusted to the comments of the second coder until a consensus about the allocation of the Facebook posts in the categories had been reached. Nevertheless, the reliability of this research should be treated with care as CSR is a heavily debated concept. In order to improve on the reliability, quotes and examples are used in the result section to provide insight in the construction of the data.

The second factor that determines the quality of content analysis is the validity of this research (Neuendorf, 2016). Validity is concerned with if the instruments capture what they are designed to capture (Neuendorf, 2016). There are different types of validity, including: external validity, face validity, criterion validity, content validity and construct validity (Neuendorf, 2016). In this research, it is aimed to produce the most robust findings as possible, however it is acknowledged it is impossible to exclude all sources of error. Because the Facebook posts of the six largest oil companies are analyzed and this research is explorative, the findings can be generalized to a limited extent. Face validity has been assessed by the researcher and the instruments seem valid of measuring the social and environmental aspect of CSR. Criterion validity is tested by evaluating the code and measures used for coding with the second coder after the reliability test. Construct validity and content validity is ensured by using different findings and theories of established literature. Lastly, the replicability of this research is high considering this research uses a code book, and the usage of the freely available application of Netvizz (Rieder, 2013). The codebook can also be adapted to different context and different industries. Therefore, comparison between results of different studies is possible if this codebook is replicated in different settings.

3.7 Research ethics

This research is dealing with Facebook data that is openly accessible to anyone following the Facebook links to the corporate Facebook pages. The use of the application of Netvizz automatically downloads and anonymizes the data collected on Facebook (Rieder, 2013). Although Facebook users can limit their visibility of comments to a wider public, this does not mean all Facebook users are fully aware of the existence of this functionality. Users that

interacted with oil companies can be unaware of the accessibility of this data. The privacy of the Facebook users is tried to be protected in this research. Therefore, this dataset will be: 1) only used for academic purposes, 2) handled carefully by storing the unanalyzed data on only one computer and 3) will not be distributed outside the research purposes of this thesis. The results of this thesis will not be generalizable to every oil company due to the limited sample size and scope of this thesis. Therefore, claims made in this thesis do not apply to every case and will be contextual dependent. Besides, it should be mentioned that this thesis is dealing with CSR communication of oil companies and the findings of this thesis does not have to reflect the actual CSR practices performed by oil companies. Sources used in this thesis are given credit for using APA reference style.

4. Results

In this chapter, the results of the content analysis will be discussed. First of all, a description of the sample, the frequencies of CSR related posts, the type of information and the dimension of CSR will be discussed. Afterwards, on the social and environmental dimension will be elaborated independently to further examine the similarities and differences between the European and American oil companies on these dimensions. Lastly, the extent of two-way communication will be discussed. The SPSS output of the Chi-Squares performed, and a detailed sample description can be found in Appendix G and Appendix H. The quotes used in this chapter are all referring to the Facebook posts of the corporate Facebook pages of Shell, Total, BP, Exxon Mobil, Chevron, and Philips66 (Appendix J).

4.1 Sample description of CSR related posts

A content analysis has been conducted analyzing 570 Facebook posts in the period between 2013-2018. In this sample 343 Facebook posts are of European oil companies and a total of 227 posts are from American oil companies. The difference in the total amount of posts can be partly explained by the missing values by Exxon Mobil in the period between 2013-2016. A message was sent to Exxon Mobil to further asses if they deleted or just started their Facebook page in 2016, no reply has been given. Out of the sample, a total of 232 were found to be CSR related, representing 40.7% of the total amount of posts examined. The American companies posted 114 Facebook posts related to CSR and the European companies a total of 113 Facebook posts related to CSR.

When examining the amount of CSR posts in the period between 2013-2018, it is noticed that Chevron has been disclosing more CSR related posts compared to the other companies in the same timeframe. From 2014 to 2017, Chevron disclosed more CSR related posts compared to the other oil companies. In the period of 2017-2018, Chevron seemed more aligned with the frequency of CSR related posts compared to the other oil companies (Figure 3).
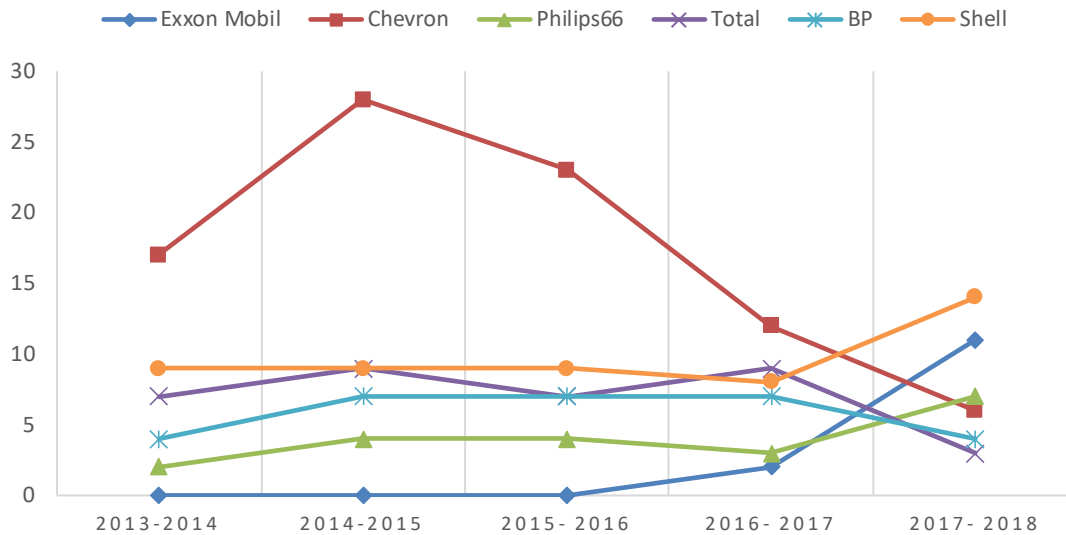
Figure 3. Amount of CSR posts per year per company. *Note. Based upon a sample size of 580.*

Although the amount of CSR posts differs substantially for Chevron, when examining the percentage of CSR related posts to the total amount of Facebook posts in the same timeframe, the companies seem more resembling (Figure 4). In the year of 2017-2018, Exxon Mobil, Chevron, Philips66, Total, and Shell stayed in the range of 74% to 44%, positioning relatively close to one another. Furthermore, BP seems to not follow this percentage of CSR related posts, remaining low with a 10% of their Facebook posts CSR related in 2017-2018 and an average of 15.85% CSR related posts over the past five years.
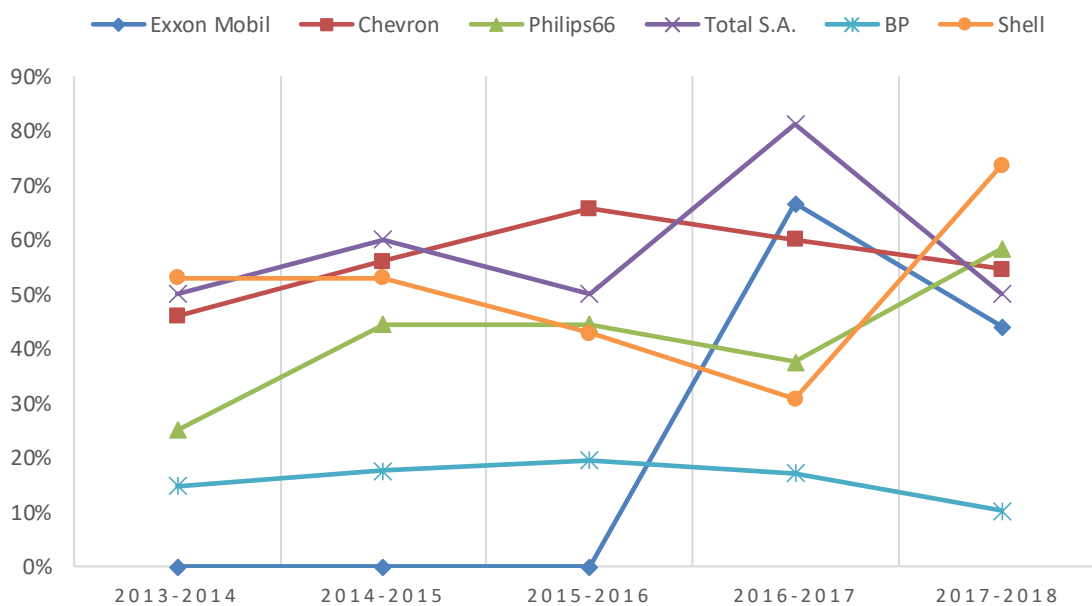
Figure 4. Percentage of CSR posts per year per company. *Note. Based upon a sample size of 580.*

For examining the relationship between continent of origin and whether a Facebook post is CSR related, a Pearson's chi-square test has been conducted (Table 4).

Table 4.

Overview of continent of origin compared to CSR related posts.

	Not CSR related	**CSR related**	**Total**
American	108 (48%)	119 (52%)	227 (100%)
European	230 (67%)	113 (33%)	343 (100%)
Total	338	232	570

Note. Pearson's Chi-square χ^2 (1, N = 570) = 21.473, p = <0.001, Cramer's V = .194

The Pearson's chi-square on the relationship between continent of origin and CSR related posts reported significant ($p < 0.001$). This supports that there is a relationship between continent of origin and whether a Facebook post is CSR related (H1). When examining the frequencies, it is suggested that it is more likely that the content of an American Facebook post is CSR related compared to a European Facebook post. A Cramer's V of 0.194 indicates a low to medium sized relationship. When excluding BP out of the sample, this relationship becomes non-existing with a Pearson's Chi-square reporting χ^2 (1, N = 570) = 0.000, p = .988, Cramer's V = 0.01. This means that the difference between European and American companies can be foremostly attributed to BP.

Next to the large extent of CSR posts disclosed, CSR related posts are highly visual, where 34% is video, 48% is photo, 16% is referencing to a link and only 2% is entirely textual. A short note should be made, that examples used in the result section are only the textual part of the Facebook post. It is tested if there is a relationship between continent of origin and the type of information (H2). A Likelihood ratio chi-square test has been conducted instead of a Pearson's chi-square test as it violated the assumption of 20% of the expected frequencies above 5 (Field, 2013). This test was found to be significant ($p < 0.001$). Therefore, the test does support that there is a relation between the type of information used when communicating CSR and the continent of origin (H2). A Cramer's V of 0.360 indicates a large relationship. When comparing the frequencies, the main difference that can be identified is that American companies use more weblinks to communicate CSR and European companies tend to include more video's in their CSR communication on Facebook. In Table 5, the frequencies are given.

Table 5.

Overview of type of information compared to continent of origin.

	Text	Photo	Link	Video	Total
American	1 (0.8%)	55 (46.2%)	34 (28.6%)	29 (24.4%)	119 (100%)
European	3 (2.7%)	56 (49.6%)	4 (3.5%)	50 (44.2%)	113 (100%)
Total	4	111	38	79	232

Note. Likelihood Ratio Chi-square χ2 (3, N = 232) = 33.656, *p* = <0.001, Cramer's V = .360

4.2 Dimensions of CSR

As discussed in the theoretical chapter, there can be made a distinction between two dimensions of CSR: the social and the environmental dimension. When examining the dimensions of CSR, it is found that 65% of the CSR related posts is covering a social topic and 35% is covering an environmental topic. The social dimension focusses on the impacts an organization has on the social systems within which it operates (GRI, 2014). An example of a Facebook post on the social dimension of CSR can be found below:

Example 1, example of CSR message covering social topic: "*In 2016, our dedicated employees, retirees and their families worked with partners around the world to support the communities where we operate. http://exxonmobil.co/1pyc4Df*" (Exxon Mobil, 2017-10-04).

The environmental dimension encompasses the organization's impacts on living and non-living natural systems (GRI, 2014). An example of a post on the environmental dimension of CSR can be found below:

Example 2, example of CSR message covering environmental topic: *"New sources of energy have to be added to the mix to facilitate a successful responsible energy transition. That's why Total and our affiliate SunPower the world's second-largest solar company have developed the world's most efficient photovoltaic cells. http://ow.ly/BFDQ7"* (Total, 2014-10-20).

When comparing the distribution of the CSR related posts by European and American companies over the two dimensions of CSR, it is noticed that 82% of the CSR related posts of American companies are on the social dimension of CSR, whereas only 49% of the European CSR related Facebook posts cover the social dimension (Table 6). A Pearson's chi-square on

the relation between continent of origin and dimension of CSR reported significant ($p < 0.001$, Cramer's V = 0.355). Therefore, it supports that there is a relation between the continent of origin and the dimension of CSR addressed when communicating about CSR (H3). When examining the direction of this relationship, it is more likely that the content of an American CSR related Facebook post is related to the social dimension of CSR, whereas European companies are more likely to address the environmental dimension of CSR when communicating about CSR on Facebook. When removing BP this relationship stays significant ($p < 0.001$) and the association even stronger (Cramer's V = .423).

Table 6.

Overview of continent of origin compared to the dimension of CSR

	Social	**Environmental**	**Total**
American	98 (82%)	21 (18%)	119 (100%)
European	55 (49%)	58 (51%)	113 (100%)
Total	153	79	232

Note. Pearson's Chi-square χ2 (1, N = 232) = 29.278, p = <0.001, Cramer's V = .355

4.3 Social dimension of CSR

In this paragraph, there will be elaborated on the categories and topics that are addressed by the European and American companies on the social dimension of CSR. In the pie charts, the categories of the social dimension and their frequencies are shown (Figure 5).
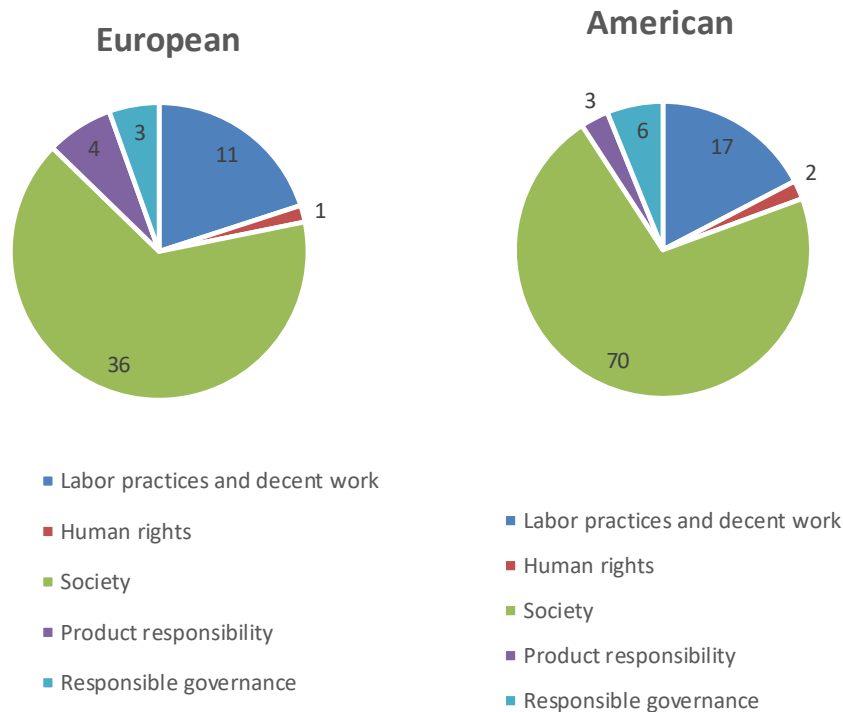
Figure 5. Distribution of categories mentioned by American and European oil companies on the social dimension of CSR. *Note*. Numbers in figure represent amount of posts in category.

The pie charts offer some insights in the categories discussed by the oil companies on the social dimension of CSR. First of all, the categories "society" and "labor practices and decent work" are the largest categories within the European and American companies. Secondly, the pie charts look similarly in the distribution of post covering the social dimension of CSR. A Likelihood ratio chi-square test has been conducted instead of a Pearson's chi-square test as it violated the assumption of 20% of the expected frequencies above 5 (Field, 2013). This test was found to be non-significant ($p = 0.800$). Therefore, the test does not support that there is a relation between the social category of CSR disclosed on Facebook and the continent of origin (H3). In Table 7, the frequencies of the categories by continent are given.

Table 7.

Overview of continent of origin compared to social category of CSR.

	Labor Practices and decent work	Human rights	Society	Product responsibility	Responsible governance	Total
American	17	2	70	3	6	98
European	11	1	36	4	3	55
Total	28	3	106	7	9	153

Note. Likelihood Ratio Chi-square $\chi2(4, N = 153) = 1.650$, $p = 0.800$, Cramer's V = .106

As noted, the Likelihood ratio chi-square suggests that the categories are distributed similarly on the social dimension of CSR. However, it does not say much about the differences and similarities within these categories and the topics addressed by the American and European oil companies. Therefore, in next paragraphs the data will be examined more closely by looking at the individual oil companies and the topics within the categories addressed.

4.3.1 Shell, Total and BP
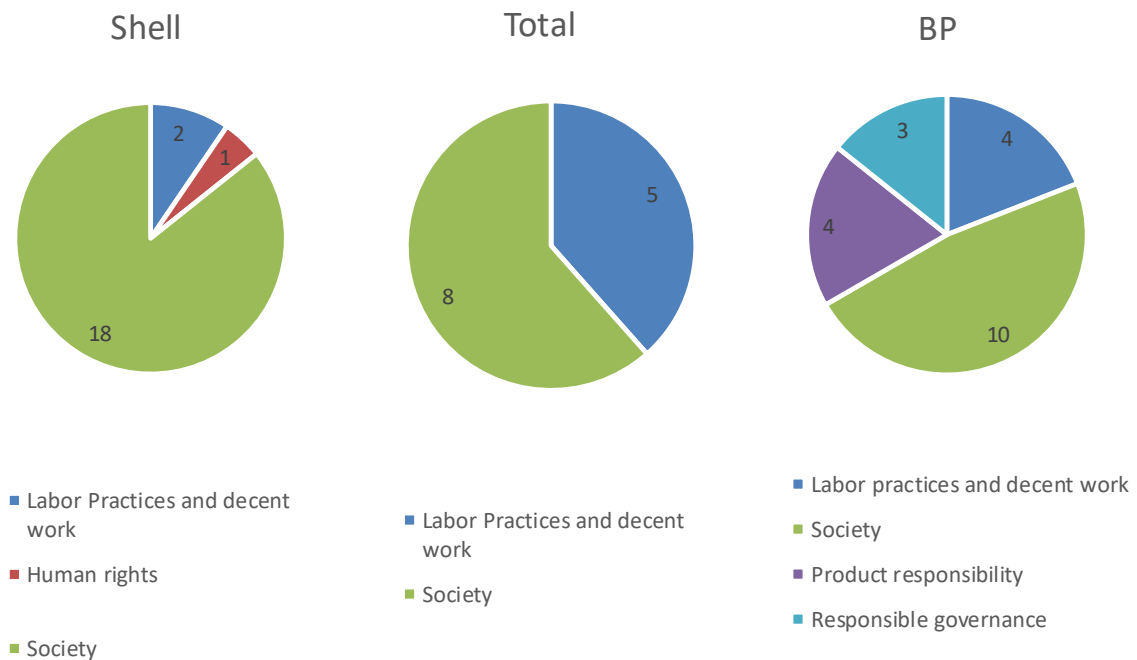
Figure 6. Distribution of categories mentioned by Shell, Total and BP on the social dimension of CSR. *Note.* Numbers in figure represent amount of posts in category.

When examining the pie charts (Figure 6), "society" is the largest category within all three companies. Furthermore, BP is the only company reporting on the categories "product responsibility" and "responsible governance". BP seems to be more diverse in the social topics

addressed compared to the other European companies. When examining the category "labor practices and decent work", two main topics are found that made up the largest share of this category. The first major topic discussed by all three companies is gender diversity in the workforce. An example of gender diversity in the workforce can be found below:

"*In 2011 Total endorsed the Women's Empowerment Principles (WEPs) developed by the United Nations Global Compact and UN Women. The document defines seven principles that will promote gender equality in the workplace. http://weprinciples.org/"* (Total, 2015-03-06)

The second major topic addressed within the category "labor practices and decent work" by all three European companies was safety of the workforce. An example of a post covering the safety of the workforce is presented below:

"*From discovery to delivery, learn how #BP puts their energy into safety every step of the way.*" (BP, 2016-09-02)

This quote was guided by a video explaining safety procedures used to enable work to be done safely. Next, the category "human rights" is only mentioned once in a post of Shell. The post covered the inclusion and rights of people with disabilities in the workforce.

When examining the category "society", it is noticed that all companies posted the most about this category when communicating on the social dimension of CSR. Shell disclosed information within this category about educating children, educating students, art initiatives, philanthropy, supporting local communities and soccer clinics for children. Total mostly reported on initiatives coming from their Total Foundation that provides funds for philanthropical donations such as scholarships, education, sponsoring of art initiatives, helping communities and children in underdeveloped worlds. An example of a post of this foundation can be found below:

 "*As a partner of the Quai Branly museum, the Total Foundation respects and values the arts and traditions of its host countries. Learn more about the "Maîtres de Sculpture Côte d'Ivoire" exhibition at the museum from April 14 to July 26 http://po.st/sGPTLR"* (Total, 2015-04-15).

Furthermore, BP mentioned donations to museums, donations to cancer research, art initiatives and, similarly to Shell and Total, reported about education, children and direct communities. One example of their posts about education and children can be found below:

"Lego robots are helping to inspire kids as part of our Schools Link programme. Did LEGO drive your imagination as a child? http://bit.ly/1KjTcS9 #lego" (BP, 2015-02-02)

The category "product responsibility" has only been mentioned by BP. BP reported on replacing bald tires for product safety, checking batteries when it is cold weather, safety of motorcycle use and quality control of their fuel production. Three of these topics are about car usage and are not referring to oil usage itself. Therefore, BP seemed to take their product responsibility broadly by educating people about their car usage and indirectly the safe usage of oil. The last category, "responsible governance", also only included posts of BP. These posts covered links to BP's sustainability review and sustainability reports. An example of this can be found below:

"Want to learn what we are doing in Azerbaijan? Get the details on our business performance environmental record and wider role in the country http://on.bp.com/1N0B19L #Azerbaijan" (BP, 2015-08-11)

Although there are differences between the European companies and the topics communicated on the social dimension of CSR, the topics discussed appeared to be overall similar. The topics gender diversity and safety of the workforce are shared topics among the European oil companies in the category of "labor practices and decent work". Furthermore, although in the "society" category there is a widespread of topics addressed, the topics of education, children, art initiatives and direct communities were shared by the three European oil companies. Lastly, BP seemed to be the only company that discussed the categories "product responsibility" and "responsible governance" in their Facebook posts.

4.3.2 Chevron, Philips66 and Exxon Mobil

When examining the pie charts (Figure 7), the category "society" is the largest within Philips66 and Chevron, whereas Exxon Mobil posted four out of five posts on the category "labor practices and decent work". Furthermore, Philips66 did only include one post about the category "labor practices and decent work'. Chevron and Philips66 are diverse in the topics addressed, where Exxon Mobil only discussed two categories.
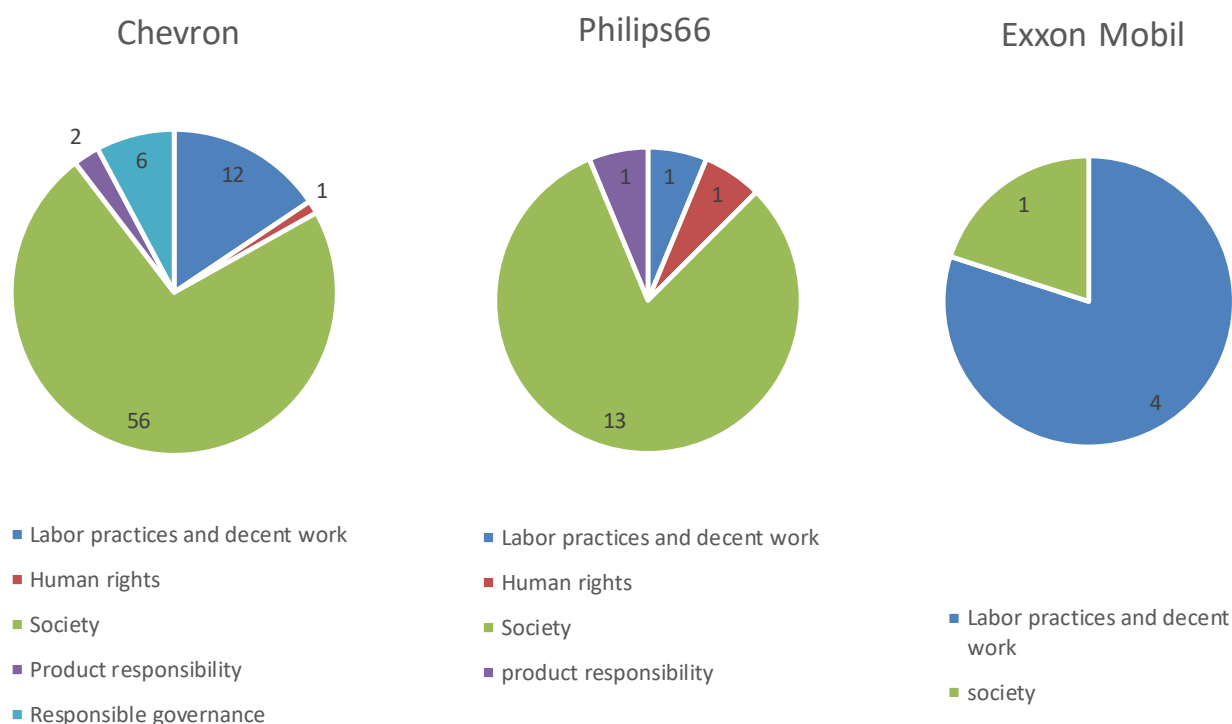
Figure 7. Distribution of categories mentioned by Chevron, Philips66 and Exxon Mobil on the social dimension of CSR. *Note*. Numbers in figure represent amount of posts in category.

When examining the category "labor practices and decent work", all three companies reported about the topic employee safety. An example of a post covering the safety aspect is presented below:

"Chevron's culture is a commitment to #safety, always. http://spr.ly/6189Bh3K3" (Chevron, 2016-09-03)

Furthermore, both Chevron and Exxon Mobil reported on gender diversity of the workforce. Philips66 did not mention gender equality in any analyzed Facebook post. On the second category, human rights, Philips66 did mention Martin Luther king and his fight for inclusion, where Chevron mentioned human rights explicitly. An example of a post covering human rights can be found below:

"We're proud to be at the forefront of LGBTQ[1]* equality both within & outside our industry Human Rights Campaign #EqualityForward" (Chevron, 2016-07-22)

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[1] Lesbian, Gay, Bisexual, Transgender and Queer people.

The category "society" contained the most posts of the American companies on the social dimension of CSR. On this category, the posts of the three companies are diverse. Chevron posted about their collaboration with the Red Cross, sponsoring educational programs related to STEM[2], global development, helping communities struck by natural disasters, health initiatives such as sponsoring HIV and research for cancer. They also posted about volunteering of employees, friends and families. An example covering a donation to the Red Cross and the sponsoring of a schooling program can be found below:

"Today we announced a contribution of $1 million from Chevron and the Chevron Global Community Fund to assist with #HurricaneIrma recovery efforts. Our commitment includes a $600,000 donation to the American Red Cross from the Chevron Global Community Fund and another $400,000 from Chevron Fuel Your School's program going to DonorsChoose.org for local public-school classroom projects in south Florida." (Chevron, 2017-09-03)

Philips66 also mentioned education, direct community, children and donations. For example, they mentioned a donation of half a million to a fire school to "improve the emergency response capabilities within the local community". They also disclosed information about their philanthropic activities such as their "Make A Splash" initiative that teaches children how to swim in the United states, opening a swimming pool and working with NGO's to support local initiatives. Exxon Mobil disclosed in their posts only one post about the category "society". They simply stated that they support the communities where they operate in.

When examining the category "product responsibility", it is observed that both Chevron and Philips66 disclosed information about this category. They reported on the responsible usage of cars, this is similar to BP discussed earlier. Chevron disclosed a warning about the usage of cars on flooded roads and disclosed information about smells that might mean trouble for the car. Philips66 disclosed information about changing batteries of the carbon monoxide detectors and smoke detectors. The following post shows an example of product responsibility:

"On Sunday it 'll be time to spring forward and be safe! Reset your clocks and also change the batteries in your smoke and carbon monoxide detectors. Follow this checklist: http://phillips66.ly/61828XO6p #safetymoment" (Philips66, 2017-03-11).

On the category "responsible governance" only Chevron communicated its sustainability report of the American companies. Furthermore, Chevron disclosed information about their rewards:

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[2] Science, Technology, Engineering and Mathematic

"recognized by Philanthropy.com as a top company for social investment" and their award of the American Chamber of Commerce for its "corporate social investment excellence".

Overall, the topics discussed by the American oil companies appeared to be similar to one another. In the category of "labor practices and decent work", the topic safety of the workforce is a shared topic among the American oil. Philips66 did not include gender diversity in their topics addressed, Chevron and Exxon Mobil did. Furthermore, within the category "society" there is a widespread of topics addressed by the companies Chevron and Philips66. The topics of education, children, art initiatives, health initiatives, philanthropy and direct communities were common topics addressed within this category by Chevron and Philips66. Exxon Mobil seemed to have a different focus within the social dimension of CSR and focused on the category of "labor practices and decent work" rather than the category "society". Furthermore, Chevron and Philips66 both reported on the category "product responsibility". Additionally, Chevron was the only company communicating on the category "responsible governance", disclosing awards and sustainability reports.

4.3.3 Similarities and differences between the topics discussed on the social dimension of CSR

Overall, the topics discussed by the European and American oil companies appeared to be resembling to one another. In the category of "labor practices and decent work", the topic safety of the workforce is a shared topic among both the European and the American oil companies. Furthermore, in the category of "labor practices and decent work" the topic gender diversity in the workforce is a shared topic among both the European and the American oil companies. Philips66 formed an exception where gender diversity was not included in their CSR topics disclosed. Furthermore, in the "society" category there is a widespread of topics addressed by both the European and the American oil companies. The topics that were addressed were mainly about education, children, art and health initiatives, philanthropy, and direct communities. All companies tended to focus on the society category, whereas Exxon Mobil formed an exception focusing on the category of "labor practices and decent work" within the social dimension of CSR. The category "human rights" has only been mentioned twice, once by Shell and once by Philips66. Furthermore, the category "responsible governance" has been mentioned by only Chevron and BP. BP and Chevron mentioned their sustainability reports. Only Chevron mentioned rewards about their corporate social responsibility. Besides the similarities, no major

differences between the European and American companies in the topics of the social dimension of CSR addressed have been noticed.

4.4 Environmental dimension of CSR

In this paragraph, the categories and topics of the environmental dimension are examined in more detail. Furthermore, it is examined whether there are differences or similarities in these environmental topics disclosed. In the pie chart in Figure 8, the categories and frequencies of the environmental dimension of the European and American companies are given. As can be noticed, European companies mainly reported on two categories within the environmental dimension of CSR, whereas the American companies are more diverse in their CSR communication on the environmental dimension of CSR.

European

- Energy efficiency
- Reducing emmissions and fighting climate change
- Reducing waste and recycling
- Water management and withdrawal

American

- Energy efficiency
- Reducing emmissions and fighting climate change
- Biodiversity and ecosystems
- Risk management of environmental tragedies
- Water management and withdrawal
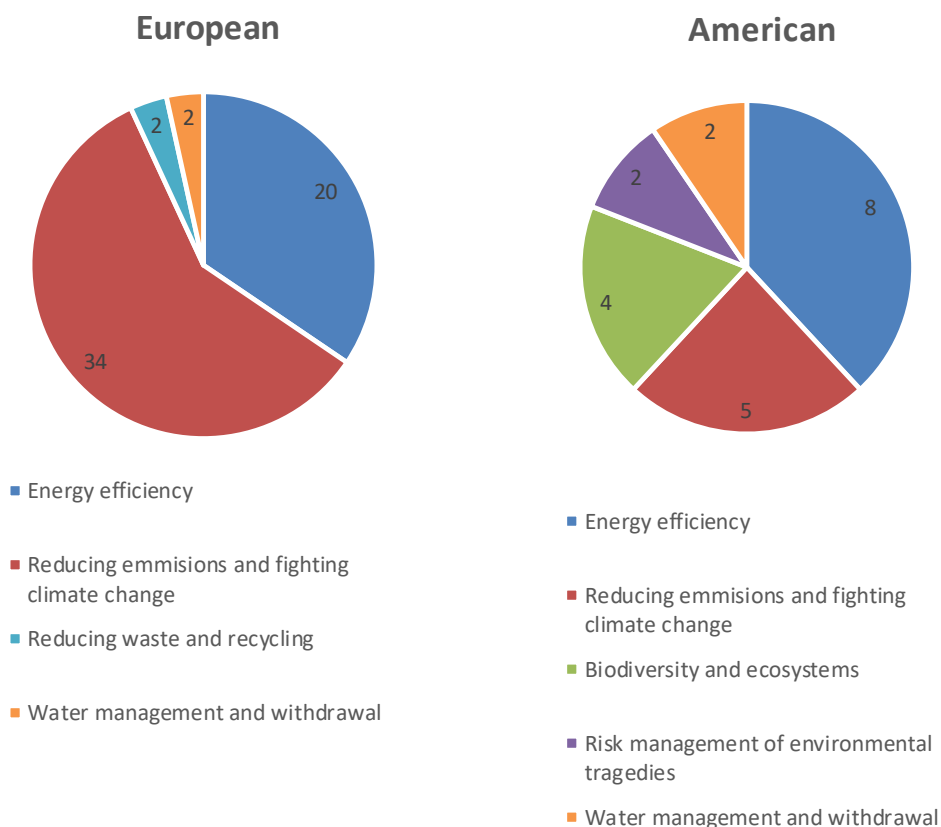
Figure 8. Distribution of categories mentioned by American and European oil companies on the environmental dimension of CSR. *Note*. Numbers in figure represent amount of posts in category.

A few observations can be made when examining the pie charts in Figure 8. First of all, the categories "energy efficiency" and "reducing emissions and fighting climate change" are major categories addressed by both the American and European companies. Secondly, the pie charts do not look similar in the distribution of CSR related posts on the environmental dimension of

CSR. A Likelihood ratio chi-square has been conducted instead of a Pearson's Chi-square as it violates the assumption of more less than 20% of the expected cases (Field, 2013). This test was found significant ($p < 0.001$, Cramer's V = .531). Therefore, the test suggests that there is a relation between the category of the environmental dimension of CSR addressed and the continent of origin (H4). In Table 8 the frequencies of the categories by continent are given.

The Likelihood ratio chi-square suggests that the categories are distributed differently on the environmental dimension of CSR. Yet, it does not say much about the differences and similarities within these categories and the topics addressed by the American and European oil companies. Therefore, in next paragraphs, the data will be examined more closely by looking at the individual oil companies and their topics addressed on the environmental dimension of CSR.

Table 8.

Overview of continent of origin compared to environmental category of CSR.

	Energy Efficiency	Reducing emissions and fighting climate change	Biodiversity and ecosystems	Risk management of environmental tragedies	Reducing waste	Water management and withdrawal	Total
American	8	5	4	2	0	2	24
European	20	34	0	0	2	2	54
Total	28	36	3	4	1	6	78

Note. Likelihood Ratio Chi-square $\chi 2(5, N = 79) = 22.572$, $p < 0.001$, Cramer's V = .531

4.4.1 Shell, Total and BP

When examining the pie charts of the European oil majors (Figure 9), it is noticed that all European companies report a major part of their CSR communication on the environmental category "reducing emissions and fighting climate change". Shell also devoted a major part of their CSR communication on the category "energy efficiency". The category "water management and withdrawal" has only been mentioned by Shell and BP. The category "reducing waste and recycling" is only mentioned by Shell. The categories "biodiversity and

ecosystems" and "risk management of environmental tragedies" have not been mentioned by any of the three European oil companies.

Shell

15
12
2
1

- Energy efficiency
- Reducing emissions and fighting climate change
- Reducing waste and recycling
- Water management and withdrawal

Total

4
18

- Energy efficiency
- Reducing emmisions and fighting climate change

BP

1
7

- Reducing emissions and fighting climate change
- Water management and withdrawal
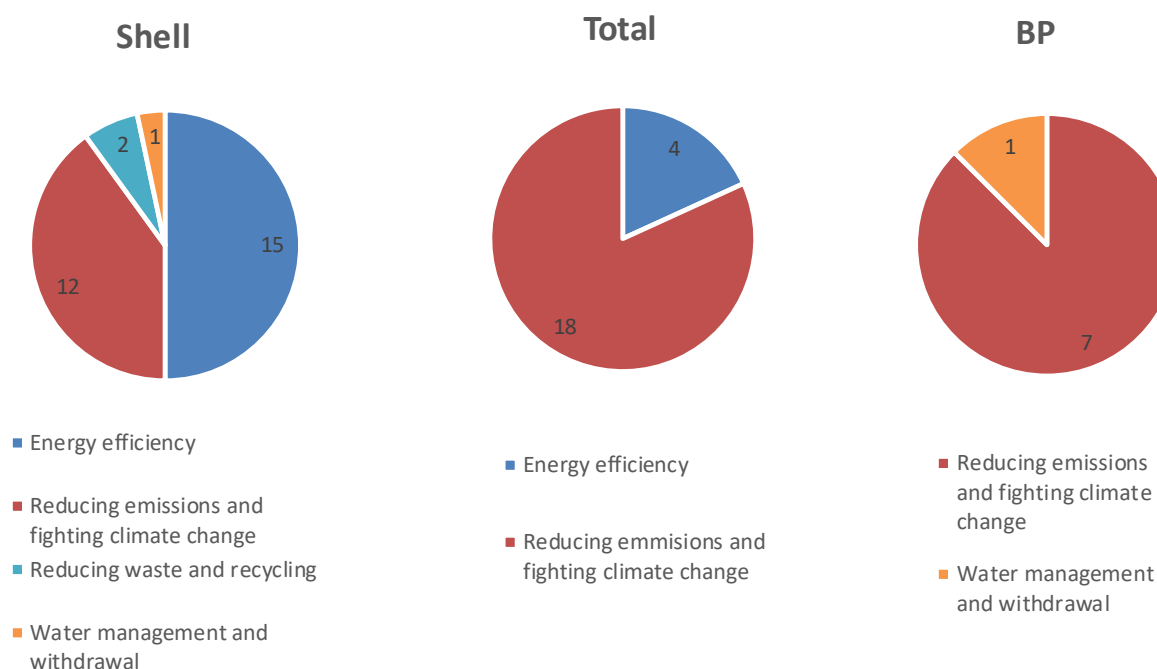
Figure 9. Distribution of categories mentioned by Shell, Total and BP on the environmental dimension of CSR. *Note*. Numbers in figure represent amount of posts in category.

When examining the category "energy efficiency", it is noticed that only Total and Shell report on this category. Shell has a high number of posts on the category "energy efficiency". A major part of these posts on the category "energy efficiency" are referring to their reoccurring eco-marathon, in which they challenge engineers and students to make energy efficient cars in the pursuit of making the world more energy efficient. Shell does not only communicate on the eco-marathon, but shell also included other topics about energy efficiency in their communication such as: intelligent fuel management systems and energy efficient production of oil and gas. Total reported on the category of energy efficiency about reducing the environmental foot print of oil facilities, redocument of flaring and the endorsement of energy efficient products. An example of a post about energy efficiency can be found below:

"Between 2005 and 2015 we reduced the flaring[3] of associated gases in crude oil production by more than half (excluding start-up) in the facilities we operate. We were the first to join the World Bank to stop routine flaring by 2030. http://tot.al/GIRiYH" (Total, 2017-07-06)

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[3] Flaring is the process of burning gas in a controlled manner when extracting oil.

"Reducing emissions and fighting climate change" is the next category discussed. Shell mostly communicated about renewable energy such as wind turbines and solar panels. Furthermore, Shell posted about investments in sustainable start-ups and capturing and storing carbon. Total mostly posted about their investment in renewables and about their affiliate SunPower, who provides solar panels to businesses. Furthermore, Total communicated about the use of biomass, biofuel and their investment in sustainable start-ups. BP did foremostly disclose information about the use of biofuels, bio synthetics, wind energy and their investment in renewables. An example of the category "reducing emissions and fighting climate change" can be found below:

"Combining the ocean's surface area with innovative technology was the start of a fresh challenge for a graduate from Singapore. Find out what happened when Daniel Lee floated his idea of ocean-going solar panels to Shell. http://go.shell.com/2sS84qH" (Shell, 2017-06-26)

Notably, no European oil company posted about the category "biodiversity and ecosystems", or the category "risk management of environmental tragedies". On the category "reducing waste and recycling", Shell reported on their removal of their oil platform on sea and disclosed information about how sulphur extracted from oil and gas refineries can be recycled into a new kind of fertilizer. On the category, "water management and withdrawal", Shell disclosed information about a start-up that sells reusable water bottles to fund clean water projects across Africa. BP announced a competition for product innovations that addresses the amount of water needed for the producing of oil, gas and biofuels. An example of the category 'water management and withdrawal' can be found below:

"Water is intrinsic to our operations. Have a novel idea to reduce or reuse this precious resource? Enter the Ultimate Field Trip now - entries close TOMORROW at midnight local time (UK / Canada)" (BP, 2014-11-22)

Overall, the European oil companies tend to focus on their use of renewables and energy efficiency. The topics addressed are relatively similar among the European oil companies, where Shell differs from BP and Total, by focusing most of their posts on the environmental dimension of CSR on the category "energy efficiency". Topics of the category "water management and withdrawal are addressed in small amounts, where the categories of "biodiversity and ecosystems", and "risk management of environmental tragedies" are not covered at all.

4.4.2 Chevron, Philips66 and Exxon Mobil

When examining the pie charts in Figure 10, it is noticed that Chevron and Exxon Mobil address a wide variety of categories in their CSR communication on the environmental dimension of CSR. Furthermore, Philips66 addresses a less diverse set of categories as they only addressed the topics "energy efficiency" and "reducing emissions and fighting climate change".
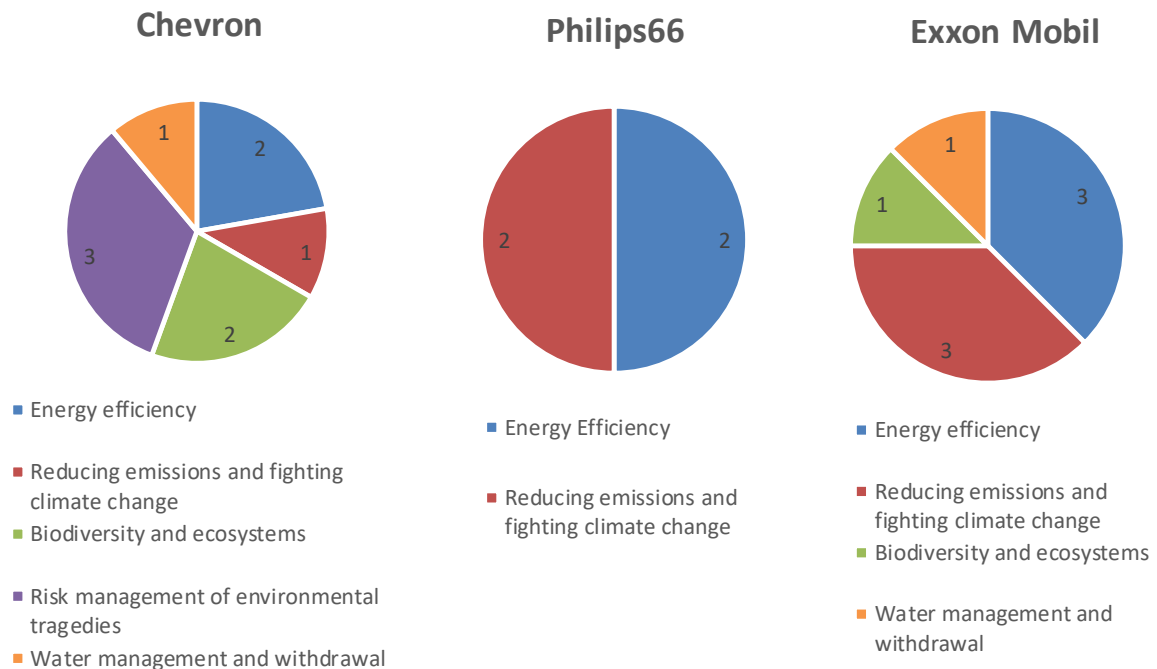
Figure 10. Distribution of categories mentioned by Chevron, Philips66 and Exxon Mobil on the environmental dimension of CSR. *Note*. Numbers in figure represent amount of posts in category.

The first category, "energy efficiency", is discussed by all three American oil companies. Chevron disclosed information about effective car usage to increase fuel efficiency. Philips66 communicated about employees' effort for increasing efficiency of fuel production and a video of the CEO of Philips66 explaining the goals for achieving more fuel efficiency. Exxon Mobil discussed cutting energy consumption in ethylene production, energy efficiency of refineries and innovative car tires for increased fuel efficiency. An example of the category "energy efficiency" can be found below:

"Generating 1/3 of the power it needs to operate our Joliet Refinery is one of the most energy-efficient refineries in the United States." (Exxon Mobil, 2017-04-20)

"Reducing emissions and fighting climate change" forms the second category and is addressed by all three American companies. As European companies focus on renewables such as solar energy and wind energy, American companies address biofuels and their investment in environmental projects. An example of the category "reducing emissions and fighting climate change" can be found below:

"Our work with Synthetic Genomics on algae biofuels could be a game changer – supplying the energy needs of the future." (Exxon Mobil, 2017-05-02)

The third category is "biodiversity and ecosystems". Chevron mentioned protecting wildlife and enhancing biodiversity in their post. Exxon Mobil mentioned reclaiming and returning land to the natural forest state. An example of category "biodiversity and ecosystems" can be found below:

"Deer wander prairies at a former Chevron refinery site. We're committed to protecting and enhancing wildlife. http://spr.ly/6182BRLl0" (Chevron, 2015-11-24)

The fourth category, "risk management of environmental tragedies", is mentioned only by Chevron. They mentioned the use of technology to manage risk and improve oil well integrity and environmental safety. They also mentioned quarantine inspections as given in the example below:

"Today's technology helps us improve our quarantine inspections. See how we prevent risk material such as soil, seeds and insects from reaching Barrow Island, Australia. http://spr.ly/618202VA" (Chevron, 2015-02-27)

The fifth category, "reducing waste and recycling", has not been mentioned by the American companies. The sixth category, "water management and withdrawal", has been communicated by the American oil companies. Exxon Mobil declared responsible water usage and Chevron mentioned that access to water is essential and therefore should be managed with care.

Overall, the American oil companies tend not to focus on specific topics or categories and rather address a wide diversity of environmental related topics. Philips66 limited its CSR communication on the environmental dimension of CSR to the categories "energy efficiency" and "reducing emissions and fighting climate change". Chevron and Exxon Mobil tended to include a widespread of topics on the environmental dimension of CSR. Environmental topics on the category "reducing waste and recycling" has not been mentioned by any of the three American oil companies.

4.4.3 Similarities and differences between the topics discussed on the environmental dimension of CSR

In contrast to the social dimension of CSR, there are some notable differences on configuration of categories disclosed on the environmental dimension of CSR. Whereas European companies focus on the categories "energy efficiency" and "reducing emissions and fighting climate change", American companies tend to include a wider diversity of topics on the environmental dimension of CSR. European companies did not mention anything about the categories "biodiversity and ecosystems" and "risk management of environmental tragedies". Furthermore, on the category of "reducing emissions and fighting climate change", there has been found differences in the topics addressed. American oil companies focused on the development of biofuels, whereas the European companies focused on a wider diversity of renewables such as: solar energy, wind energy, water energy and biofuels.

4.5 Two-way versus one-way communication

As interactivity forms a critical characteristic of social media, it is examined whether oil companies use two-way communication in their communication of CSR. When examining the extend of two-way communication, a company also needs to have the opportunity to interact with users on Facebook. Therefore, whenever no comment is present in the Facebook post, companies cannot interact with Facebook users even if they want to interact in the comment section of a CSR related post. Twenty of the 232 Facebook posts related to CSR did not receive any comments and therefore provided no opportunity for oil companies to engage with Facebook users in the comment section. Therefore, the posts without comments are excluded from analysis when examining the extent of two-way communication. As can be noticed in Figure 11, in 2013 there have been only two CSR posts where oil companies interacted with Facebook users in the comment section of Facebook. In the period between 2014-2017, it increased and remained stable in the amount of posts that incorporated two-way communication.
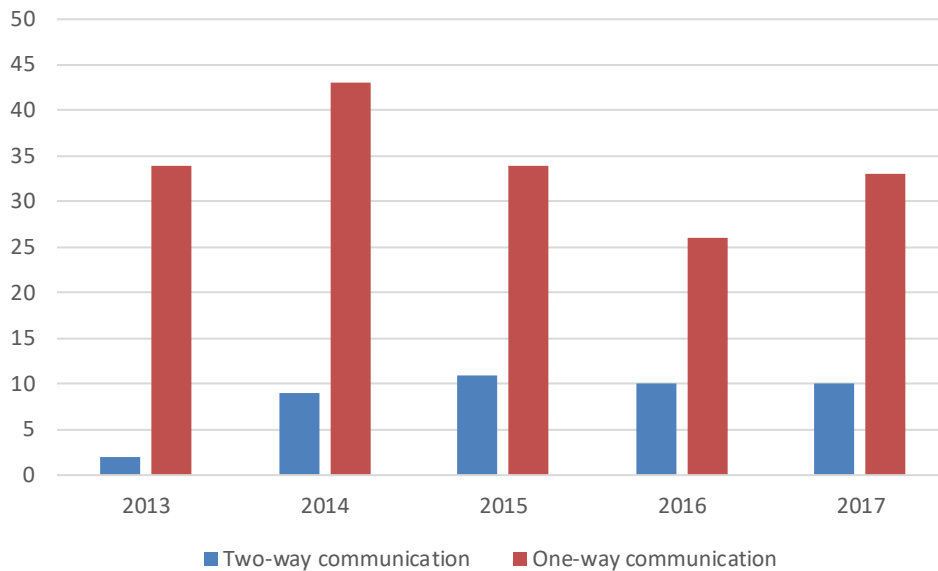
Figure 11. Posts containing two-way and one-way communication. *Note*. Posts without any comments are excluded.

When making a distinction between European and American companies, a difference can be noticed in the usage of two-way communication in their CSR related posts. As can be identified in Figure 12, American companies did not use two-way communication until 2015. Furthermore, European companies still had more posts in 2015 and 2017 covering a two-way communication approach than the American oil companies.
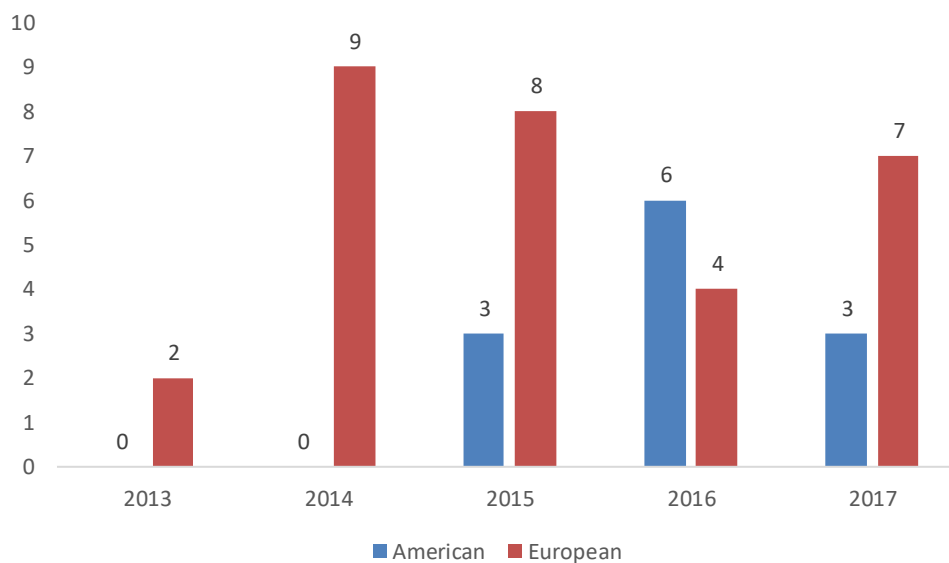
Figure 12. CSR related posts containing two-way communication by continent. *Note*. Posts without any comments are excluded.

A Pearson's chi-square on the relation between continent of origin and communication strategy incorporated reported significant ($p = 0.001$, Cramer's V = 0.227). Therefore, it supports that there is a relationship between the continent of origin and the communication strategy of CSR related topics (H5). When examining the direction of this relationship, it is more likely that a European company uses two-way communication in their CSR related posts compared to American oil companies (Table 9).

Table 9.

Overview of continent of origin compared to CSR related posts.

	One-way communication	Two-way communication	Total
American	97	12	109
European	73	30	103
Total	338	12	212

Note. Pearson's Chi-square χ2(1, N = 212) = 10.941, $p = 0.001$, Cramer's V = .227

5. Discussion and conclusion

In the introduction a problem has been identified: the lack of empirical evidence about the influence of institutional context on the communication of CSR related information on social media. In order to solve this problem, this study aimed to provide explorative insights on the influence of institutional context on the communication of CSR related information on social media. In order to achieve this goal, the following research question was formulated: "To what extent do European and American multinational oil companies differ in the communication of CSR related topics on Facebook?". In this chapter, the research question is answered with its practical and theoretical implications.

5.1 Discussion

Overall, it was found that the oil companies use a proportional amount of CSR communication in their overall Facebook communication over the past 5 years (41%). This corresponds with the research of Kim and Rader (2010) that found CSR-focused communication strategy is the most dominant one for the largest 100 companies of the Fortune 500 corporation. Furthermore, all the examined oil companies included visual aids for 98% of their Facebook posts to communicate CSR. This is aligned with the finding of Du and Vieira (2012), that companies use highly visual multimedia to frame the CSR information communicated.

BP differed considerably from the other oil companies, only 15.58% of BP's examined Facebook posts were found to be related to CSR compared to an average of 41% of all examined oil companies in the period of 2013 until 2018. A possible explanation could be that BP is the only oil company that originates from a European liberal market economy (Golob et al., 2017). However, BP differs from the American oil companies as well, that also originate from a liberal market economy. Therefore, the explanation for the behavior of BP might not be fully attributed to the difference in national business system. A possible explanation could be that their lacking CSR communication is the result of the Deepwater Horizon oil spill in Mexico in 2010, which is known as one of the largest oil spills in the history of the oil and gas industry (The Guardian, 2018). Furthermore, it could be that BP is influenced by local institutional pressures differently than the other European companies.

In chapter 2, various hypotheses were introduced about the differences in information disclosed of CSR on Facebook. The first derived hypothesis was: *H1. American and European companies differ in the extent CSR related information is part of the overall information disclosed on social media.*" It is tested whether American and European companies differ in the

use of CSR related posts as part of their communication on Facebook. When including all the oil companies, it was tested significant ($p < 0.001$, Cramer's V = .194). Yet, when removing BP from the data it reported not significant with a very low Cramer's V ($p = .988$, Cramer's V = .01). When BP is excluded, there seems to be a homogenous use of CSR content as part of the overall communication by the oil companies. This seems to represent CSR disclosure as a common practice of the overall communication on Facebook within the sample, providing evidence for the claim of Matten and Moon (2008), and Strand et al. (2015), that the extent of CSR communication of companies has become similar between European and American companies.

Subsequently, it was examined whether European and American companies did differ on the type of information used to communicate CSR. It was found that, CSR related posts are found to be highly visual, only 2% of the CSR related posts were found to be only textual. This is in line with the research of Du and Vieira that also found a high use of rich media to communicate CSR. In the theoretical chapter a second hypothesis has been derived: *"H2. American and European companies differ in the type of information used when communicating about CSR on social media."*. The Likelihood ratio chi-square test reported significant ($p < 0.001$), with a Cramer's V of 0.360, indicating a middle to large correlation (Cohen, 1988). American companies tend to use more links to websites to communicate CSR compared to European companies, whereas European companies tended to include more videos in their CSR communication on Facebook. The local institutional environment might be a factor for choosing different configurations of multimedia technologies to transfer information to their local institutional environment (Becker-Olsen & Guzmán, 2017; Brodie et al., 2011; Matten & Moon, 2008).

After examining the type of information communication, the dimension of CSR addressed within the CSR disclosed has been examined. In the theoretical chapter it is argued that European and American oil companies are influenced by their institutional environment on the CSR information disclosed on social media in order to attain organizational legitimacy (Bashtovaya, 2014; Escobar & Vredenburg, 2011; Karmasin & Apfelthaler, 2017; Matten & Moon, 2008, Wanderley et al., 2008). Furthermore, it has been argued that American companies might focus more on the social dimension of CSR, whereas European companies might focus more on the environmental dimension of CSR. The following hypothesis was formulated: *"H3. American companies tend to communicate more of their CSR information on the social dimension of CSR on social media compared to European companies."*. It was tested if American and European companies differ in the dimension of CSR addressed when

communicating about CSR on Facebook. The Pearson's Chi-square test reported significant (p < 0.001), with a Cramer's V of 0.355, indicating a middle to large correlation (Cohen, 1988). As hypothesized, the European oil companies tended to include the environmental dimension more as part of their CSR communication, where American oil companies tended to include more of the social dimension as part of their CSR communication. The differences in dimension addressed on social media when communicating about CSR therefore might be explained by the locally acting institutional forces (Karmasin & Apfelthaler, 2017; Matten & Moon, 2008). As discussed in the theoretical chapter, the United States focus on individual responsibility, whereas European countries have a stronger role of the state in managing ethical market problems (Groddeck, 2011). It might be that the institutional pressure towards environmental disclosure in the European Union is stronger, and therefore European companies tend to include more environmental topics when communicating about CSR. In the Unites States the focus on individual responsibility might result in more CSR disclosure on the social dimension, as they feel less pressure from regulators and more pressure from individuals and entities operating in society. These influences might explain the differences in the dimension disclosed when communicating about CSR. This supports the claim that institutional forces influence the CSR information disclosed on social media (Escobar & Vredenburg, 2011; Karmasin & Apfelthaler, 2017; Matten and Moon, 2008).

Next to the dimensions addressed as part of their CSR communication, it is examined if within the social and environmental dimension of CSR oil companies tend to configure their CSR differently. On the social dimension it is examined whether American and European companies differ in the distribution of categories addressed on the social dimension of CSR. The following hypothesis was formulated: *"H4. American and European companies differ in the configuration of categories addressed on the environmental dimension of CSR on social media.".* A Likelihood ratio chi-square was conducted to test this hypothesis and has been reported non-significant (*p* = .800, Cramer's V = .106). This means that the distribution of categories is similar between European and American companies when communicating on the social dimension of CSR. European and American companies tend to give similar weight when addressing categories within the social dimension of CSR. When examining this further similar CSR topics are identified. Gender equality, children, education and safety of the workforce occur as major topics discussed among the examined companies. Therefore, the topics addressed on the social dimension might be industry wide and commonly addressed across institutional contexts. As described in the theoretical chapter, similarities might be explained

by global institutional forces and the emerging global standards as the topics addressed are universal (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017).

Next to the social dimension of CSR, the same is examined for the environmental dimension of CSR. It is scrutinized if American and European companies differ in configuration of the categories addressed on the environmental dimension of CSR. It has been hypothesized that *"H5. American and European companies differ in the configuration of categories addressed on the social dimension of CSR on social media.".* A Likelihood ratio chi-square has been conducted and reported significant ($p < 0.001$). The Cramer's V reported a value of .531, that can be explained as a large correlation between the two examined variables (Cohen, 1988). Whereas there was no notable difference in the distribution of categories addressed on the social dimension of CSR, the configuration of categories on the environmental dimension of CSR is clearly different. When examining this further, it is noticed that European companies focus on the two categories: "emissions and fighting climate change" and "energy efficiency", whereas American companies tend to focus on a wider diversity of topics including "biodiversity and ecosystems", "risk management of environmental tragedies" and "water management and withdrawal". European companies tend to include a smaller diversity of environmental categories in their CSR communication, whereas American companies differ more widely in the categories communicated. A possible explanation of this might be that environmental regulation in the European Union have a stronger focus on energy efficiency and reducing emissions (Groddeck, 2011). The American focus on the individual responsibility might create opportunity for a wider and diverse set of categories discussed on the environmental dimension of CSR (Groddeck, 2011). This supports the claim that local institutional forces might influence the configuration of categories disclosed on the environmental dimension of CSR (Escobar & Vredenburg, 2011; Karmasin & Apfelthaler, 2017; Matten and Moon, 2008). Therefore, the configuration of the social dimension of CSR might be contributed by global institutional forces, whereas the configuration of the environmental dimension of CSR might be influenced by locally acting institutional forces.

Next to the categories, it is also examined if American and European companies differ in the use of two-way communication to communicate CSR related messages. It has been hypothesized that *"H6. American and European companies differ in the use of two-way communication of CSR information on social media.".* A Pearson Chi-square has reported significant ($p = 0.001$), with a Cramer's V of .227 indicating a small to medium size effect (Cohen, 1988). However, it should be noted that American companies seemed to include two-way communication in their CSR communication strategy only at the end of the examined

period. The first observed two-way communication on a CSR related message of the American companies examined was in 2015, whereas European companies already started in 2013. Furthermore, this research corresponds with the research of Cortado and Chalmeta (2016) that one-way communication still dominates two-way communication on Facebook. This research adds the notion that institutional context might influence the extent a two-way communication strategy is used, however this research does not provide conclusive evidence.

5.2 Theoretical implications

Du and Vieira (2012) and Bortree (2014) suggested further research on CSR communication in a global context and suggested variation in both size and country of origin to further assess differences in the communication of CSR in multiple contexts. This research provides empirical groundwork in the limited body of literature about the influence of the institutional environment on the CSR related information addressed on social media. It is shown that differences in the information disclosed are present, furthermore it is argued that the local and global institutional context might influence the CSR information and configuration disclosed on social media in order to attain organizational legitimacy (Escobar & Vredenburg, 2011; DiMaggio & Powel, 1983; Du & Vieira, 2012; Karmasin & Apfelthaler, 2017; Matten and Moon, 2008).

Moreover, it is shown that CSR communication is arguably influenced differently by the institutional context on the social and environmental dimension of CSR. The American companies focused on the social aspect of CSR communication, whereas European companies tend to focus on the environmental aspect of CSR communication. This adds to the typology explicit and implicit CSR communication, that is mostly focused on the extent of CSR communication, rather than the content of CSR communication (Matten & Moon, 2008). It might be a general tendency that American companies tend to focus on the social aspect of CSR communication and European companies on the environmental aspect of CSR communication on social media.

Next, it is shown that the configuration of categories of the social and environmental dimension are possibly influenced differently by the acting global and local institutional forces. A possible explanation might be that the configuration of categories on the social dimension of CSR is influenced by global institutional forces such as industry standards, resulting in similar topics disclosed on the social dimension of CSR (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017). Whereas the configuration of categories on the environmental dimension is influenced more by local institutional context, resulting in differences on the CSR related topics disclosed

(Groddeck, 2011; Karmasin & Apfelthaler, 2017). Further research is needed to see if these findings hold up in multiple contexts, and if these differences can be attributed to the global and local institutional forces.

5.3 Managerial implications

This research offers some managerial implications. Firstly, it has been become evident that American companies tend to communicate the social dimension of CSR more in their overall CSR communication compared to European companies. American oil companies should assess whether they should include the (European) environmental approach to their CSR communication or neglect it. The other way around, European companies should asses their communication on the social dimension of CSR and whether they want to adopt more of the social dimension in their CSR communication. The CSR communication practices on social media can be used as a means to attain organizational legitimacy (Capriotti, 2017; Du & Vieira, 2012; Hooghiemstra, 2000). Whenever companies assess if they have to adjust their CSR communication strategy on social media, companies should take into account their institutional context and adjust the CSR information communicated on social media accordingly.

Secondly, this research offers insights in the CSR communication of six leading oil companies and therefore can be used as a benchmark for other oil companies. Disclosing CSR content can provide many favorable stakeholder responses (Du et al., 2010), and therefore oil companies could benchmark their own CSR communication strategy on social media to the results of this thesis.

Thirdly, this research addressed the extent two-way communication is used by the oil companies. It seemed that oil companies do not fully use the interactive capabilities of the Facebook platform to communicate their CSR practices. American companies lacked behind the European companies, moreover one-way communication still dominates the communication of the oil companies on Facebook. Companies should use these interactive capacities more excessively as it increases the perceived interactivity and therefore credibility of the CSR message communicated (Eberle et al., 2013).

Fourthly, policy makers can use the results to asses if the CSR information communicated towards the general public is desirable. Oil companies can use social media to frame or overstate their CSR practices because they control the information disclosed on their Facebook page (Du & Vieira, 2012). Policy makers can make a judgement about the CSR

disclosed of the oil companies and if this behavior is desirable or policies should be implemented.

5.4 Limitations and further research

As any empirical research, this research has some notable limitations. Consequently, the results should be interpreted according to the limitations of this research. Firstly, the sample size is limited to six leading European and American oil companies in the Fortune 500. This sample is too small to generalize the findings to a wider context. Whenever, for example, BP is removed, hypothesis 1 changes from significant to non-significant, and therefore it is shown that one case could influence the results drastically. A large-scale study could solve this problem of limited data and enhance the external validity of this research. Therefore, further research could test whether these findings hold up in different industry contexts. Besides, different variables could be added that measure the characteristics of the national business system and institutional variables that approximate the institutional context of a firm.

Secondly, BP seemed to differ substantially from the other companies CSR communication practices. As explained earlier, a possible explanation could be that their lacking CSR communication is the result of the Deepwater Horizon oil spill in Mexico in 2010, which is considered to be one of the largest oil spills in the history of the oil and gas industry (The Guardian, 2018). Further research could focus on the effect of such events on the CSR communication of companies impacted by these events on social media.

Thirdly, when examining the reliability of this research, the dimension of CSR and the social category of CSR provided values that only could be used for drawing tentative conclusions. Whereas CSR is a concept that is heavily debated on what it entails, it has been tried to give a comprehensive understanding on how the data is constructed by providing enough quotes and examples throughout the text. Therefore, the results should be analyzed according to the conceptualization of CSR in this thesis.

Fourthly, only the social medium Facebook is examined in this research. Further research could focus on other social media and examine if the results are in alignment with the findings of this research. The results of this research can be used to compare other social media and industries that use content analysis about CSR on different social media and different industries.

5.5 Conclusion

The goal of this research is to provide explorative insights on the influence of institutional context on the communication of CSR related information on social media. In order to achieve this goal, the following research question has been derived: "*To what extent do European and American multinational oil companies differ in the communication of CSR related topics on Facebook?*". All in all, it was found that oil majors use a proportional amount of CSR communication in their overall Facebook communication over the past 5 years (41%). Furthermore, CSR related posts communicated are found to be highly visual. American oil companies tend to use more links to websites to communicate CSR, whereas European companies tended to include more videos in their CSR communication on Facebook. Furthermore, one-way communication still dominates two-way communication of CSR on Facebook. American companies did use less two-way communication compared to European companies over the time period of 2013 until 2018.

Next, European and American oil companies did differ on the dimension of CSR addressed when communicating about CSR. It was found that the American companies focus on the social aspect of CSR communication, whereas European companies tend to focus on the environmental aspect of CSR when communicating CSR on Facebook. Furthermore, it was shown that the configuration of the topics addressed on the environmental dimension of CSR on Facebook differs between the European and American oil companies. The European oil companies focused on the categories "energy efficiency" and "reducing emissions and fighting climate change", whereas American companies tended to include a broader range of categories which included topics surrounding risk management of environmental tragedies, biodiversity, ecosystems, water management and withdrawal. On the social dimension of CSR, evidence was found that European and American oil majors did not differ on configuration of the topics addressed on the social dimension of CSR. On the social dimension of CSR, some topics emerged that were talked universally about such as: employee safety and gender equality in the workforce. A possible explanation might be that the configuration of categories on the social dimension of CSR is influenced by global institutional forces such as industry standards, resulting in similar topics disclosed on the social dimension of CSR (Bashtovaya, 2014; Karmasin & Apfelthaler, 2017). Whereas the configuration of categories on the environmental dimension is influenced more by local institutional context, resulting in differences on the CSR related topics disclosed on this dimension (Groddeck, 2011; Karmasin & Apfelthaler, 2017).

These differences between American and European oil companies provide evidence that institutional context influences the communication of CSR related information on social media. Furthermore, it is suggested that European and American oil companies are adapting to their local context on the CSR topics disclosed on social media in order to attain organizational legitimacy (Bashtovaya, 2014; Escobar & Vredenburg, 2011; Karmasin & Apfelthaler, 2017; Matten & Moon, 2008, Wanderley et al., 2008). Although this research has some limitations, it has become clear that the disclosure of CSR differs on social media between European and American oil companies, arguably caused by their different institutional environments.

5.6 Reflection on research

Reflecting on my research processes, it was a process of many iterations. Many versions, working back and forth, and implementing feedback by looking critically at my own text have been one of my main challenges as a researcher. Reflecting on the research content, this research seems to portray the oil majors as responsible entities as they allocate a substation amount of their communication to communicating corporate social responsibly. A critical note should be made that this CSR communication on Facebook is a framing mechanism to attain organizational legitimacy (Du & Vieira, 2012). Being a responsible organization and communicating as one should not be treated as the same. Recently, Chevron, Exxon Mobil, BP, Shell, Philips66 and 45 other major oil and gas producers have been summoned to join a yearlong investigation led by the Commission on Human Rights to investigate their role in causing climate change and their violation of human rights (Petroleum Economist, 2018). This recent example shows that the CSR communication should be considered separately from being socially responsible. Companies should be held accountable for their actual conduct rather than their reported conduct.

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7. Appendix

Appendix A. Categorization of the dimensions of CSR

Categorization of the social dimension of CSR

Authors	Categories and topics mentioned
Du and Vieira (2012)	Health initiative, art initiative, educational programs and stimulating socioeconomic development in the local communities.
Coombs and Holladay (2012)	Those with financial or medical needs, education, immediate community, human rights, children, and labor right.
GRI (2014)	Labor practices and decent work, human rights, society and product responsibility.
Adopted categories	1. Labor practices and decent work, 2. Human rights, 3. Society, 4. Product responsibility and 5. Responsible governance (e.g. sustainability reports and sustainability rewards).

Categorization of the environmental dimension of CSR

Authors	Categories and topics mentioned
Du and Vieira (2012)	Enhancing energy efficiency, fighting climate change by reducing greenhouse emission, promoting biodiversity and the preservation of natural resources.
Coombs and Holladay (2012)	Sustainable forest harvesting, sustainability of manufacturing, restoration of indigenous plant life, waste reduction, recycling and noise reduction.
GRI (2014)	Energy, emissions, biodiversity, products and services, effluents, waste, water, materials, transport, overall, supplier environmental assessment and environmental grievance mechanisms.
GRI (2013)	Energy efficiency of end products, energy efficiency of operations, greenhouse gas emissions, other emissions, biodiversity, ecosystem, services, impact management leakages, oil/gas spills, spills, tailings waste, water pollution, fires and explosions, remediation, reclamation and decommissioning, drilling waste, water management and water withdrawal.
Adopted categories	1. Energy efficiency, 2. Reducing emissions and climate change, 3. Biodiversity and ecosystems, 4. Risk management and reporting of environmental tragedies (e.g. leakage, oil spills, fires, and explosions), 5. Reducing waste and recycling, 6. Water management and withdrawal.

Appendix B. Coding Handbook

This handbook provides guidelines for the coding of CSR related messages on Facebook. This handbook covers the different categories described in the methodology chapter and used in the codebook (Appendix C). In appendix D a coding example is given. Some variables are generated automatically by Netvizz. Variables automatically generated by Netvizz are marked with (n). Careful examination of each post is necessary to fully grasp what topic of CSR the post mainly addresses. Consequently, the opinion of the researcher is leading in the allocation of coding when there is ambiguity about the content of the post.

Coder ID

The coder ID is determined before the coding process starts. In this research there will be 2 coders to determine validity of the research. The primary researcher will use "1. Researcher", and the second coder will use "2. Second coder".

Company Name:

The company name is the name provided on top of the Facebook post and is a straightforward process. The codes used by the coder are as follows: "1. Shell", "2. Exxon Mobil", "3. BP", "4. Total", "5. Chevron", and "6. Philips66".

CSR environmental dimension *(Adapted from Coombs & Holladay, 2012; Du & Vieira, 2012; GRI, 2013, 2014)*

There are 6 different categories:

0. None of the below: This is coded when none of the below topics are identified.

1. Energy efficiency. This is coded when the content of the Facebook post contains information about energy efficiency. Topics that are included in this definition but are not limited to: Energy efficiency of existing end products, energy efficiency of operations, energy efficiency of fuel, energy efficiency of gas, reduction of flaring, energy consumption and reduction.

2. Reducing emissions and fighting climate change. This is coded when the content of the Facebook post contains information about reducing emissions and fighting climate change. Where energy efficiency is about existing processes and end products, this category goes

further than that. Topics that are included in this definition but are not limited to: Emission to the air reduction due to production, refining and product end use, emission to the air reduction by management and reduction strategies, hydrocarbons and/or combustion products, renewables, biogas, investment in start-ups that explicitly reduce emissions and biofuel.

3. Biodiversity and ecosystems. This is coded when the content of the Facebook post contains information about biodiversity and ecosystems. Topics that are included in this definition but are not limited to: biodiversity, coastal ecosystems, animal life, terrestrial, water and marine environment.

4. Risk management and reporting of environmental tragedies. This is coded when the content of the Facebook post contains information about risk management and reporting of environmental tragedies. Topics that are included in this definition but are not limited to: leakages, oil spills, fires, water pollution, explosions.

5. Reduce waste and recycling. This is coded when the content of the Facebook post contains information about reducing (drilling) waste and recycling. Topics that are included in this definition but are not limited to: treatment and disposal of waste, recycling of materials used and decommissioning of platforms.

6. Water management and withdrawal. This is coded when the content of the Facebook post contains information about water management and water withdrawal. Topics that are included in this definition but are not limited to: water management in petroleum refineries, business process optimization of waste water treatment plants, risks and impacts on fresh water availability, water consumption and management in water scarce areas. One note to make is that water pollution made by drilling and leakages is brought under the category risk management of environmental tragedies and not put under water management and withdrawal.

CSR social dimension *(Adapted from Coombs & Holladay, 2012; Du & Vieira, 2012; GRI, 2013, 2014)*

0. None of the below. This is coded when none of the topics below are identified.

1. Labor practices and decent work. This is coded when the content of the Facebook post contains information about labor practices and decent work. Topics that are included in this definition but are not limited to: labor/management relations, occupational health and safety, training and education, diversity and equal opportunity, equal remuneration for women and men, supplier assessment for labor practices, labor practices of grievance mechanisms and labor rights.

2. Human rights. This is coded when the content of the Facebook post contains information about human rights. Topics that are included in this definition but are not limited to: investment in human rights, non-discrimination, freedom of association and collective bargaining, child labor, forced or compulsory labor, security practices, indigenous rights, assessment supplier on human rights and grievance mechanisms.

3. Society. This is coded when the content of the Facebook post contains information about the companies' relationship with society. Topics that are included in this definition but are not limited to: supporting local communities, anti-corruption, public policy, anti-competitive behavior, compliance, supplier assessment for impacts on society and grievance mechanisms for impacts on Society. This also contains philanthropy contributing to society and initiatives that aid the society. This includes health initiatives, art initiatives, (non-employee) educational programs and programs that aid in financial or medical needs.

4. Product responsibility. This is coded when the content of the Facebook post contains information about product responsibility. Topics that are included in this definition but are not limited to: customer health, safety of products, labeling, education about correct usage, customer privacy compliance and quality and safety of products.

5. Responsible governance. This is coded when the content of the Facebook post contains information about responsible governance. Topics that are included in this definition but are not limited to: sustainability reports, sustainability rewards, compliance with climate goals, climate change policies, transparency, executive board compensation, and gender participation on governance bodies.

CSR related

The coding "0. No" will be assigned when the CSR post does not fit the environmental or social dimension of CSR. The coding "1. Yes, CSR related" will be assigned if the coding of the categorization of CSR fits any of the social or environmental categories of CSR.

When "CSR related" is coded as "0. No" the coding process stops, and the next post will be examined. When CSR related is coded "1. Yes, CSR related" the following coding will be made:

CSR dimension:

1. CSR social dimension. This is coded, when a social CSR category has been identified in the Facebook post.

2. CSR environmental dimension. This is coded, when an environmental CSR category has been identified in the Facebook post.

Two-way communication

0. No, the company did not react on any Facebook comment in the top 100 comments

1. Yes, there is direct interactivity between company and Facebook use. The oil company did react on any Facebook comment in the top 100 comments, providing some dialogical interactivity with Facebook users

The following variables are generated automatically by Netvizz for each post (also non-CSR related posts). Although the coder does not have to manually code these variables, a description has been made in order to form an understanding of the gathered data.

Interactivity between Facebook user and Facebook post (n)

Number of reactions (n)

Here the total amount of reactions on the Facebook post are enclosed. The total amount of reactions is a cumulative of different reactions existing out of "like" reactions, "love" reactions, "Haha" reactions, "Sad" reactions and "Angry" reactions

Number of comments (n)

Here the total amount of comments on the Facebook post are enclosed.

Number of shares (n)

Here the total amount of shares on the Facebook post are enclosed.

Date post was published (n)

Here the date the Facebook post was published by the oil company is inserted with year-moth-day.

Type of post (n)

The type of post refers to the type of media used in order to convey the message of the Facebook post. When there is only usage of plain text the code 1. Text is coded. When the post shares a link to a website "2. Link" is coded. When the post shares a photo, the post is coded as "3. Photo". When the post shares a video "4. Video" is coded.

Link to post (n)

Here the link to the Facebook post will be enclosed.

Appendix C. Codebook

1. Coder ID:

Code
1. Researcher
2. Second coder

2. Company name:

Code
1.Shell
2.Exxon Mobil
3.BP
4.Total
5.Chevron
6.Philips66

3. CSR environmental category

Code	Measure
0. None of the below.	The content of the Facebook post does not contain information about an environmental category.
1. Energy efficiency	The content of the Facebook post contains information about energy efficiency.
2. Reducing emissions and climate change	The content of the Facebook post contains information about fighting climate change by reducing greenhouse emission and/or about reducing other emissions.
3. Biodiversity and ecosystems	The content of the Facebook post contains information about biodiversity and/or ecosystems.

4. Risk management and reporting of environmental tragedies (e.g. leakage, oil spills, fires, water pollution and explosions)	The content of the Facebook post contains information about risk management and/or reporting of environmental tragedies.
5. Reduce waste and recycling	The content of the Facebook post contains information about reducing waste and/or recycling.
6. Water management and withdrawal	The content of the Facebook post contains information about water management and/or withdrawal.

4. CSR social category

Code	Measure
0. None of the below.	The content of the Facebook post does not contain information about a social category.
1. Labor practices and decent work.	The content of the Facebook post contains information about labor practices and/or decent work.
2. Human rights.	The content of the Facebook post contains information about human rights.
3. Society.	The content of the Facebook post contains information about the relationship of the company with society.
4. Product responsibility	The content of the Facebook post contains information about product responsibility.
5. Responsible governance	The content of the Facebook post contains information about responsible governance.

5. CSR related

Code	Measures

Code	
0. No	Not CSR-related
1. Yes	Whenever any environmental or social CSR category has been identified.

6. CSR dimension (Only code if item 5 is coded "1")

Code	Measures
1. Environmental	The post covers environmental topics related to CSR.
2. Social	The post covers social topics related to CSR.

7. One-way communication versus two-way communication (Only code if item 5 is coded "1")

Code	Measure
0. No	The company did not react on any Facebook comment in the top 100 comments.
1. Yes, there is direct interaction between company and Facebook user.	The company did react on any Facebook comment in the top 100 comments, providing dialogical activity with Facebook users.

8. Interactivity: Number of reactions (N)

Code	Measure
Y amount.	The total amount of reactions that include, "like" reactions, "love" reactions, "Haha" reactions, "Sad" reactions and "Angry" reactions.

9. Interactivity: Number of comments (N)

Code	Measure
Z amount.	The total amount of comments.

10. Interactivity: Number of shares (N)

Code	Measure
W amount	The total amount of shares.

11. Date post was published (N)

Code	Measure
Year-Month-day	Date the Facebook post was published by the company.

12. Type of post (N)

Code
1.Text (status)
2.Link to website
3.Photo
4.Video

13. Link to post (N)

Code	Measure
Link	A link that leads to the Facebook post.

END CODEBOOK.

Appendix D. Coding example

Company name: **Chevron**

Publish date: **2017-12-06**

Type of post: 1. Text; 2. Video 3. **Photo**, 4. Link (Netvizz)

Number of reactions: **257 (Netvizz)**

Number of shares: **30 (Netvizz)**

Number of comments: **7 (Netvizz)**

Two-way communication: **0. No, 1. Yes**

CSR Related: 0. No, **1. Yes**

CSR Topic:
0. None
1. Environmental
2. Social

CSR environmental category
0. None
1. Energy efficiency
2. Reducing emissions
3. Biodiversity and ecosystems
4. Risk management of environmental tragedies (e.g. leakage, oil spills, fires, water pollution and explosions)
5. Reduce (drilling) waste & recycling
6. Water management

CSR social category
0. None
1. Labor Practices and Decent Work
2. Human Rights
3. Society
4. Product responsibility
5. Responsible governance (including sustainability reports and sustainability rewards)

Source Facebook post: https://www.facebook.com/431744650466/posts/10159375837085467/

Appendix E. List of oil companies in the Fortune Global 500

List of oil companies in the Fortune Global 500 (Fortune, 2017)

Number	Oil companies	Country of origin	Ranking on Fortune global 500
1.	Sinopec	China	3
2.	China National Petroleum	China	4
3.	Royal Dutch Shell	Dutch	7
4.	Exxon Mobil	US	10
5.	BP	British	12
6.	Total	France	30
7.	Chevron	US	43
8.	Petrobas	Brazil	75
9.	SK Holdings	South Korea	95
10.	Philips66	US	96
11.	Lukoil	Russia	102
12.	Valero Energy	US	106
13.	JXTG Holdings	Japan	127
14.	ENI	Italy	132
15.	Rosneft Oil	Russia	158
16.	Marathon Petroleum	US	160
17.	Indian Oil	India	168
18.	Petronas	Malaysia	184
19.	PTT	Thailand	192
20.	Reliance Industries	India	203
21.	Statoil	Norway	207
22.	Pertamina	Indonesie	289
23.	Repsol	Spain	206
24.	Bharat Petroleum	India	360
25.	Hindustan Petroleum	India	384
26.	Idemitsu Kosan	Japan	423
27.	Andeavor	US	453
28.	GS Caltex	South Korea	486

Appendix F. Description of data set

Distribution of Facebook posts per company per year

	Exxon Mobil	BP	Shell	Philips66	Total S.A.	Chevron	Total
2013-2014	x	268	169	83	141	369	**1030**
2014-2015	x	398	165	92	146	495	**1296**
2015-2016	x	356	208	93	138	350	**1145**
2016-2017	31	413	261	75	109	199	**1088**
2017-2018	245	392	185	118	59	110	**1.106**
Total amount	**276**	**1827**	**988**	**461**	**590**	**1523**	**5665**

Appendix G. Sample description

Distribution Facebook posts per company per year in sample

	Exxon Mobil	Chevron	Philips66	Total S.A.	BP	Shell	Total
2013-2014	x	37	8	14	27	17	**103**
2014-2015	x	50	9	15	40	17	**131**
2015-2016	x	35	9	14	36	21	**115**
2016-2017	3	20	8	11	41	26	**109**
2017-2018	25	11	12	6	39	19	**112**
Total	**28**	**153**	**46**	**60**	**183**	**100**	**570**

Distribution of CSR related posts per company per year in sample

	Exxon Mobil	Chevron	Philips66	Total S.A.	BP	Shell	Total
2013-2014	x	17 (37)	2 (8)	7 (14)	4 (27)	9 (17)	**39 (103)**
2014-2015	x	28 (50)	4 (9)	9 (15)	7 (40)	9 (17)	**57 (131)**
2015-2016	x	23 (35)	4 (9)	7 (14)	7 (36)	9 (21)	**50 (115)**
2016-2017	2 (3)	12 (20)	3 (8)	9 (11)	7 (41)	8 (26)	**41 (109)**
2017-2018	11 (25)	6 (11)	7 (12)	3 (6)	4 (39)	14 (19)	**45 (112)**
Total	**13 (28)**	**86 (153)**	**20 (46)**	**35 (62)**	**29 (183)**	**49 (100)**	**232 (570)**

Note. Between brackets is the total amount of posts per company per year.

Percentage of CSR related posts to the total amount of posts per company per year in sample

	Exxon Mobil	Chevron	Philips66	Total S.A.	BP	Shell	Total
2013-2014	x	45,95%	25%	50%	14,81%	52,94%	**37,86%**
2014-2015	x	56%	44,44%	60%	17,5%	52,94%	**43,51 %**
2015-2016	x	65,71%	44,44%	50%	19,44%	42,86%	**43,47%**
2016-2017	66,67%	60%	37,5%	81,18%	17,07%	30,77%	**37,61%**
2017-2018	44%%	54,55%	58,33%	50%	10,26%	73,68%	**40,18%**
Total	**46,43%**	**56,2%**	**43,48%**	**56,45%**	**15,87%**	**49%**	**40,70%**

Appendix H. Chi-square tests

Pearson's Chi-square - continent of origin and CSR related

American or European * CSR Related Crosstabulation

			CSR Related		Total
			0	1	
American or European	American	Count	108	119	227
		Expected Count	134,6	92,4	227,0
	European	Count	230	113	343
		Expected Count	203,4	139,6	343,0
Total		Count	338	232	570
		Expected Count	338,0	232,0	570,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	21,473[a]	1	,000		
Continuity Correction[b]	20,674	1	,000		
Likelihood Ratio	21,428	1	,000		
Fisher's Exact Test				,000	,000
N of Valid Cases	570				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 92,39.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	-,194	,000
	Cramer's V	,194	,000
N of Valid Cases		570	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Pearson's Chi-square - continent of origin and CSR related excluding BP

American or European * CSR Related Crosstabulation

			CSR Related		Total
			0	1	
American or European	American	Count	108	119	227
		Expected Count	107,9	119,1	227,0
	European	Count	76	84	160
		Expected Count	76,1	83,9	160,0
Total		Count	184	203	387
		Expected Count	184,0	203,0	387,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	,000[a]	1	,988		
Continuity Correction[b]	,000	1	1,000		
Likelihood Ratio	,000	1	,988		
Fisher's Exact Test				1,000	,535
N of Valid Cases	387				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 76,07.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,001	,988
	Cramer's V	,001	,988
N of Valid Cases		387	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Likelihood Ratio Chi-square - continent of origin and type of information

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
American or European * Type of post	232	100,0%	0	0,0%	232	100,0%

American or European * Type of post Crosstabulation

Count

		Type of post				Total
		link	photo	status	video	
American or European	American	34	55	1	29	119
	European	4	56	3	50	113
Total		38	111	4	79	232

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	30,140[a]	3	,000
Likelihood Ratio	33,656	3	,000
N of Valid Cases	232		

a. 2 cells (25,0%) have expected count less than 5. The minimum expected count is 1,95.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,360	,000
	Cramer's V	,360	,000
	Contingency Coefficient	,339	,000
N of Valid Cases		232	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Likelihood Ratio Chi-square - continent of origin and dimension of CSR

American or European * CSR dimension Crosstabulation

			CSR dimension		Total
			Social	Environmental	
American or European	American	Count	98	21	119
		Expected Count	78,5	40,5	119,0
	European	Count	55	58	113
		Expected Count	74,5	38,5	113,0
Total		Count	153	79	232
		Expected Count	153,0	79,0	232,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	29,278[a]	1	,000		
Continuity Correction[b]	27,798	1	,000		
Likelihood Ratio	30,120	1	,000		
Fisher's Exact Test				,000	,000
N of Valid Cases	232				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 38,48.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,355	,000
	Cramer's V	,355	,000
N of Valid Cases		232	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Likelihood Ratio Chi-square - continent of origin and social category of CSR

American or European * CSR social category Crosstabulation

			CSR social category					
			Labor practices and decent work	Human rights	Society	Product resposibility	Responsible governance	Total
American or European	American	Count	17	2	70	3	6	98
		Expected Count	17,9	1,9	67,9	4,5	5,8	98,0
	European	Count	11	1	36	4	3	55
		Expected Count	10,1	1,1	38,1	2,5	3,2	55,0
Total		Count	28	3	106	7	9	153
		Expected Count	28,0	3,0	106,0	7,0	9,0	153,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	1,718[a]	4	,787
Likelihood Ratio	1,650	4	,800
N of Valid Cases	153		

a. 5 cells (50,0%) have expected count less than 5. The minimum expected count is 1,08.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,106	,787
	Cramer's V	,106	,787
N of Valid Cases		153	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

American or European * CSR environmental category Crosstabulation

			CSR environmental category						
			Energy efficiency	Reducing emissions and climate change	Biodiversity and ecosystems	Risk management and reporting of environmental tragedies	Reducing waste and recycling	Water management and withdrawal	Total
American or European	American	Count	8	5	4	2	0	2	21
		Expected Count	7,4	10,4	1,1	,5	,5	1,1	21,0
	European	Count	20	34	0	0	2	2	58
		Expected Count	20,6	28,6	2,9	1,5	1,5	2,9	58,0
Total		Count	28	39	4	2	2	4	79
		Expected Count	28,0	39,0	4,0	2,0	2,0	4,0	79,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22,261 a	5	,000
Likelihood Ratio	22,572	5	,000
N of Valid Cases	79		

a. 8 cells (66,7%) have expected count less than 5. The minimum expected count is ,53.

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,531	,000
	Cramer's V	,531	,000
N of Valid Cases		79	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Pearson's Chi-square - continent of origin and the use of two-way communication

American or European * Two-way versus one way communication Crosstabulation

			Two-way versus one way communication		Total
			One-way communication	Two-way communication	
American or European	American	Count	97	12	109
		Expected Count	87,4	21,6	109,0
	European	Count	73	30	103
		Expected Count	82,6	20,4	103,0
Total		Count	170	42	212
		Expected Count	170,0	42,0	212,0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	10,941[a]	1	,001		
Continuity Correction[b]	9,831	1	,002		
Likelihood Ratio	11,199	1	,001		
Fisher's Exact Test				,001	,001
N of Valid Cases	212				

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 20,41.

b. Computed only for a 2x2 table

Symmetric Measures

		Value	Approx. Sig.
Nominal by Nominal	Phi	,227	,001
	Cramer's V	,227	,001
N of Valid Cases		212	

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

Appendix I. Krippendorff's alpha

Krippendorff's alpha CSR related

```
Krippendorff's Alpha Reliability Estimate


           Alpha    LL95%CI    UL95%CI     Units    Observrs      Pairs
Nominal    ,6737     ,3475     1,0000    21,0000     2,0000    21,0000


Probability (q) of failure to achieve an alpha of at least alphamin:
    alphamin           q
      ,9000         ,9562
      ,8000         ,8159
      ,7000         ,5886
      ,6700         ,3512
      ,6000         ,3512
      ,5000         ,1674


Number of bootstrap samples:
  10000
```

Krippendorff's alpha dimension of CSR

```
Krippendorff's Alpha Reliability Estimate


           Alpha    LL95%CI    UL95%CI     Units    Observrs      Pairs
Nominal    ,8266     ,6532      ,9653    60,0000     2,0000    60,0000


Probability (q) of failure to achieve an alpha of at least alphamin:
    alphamin           q
      ,9000         ,8880
      ,8000         ,3854
      ,7000         ,0593
      ,6700         ,0272
      ,6000         ,0047
      ,5000         ,0000


Number of bootstrap samples:
  10000
```

Krippendorff's alpha social category of CSR

```
Krippendorff's Alpha Reliability Estimate


              Alpha    LL95%CI    UL95%CI     Units    Observrs      Pairs
Nominal       ,6970      ,2424     1,0000   13,0000      2,0000    13,0000

Probability (q) of failure to achieve an alpha of at least alphamin:
   alphamin          q
      ,9000      ,8917
      ,8000      ,6265
      ,7000      ,6265
      ,6700      ,3312
      ,6000      ,3312
      ,5000      ,1315


Number of bootstrap samples:
  10000
```

Krippendorff's alpha environmental category of CSR

```
Krippendorff's Alpha Reliability Estimate


              Alpha    LL95%CI    UL95%CI     Units    Observrs      Pairs
Nominal      1,0000      ,0000     1,0000    5,0000      2,0000     5,0000

Probability (q) of failure to achieve an alpha of at least alphamin:
   alphamin          q
      ,9000      ,0784
      ,8000      ,0784
      ,7000      ,0784
      ,6700      ,0784
      ,6000      ,0784
      ,5000      ,0784


Number of bootstrap samples:
  10000
```

Appendix J. Corporate Facebook pages of examined oil companies

Companies	Facebook URL
Shell	https://www.facebook.com/shell/
Exxon Mobil	https://www.facebook.com/ExxonMobil/
BP	https://www.facebook.com/BP/
Total	https://www.facebook.com/Total/
Chevron	https://www.facebook.com/Chevron/
Philips66	https://www.facebook.com/Phillips66Co/