# How to encourage business professionals to adopt sustainable practices? Experimental evidence that the 'business case' discourse can backfire

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**Abstract:** Appeals to companies to adopt more sustainable practices are typically either framed as a request to assume 'responsibility' towards society and the future of the planet, or as a 'business case' (BC) for sustainability. The business case discourse emphasizes how sustainable practices can enhance (financial) business performance. We conducted a survey-based online experiment with business professionals to empirically explore the effectiveness of the two discourse types in motivating business actors to adopt more sustainable practices. Our results suggest that professionals believe that the business case discourse is more effective in encouraging businesses to engage with sustainability than the responsibility discourse. However, exposure to the business case discourse in the experiment did not lead these professionals to state a stronger motivation or intention to act in favour of sustainability within their organization. Furthermore, compared to the responsibility discourse, an appeal based on a business case discourse resulted in *less* approval for pro-environmental investments when these could not be justified by reputational benefits. Since effective measures to improve corporate environmental performance do not always involve win-win situations, our results raise concerns about the use of the business case approach to encourage companies to adopt sustainable practices.

**Keywords**: business, environmental sustainability, persuasive messaging, business case for sustainability, corporate responsibility

## 1. Introduction

Business activities play a decisive role in the challenge to achieve environmental sustainability. They can contribute to environmental degradation, either directly, as a result of harmful manufacturing processes, or indirectly, because of unsustainable practices in their supply chain, or as a result of marketing, financing, or lobbying activities (Crane 2000, Trucost 2013, Le Menestrel and Rode 2013). Although there are many positive examples of corporate commitments to sustainability (Lozano 2012, Thorlakson et al. 2018, Lambin et al. 2018), international policy commitments (e.g., CBD 2010, UN 2015) and multi-stakeholder initiatives (e.g. New Climate Institute 2016, Steer and Reid 2018) highlight the importance of engaging the business community in efforts to tackle global environmental challenges such as mitigating climate change, halting biodiversity loss and deforestation, and reducing pollution. Environmental NGOs, governments and groups within the corporate sector as well as business consultancies are responding to those calls with campaigns to raise awareness about the environmental impacts of business activities and to advocate sustainable models for doing business. Communicating the need for businesses to become more sustainable also features increasingly in business education from undergraduate to executive level (Schmitt and Raufflet 2015, Roos 2017).

Communication aimed at promoting sustainability to the business sector has traditionally focused on appealing to companies' and managers' responsibility towards stakeholders and society at large. The academic business and management literature refers to concepts such as 'corporate responsibility' (Preston and Post 1975), 'corporate citizenship' (Andriof and McIntosh 2001), 'business ethics' (Bowen 1953), and the 'license to operate' (Wilburn and Wilburn 2011). In contrast to a responsibility-based discourse, another discourse that is frequently used in current campaign and advocacy efforts highlights a '*business case*' for sustainability (see e.g. SustainAbility 2002, PwC 2011, McKinsey 2011, IFC 2012, WWF 2016). The emergence of the BC discourse as an alternative to the responsibility discourse has also been described in the academic management literature (Windsor 2006, Lee 2008).[1]

The BC discourse portrays the adoption of sustainable practices as a win-win situation, arguing that it improves a company's environmental performance and at the same time is instrumental

[1] There are also discourses based on other business strategy concepts that encourage businesses to better manage their economic, social and environmental impacts, such as, those based on "Shared Value" (Porter and Kramer 2011, cf. Galbreath 2009) or the Triple Bottom Line (Elkington 2018). Our study focuses on the BC discourse as it plays an explicit role in many current sustainability campaigns. Its antithesis to a responsibility discourse also makes it well suited for experimental investigation.

to its business performance. In other words, adopting sustainable practices benefits the financial bottom line, often indirectly and in the longer term (Salzmann et al. 2005, Siegel 2009, Willard 2012). Pursuing environmental sustainability can benefit financial business performance, for instance, when pro-environmental actions and cleaner production reduce financial costs or risks (e.g. via resource security or greater resource efficiency), improve the companies' public reputation and consumer goodwill, provide a competitive advantage by anticipating environmental regulations, or increase productivity through employee satisfaction (e.g. Carroll and Shabana 2010, Hockerts 2015).

It is unclear, however, which type of discourse actually fares better in encouraging businesses to adopt sustainable practices. Empirical research on public acceptance of pro-environmental policies and on individual pro-environmental behaviour have shown that communication based on instrumental reasoning and self-interest can be ineffective or even entail unintended consequences (Bernauer and McGrath 2016, Rode et al. 2017, Evans et al. 2013, Bolderdijk et al. 2013, Dietz 2015). So far, there is no direct empirical evidence that compares the effectiveness of the two communication approaches for corporate behaviour. The study presented in this paper seeks to address this research gap. Indeed, our results complement the previous empirical findings and demonstrate that a BC discourse may not be as effective as expected and that it can even backfire. The results contribute to the literature on environmental communication and campaigning by raising concerns about a strong reliance on the business case approach to encourage companies to adopt sustainable practices.

We embedded an experiment in an online survey. Respondents were allocated at random to three different experimental conditions. In two conditions, respondents were presented with messages concerning sustainability, either reflecting the BC discourse or the responsibility discourse. A third (control) group was not presented with any persuasive communication. We first probed business professionals' intuitions regarding the effectiveness of the two discourse types. Then, two sets of proxies for pro-environmental action were used to explore the effectiveness of the two discourse types for encouraging business actors' to improve corporate environmental performance. In the first set, participants stated their personal level of motivation and their intention to act for sustainability in their own organization. The second set of proxies consisted of hypothetical decisions for or against pro-environmental investments involving a fictitious lifestyle company. We distinguished between investments that qualify as a 'business case' because reputational gains could potentially outweigh financial costs, and investments that do not involve any indirect benefits for the company (i.e. trade-offs). The inclusion of these

two types of investment is a crucial element of our study because it allows us to investigate whether the BC discourse has the potential to undermine business people's willingness to make investments in sustainability when these cannot be justified by projected gains for the business. As it stands, many corporate decisions with large-scale impacts on the environment are characterized by trade-offs (Le Menestrel el al. 2002), where for instance the costs of an investment in cleaner production technology cannot be recovered, or where environmentally harmful production systems are more profitable.

In the following section, we position the research question within the academic literature on business and behavioural research on sustainability and derive three hypotheses. Section 3 presents the study design. The results are reported in section 4. Section 5 discusses the implications of our results for research and practice.

## 2. Business and behavioural research on the promotion of sustainable practices

### 2.1 From persuasive messaging to corporate decisions

It is well established that the format, content and framing of the messages in persuasive communication can make them more or less successful in affecting the attitudes and behaviours of their audiences (Lakoff 2010), although there still are many unresolved questions, for example regarding how and when framing works (Chong and Druckman 2007). In any case, the path from persuasive communication, such as a campaign or a training course for business professionals, all the way to a change in a company's strategy or decision making in favour of better environmental performance is long and complex. When persuasive communication changes an individual's attitudes and behavioural intentions, this may well translate to a behaviour change (Fishbein and Ajzen 1975, Ajzen 1991), yet there remain relatively large attitude-behaviour or value-action gaps (Kollmus and Agyeman 2002, Carrington et al. 2010, Gifford 2011). Additionally, it is still a long way from a change in individual behaviour to a change at the level of the organization – and ultimately to better corporate environmental performance: an organization or a company works to achieve multiple goals, it faces external constraints and influences (for instance in the form of regulation, stakeholder expectations or public image), and the organizational decision-making processes depend on, for example, corporate governance and hierarchies. The values, motivations and actions of individual managers certainly have an influence on organizational strategy and decision making, especially in smaller companies (Chin et al. 2013, Doh and Quigley 2014, Font et al. 2016), but the uptake of pro-environmental actions also depends on moderating factors such as company

size, corporate governance structure, industry sector, or country-specific conditions (Wickert et al. 2016, Halkos and Skouloudis 2016, 2017, Colucci et al. 2020).

### 2.2 Possible effects of the two discourses

The following paragraphs serve to position our research in the business and behavioural science literature. We focus on the (psychological) mechanisms that may condition responses to persuasive messages based on a BC discourse versus a responsibility discourse. In our exploratory study we do not test for any specific theories or mechanisms that may explain the effects of the different discourses. Reviewing these theories and mechanisms, however, does help us refine our research questions and formulate hypotheses.

Business research has shown that managers use a variety of arguments to justify their existing investments in sustainability (Bansal and Roth 2000, Dummet 2006, Brønn and Vidaver-Cohen 2009, Hockerts 2015, Font et al. 2016, Hafenbraedl and Waeger 2017, Schaltegger and Hörisch 2017). According to these studies, many companies are aware that sustainable activities may eventually be instrumental to their performance. However, they also refer in their reporting to non-instrumental reasons, such as their responsibility towards stakeholders and society or a sense of duty to act as stewards of the planet. Many companies even state the non-instrumental reasons as the dominant motives (Hahn and Scheermesser 2006, Van de Veen and Graafland 2006). It is possible that the BC approach does not resonate well with business professionals who adhere to personal values based on a sense of responsibility regarding sustainability (Hemingway and Maclagan 2004, Graves and Sarkis 2018).

Nonetheless, a number of arguments can be made for why a BC discourse might be more effective in encouraging businesses to take issues of environmental sustainability on board. First, within an organizational setting based on the mainstream business paradigm of creating shareholder value (Friedman 1970, Eden 1994, Siegel 2009) within a market economic system, BC reasoning can provide legitimacy for sustainability considerations. Hafenbraedl and Waeger (2017) show that the conviction that there is a business case for CSR is to a large extent grounded in executives' idealized beliefs regarding the market economy system. From a practical perspective, having business objectives consistent with this paradigm also facilitates operations that rely on the standard business procedures and tools (e.g. financial risk assessment). Second, the BC discourse helps formulate convincing communication based on instrumental reasoning both internally, for example from middle-level to top management, as well as to shareholders. Those communications could state that the company is concerned with sustainability in the interest of maintaining its reputation and keeping regulatory authorities at

a distance, without fundamentally questioning the focus on the financial bottom line. Third, the BC approach is non-threatening to the moral self-perception of managers (Monin and Jordan 2009). Since it does not refer to any moral responsibility, it excludes the risk of experiencing moral blame and does not lead to any conflict between personal goals, for example between managers' responsibility to pursue profitability and their environmental values. Based on these considerations, we develop the following hypotheses:

*(H1) Compared to business professionals who are exposed to the responsibility discourse, those exposed to the BC discourse believe it is easier to involve the business world for sustainability.*

*(H2) Compared to business professionals who are exposed to the responsibility discourse, those exposed to the BC discourse show more commitment to corporate sustainability (in the sense of motivation, intention, or action).*

Another strand of literature hints at the potential limitations of the BC discourse for promoting sustainable business actions. Empirical studies have tested the extent to which different communication approaches influence peoples' judgements related to climate change policies (Bain et al. 2016, Bernauer and McGrath 2016), public policy decisions around environmental protection (Rode et al. 2017), and green business practices (Makov and Newman 2016). Others have tested the influence of message framing on individual pro-environmental behaviour (Evans et al. 2013, Bolderdijk et al. 2013, Delmas et al. 2013, Asensio and Delmas 2015). One general conclusion from this research is that appeals to self-interest may not necessarily be the most effective way to enhance sustainability efforts. At least two broad lines of psychological processes can be found in the literature, which inform our third hypothesis (see below). First, people have multiple goal systems that are activated depending on the context (e.g. market participation, social role as a citizen, family context). The BC discourse may activate self-interested goals and the norm of maximizing (business) self-interest (Miller 1999, Lindenberg and Steg 2013). As a result, the BC discourse could reinforce those goals that are already predominant in a business or market context, implicitly encouraging business actors to limit sustainable efforts to those situations that contribute to the financial bottom line. Second, previous research found that moral principles – that is, one's beliefs of what is the "right thing" to do – provide an "intrinsic motivation" for business decision makers to engage in pro-environmental action (Lindenberg 2001). By redirecting people's thinking towards instrumental reasoning, the BC discourse may undermine ("crowd out") this type of intrinsic motivation (Frey 1992, Bowles 2008, Rode et al. 2015). This suggests that a BC discourse may

be detrimental to business actors' willingness to move beyond strict financial interest when deciding on investments relevant to sustainability. In contrast to this, the discourse based on responsibility encourages recognition of non-instrumental "pure sustainability" goals. In the experiment, we test how exposure to the two discourses affects people's approval for costly investments in sustainability on behalf of their (fictitious) company. We distinguish between investments that can be justified by BC benefits to the company (in our example: reputational gains) and those that cannot (i.e. clear trade-offs between profit and environmental impact). We test the following hypothesis:

*(H3) Compared to business professionals who are exposed to the responsibility discourse, those exposed to the BC discourse are less likely to take cost-intensive action in favour of sustainability, when these costs cannot be justified by other benefits to the company.*

## 3. Method and materials

### 3.1 Participants

The online survey was programmed in Qualtrics (www.qualtrics.com), and participants were recruited via the Prolific.ac platform (www.prolific.ac – see Palan and Schitter, 2018). A screening filter ensured that only those participants were selected who were currently employed full- or part-time, who worked in a company, ran their own business, or were employed by a government organization, and who held a position as manager, trained professional, or as a member of the administrative staff. The filter reduced the eligible subject pool to 4,853 participants (out of 40,449). Although the aim was to have as many business professionals as possible, employees of government organizations were included in order to increase the eligible subject pool.[2]

In line with the procedures of the recruiting platform, participants were told in advance that they would receive a lump sum payment of GBP 6.00 for an average duration of 45 minutes. A total of 229 participants completed the study survey, but the data from 19 of these were excluded from the analysis because they failed an attention test or provided clearly nonsensical answers. The remaining 210 participants were between the age of 19 and 71 years (M = 37.2) with an almost balanced gender distribution (50.5% female). Nineteen different nationalities were represented in our sample, but the majority of participants were from the UK (71%) and the US

[2] Separate analysis of the results in the two sub-samples (business professionals and employees of government organizations) revealed similar pattern in the treatment effects.

(9%). 53% were in management positions (10% upper management) and many in positions of authority over staff (55%), budget allocation (52%), or purchasing (56%).

### 3.2 Study procedure

Table 1 summarizes the experimental procedure. In the first phase, all the participants read a short introduction about the context of the study: environmental sustainability and its relation to business. They were also asked a series of questions about personal characteristics that served to reinforce the message that this study was about business and sustainability. We asked them about the business sector they work in, their position in the company and their decision-making authority, their personal prior experience with sustainability, and how they would rate the current level of engagement with sustainability displayed by their company. In the "experimental treatment" phase, participants were allocated at random to one of three treatment groups. After the exclusion of some participants as described above, this left us with 64 participants in the control group ($T_0$), 71 participants in the business case discourse treatment group ($T_{BC}$), and 75 participants in the responsibility discourse treatment group ($T_{RESP}$). The control group did not receive any additional information in this phase. Treatment groups were presented with videos, arguments, examples and an opportunity for self-reflection in line with one of the two communication approaches for business sustainability (see details below). In a third phase, all participants were asked to respond to the questions and tasks that served as our dependent variables. These were intended to measure (1) beliefs regarding how difficult it is to engage businesses in sustainability efforts, (2) personal motivation and intention to promote sustainability in their professional context, and (3) inclination to approve investments aimed at improving the company's environmental sustainability in a hypothetical case. Finally, all participants completed a questionnaire with a second set of personal data (gender, age, professional background, nationality, political orientation).

### 3.3 Experimental treatments

Participants in the BC discourse treatment and in the responsibility discourse treatment were asked to watch short explanatory videos, to read relevant passages of text, and to relate that content to two concrete examples in their own organization. We selected and combined the materials in such a way that, as a whole, they would be as representative as possible of the two discourse types as these would generally be communicated to business professionals in naturally occurring settings (e.g. campaigns or training situations). The inevitable drawback is that it is not possible to disentangle which of the specific parts of the material generated an effect (see Roe and Just 2009).

*Table 1 – Overview of the experimental procedure*

| | | | | | |
|---|---|---|---|---|---|
| **1 Introduction** | Explanation of study context (sustainability and business decisions)<br>Request for personal information regarding:<br>▪ Business sector, position in company, decision-making authority<br>▪ Prior experience with sustainability | | | | |
| **2 Treatment** | *Random assignment of participants to one of the treatment groups* | | | | |
| | $T_{BC}$ ('business case') | | $T_{RESP}$ ('responsibility') | | $T_0$ (control) |
| | • Video<br>• Text with BC arguments<br>• Attention check<br>• Reflection on business cases for sustainability in own company | | • Video<br>• Text with responsibility arguments<br>• Attention check<br>• Reflection on responsibility for sustainability in own company | | none |
| **3 Dependent variables** | 1. Belief regarding how difficult it is to engage businesses in sustainability efforts<br>2. Stated personal motivation and intention to act in favor of sustainability in own professional context<br>3. Recommendations for or against pro-environmental investments | | | | |
| **4 Personal characteristics** | Request for personal information (explanatory variables) regarding:<br>▪ Gender, age, nationality, education, environmental world view, political orientation | | | | |

In the "business case" treatment group ($T_{BC}$), a video made by Sustainability Illustrated (2014)[3], lasting 4:37 minutes, explained the business case for sustainability based on the work of Bob Willard. A text provided further arguments and examples of how sustainability efforts enhance corporate (long-term) performance (for example, via reputation, price premiums, markets, or employee motivation). Participants were then asked to give two concrete examples of "a business case for improving environmental performance" in their own company. In the "responsibility" treatment group ($T_{RESP}$), a 2-minute video made by RealEyesVideo (2010)[4] explained the notion of sustainability in relation to four "care principles" and their importance for future generations and the planet. A text provided arguments and examples emphasizing that companies have a responsibility to engage in sustainability efforts, based on a duty toward

[3] URL: https://www.youtube.com/watch?v=KlW8-WW0k3g&feature=youtu.be
[4] URL: https://www.youtube.com/watch?v=B5NiTN0chj0&feature=youtu.be

future generations and on rights, stewardship and environmental liability. Participants were asked to give two concrete examples of "where and why your own company or organization has a responsibility towards its stakeholders, society at large or nature, to improve environmental performance". For participants in both discourse treatment groups, an attention check was included to ensure that participants had paid attention to the material presented.[5]

### 3.4 Dependent variables

Table 2 presents the complete set of items and scales that were used to test the three hypotheses. To test H1, we asked participants to rate the difficulty of encouraging the business world to play a more active role in solving environmental problems on a 7-point Likert scale. To test H2, we used Likert scale responses to measure participants' stated motivations and intentions to act in favor of sustainability in their own professional context. To test H3, we used a hypothetical task involving investment decisions. We introduced a fictitious lifestyle company (inspired by the 2013 Trucost study on PUMA's environmental footprint). Participants were given information on the financial, reputational and environmental outcomes of seven pro-environmental investments. They were asked to make recommendations for or against the investments, from their imaginary role as a member of an advisory group to the company's board of directors (cf. Rubinstein 2006). The seven pro-environmental investments were presented at the same time, which reduced the salience of any particular investment in order to avoid any potential experimenter demand effects (Tourangeau et al. 2000). The investments included a "triple win" investment (#1) and a "high-cost trade-off" investment (#7). The remaining five investment scenarios (#2 to #6) involved smaller financial costs to the company (0.05, 0.5 or 1m $ annual profit reduction) and different combinations of reputational and environmental benefits. Investments #3, 5, and 6 are labelled "reputation gains" (#6 "weak reputation gains") investments. Although no concrete estimates for the indirect financial benefits from reputation were provided, these investments can be justified on the basis of a business case logic. In contrast, reputation gains are absent in investments #2 and #4. These investments involve a clear trade-off between profit and environmental benefits, and hence no basis for business case reasoning.

[5] In the BC treatment condition, participants were asked *"Which of the following 'business cases for sustainability' are mentioned in the text?"* and had to mark the two correct examples presented (an additional one had not been mentioned and had to be left blank in order to pass the test). In a similar manner, the RESP participants were asked *"Which of the following aspects of responsibility of companies are mentioned in the text?"*

*Table 2 – Items used as dependent variables*

<table>
<tr><th></th><th>Measure</th><th>Item (Question/Task)</th><th>Scale</th></tr>
<tr><td>Q 1</td><td>Perceived ease to engage business for sustainability</td><td>Generally, how difficult do you think it is to engage the business world to play a more active role in solving environmental problems (and thereby contribute to sustainable development)?</td><td>7-point Likert very difficult (1) to very easy (7)</td></tr>
<tr><td rowspan="2">Q 2</td><td rowspan="2">Personal motivation and intention to act</td><td>How would you rate your personal motivation to include considerations of environmental sustainability in your own professional (or work-related) decisions and actions?</td><td>7-point Likert not motivated at all (1) to very motivated (7)</td></tr>
<tr><td>What would you be willing to do in your company or organization?<ul><li>Start conversation with colleagues</li><li>Raise issue with my boss</li><li>Find out what my company does and how it can improve</li><li>Push my company or organization to take sustainability into account</li></ul></td><td>5-point Likert for each of the four actions (0 = definitely not, 4 = definitely yes), aggregated to a 16-point scale</td></tr>
<tr><td>Q 2<br>&<br>Q 3</td><td>Approval of costly pro-environmental investments</td><td>Assume you are working for REKA, a lifestyle company that designs and develops footwear and clothing. The company has recently commissioned a study on the global environmental „footprint" of its activities, including the entire supply chain. Environmental impact was measured in terms of 1) water and energy use, 2) greenhouse gas emissions and other air pollution, and 3) land use conversion and biodiversity loss. The study also identified measures to improve environmental performance and made projections on their financial effects in terms of expected changes in annual net profit due to the measure, the reputational effects in terms of public image of the company, and the environmental effects. It turns out that the company would remain profitable even if all measures were implemented (!), but each measure would have different financial, reputational, and environmental effects. You will soon be attending a meeting of the board of directors at which the decision will be made as to which measures to implement. As part of an advisory group in your company you have been asked to make a personal recommendation on each of the measures.
<table>
<tr><th>Measures to improve environmental performance</th><th>Financial effect *</th><th>Reputational effect **</th><th>Environmental effect **</th></tr>
<tr><td>1. Technical resource efficiency measures to reduce water and energy use</td><td>+ 0.5</td><td>+</td><td>+</td></tr>
<tr><td>2. Sustainability training for farmers and employees on more efficient use of water, energy and fertilizer</td><td>- 0.05</td><td>0</td><td>+</td></tr>
<tr><td>3. Nature conservation actions in collaboration with a conservation NGO</td><td>- 0.5</td><td>+++</td><td>+</td></tr>
<tr><td>4. Emission reduction measures via investments in sustainable sourcing and clean technology</td><td>- 0.5</td><td>0</td><td>++</td></tr>
<tr><td>5. Sourcing of sustainable cotton based on the production standards of a well-known consumer label</td><td>-1</td><td>+++</td><td>+</td></tr>
<tr><td>6. Sourcing of sustainable rubber based on the production standards of a new consumer label</td><td>-1</td><td>+</td><td>+++</td></tr>
<tr><td>7. Removing the most resource-intensive products from product line</td><td>- 3.5</td><td>0</td><td>+++</td></tr>
</table></td><td>4-point Likert (strongly against, rather against, rather in favour, strongly in favour)<br><br>* change in profit per year (in m US $)<br><br>** 0 (none) + (mild positive) ++ (positive) +++ (strong positive)</td></tr>
</table>

### 3.5 Analysis and statistical methods

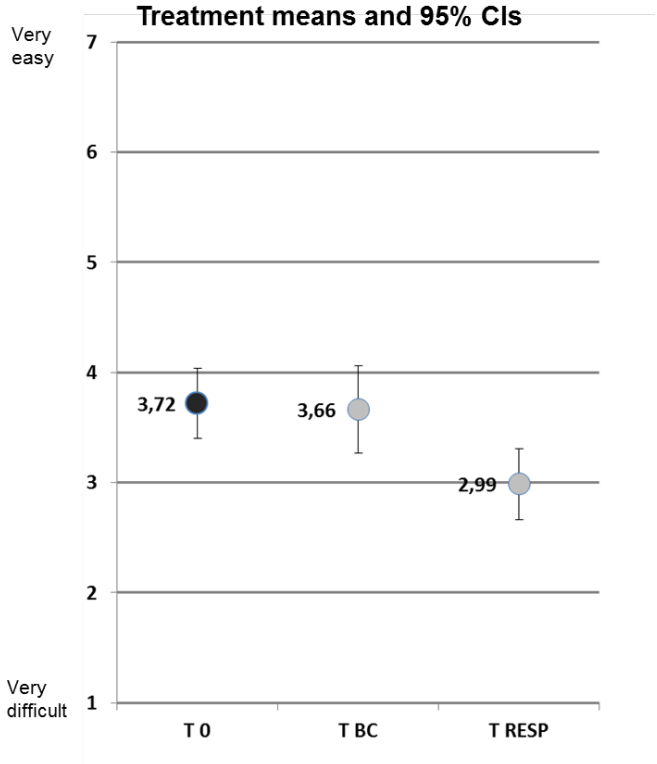
The main focus of our analysis was on the comparison across treatments in order to test the hypotheses. This was preferably done using non-parametric tests, as they entail no distributional assumptions and seem appropriate with this sample size. Answers on Likert scales (H1-H2) were analysed using the Kruskal–Wallis H test for overall differences between the treatment samples and the Mann-Whitney U test for comparisons between any two specific treatment scenarios. For the investment task (H3), the response had a binary format: a participant was either "in favour" or "against" the investment. A Chi square test compared the proportion of participants in each treatment group who approved the investments. Where we found a significant treatment effect, we additionally ran binomial logistic regressions with dummy variables for the two treatments in order to confirm the effect when isolating it from the influence of respondents' personal characteristics: age, gender, political orientation, private sector employment, and previous experience with sustainability. The influence of the personal characteristics were hence rather a supplementary and exploratory aspect, and we otherwise do not give it much attention in the discussion and conclusions.

## 4. Results

In line with hypothesis H1, business professionals in the responsibility treatment group ($T_{RESP}$) rate it as significantly more difficult to engage business for sustainability, compared to those in the business case treatment group ($T_{BC)}$ (MWU: z = -2.40, $p$ = .02) and compared to the control group ($T_0$; MWU: z = -2.86, $p$ < .01) – see Figure 1 for a comparison of treatment means and confidence intervals. There are no significant differences between $T_{BC}$ and $T_0$. This means that business professionals have the intuition that the responsibility discourse discourages the business world from contributing to the solution of environmental problems. A linear regression analysis with the difficulty ratings as dependent variable (see appendix for the full results) confirms that respondents in the RESP treatment rate it as significantly more difficult to engage business (coeff. -.71, p < .01). The only statistically significant personal characteristic is prior experience with sustainability, which leads people to judge it as easier to engage business (coeff. .17, p = .03).

*Figure 1 – Ratings of how easy it is to promote sustainability to the business world*

*The figure shows the mean ratings and the 95% confidence intervals for the three treatment conditions.*




We find no support for our hypothesis H2 that business professionals exposed to the BC discourse show more commitment to corporate sustainability (in the sense of motivation, intention, or action). Average personal motivation scores are slightly higher in $T_{BC}$ ($M$ = 4.1) and $T_{RESP}$ ($M$ = 4.3) compared to $T_0$ ($M$ = 3.9), but none of the differences are statistically significant (MWU for $T_{RESP}$ vs. $T_0$: z = -1.36, p = .18). Results for the stated intention to act in favour of sustainability in the organization point in the same direction, but again none of the differences between the three treatments (mean for $T_{BC,}$ $M$ = 10.4; for $T_{RESP,}$ $M$ = 10.6; for $T_0$, $M$ = 9.8) are statistically significant (MWU for $T_{RESP}$ vs. $T_0$: z = -.90, p = .37). The results thus far imply that, even though our participants have the intuition that the BC should do a better job than the responsibility discourse at motivating the business world to implement sustainable practices, we can show no difference between these two discourses in motivating individuals to include sustainability considerations in decisions they take in their professional role.

In the hypothetical investment task, the overall mean of respondents' approval for pro-environmental investments across the seven potential investments is slightly higher in the responsibility discourse treatment (mean for $T_{BC,}$ $M$ = 5.07; for $T_{RESP,}$ $M$ = 5.51; for $T_0$, $M$ = 5.33) compared to the BC discourse treatment, but the difference between $T_{RESP}$ and $T_{BC}$ is not

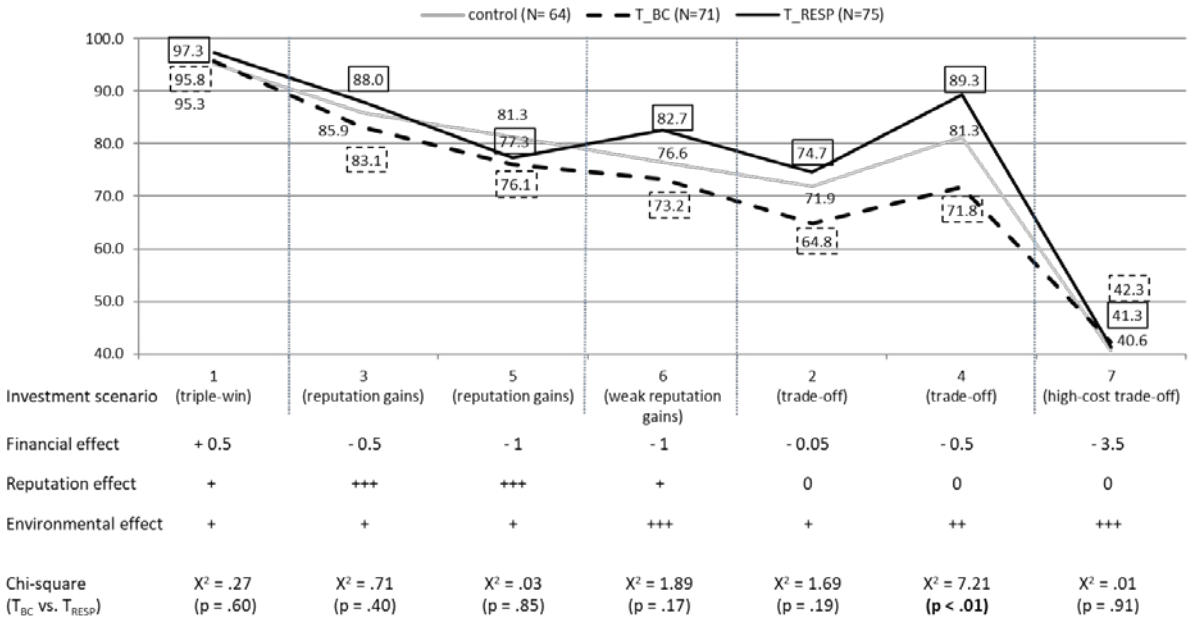
statistically significant (MWU: z = -1.06, p = .29). This result confirms that the BC discourse is not superior in motivating individuals to make sustainable business decisions.

In line with hypothesis H3, however, we find that business professionals in the BC discourse treatment are less inclined to accept costly investments for sustainable practices when they cannot be justified by indirect (here: reputational) benefits to the company, compared to those in the responsibility treatment group. In other words, when investments involve an obvious trade-off between sustainability and profit, the BC discourse for sustainability seems to backfire. Figure 2 illustrates the results of the hypothetical investment decision task across the seven pro-environmental investments. The figure also provides the results of the Chi square tests of the differences between the two discourse treatment conditions. Over 95% of participants across all three treatments approve the "triple-win" investment #1. About 40% across all three treatments approve the high-cost investment #7. These are two "clear cases", on either end of the spectrum, where investing in sustainability is either completely justified (investment #1) or extremely costly (investment #7). As a result, participants, independent of the condition they were in, generally agreed on whether to invest or not, and there were no significant differences between treatments. This broad agreement also provides evidence that participants were processing all information correctly and made sensible decisions. For investments #2 to #6 the approval rates are consistently higher in the responsibility treatment than in the BC treatment. However, the differences between the BC treatment and the responsibility treatment are modest and not significant for investments #3 and #5 (4.9% and 1.2%; i.e. for situations involving strong reputation gains). The difference is larger (9.5%), although still not significant, for investment #6 with weak reputation gains. For investments involving a clear "trade-off" (investments #2 and #4), the difference is larger still (9.9% and 17.5%, respectively). For investment #4 this difference in approval rates between the BC and responsibility treatments is statistically significant ($T_{BC}$ vs. $T_{RESP}$: Chi-square = 7.21, $p < .01$). Approval rates in the control condition typically lie between those in the two discourse treatments. The differences between each of the two discourse treatments and the control treatment are not statistically significant.

These results imply that, when investments in sustainability can be justified with a business case logic that accounts for indirect and long-term effects on profit, the BC and responsibility discourse fare about equally well. However, in situations with a clear trade-off, where it is not possible to justify an investment from a profit perspective, the BC discourse undermines the willingness to invest in sustainability.

*Figure 2 – Approval of pro-environmental investments*

*The figure shows the proportion of participants (in %) who endorse the seven pro-environmental investments in the hypothetical investment decision task, as well as the Chi square tests of the differences between the two discourse treatment conditions (bottom line). It also shows the information participants received regarding the financial, reputational and environmental effects of each of the investments.*




Investment #4 provided the clearest case of this effect. The difference in approval rates was statistically significant between $T_{BC}$ and $T_{RESP}$. In order to better understand the determinants of the decision to invest or not, beyond the discourse that a participant was exposed to, we ran a binomial logistic regression with the decision to investment, or not, as the outcome variable. This allowed us to test for the influence of exposure to the treatment conditions and for the influence of personal characteristics at the same time. The regression results in Table 3 show that having a left-wing political view and having more previous experience with sustainability have a significant positive effect on approving the investment. Age, gender, employment in the private sector (as opposed to government) and the level of decision-making authority in the organization have no significant effect. Analysis of the variance inflation factors (VIF) reveals no multicollinearity between the independent variables (all VIF below 1.35). Regression (2) uses $T_{RESP}$ as reference category and confirms the significantly negative effect of exposure to the BC discourse on approval for the pro-environmental investments when compared to the responsibility discourse).

*Table 3 – Results of the binomial logistic regression*

| | **Approval in trade-off investment scenario #4** | |
|---|---|---|
| | (1) | (2) |
| **$T_0$ (control)** | | -.34 |
| (1 = yes) | | (.53) |
| | | [.40] |
| **$T_{BC}$** | -.78 | -1.11** |
| (1 = yes) | (.47) | (.49) |
| | [2.78] | [5.08] |
| **$T_{RESP}$** | .34 | |
| (1 = yes) | (.53) | |
| | [.40] | |
| **Private sector employment** | .21 | .21 |
| (1 =yes) | (.45) | (.45) |
| | [.23] | [.23] |
| **Decision competency** | .02 | .02 |
| (0 = none to 4 = in four | (.16) | (.16) |
| domains) | [.02] | [.02] |
| **Experience with sustainability** | .69*** | .69*** |
| (0 = none to 6 = expert) | (.17) | (.17) |
| | [16.85] | [16.85] |
| **Gender** | -.10 | -.10 |
| (1 = male) | (.42) | (.42) |
| | [.06] | [.06] |
| **Age** | .01 | .01 |
| (in years) | (.02) | (.02) |
| | [.01] | [.01] |
| **Political orientation** | -.48*** | -.48*** |
| (-3 = strongly left-wing to 3 = | (.17) | (.17) |
| strongly right-wing) | [7.98] | [7.98] |
| **Constant** | -.32 | .02 |
| | (.98) | (1.01) |
| | [.11] | [.01] |
| **Observations** | 207 | 207 |
| **R-square Cox & Shell** | .16 | .16 |
| **(Nagelkerke)** | (.26) | (.26) |

*Note:* Regression coefficient presented in the first line. Single, double and triple asterisks (*, **, and ***) denote $p < 0.10$, 0.05, and 0.01, respectively. Standard errors in parentheses. Wald values in brackets.

(1) Reference category is the control group ($T_0$)

(2) Reference category is the responsibility treatment group ($T_{RESP}$)

## 5. Discussion and conclusions

### 5.1 Theoretical and practical implications

Appeals to companies to adopt more sustainable practices either emphasize their 'responsibility' towards society and the future of the planet or the 'business case' (BC) for sustainability. The experimental study presented here constitutes an empirical exploration aimed at understanding the effectiveness of both discourses. The prominence of the BC discourse in managerial and academic literature suggests that many people particularly believe in the potential BC discourse. The results from our study confirm this belief: participants who were exposed to the BC discourse thought it would be easier to engage business for sustainability compared to participants who were exposed to the responsibility discourse. Interestingly, comparison with the control group reveals that the difference is not so much due to any positive effect of the BC discourse. Rather, the responsibility discourse is perceived to undermine the motivation to make decisions in the service of sustainability in the business world. This finding may explain why the BC discourse has been widely embraced and has gained so much traction.

Our results also suggest, however, that the beliefs about the effectiveness of the BC discourse to enhance corporate engagement with sustainability and to improve corporate environmental performance may not be justified. Participants who were exposed to the BC discourse did not report a higher personal motivation, nor stronger intentions to act for sustainability than those exposed to the responsibility discourse. Moreover, participants exposed to the responsibility discourse showed higher levels of approval for cost-intensive investments in sustainability in situations when these could not be justified by other (here: reputational) benefits to the company. In other words, our data showed that the BC discourse did not help to promote pro-environmental corporate action, and it actually hurt in trade-off situations where sustainable actions were not justified by business case reasoning.

Certainly, highlighting how efforts to protect the environment can also be in the interest of business actors may lead companies to adopt sustainable practices. The win-win potential of sustainable practices has been neglected for too long by both companies and society, and it is interesting for any company – driven by whatever motives – to discover and realize this potential. Motivating business decision-makers to adopt sustainable practices for the sole reason that it is profitable to do so is however a different matter. In order to respond successfully to pressing global environmental challenges such as climate change and biodiversity loss, human societies (especially those already highly industrialized or those actively pursuing

industrialization) will need to enact considerable self-restraint when it comes to exploiting natural resources in pristine areas (e.g. oil in oceans, wood and minerals in rainforests; Walker et al. 2009, Disrupt and Ehrlich 2013). Given the current lack of stringent global environmental regulations, this will most likely require the corporate sector to accept far-reaching voluntary restraint and to forego profits or bear extra costs (Le Menestrel and Rode 2014). If the BC discourse undermines the business sector's willingness to refrain from exploiting profit opportunities, this may ultimately be detrimental to the achievement of global sustainability goals.

Appeals to companies in the form of BC arguments or arguments relating to companies' responsibility can be a part of public communication campaigns or material used for business education (Schmitt and Raufflet 2015). In essence, our study suggests that communication and education efforts that seek to encourage companies to adopt more sustainable practices should be aware that a business case discourse may not be as effective as expected and may even backfire in trade-off situations. The challenge facing advocates of sustainability is to encourage the search for win-win potential but not to let business case thinking become the only driver of sustainable business action. Embedding information about the win-win potential of sustainable action for businesses and society into more integrated communication strategies could be a possible way forward. As requested by Roos' (2017), education and advocacy efforts should encourage companies to strive for a wise balance between business interests and the common good.

In sum, the main conclusions from our study is that we provide an empirical rebuttal of the idea that the business case is the most effective way to motivate business professionals to act for sustainability. The concerns against such a largely held belief is specifically valid for the case of trade-off situations, for which the results show that a BC discourse may even be counter-productive. Practically, our research conclusions entail a message to professionals in sustainability education, communication, or management who aim to encourage pro-environmental corporate practices: Do not rely on a pure business case discourse, but at least balance it by including "responsibility-based" reasoning in your discussions, brochures, and educational material!

### 5.2 Limitations of the study

A number of possible caveats should be considered when interpreting our results. First, the results from a survey-embedded experiment with stated intentions and hypothetical recommendations on a particular case raise obvious questions concerning their validity for real-

life corporate decisions (Levitt and List 2007, Falk and Heckman 2009). Our discourse treatments relied on a stylized representation of the two types of sustainability communication, whereas in reality communication often uses mixed messages or goes beyond these two discourses. In addition, the results of this study show short-term effects and cannot represent the functioning of a lengthy communication campaign or gradual changes in internal business discourse or corporate culture. Hence, we can neither ensure the long-term persistence of the observed effects, nor can we rule out the possibility that stronger effects on business professionals' intentions and actions may occur when they are confronted with a certain line of argument or thinking over the longer term. Our study provides first exploratory empirical evidence that the BC discourse could indeed influence business professionals' perceptions and (hypothetical) decisions in a detrimental manner.

Second, our specific participant pool requires caution regarding the generalizability of the results to other subpopulations. Our study did not address country-specific or industry-specific differences in the responses to different discourses that may be due, for example, to national policies or attitudes on sustainability issues. The majority of our participants were from Western industrialized countries, most from the UK (71%) and fewer from the US (9%). One might expect greater responsiveness to the BC discourse by people socialized in market-oriented societies, as is the case for most of our study participants. Moreover, the responsiveness of different industrial sectors to sustainability discourses might correspond to their degree of market vs. state organization or their specific CSR traditions (cf. Engert et al. 2016). Our study merely indicates that the BC discourse can backfire; it provides no insight into potential moderating factors.

Third, the BC discourse may also affect environmental performance in ways that this study has not measured. For instance, the BC discourse might have a positive effect on environmental performance by enhancing efforts to find win-win situations, such as resource-efficient cleaner production technologies, and to collaborate with NGOs and other societal actors. By contrast, studies on individual pro-environmental behaviour have reported that appealing to financial motives as opposed to other-regarding benefits is less likely to generate positive spill-over effects from one decision-making domain to other domains (e.g. Evans et al. 2013, Spence et al. 2014). The same might be true for companies. Relying on the BC discourse in, for instance, a biodiversity related communication campaign could limit corporations' inclination to seek win-win potentials such as cost savings from energy efficiency or reputational gains from climate-friendly practices.

Finally, business decisions are certainly driven to a large extent by other material and systemic constraints that our study does not address.

### 5.3 Future research

The results presented here enhance our understanding of how companies can be encouraged to adopt sustainable business practices such as introducing cleaner production technologies or more sustainable products and services. Such practices can offer business case potentials (e.g. due to higher energy efficiency, resource security, or access to new markets), but they may also involve trade-offs between financial and environmental performance when investment costs cannot be recovered. The academic debate to date has shown that different motivations can underlie corporate sustainability efforts (e.g. Font et al. 2016, Schaltegger and Hörisch 2017) and that many factors influence their uptake and integration into strategic management (Engert et al. 2016), such as company size and industry sector (Colucci et al. 2020), national institutional conditions (Halkos and Skouloudis 2016), managers' personal perceptions, values, and motivations (Graves and Sarkis 2018), and the way in which information on environmental performance is provided within the company (Hummel and Hörisch 2020). Our study complements this work by exploring the influence of different discourses in encouraging companies to become more sustainable.

Our study can only provide one piece of a larger puzzle; further research is necessary to settle the issue. The results suggest that, compared to the responsibility discourse, the BC discourse is considered by business professionals to be more attractive to the business world. Further research could address the reasons for this perception, which may relate to the neat alignment with the mainstream business paradigm of profit maximization, the implicit message that sustainability can be achieved without questioning the financial bottom line, or an emotional reluctance to deal with trade-off situations. Future research could also investigate more thoroughly for which cultural contexts and for which industries the effect holds.

Our findings that the BC discourse may backfire for sustainability commitments in trade-off situations adds to experimental evidence regarding the use of persuasive communication to enhance public acceptance of pro-environmental policies and to motivate individual pro-environmental behaviour. Several studies show that communication based on instrumental reasoning and self-interest can be ineffective or even entail unintended consequences (Bernauer and McGrath 2016, Rode et al. 2017, Evans et al. 2013, Bolderdijk et al. 2013, Dietz 2015). Although our study was not designed to test for specific psychological processes underlying the effects, section 2 pointed to some potential explanations. Future research could test for the

causal mechanisms that drive perceptions and decisions. We discussed above a number of theoretical frameworks that might be relevant in this context. For instance, the BC discourse justifies sustainable action as being instrumental to narrowly defined business interests. One could speculate that this reinforces the primacy of profit maximization in the minds of business professionals and reduce their willingness to accept costs if these cannot be transformed into a (monetary) benefit. Finally, empirical studies could evaluate the effectiveness of combining the two discourses to encourage sustainable practices, or of communication based on other concepts.

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