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Sustainability practices and promotion: websites of large US companies, part II

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Abstract: In recent years, both stakeholders and casual observers have required increasing amounts of social involvement from companies. Companies can no longer exclusively rely on quality products/services to generate goodwill. Rather, companies must also present themselves as socially conscious. Environmental corporate social responsibility (ECSR) is a major component of this presentation. However, the importance that stakeholders ascribe to ECSR efforts differs across industries. To strategically develop and market ECSR initiatives, companies must understand the relative importance and extent of ECSR programs and signalling within their given industries. The current study completes a 13-year longitudinal review of ECSR initiatives and website-based signalling across all Standard & Poor's 500 companies. Results indicate that companies across all industries have increased their ECSR and signalling efforts. However, differences exist across industries. The paper highlights these differences and concludes with guidelines for developing and signalling ECSR initiatives that reflect or exceed industry norms.

Keywords: environmental sustainability; corporate websites; impression management; Standard & Poor's 500.

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1 Introduction

Environmental corporate social responsibility (ECSR) is a subcomponent of corporate social responsibility (CSR), and its importance and presence in business is growing (Rahman and Post, 2012). ECSR may be defined as the integration of environmental issues in both organisational operations and stakeholder interactions (Rashid et al., 2014). Though the short-term financial impacts of specific ECSR initiatives are not uniformly favourable, macro impacts are generally favourable, especially in terms of stakeholder goodwill and organisational legitimacy (Chuang and Huang, 2018; Nie et al., 2019; Wei et al., 2017). Additionally, the use of organisational marketing and impression management efforts to signal a company's ECSR efforts may lead to both higher long-term profits and associated 'soft' returns (Ajour El Zein et al., 2020; Camilleri, 2017; Signitzer and Prexl, 2008; Smithers, 2005/2006; Staudt et al., 2014; Vogel et al., 2008). Therefore, companies are increasing their ECSR efforts and the signalling of these initiatives (Heinze and Heinze, 2011).

Despite an increase in ECSR initiatives and signalling across all industries, ECSR practices and marketing still widely vary from one industry to the next (Alam and Islam, 2021; Guenther et al., 2006; Kilian and Hennigs, 2014; O'Connor and Shumate, 2010; Rela et al., 2020; Robertson and Nicholson, 1996). Based on this variance, managers in a given industry may find it difficult to determine appropriate ECSR initiatives and signalling methods for their individual organisations. To date, no one has offered a comprehensive review of industry-based ECSR efforts and signalling frequency. The current study's research objectives are therefore as follows:

1 To describe the general ECSR landscape, by industry, in the USA.

2 To identify the categorical frequency of various ECSR initiatives by industry.

3 To identify the signalling frequency of ECSR efforts by industry.

Additionally, the study's longitudinal nature provides managers with an understanding of the relative growth of ECSR programs and associated web-based signalling, by industry, over the past decade. Managers are therefore better able to identify industry-specific trends and practices in order to meet or exceed relevant industry standards. The paper thus offers value through providing industry-specific benchmarks for ECSR programs and the reporting of these programs via corporate websites.

The article is organised in four major sections. First, we discuss the relevant history and growth of ECSR initiatives before describing the study's theoretical assessment basis, impression management. Next, the study's methodology is presented. A modified version of Neuendorf's (2002) content analysis methodology was used to review and categorise website content. Next, results are discussed before the study concludes with suggestions for future research, contributions, and limitations.

2 History

Environmental sustainability involves the protection and restoration of the environment through the efficient use of natural resources and energy (Epstein and Roy, 2003). Although the need for sustainable business practices was routinely raised as early as the

1970s (Henion, 1981; Kassarjian, 1971), corporate managers did not strategically address the issue until the 1980s (Mason, 1993). By the 1990s, organisational and marketing theory began to include ecological considerations (Gladwin et al., 1995; Varadarajan, 1992), and sustainability theory became a mainstream component of strategy formulation and operation (Menon and Menon, 1997).

With the century's turn, research began to shift toward an understanding of the social and economic benefits associated with ECSR programs (Epstein and Roy, 2003; Lankoski, 2000). Though early studies suggested a weak, at best, link between sustainability programs and short-term returns (Lopez et al., 2007), recent research indicates that ECSR initiatives can yield financial benefits. For example, sustainability initiatives generate positive customer impressions that, in turn, increase financial profits (Ajour El Zein et al., 2020). In particular, positive consumer impressions build brand equity, and brand equity enhances brand value (Vomberg et al., 2015; Mizik and Jacobson, 2008). Brand value is the worth of a given brand to both internal and external stakeholders (Tiwari, 2010). Brand equity is a multi-dimensional construct that has traditionally included brand image and awareness (Keller, 1993). Recently, researchers have added ECSR as an important dimension of brand equity (Baalbaki and Guzmán, 2016; Ishaq and Di Maria, 2020). Therefore, since consumer perceptions of organisational ECSR initiatives positively impact brand equity and resultant value (Ans, 2000; Bos-Brouwers, 2010; Carlson et al., 1993; Staudt et al., 2014), today's companies should highlight their sustainability efforts as a means by which to enhance long-term financial returns (Cerin and Dobers, 2001; Lim, 2016; Pedersen et al., 2018).

Beyond financial returns, many companies believe that ECSR initiatives will also generate 'soft' returns such as positive brand attitudes, the ability to attract and retain human capital, and the reduction of risk (Camilleri, 2017; Rondinelli and Berry, 2000; Shah and Kahn, 2019; Steger et al., 2007). Additionally, organisations may benefit from associated local income enhancements and air pollution reductions (Steger, 2003).

In summary, today's business organisations have largely complied with Shrivastava's (1994) encouragement to adopt environmentally sustainable practices (Munoz et al., 2008). This is particularly true of large organisations, and it is now considered normative to review the environmental impacts of both overall corporate strategy and individual product plans (Hörisch et al., 2015).

3 Theoretical background

Impression management provides a theoretical lens through which to view corporate ECSR signalling efforts. Impression management originally sought to explain why and how people endeavour to influence the way in which others' perceive them (Goffman, 1959). Human behaviour is similar to a theatrical performance in which props, scenery, and theatrical behaviours generate audience impressions. These impressions are then coupled with audience members' personal schemas to develop meaning.

Organisations, like individuals, also seek to manage impressions in order to influence the development of corporate meaning in the minds of stakeholders. Companies seek to minimise negative meaning (Elsbach et al., 1998) and enhance positive meaning through developing and broadcasting positive organisational initiatives (Bansal and Clelland, 2004; Elsbach, 2003). From an in-person perspective, companies frequently manage impressions through displaying specific corporate artefacts, decorating office and stores,

designing business cards, or managing employee appearances (Simonson and Schmitt, 1997). These types of cues convey both value and meaning (Ornstein, 1989), and corporate managers utilise them to develop unique public perceptions and responses. In relation to ECSR, companies may print business cards on recycled paper or showcase green building designs in settings frequented by stakeholders.

In online settings, companies also use impression management strategies to impact consumer perceptions and meaning. Similar to physical organisational artefacts, websites influence public perceptions, and managers should carefully manage corporate websites (Winter et al., 2003). Impression management theory highlights that items such as the textual and visual content of an organisation's website are important factors that affect public impressions of the organisation (Kuzic et al., 2010). Therefore, remembering to include descriptive ECSR content in corporate websites is particularly important since doing so can generate favourable consumer impressions, which in turn, may increase sales volume (Ajour El Zein et al., 2020; Signitzer and Prexl, 2008; Vogel et al., 2008). Examining the relative sophistication of an organisation's website-based impression management approaches is beyond the scope of this paper. However, as a first step for future impression management assessments, the current paper chronicles the presence or absence of ECSR content on S&P 500 websites.

4 Methodology

The current study was conducted across 13 years. Data sampling took place in 2008, 2011, and 2021. In part I of the current study (previously published), data was collected in 2008 and 2011 to provide a foundational benchmark and trend line for subsequent data collection. Data was then collected in 2021 to provide a solid understanding of industry-based ECSR initiatives and signalling (over the past decade) and to confirm trend patterns. In each sampling period, all S&P 500 corporate websites were reviewed to uncover whether corporate ECSR initiatives were mentioned or described. S&P 500 companies were selected since they represent a wide range of large US companies and economic pursuits across most major industry segments. Based on its ability to capture practices and trends within major industry segments, this sampling frame has been widely used in business literature (e.g., Agarwal, 2015; Våland and Johansen, 2021; Lin and Chang, 2015).

To collect the data, the authors followed a modified version of Neuendorf's (2002) content analysis methodology. The first two steps, conceptualisation and operationalisation, involved a review of ECSR literature to determine relevant ECSR categories. Rather than factor analysing a large list of potential categories, the authors used a modified version of Esty and Winston's (2006) validated ECSR categorisation schema (see Table 1). This list provides an exhaustive categorisation of current ECSR program initiatives. Each category was coded with a 'by-observation' coding approach in which each author independently reviewed and coded not only ECSR initiatives detailed on corporate websites, but also described in the respective organisations' publicly downloadable annual reports. Coding rules required that, to qualify as a legitimate sustainability program, ECSR programs had to be defined clearly on corporate websites and had to include specific goals and targets. Even if a particular company had a measurable program, the company's ECSR programs were not recorded if the initiative was not mentioned on the website and if program goals and targets were not conveyed.

This stringent review protocol potentially underestimated the number of organisations with legitimate sustainability initiatives. Additional criteria included the following:

1 Is the company *actively* using a particular sustainability practice?

2 Is the company *donating* resources to sustainability causes?

During all three data collection periods, more than 90% of programs were of the 'active practice' variety. Most of the remaining 10% involved donations to reforestation, ocean, and biodiversity programs. Finally, the current study also examined the frequency with which certain types of sustainability programs were promoted on corporate websites.

Table 1 Sustainability categories

Category	*Description*
Energy conservation	Reducing consumption and increasing efficiency
Waste reduction	Minimising pollution and increasing recycling
Air pollution control	Maintaining air quality
Water conservation	Reusing and conserving water
Chemicals/toxins control	Carefully using and disposing of toxins/chemicals
Climate change prevention	Reducing emissions of CO_2
Biodiversity maintenance	Supporting healthy animal and plant life
Reforestation	Counteracting forest loss due to logging and development
Ocean sustainability	Ensuring ocean ecosystem sustainability
Ozone protection	Reducing CFC emissions

Source: Adapted from Esty and Winston (2006)

Table 2 Industry categories

Industry	*2008 S&P 500*		*2011 S&P 500*		*2021 S&P 500*	
	# of firms	*%*	*# of firms*	*%*	*# of firms*	*%*
FI – financials	92	18.40%	80	16.00%	67	13.40%
CD – consumer discretionary	88	17.60%	80	16.00%	63	12.60%
IT – information technology	72	14.40%	95	19.00%	70	14.00%
IN – industrials	56	11.20%	62	12.40%	66	13.20%
HC – healthcare	51	10.20%	51	10.20%	61	12.20%
CS – consumer staples	37	7.40%	41	8.20%	34	6.80%
EN – energy	36	7.20%	38	7.60%	29	5.80%
UT – utilities	31	6.20%	35	7.00%	27	5.40%
MT – materials	28	5.60%	30	6.00%	28	5.60%
TS – telecommunications services	9	1.80%	8	1.60%	23	4.60%
RE – real estate	-	-	-	-	32	6.40%

The North American Industry Classification System (NAICS) was used to classify all companies into specific industries. The NAICS is a system to categorise businesses in the USA. Table 2 shows the NAICS industry categories (and relative size) for companies in the S&P 500. Changes in categorical size are shown over the course of the data collection

time period. Additionally, during the data collection period, 'telecommunications services' was officially re-categorised as 'communications services' and 'real estate' was added. The reason for categorising the S&P 500 in terms of industry classifications was to determine potential differences across industries.

5 Results and discussion

In recent years, researchers have increasingly encouraged the use of corporate websites to highlight sustainability efforts (see Siano et al., 2016; Sánchez-Chaparro et al., 2022). The current research indicates that companies are listening. In particular, large US companies are detailing their ECSR efforts in increasing numbers. The development of ECSR initiatives within the S&P 500 has dramatically increased between 2008 and 2021 (see Table 3). In 2008, approximately 60% (302) of the S&P 500 organisations highlighted at least one ECSR program via their organisational websites. By 2011, the number had risen to 73% (364 companies), and this trend continued through 2021 where the number rose to 85% (426). Companies clearly understand the impact of website signalling on stakeholders (Bernal Jurado et al., 2018) and are acting accordingly.

Table 3 ECSR programs on websites

Website content	*2008 S&P 500*		*2011 S&P 500*		*2021 S&P 500*	
	# of firms	*%*	*# of firms*	*%*	*# of firms*	*%*
ECSR program highlighted on website	302	60%	364	73%	426	85%

In relation to specific ECSR categories, no individual category reached 50% participation in 2008 (see Table 4). By 2011, participation in four categories was signalled by over 50% of companies (water conservation, 54%; climate change prevention, 59%; waste reduction, 66%; energy conservation, 66%). By 2021, five categories exceeded 50% (water conservation, 65%; air pollution emissions, 66%; climate change prevention, 68%; waste reduction, 77%; energy conservation, 78%). Additionally, signalling of all ECSR categories increased between 2008 and 2021, except ocean sustainability and ozone protection, which experienced decreases of 9% to 5% and 4% to 2%, respectively. Though the decrease may be due to the current study's small sample size, it is more likely due to the reduced media emphasis that has accompanied the ozone layer's observed and expected recovery (Chipperfield et al., 2017; Singh and Bhargawa, 2019).

As illustrated in Table 4, certain categories have experienced dramatic signalling gains. In 2008, less than half (49%) of organisations addressed energy conservation efforts. By 2021, over three-quarters (78%) did, representing an impressive 59% increase. Waste reduction program participation increased to 77% (2021) from 48% (2008), a 60% increase. Water conservation increased 102% to 65% (2021) versus 32% (2008). Eclipsing all other categories, climate change initiatives associated with reducing CO_2 emissions rose to 68% in 2021 versus 26% in 2008, a 162% increase. Given the media's unrelenting coverage of climate change (Barkemeyer et al., 2017) and the increased research attention being paid to corporate websites and ECSR signalling (see Siano et al., 2016), this increase is understandable. Two thirds (66%) of organisations in 2021 signalled air pollution initiatives, up from 47% in 2008. Approximately one third (35%)

of companies addressed chemical waste initiatives, and over a quarter (27%) actively supported biodiversity programs. Both categories respectively increased from 30% and 24% in 2008. Reforestation programs increased from 14% to 19%, and 5% of companies signalled active ocean sustainability programs by 2021.

Table 4 2008–2021 implementation rates (rounded to nearest %)

Category	*Overall*	*Industry*									
	% with	*UT*	*MT*	*CS*	*IN*	*EN*	*IT*	*HC*	*CD*	*TS*	*FI*
Energy conservation											
2008	49%	71%	75%	68%	68%	39%	54%	45%	39%	44%	27%
2021	78%	93%	79%	91%	82%	83%	63%	80%	81%	61%	73%
% increase	*59%*	*31%*	*5%*	*34%*	*21%*	*113%*	*17%*	*78%*	*108%*	*39%*	*170%*
Waste reduction											
2008	48%	74%	75%	70%	64%	33%	55%	37%	43%	44%	25%
2021	77%	96%	82%	100%	80%	76%	63%	79%	84%	61%	70%
% increase	*60%*	*30%*	*9%*	*43%*	*25%*	*130%*	*15%*	*114%*	*95%*	*39%*	*180%*
Air pollution control											
2008	47%	87%	68%	65%	63%	61%	48%	41%	32%	44%	25%
2021	66%	100%	71%	79%	70%	97%	54%	59%	60%	61%	57%
% increase	*40%*	*15%*	*4%*	*22%*	*11%*	*59%*	*13%*	*44%*	*88%*	*39%*	*128%*
Water conservation											
2008	32%	61%	57%	59%	43%	33%	25%	29%	18%	11%	17%
2021	65%	96%	89%	94%	67%	76%	43%	70%	70%	26%	45%
% increase	*103%*	*57%*	*56%*	*59%*	*56%*	*130%*	*72%*	*141%*	*289%*	*136%*	*165%*
Chemicals/toxins control											
2008	30%	61%	54%	22%	52%	28%	38%	25%	21%	11%	9%
2021	35%	74%	43%	41%	50%	59%	33%	46%	22%	13%	15%
% increase	*17%*	*21%*	*–20%*	*86%*	*–4%*	*111%*	*–13%*	*84%*	*5%*	*18%*	*67%*
Climate change prevention											
2008	26%	71%	43%	41%	27%	36%	25%	20%	14%	11%	15%
2021	68%	100%	71%	85%	74%	90%	60%	61%	57%	48%	67%
% increase	*162%*	*41%*	*65%*	*107%*	*174%*	*150%*	*140%*	*205%*	*307%*	*336%*	*347%*
Biodiversity maintenance											
2008	24%	74%	43%	35%	20%	50%	7%	12%	22%	22%	12%
2021	27%	85%	39%	41%	20%	76%	16%	7%	22%	17%	22%
% increase	*13%*	*15%*	*–9%*	*17%*	*0%*	*52%*	*129%*	*–42%*	*0%*	*–23%*	*83%*

Table 4 2008–2021 implementation rates (rounded to nearest %) (continued)

Category	*Overall*	*Industry*									
	% with	*UT*	*MT*	*CS*	*IN*	*EN*	*IT*	*HC*	*CD*	*TS*	*FI*
Reforestation											
2008	14%	32%	29%	24%	11%	19%	6%	6%	15%	11%	9%
2021	19%	52%	29%	38%	17%	17%	21%	5%	16%	22%	10%
% increase	*36%*	*63%*	*0%*	*58%*	*61%*	*–11%*	*250%*	*–17%*	*7%*	*100%*	*11%*
Ocean sustainability											
2008	9%	32%	18%	8%	9%	31%	1%	4%	6%	0%	1%
2021	5%	37%	4%	0%	2%	17%	6%	0%	6%	0%	1%
% increase	*–44%*	*16%*	*–78%*	*–100%*	*–46%*	*–45%*	*500%*	*–100%*	*0%*	*0%*	*0%*
Ozone protection											
2008	4%	3%	7%	5%	2%	0%	7%	8%	3%	0%	1%
2021	2%	7%	0%	0%	3%	0%	4%	2%	0%	0%	0%
% increase	*–50%*	*133%*	*–100%*	*–100%*	*50%*	*0%*	*–43%*	*–75%*	*–100%*	*0%*	*–100%*

Overall, the data indicate that ECSR signalling levels are rising, both within and across industries (see Table 4). The most frequent programs across all industry categories were water conservation (65%), air pollution control (66%), climate change (68%), waste reduction (77%), and energy conservation (78%). Additionally, in each industry, these categories represented the top individual areas. Conversely, ocean sustainability and ozone protection were the lowest, both across industries and within each industry.

While the ECSR gaps across industries have narrowed between 2008 and 2021, significant differences still remain, and this disparity may reflect differences in strategic purpose or execution. For example, the current research offers empirical proof for the suggestion that industries characterised by a strong manufacturing or raw materials base may place a larger emphasis on ECSR initiatives than industries such as financials which include a larger service component (Raut et al., 2017). For example, the materials industry, as opposed to financials, is more likely to manufacture or deliver products to customers, and the materials industry has higher ECSR signalling rates than financials. Therefore, the current study supports the notion that ECSR initiatives and the signalling of these efforts may be related to an organisation's industry and core product/service offerings (Yadav et al., 2016). Incidence rates within the S&P 500 support the possibility that there is a relationship between the impact of ECSR initiatives and the degree to which those efforts align with a company or industry's core product/service portfolio.

Within certain industries, the signalling of ECSR initiatives may not only offset inherent image challenges, but it may also blunt negative consumer impressions associated with unpopular practices or innovations (Forcadell et al., 2020). Therefore, it is legitimate to ask whether companies in certain industries are increasingly featuring sustainability programs in order to mask less desirable practices. Carlson and Fehling (2020) demonstrated that companies must build social capital in order to successfully introduce radical innovation and/or minimise disgruntled responses to unpopular

practices. Today's companies may be trying to build this capital via the signalling of ECSR efforts on corporate websites. However, since consumers use long-term program consistency to help determine the authenticity of a company's social responsibility efforts (Moehl and Friedman, 2021), the reactive use of ECSR signalling could decrease impressions of corporate authenticity and thereby engender consumer distrust. Organisations must therefore develop long-term, proactive ECSR measures that are not dictated by short-term public relations contingencies.

Finally, the current study speaks to the question of whether the purpose and focus of organisational websites varies across industries. Though Robbins and Stylianou (2003) were able to demonstrate that website content varies across cultures, they were not able to confirm variance across industry classifications. The current study addresses the latter issue through demonstrating that large ECSR content differences exist across industries. These differences may indicate that many organisations are using corporate websites as impression management tools to specifically address issues or stakeholder sentiments that are unique to their industry.

6 Future research

This longitudinal study highlights trends in the adoption and website-based signalling of corporate sustainability efforts. The study also chronicles program implementation rates. The authors encourage the continued cataloguing of these rates.

We also recommend an examination of whether sustainability programs exert similar impression effects (e.g., market share and consumer loyalty) across industries. For example, are organisations in the telecommunications sector likely to realise similar returns from ECSR initiatives as firms in the materials handling sector? Within the last decade, researchers have examined individual industries (Bernal Jurado et al., 2018), but a cross-industry examination is lacking. In particular, researchers should examine if the number of ECSR programs in certain industries affects the height of 'impression bars' that organisations must clear in order to realise above-average returns. The dynamics of a given industry probably exert an impact, but further examination is necessary to confirm the conjecture.

Finally, future research should compare and contrast various methods of conveying ECSR content on corporate websites. General directives regarding the development of effective corporate websites are readily available (Lin, 2013; Lowry et al., 2014), but specific guidelines regarding the manner and method by which to signal ECSR initiatives would be valuable.

7 Conclusions

Building upon prior research that highlights the positive 'hard' and 'soft' returns associated with implementing and featuring ECSR programs, the current study makes several contributions. First, the study provides a foundational understanding of the presence and signalling (via corporate websites) of ECSR efforts within large US companies. The study confirms that organisations in the S&P 500 are increasingly implementing and highlighting ECSR efforts. This information enables policy makers, industry councils, and individual companies to better understand historical trends and the

current ECSR landscape. In so doing, these parties are then better able to strategically channel resources to fill ECSR gaps and strengthen existing initiatives.

Second, the current study offers individual companies an industry-specific tool by which to assess the relative extent of ECSR efforts. By examining their current ECSR initiatives in comparison to industry averages, companies can make informed decisions about their own ECSR portfolio. These decisions are very important since ECSR generally elicits favourable impressions and associated returns (see Ajour El Zein et al., 2020; Vogel et al., 2008). Companies must therefore ensure that they are adopting appropriate ECSR programs and signalling accordingly. The current study provides an industry-specific foundation from which to make this assessment. Following an initial assessment, companies are encouraged to continuously monitor competitors' websites and associated impression management tools in order to keep pace with industry ECSR standards.

Third, through showcasing the growing presence of ECSR programs and the signalling of these programs on organisational websites, the study highlights that managers must carefully use their websites to help facilitate corporate strategy execution. Since ECSR is increasingly informing corporate strategy and driving brand value (Baalbaki and Guzmán, 2016; Ishaq and Di Maria, 2020), it is logical to showcase ECSR initiatives via corporate websites. The current study highlights that the majority of large US companies are now doing so. Managers in the remaining companies must now examine their own business strategies, within relevant industrial contexts, to determine the development, implementation, and web-based broadcasting of appropriate ECSR programs.

Limitations of the current study include the lack of specific website content recommendations. Though denominating the presence of ECSR programs on corporate websites, the study did not examine specific impression management methods for conveying these programs. For example, the study did not record whether ECSR initiatives were highlighted on landing pages versus menu pages, whether video content was included, whether ECSR content was localised or integrated, etc. Likewise, the study did not compare any impression management methods with specific stakeholder outcomes. Therefore, the current study is not able to make specific content or delivery recommendations. Future exploration is recommended on this front, and the current study may provide foundational material for such research.

A second limitation involves the current study's failure to examine the relative depth or extent of highlighted ECSR efforts. Although the study's content analysis guidelines provided parameters for program inclusion, these guidelines did not address the relative size or maturity of denominated programs. Therefore, before developing strategic ECSR proposals, managers should qualitatively assess the relative size and extent of competitor programs in order to develop a nuanced understanding of industry norms.

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