Exploring the use of CSR signals by companies in controversial industries

Domenico Sardanelli
Research Fellow, PhD in Marketing Management
Department of Political and Communication Sciences (POLICOM), University of Salerno
dsardanelli@unisa.it

Francesca Conte
Contract Professor of Cultural Marketing and E-commerce
Department of Political and Communication Sciences (POLICOM), University of Salerno
fconte@unisa.it

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Abstract

To reduce information asymmetries with stakeholders, firms frequently adopt Corporate Social Responsibility (CSR) as a signal that makes their commitment to sustainability observable. In this paper, we focus on how organizations in controversial industries use CSR signals. These organizations need to overcome the skepticism of stakeholders and it is not clear if they are prone to involve in CSR signaling. Through an explorative content analysis on corporate websites, we take into account two dimensions of CSR signaling, namely CSR policies and CSR reporting. Companies in controversial industries show some degree of involvement in CSR reporting, while seem less active in adopting CSR policies. These findings suggest controversial organizations to embrace a more strategical and organic approach to CSR signaling. In addition, the study offers insights about the inter-sectorial comparisons, demonstrating that companies operating in the most environmental-unfriendly sectors (Materials, Energy and Utilities) are keener to engage in CSR policies signaling than companies belonging to other controversial industries.

Keywords: controversial industries; signaling theory; content analysis; CSR policies; CSR reporting

Introduction

An increasing number of organizations is striving to adopt sustainable practices and to make stakeholders aware of their involvement in sustainability. However, not always stakeholders can recognize the actual sustainability level of companies, since the positive implications of sustainable practices are often not visible (Su et al., 2016). To this end, the tools of Corporate Social Responsibility (CSR) are used by organizations to signal their involvement in sustainability (Zerbini, 2017). Coherently with the signaling theory (Spence, 1973; Karasek III & Bryant, 2012; Bergh et al., 2014; Saxton et al., 2019), CSR can be conceptualized as a signal sent by organizations to stakeholders in order to reduce information asymmetries (Montiel et al., 2012), showing their own commitment to being a responsible corporate citizen (Branco & Rodrigues 2006).

In controversial industries, stakeholders might be particularly skeptical about the level of sustainability that is truly achievable by firms (Cai, Jo & Pan, 2012; Kilian & Hennigs, 2014; van Bommel, 2018). Indeed, these companies' core businesses involve dangerous or morally reproached practices or products. For instance, observers might find it difficult to believe that a company operating in the energy sector might really be environmental friendly. Therefore, the incentives to signaling might be different for this kind of firms. Nevertheless, there is a lack of research on CSR signaling in controversial industries. Thus, the paper aims at exploring how companies in controversial industries use CSR signals.

In particular, we focus on the main categories of CSR signals, i.e. CSR policies (Hetze, 2016) and CSR reporting (Mahoney et al., 2013; Zerbini, 2017). These two types of signal refer to both the strategic and the pragmatic phase of CSR implementation.

In order to assess the degree of signaling, we assess the presence of specific items – associated either with CSR policies or CSR reporting – within corporate websites, which probably represent the most comprehensive institutional communication channels used to express corporate images (Mann et al., 2014). By exploring how companies communicate their CSR efforts on corporate websites, we are able to assess the quality and level of signaling, which can provide useful information in operational terms (Morsing & Schultz, 2006; Etter, 2014).

CSR signals

Organizations communicate to stakeholders using corporate signals, which can deliver positive information about a firm's and engagement in CSR initiatives. According to signaling theory (Spence, 1973; Connelly et al., 2011; Taj, 2016), these signals influence stakeholders' perceptions and their willingness to support the company's actions (Becker-Olsen et al., 2006). CSR signals are an effective way of mitigating the information asymmetry problem (i.e. stakeholders cannot really observe the true sustainability level of organizations), attracting investments and enhancing a company's reputation (Omran & Ramdhony, 2015).

First, companies make explicit CSR policies (Sims, 1991; Stubbs et al., 2013; Graafland & Smid, 2019), which are CSR-related motives, values and explicit goals (Hetze, 2016). These signals are integrated into the organizational culture (Herrera, 2015) and express a company's engagement in CSR through symbolic statements, declarations about environmental and social issues (Rhee & Lee, 2003).

In addition, the propagation of a socially responsible culture within an organization involves the development of reporting aimed to signal CSR commitment (Dhaliwal et al., 2011; Mahoney et al., 2013; Zerbini, 2017). CSR reports constitute transparency tools aimed to make explicit the achievements of a business in terms of sustainability (Dubbink et al., 2008), in order to gain trust and legitimation (Carroll & Einwiller, 2014). CSR reports are intended to decrease in the information asymmetry that often occurs between managers and stakeholders such as consumers (Pérez, 2015; Zerbini, 2017). They show social and environmental commitment more than actual performance (Mahoney et al., 2013; Zerbini, 2017), reducing differences between policy and practice (Graafland & Smid, 2019).

Coherently with the perspective of the signaling theory, CSR policies and CSR reporting can be considered efficacious signals (Spence, 1973; 2002) as they are both observable by stakeholders and imply company specific costs associated with signaling desirable attributes. More importantly, these signals imply differential costs for high sustainable and low sustainable companies, since organizations that do not truly comply with CSR practices find implementing these signals costlier as compared with what good corporate citizens do (Connelly et al., 2011). Furthermore, these CSR signals entail continuous rather than one-time CSR costs, as they are intended to offer ongoing support for CSR practices (Weber, 2008).

CSR signaling in controversial industries: research questions

Controversial industries are typically identified as such in terms of their social and public health costs, for example, tobacco, gambling, alcohol. These sectors are controversial because their activities or products are considered as either unethical or dangerous by the public opinion based on societal, cultural and scientific norms (Palazzo & Richter, 2005; Lindorff et al., 2012, Richter & Arndt, 2018).

Recent studies have come to include in controversial industries also companies involved with emerging environmental, social, or/and ethical issues (Cai, Jo, & Pan, 2012; Kilian & Hennigs, 2014; van Bommel, 2018), such as pharmaceuticals (Günther & Hüske, 2015), energy (Du & Vieira, 2012; Abitbol et al., 2019), mining (Jenkins & Yakovleva, 2006; Rodrigo et al., 2016), transport (including automobiles), and food (Kilian & Hennigs, 2014; Hao & Kang, 2019).

Lastly, following the financial crisis, banks and financial services have gained a higher visibility and a more extensive media coverage, becoming controversial industries (Branco & Rodrigues, 2006; Hinson et al., 2010; Bonifácio, Neto & Branco, 2019). The erosion of the financial sector's reputation has prompted a feeling of fear among stakeholders, thus bruising confidence and increasing reputational risk (Matute et al., 2011; Pérez & Del Bosque, 2012).

Compared with other kind of industries, firms in controversial industries may be more incentivized to pursue CSR signaling, as the returns of signal confirmation can be quite relevant to them (Grougiou et al., 2016).

Therefore, it is interesting to analyze the dynamics of CSR signaling in controversial industries. With regards to this, we formulate the following research question:

RQ1 – To what extent do controversial organizations involve in CSR signaling?

The increased efforts made by controversial firms in CSR signaling can firstly be reflected in their CSR policies (organizational culture), as expressed by their orientation statements, representing a real and public commitment by the organization (Schultz & Wehmeier, 2010). The "triple bottom line" model suggests that a company is sustainability-oriented if in its corporate commitment it strikes the right balance between economic performance, the protection of environmental resources, and social progress (Savitz & Weber, 2006).
The value statements of firms play a pivotal role in defining their corporate sustainability philosophies. The ongoing public scrutiny of controversial industries means they are constantly pushed to report their sustainability activities (Kilian & Hennigs, 2014; Hao & Kang, 2019). These firms are also likely to make their efforts permanent by making sustainability a strategic endpoint, thus orientating the whole management process. Therefore, the first research question is:

RQ2 – To what extent do controversial industries involve in signaling CSR policies?

Transparency tools may facilitate the "externalization" of organizational practices (Wuthnow et al., 1984). CSR report is an effective tool for communicating and signaling such activities (Correa-Garcia et al., 2018), and demonstrates the integration of CSR in operational planning (Richter & Arndt, 2018). Several studies have found that controversial organizations reach higher levels of CSR reporting as they are forced to limit stakeholders' skepticism (Hahn & Kühnen, 2013; Branco & Rodrigues, 2006; Lock & Seele, 2016). Thus, the second research question is:

RQ3 - To what extent do controversial industries involve in signaling CSR reporting?

We carry out an explorative study on a sample of international controversial companies to bring some first-hand evidence useful to provide reasoned answers to the research questions.

Methodology

The corporate website has become the main channel through which organizations communicate with their stakeholders, since it is able to offer a public representation of the whole organization and its formal CSR commitment (Fukukawa & Moon, 2004; Illia et al., 2017).
Relevant companies' names are drawn from the Dow Jones Sustainability World Index (DJSWI), which collects companies worldwide that stand out for their level of sustainability. Specifically, we restrict the sample to companies belonging to controversial industries:

- Automobiles & Components,
- Transportation,
- Energy,
- Materials,
- Utilities,
- Pharmaceuticals,
- Healthcare equipment & services,
- Food & Beverage,
- Banks,
- Diversified financials,
- Insurances

In order to answer the research questions, we carry out a content analysis of the corporate websites, which allowed us to operationalize the relevant variables of the study. We set up a coding scheme which was sequentially applied to the inspection of every corporate website. This step consisted of classifying several recurring pieces of information contained in the websites into different classes of items, capturing distinctive indicators of CSR signaling. Each of these features was operationalized as a binary variable, recording the presence of the item as 1 and the absence as 0 (*Tab.1*).

--------- Insert Table 1 about here ---------

The classification was implemented independently by three analysts who inspected the corporate websites, looking for the relevant features. Their judgements reached an adequate level of agreement, since the inter-coder reliability score, calculated via Krippendorf's (2012) alpha, was 0.85. This content analysis procedure is common in studies analyzing corporate communication on corporate websites (Patten & Crampton, 2004; Bravo et al,, 2012). Each measure is calculated by adding the values of the related dummy variables and normalizing them by the numbers of dummies constituting the measure (ranging from 0 to 1).

Findings

In the first place, we explored the relationship between CSR policies and CSR reporting to verify the presence of any association between the variables. It turns out that they are positively correlated (Pearson's $r=.256$, $p(2\text{-tails})<.001$), meaning that the presence of CSR-oriented strategies goes along with the development of CSR reporting.

Next, analyzing more in details the involvement of controversial organizations in the two dimensions of CSR signaling, the results show that these companies present values in the medium-high range (between .5 and .7). Controversial organizations pay some kind of attention to signaling to stakeholders their sustainability level.

Furthermore, these organizations seem to be put more effort in CSR reporting than in formulating CSR policies (*Tab.2*).

--------- Insert Table 2 about here ---------

We also checked for the statistical significance of the difference in the mean scores of CSR policies and CSR reporting. It is worth noticing that the two scores are comparable since they have been normalized for the number of items (see the methodology section). Therefore, we could confidently perform the paired sample t-test, which revealed that the mean difference between CSR policies and CSR reporting (i.e. -.1407) was significant at the .001 level (*Tab.3*).

--------- Insert Table 3 about here ---------

In order to examine whether there are industry-specific variations in CSR signaling among controversial organizations, we run two models of the one-way analysis of variance (ANOVA) to detect statistical differences – in terms of CSR policies and in terms of CSR reporting – between the various business activities. Before applying the ANOVA, we checked the Levene's test for the homogeneity of variance across the industries. The test performed on the scores of CSR policies turned out to be not significant ($p>.4$), indicating that the null-hypothesis of the homogeneity of variance could be confidently accepted. Differently, the assumption of the homogeneity of variance could not be held true, since the Levene's test was significant ($p<.01$).
Subsequently, even if the homoscedasticity assumption did not hold for one of the dependent variables, we performed the ANOVA for both of the variables, looking for possible differences between groups. The ANOVA revealed that there is no significant difference across industries in terms of CSR reporting (Tab.4). The outcome of this ANOVA model could not have been reliably assumed as true anyway, because of the heterogeneity of variance revealed by the Levene's test. Turning to CSR policies, the ANOVA shows that industries vary significantly in mean scores, as it is captured by the F-test.

--------- Insert Table 4 about here ---------

Then, we inspected more closely the mean differences of CSR policies across industries (Fig.1). It seems that firms operating in the Materials sector are the more active in CSR policies, followed by Utilities, Energy, and Pharmaceuticals. To the opposite, the last positions are occupied by Insurance, Automobiles & Components and Transportation. Other financial industries (Banks and Diversified Financials), as well as the sectors Food & Beverage and Health Care Equipment & Services, present scores that are in the middle between these two poles.

--------- Insert Figure 1 about here ---------

However, to have a clearer picture of significant differences between industries, we looked at post-hoc pairwise comparisons with the Bonferroni correction (the p-values are multiplied by the number of comparisons). It emerges that the only significant mean differences are those between Materials and Insurance (mean difference (MD)=.3981; SD=.0757; $p<.001$), Materials and Automobiles & Components (MD=.3704; SD=.1002; $p<.05$), Materials and Banks (MD=.237; SD=.0638; $p<.05$), Materials and

Transportation (MD=.337; SD=.0802; p<.01), Utilities and Insurance (MD=.3722; SD=.087; p<.01), Utilities and Transportation (MD=.3111; SD=.0909; p<.05), and Energy and Insurance (MD=.3162; SD=.0763; p<.01). In other words, the biggest differences in CSR policies are between the least environmental-friendly industries (Materials, Utilities, and Energy) and such sectors as the financial services, (i.e. Banks and Insurance), Automobiles & Components, and Transportation.

Discussion

This research explores the dynamics of the signaling process of CSR in controversial industries and provides empirical evidence of the companies' involvement in the two types of CSR signals, i.e. CSR policies and CSR reporting.

Findings indicate that controversial companies are striving to signal their CSR activities with medium-high engagement. Thus, they give significant importance to signaling, acknowledging it as a means for stakeholders to detect their CSR commitment (RQ1). Controversial companies' activities are, in fact, potentially detrimental to the health of the environment or the individual and have potentially a high impact on environmental and social issues (Kilian & Hennigs, 2014). Therefore, it should not surprise the fact that these organizations are quite involved in CSR signaling, since stakeholders' skepticism might translate in higher reputational payoffs for truly sustainable companies that are able to overcome that skepticism (Dunham, 2011).

In addition, the results of our study indicate that companies in controversial industries are more involved in signaling CSR reporting (transparency tools) than CSR policies (explicit goals). Due to the critical nature of their products, companies in controversial industries tend to communicate in transparent ways, by adopting CSR reporting tools aimed at making CSR disclosure more reliable for stakeholders (RQ3). In the light of signaling theory, CSR reports enables to decrease information asymmetries, which could prevent controversial industries from gaining the payoff related to their sustainable behavior. In this perspective, the "costs" of voluntary CSR reporting can be seen as the burden that they choose to bear, to gain advantages conferred upon ''good'' corporate citizens (Mahoney et al., 2013).

Findings demonstrate that the commitment of these companies is on average smaller in signaling CSR policies than it is in signaling through CSR reporting. This means that controversial organizations are less committed to communicating on corporate website their CSR strategic orientation in mission and vision statements (RQ2). So, although these firms are inclined to transparently report the sustainability activities they carry out, they do not equally emphasize a long-term approach to sustainability in corporate culture. This trend could suggest that organizations give more importance to an operational and pragmatic approach to CSR signaling, compared to a strategic approach (Verboven, 2011). In addition, the orientation toward the most operational aspects of CSR signaling might be the result of imitative conducts of the companies, which look at how other organizations deal with reputational issues and decide to adopt the same visible techniques, without worrying about the strategical basis of the implementation (Kofford et al., 2020).

The difference between this two categories of signals can be explained, once again, through the lens of signaling theory. In particular, this difference is probably related to the different observability of the two signals. In fact, it has to be emphasized that the signaling theory posits that one of the essential attributes of a signal is the fact that it can be clearly gathered by its receivers (Spence, 1973; Connelly et al., 2011). Only in this case, in fact, can receivers effectively distinguish between high sustainable and low sustainable organizations, and the senders can reap the rewards associated with effective signaling.

Therefore, the pragmatic attitude of the companies in our sample might demonstrate that companies in controversial environments are more sensitive to signaling the external criteria of CSR assessments, which are reflected in the implementation of accountability systems and are linked to national and international social, economic, and environmental standards (Amaladoss & Manohar, 2013; Kilian & Hennings, 2014). From this perspective, controversial industries appear to be more careful in signaling the most observable components of CSR rather than the least visible.

Finally, the analysis offers a more fine-grained picture of how specific controversial industries choose to signal their CSR involvement. More specifically, controversial industries appear quite homogenous in signaling through CSR reporting. Instead, there are more accentuated differences between industries with regards to the signaling through CSR policies. In particular, Materials, Energy, and Utilities are the leading sectors in CSR policies' signaling, showing that organizations seem to rely on the fact that stakeholders are especially sensitive to the environmental implications of sustainable corporate behaviors and are more eager to receive discriminant and relevant information on which are the good players in the market (Wu & Hu, 2019). The increased sensitivity of the general public toward environmental – rather than social or ethical – issues might be the result of the greater cultural pressure applied by media, consumer associations and activists, and by the greater cohesiveness of these factions (Dey et al., 2018), which share at least a common and clear-cut opinion of what is evil (i.e, harming the environment). Compared with environmentalists, the groups that deal with social or ethical problems are much more fragmented and ideologized, and they often have radically opposed ideas about the same issue. Therefore, it is harder to organizations involved in social-ethical problems to predict which behavior will be the most helpful for letting observers recognize and reward good behaving companies (Yoon & Lam, 2013).

Implications and future researches

The study enriches the knowledge on the signaling approach in CSR issues, focusing on industry-specific perspective. In particular, it contributes to explore how controversial organizations interpret and use CSR signals. Moreover, the paper makes a theoretical contribution to the debate about CSR on corporate website that is considered as a fundamental vehicle of corporate information, used by companies to present their CSR commitment.

Our findings can inform managers of controversial companies about a possible weakness in the CSR signaling approach. In fact, these companies do not seem to give the due importance to signaling of CSR policies, demonstrating less attention to the strategic orientation of CSR, compared to the communication of CSR reporting. This deficiency could be seen as a significant risk to this type of firms that are already suffering from difficulties connected to higher reputational risk as they are more heavily penalized by stakeholder skepticism.

Indeed, belonging to controversial industries has a negative impact in terms of image and reputation, especially on media, customers and consumers. Companies in controversial industries could take advantage of implementing CSR policies to overturn the typically negative image they have because of the critical nature of their products. In this perspective, adopting CSR orientation, although it is related to additional costs, allows long-term benefits, such as reputational capital (Ghemawat, 1991). Indeed, systematically integrating explicit CSR goals into the corporate identity and organizational culture is a powerful way of boosting a company's credibility, as stakeholders will be more likely to view CSR as an inherent part of corporate culture and to consider CSR engagement as authentic (Du et al., 2007).

Otherwise, implementing CSR reporting without setting up specific CSR policy can account for the ambiguity of companies operating in controversial industries. It can also be interpreted as an element of weakness in CSR communication, as it casts a shadow over the authenticity of their CSR commitment, which remains reliable only if it is rooted in the organizational strategy and culture (Vollero et al., 2019).

This study shows that specific CSR elements can play a signaling role and highlights the corporate commitment to CSR issues. However, it would be interesting to examine in greater depth the signaling role of concrete assessments (through ratings and rankings) of companies' CSR performance. Future research could be focused on the relationship between social/environmental performance and economic/financial outcomes. Moreover, the development of CSR values involves setting up governance organizational tools. Indeed, a diffused CSR culture entails designing structural forms and/or processes subordinated on organizational units (Lock & Seele, 2016): CSR governance systems, decision-making processes, organizational charts, and self-regulation mechanisms (such as codes of ethics or behavior). Thus, future studies could examine the signaling role of CSR governance structures that creates a system of greater control over managerial actions, which should improve trust in a company's actions (Brown & Caylor, 2009; Stuebs & Sun, 2015). In addition, although this study extensively analyzes CSR communication practices through corporate websites, it is limited by the narrowness of its scope. Future research could take a wider view of this phenomenon, integrating inputs from corporate website with an analysis of social media (Abitbol et al., 2019). The use of social media may provide much support to controversial industries in terms of engaging stakeholders and overcoming skepticism (Handelman & Arnold, 1999).

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Table 1 - Coding scheme of the CSR signals

INDICES (LABELS AND DESCRIPTION)		**DUMMY INDICATORS**	
CSR POLICIES	Explicit CSR goals expressed in	–	reference to environmental issues in corporate mission

	organization's values (Hetze, 2016; Graafland & Smid, 2019)	– reference to social issues in corporate mission – reference to sustainable profit issues in corporate mission – reference to environmental issues in corporate vision – reference to social issues in corporate vision – reference to sustainable profit issues in corporate vision
CSR REPORTING	CSR transparency tools (Dhaliwal et al., 2011; Mahoney et al., 2013).	– certification (process and product) – sustainability index – green brand – sustainability report – case study, testimonials – commitment in sustainability section – performance achieved in sustainability section – section of transparency – contacts of the managers in charge of sustainability – annual updating of sustainability report – weekly updating of news in website

Table 2 – Descriptive statistics of CSR policies and CSR reporting

	N	Min	Max	Mean	Std. Deviation
CSR policies	191	.00	1.00	.527	.275
CSR reporting	191	.00	1.00	.668	.153

Table 3 – Paired sample t-test of the mean difference between CSR policies and CSR reporting

	Mean	SD	SE	95% confidence interval	t	df	p (2-tails)
CSR policies – CSR reporting	-.1407	.2787	.0202	[-.1805, -.1009]	-6.98	190	.000

Table 4 – ANOVA Tables for CSR policies and CSR reporting

DV: CSR policies					
Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**p**

Industries	3.234	10	.323	5.219	.000
Error	11.154	180	.062		
Total	14.388	190			

DV: CSR reporting

Source	**Sum of Squares**	**df**	**Mean Square**	**F**	**p**
Industries	.299	10	.030	1.289	.240
Error	4.174	180	.023		
Total	4.473	190			

Figure 1 – CSR policies means by industry