

*Paulina Kubera**

Behavioural Factors Affecting Corporate Environmental Sustainability. Evidence From a Field Study Among Polish SMEs and Implications for the EU Environmental Policies

Abstract

Considering climate change problems that European countries are currently struggling with, the aim of this paper is to examine the behavioural factors that affect corporate environmental sustainability (CES). Based on the relevant academic literature and reports behavioural barriers and enablers for corporate environmental sustainability are identified using the ABCD (attention-belief formation-choice-determination) framework. Selected issues are further investigated in a survey among a representative sample of 350 small and medium-sized Polish enterprises and discussed in a broader European context. Our research reveals what goals and motivations Polish SMEs employ to make green investments, how they assess their environmental efforts compared with peer companies, what sources of environmental information they consider as trustworthy, as well as what factors they believe most strengthen the firm's determination for sustainable development. The contribution of this paper lies in shedding light on the starting dispositions of entrepreneurs as targets of public policies promoting environmental goals in the EU. Such insights are instrumental in designing and implementing effective policy interventions.

Keywords: Corporate Environmental Sustainability, Corporate Environmental Responsibility, Behavioural Insights, Behavioural Public Policy, European Environmental Policy

* **Paulina Kubera** – Poznan University of Technology,
e-mail: Paulina.Kubera@put.poznan.pl, ORCID ID: 0000-0002-6246-6952.

Introduction

According to Special Eurobarometer on “Future of Europe” (European Union, 2021, p. 81) almost every second European (49%) considers climate change and environmental issues as the main global challenge for the future of the EU. Many of these issues are attributable to human activity – behaviours of individuals, households, or businesses. Dealing with them effectively requires a departure from designing policy instruments on the basis of how people should behave and an assumption that this behaviour is rational. We have to delve deeper into what drives or hampers specific behaviours relevant from the policy point of view as they systematically deviate from what be considered desirable or correct in terms of formal logic. Findings from behavioural science research, i.e. behavioural insights (BI), can improve the effectiveness of public policy as they help policy makers to obtain a deeper understanding of how people think, choose, act and interact as they do and thereby improve the policy goals attainment.

While applying behavioural insights to encourage sustainable behaviour of citizens, consumers or end-users is fairly widespread, much less research has been done on their application in a corporate context (Stieler, Henike, 2022; Rauscher, Zielke, 2019). Yet, businesses can make a huge difference with regard to the natural environment preservation, in particular can play a key role in the energy transition and combating climate change.

The aim of this paper is to identify behavioural factors that affect corporate environmental sustainability (CES) that can help to increase effectiveness of public policies in the EU promoting environmental goals. Corporate sustainability (CS) refers to fundamental assumptions on how a firm operates. It can be defined as the application of sustainable development goals (SDGs) at the micro level, i.e. at the firm level (de Oliveira et al., 2023). Therefore, the concept is used in relation to: business models (Karuppiyah et al., 2023), organizational strategy (Long, 2020), or organizational culture and practices (Assoratgoon, Kantabutra, 2023). It entails the reconceptualization of the underlying logic behind the value creation, capture and delivery aiming at prosperity in a dynamic world (Fertilo, Faraci, 2022). It represents a shift from a narrow focus on the firm’s shareholders’ economic gains towards broader impacts of a firm’s operations (Dyllick, Hockerts, 2002), in a short and long term perspective (Lozano et al., 2015). Adding the term “environmental” to corporate sustainability (CES) denotes the stress on the integration of economic and environmental goals of a firm, with the special focus on how to decrease the impact of business operations on natural environment.

The paper's line of argument unfolds in two main steps. First, based on the relevant academic literature and behavioural insights reports – behavioural barriers and enablers for corporate environmental sustainability are identified using the ABCD (attention – belief formation – choice – determination) framework. Then, selected issues are further investigated in a survey among a representative sample of 350 small and medium-sized Polish enterprises.

The remainder of the paper is organised as follows. Section 2 contains literature review and outlines the conceptual framework, i.e. the ABCD framework, which has been adopted to the corporate context to guide the search for behavioural barriers and drivers for CES. Section 3 describes the sample and data collection method used in the field study. Section 4 presents research findings concerning the four behavioural aspects of the ABCD framework: attention, belief formation, choice and determination. The article ends with conclusions and practical implications for public policy makers on how businesses in the EU can be encouraged to change their behaviour in order to reduce their impact on environment, as well as suggestions for future research in this area.

Identifying Behavioural Factors Affecting Corporate Environmental Sustainability Through the Prism of ABCD Framework

Our decisions and behaviour deviate from those implied in classical economics because of: (1) the limited ability to attend to all aspects of our life (Davenport, Beck, 2001), (2) the influence of the context in which decisions are taken (Spektor et al., 2021), (3) the difficulty to make sense of the complex world around us (Schwartz, 2004), as well as (4) our bounded willpower to stick with our decisions over time (Baumeister et al., 2018). These are the four issues that tend to cause behavioural biases and if they are not dealt with properly can decrease the effectiveness of policy tools. They correspond to the four behavioural mechanisms that have been incorporated in the ABCD framework, namely: attention, belief formation, choice and determination. The ABCD framework, presented in Table 1, has been developed by the OECD and is meant to assist policy-makers in analysing and diagnosing behavioural problems (OECD, 2019). It assumes that behaviour can be analysed and classified according to these domains. In our research this generic framework has been adopted to guide the search for behavioural barriers and drivers for CES in relevant academic literature and behavioural insights (BI) reports.

Table 1. The ABCD Framework

Behavioural Domains	Behavioural Biases
ATTENTION	Attention is a scarce resource, easily distracted, quickly overwhelmed and subject to switching costs.
BELIEF FORMATION	People do not carefully search for and scrutinise all relevant information, seek new information and update their beliefs accordingly.
CHOICE	People are influenced by the framing and the social as well as situation contexts of choices.
DETERMINATION	People's willpower is limited and subject to psychological biases that prevent long-run success.

Source: OECD, 2019.

According to the ABCD approach, the first behavioural barrier to be recognised in behaviourally-informed interventions is limited attention, which has been shown to be “scarce, easily distracted, quickly overwhelmed and subject to switching costs” (OECD, 2019, p. 73). This problem is relevant for individual as well as organisational decision-making, due to time pressure and volume of other decisions and tasks (Ocasio, 1997, 2011). While environmental concerns appear more on the management agenda in many instances sustainability is not embedded in a business model and there is no connection between day-to-day business operations and the higher purpose of the sustainability efforts (Bocken et al., 2014). Hence policy efforts to attract limited entrepreneurs’ attention to environmental issues, for instance, by increasing salience of economic benefits of green investments. Making a business case for sustainability has been so far a frequent approach to encourage businesses to improve their environmental performance and engage in environmental innovation (Epstein et al., 2015; Schaltegger et al., 2012; Schaltegger, Wagner, 2006). In the last decade, however, the instrumental utilisation of environmental pursuits to advance economic gains has been criticized as insufficient to realise the true idea behind CES, (Nijhof, Jeurissen, 2010; Rode et al., 2021), because of the dominant role assigned to the economic pillar. Moreover, effective measures to improve CES do not always involve win-win situations, therefore pursuing competing economic, social, and environment goals at the same time is essentially an organizational paradox. Hence there is a need for corporate sustainability paradox management (Carmin, De Marchi, 2022; Luo et al., 2020; Hahn et al., 2018). Instead of eliminating the tensions between sustainability goals by simply aligning environmental and social goals with economic goals, “paradoxical resolution denotes purposeful iterations between alternatives in order to ensure simultaneous attention to them over time”

(Smith, Lewis, 2011, p. 392). This, in turn, requires framing policy issues as a request to assume broader corporate responsibility towards society and environment (Rode et al., 2021). The mental frame (business-case frame or paradoxical frame) which managers impose to the information environment to give meaning to complex and ambiguous issues direct their attention towards signals that fit their frame while ignoring those which are inconsistent with the frame. Therefore, in our survey we would like to learn: first, what are the firms' primary motivation to invest in pro-environmental solutions, whether the instrumental utilization of environmental pursuits to advance economic aims prevails; secondly, whether green investments are perceived by firms as an important way of creating a competitive advantage in the market.

The second aspect to be analysed in behaviourally-informed interventions is belief formation, which is about making sense of the world, as people do not carefully search for and scrutinise all relevant information, seek new information and update their beliefs accordingly (OECD, 2019). Biased estimates of business impact on environment may result from mental shortcuts and intuitive judgements based on the preconceptions, such as confirmation bias (Hofman et al., 2022), availability bias (SFOE, 2021), or overconfidence (Qin, 2019). These behavioural barriers can lead to poor decision-making as it distorts the reality from which we draw evidence. The confirmation bias describes the tendency to search for and interpret information in such a manner that it confirms our pre-existing attitudes and beliefs. People select information that supports their views and ignore contrary information, especially when they are faced with ambiguous evidence. It is assumed that it does not only prevent us from finding a solution but also to identify the problem to begin with (Ling, 2020). Hofman et al. (2022), for instance, point to confirmation bias as the reason why implementation of sustainable building measures in construction design was far from being desired despite of many efforts in this regard. They showed that building professionals had an inclination to interpret information in support of current beliefs what resulted in slowing down the adoption of sustainable building measures. On the other hand, the availability bias describes the tendency to rely on information that comes readily to mind when evaluating situations or making decisions. This applies, in particular, for recent experience, which is easily recalled and thus seems to be the most pertinent. It affects the perceived frequency of classes and subjective probability of events (Tversky, Kahnemen, 1973). Therefore, some people do not perceive global warming as a hazardous or a prioritized problem despite of a great abundance of scientific evidence on environmental pollution caused by human activity (Kiran, 2021).

Qin (2019), in turn, analysed the impact of managerial overconfidence on firm's environmental performance and found out that overconfident executives tend to underestimate firms' environmental risk leading to a low level of ex-ante environmental safeguards. According to the Be the Business (2019) Report "Raising UK competitiveness: Inside the mindsets of leaders of firms", there is a widespread bias towards overconfidence, as 80% of enterprises in UK consider their businesses as equally or more productive than peer firms. Policy measures addressing the above mentioned behavioural barriers to CES involve, among others, feedback mechanism and advice on resource consumption (see e.g. PwC, 2018, pp. 103–108). Acknowledging the importance of reference points in risky decision-making, in our survey we would like to learn whether firms are interested in what peer companies do to improve their environmental performance, as well as how they subjectively assess their environmental efforts compared to peer companies.

The third problem to be addressed in behaviour change interventions is the fact that people do not always choose as to maximise their expected utility. The context and the moment in which choices are made matter, as well as the arrangement and framing of options. Choice biases in the context of corporate environmental sustainability result, in particular, from choice overload (a large variety of equivalent options how to improve firm's environmental performance can negatively impact the accuracy of sustainability judgements), status quo bias, especially in complex and uncertain situations (the tendency to adhere to what is known and avoid change can prevent firms from becoming more sustainable or sunk cost fallacy (the tendency to adhere to a given plan due to already irretrievable invested funds) (SFOE, 2021; Users TCP, IEA, 2020; PwC, 2018; Fell, Giorgi, 2016). Policy measures to overcome these behavioural barriers include, first of all, eco-labelling (Burrato, Lotti, 2023), or green energy default options, i.e. pre-set options that take effect if nothing is specified by the decision-maker (Liebe et al., 2021). Moreover, given the human tendency to prefer avoiding losses to acquiring equivalent gains, (on average, the impact of losses is found to be around twice as strong, compared to equally seized gains) loss-framed instead of gain-framed messages are used to influence pro-environmental decision-making (Ghesla et al., 2020). Another policy strategy involves using trusted sources to communicate environmental messages. According to the so-called messenger effect we are heavily influenced by who is communicating the information. Information from "trusted sources" is more likely to be relied upon when making decisions and more likely to influence behaviour. Therefore, in our survey we would like to learn

what sources of environmental information are considered by firms as trustworthy.

The fourth of the main aspects of behavioural problems is determination. Environmental goals may not be well attended in the long run when e.g. a business case for sustainability is seen as an ad hoc measure, a supplement to a core business (Schaltegger et al., 2012). Behavioural levers which policy makers use to affect determination of firms to reduce their impact on environment include, inter alia: goal setting and commitment devices, as well as public disclosure – corporate targeted transparency to create social expectations (Hombach, Sellhorn, 2019). A commitment means “accepting a moral responsibility to behave in accordance with the undertaking, and strengthening the readiness to meet the corresponding obligations” (SFOE, p. 23). Commitments can be made privately or publicly, however, the latter are considered to be more effective in promoting the desired behaviour. There are two underlying mechanisms for that. First – when commitments are made public certain actions and attitudes that are relevant for that behaviour are more salient and remain stable over time. Second – public commitments encourage behaviour change through social pressure to stick to the commitment (Abrahamse, Steg, 2013). In our survey we would like to learn what factors strengthen the firm’s determination to sustainable development, and in particular, whether environmental reporting motivates firms to be more sustainable.

The Sample and Data Collection Method

In order to investigate selected behavioural issues a survey was carried out among small and medium-sized enterprises registered and operating in Poland, excluding self-employed without employees. The study sample was a random study sample, stratified due to size of the enterprise and consisted of 350 SMEs. A quantitative, representative statistical method was used and the research techniques was CAWI. The survey was carried out between December 2022 and February 2023. Data has been gathered with the support of the external company specialised in conducting survey research.

The main advantages of the CAWI method include: (a) access to numerous respondents geographically spread out, (b) speed and low cost of implementation, (as there is no printing materials the method is also environmentally friendly), (c) computerization of the questionnaire (e.g. multimedia capabilities, adaptive questionnaires; the possibility of guaranteeing anonymity; questions and/or answers can be randomized

to eliminate question order effects), (d) time flexibility and self-administration of the survey (respondents answer the survey at their own pace whenever and from wherever they choose), (e) automatic verification of the logical correctness of the input data and automatic saving of survey results on the server, which makes the analysis process easier and more efficient. Disadvantages of the CAWI method include: (a) those associated with the lack of the interviewer, as well as (b) only respondents with the access to the Internet can be surveyed (Callegaro et al., 2015).”

The characteristics of the respondents are provided in Figures 1–6.

The respondents’ size in terms of the number of employees were: 116 medium, 117 small and 117 micro-enterprises (Figure 1), active in the following economy sectors: production (62 enterprises), services (78), construction (50), transport and logistics (38), trade (56) and others (66) (Figure 2).

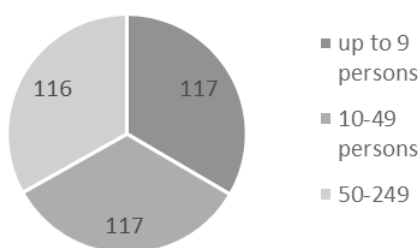


Figure 1. Number of Enterprises by Business Size (n = 350)

Source: the author’s own elaboration.

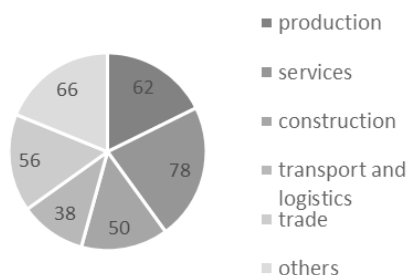


Figure 2. Number of Enterprises by the Sector of the Economy (n = 350)

Source: the author’s own elaboration.

Regarding the place of economic activity – 178 enterprises conducted an economic activity in a large city with more than 100,000 inhabitants, 102 enterprises – in a medium-sized city with a population between 20,000 and 100,000, 49 enterprises – in a small city with less than 20,000 inhabitants and 21 enterprises in the countryside (Figure 3). As the place of establishment is not always a decisive factor given the development of electronic means of communications, respondents were also asked about the scope of their activity. Nearly one-third of them declared to operate on an international scale (117 enterprises), 87 enterprises – on a national scale, 65 – regional and 84 – on a local scale (Figure 4).

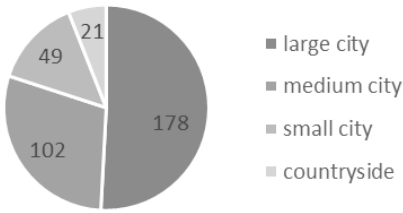


Figure 3. Number of Enterprises by the Place of Economic Activity (n = 350)
Source: the author's own elaboration.

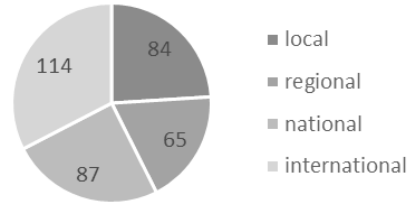


Figure 4. Number of Enterprises by the Scope of Activity (n = 350)
Source: the author's own elaboration.

Concerning the period of activity on the market – about half of the participating enterprises were present on the market more than 10 years (185 enterprises), 97 – between 5 and 10 years, 62 – 2–5 years and 6 enterprises – less than 1 year (Figure 5). Additionally, respondents were asked to state at what stage of enterprise development they are. Most of them declared fast or stable growth (296 enterprises), whereas 54 – slowdown or liquidation of business (Figure 6).

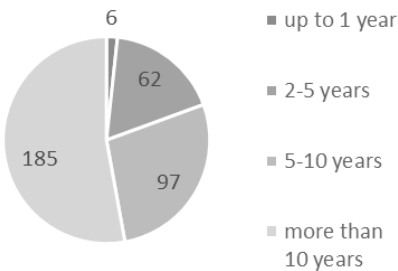


Figure 5. Number of Enterprises by the Period of Activity on the Market (n = 350)
Source: the author's own elaboration.

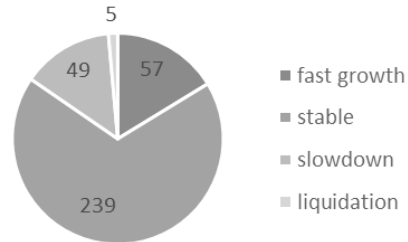


Figure 6. Number of Enterprises by the Stage of Enterprise Development (n = 350)
Source: the author's own elaboration.

The Results

Attention – a Scarce Resource

It has long been recognised by economists that limited attention is a scarce resource to be allocated among a given set of alternative uses (Simon, 1971; Gifford 1992; Ocasio, 1997). With an increasingly information-rich world this problem becomes even more acute (Roetzel, 2019). The

psychology of attention posits that attention can be voluntary (endogenous) or involuntary (exogenous). Using Kahneman's words (1973) "voluntary attention means that the subject attends to stimuli because they are relevant to a task that he has chosen to perform, whereas involuntary attention is related to level of arousal, which is largely controlled by the properties of the stimuli to which the organism is exposed" (as cited in Falkier, 2008, pp. 1578–1579). Thus, endogenous attention in the firm is shaped by organisational goals and assigned tasks within an organisation (Ocasio, 1997). Respondents were asked whether they perceive sustainability and profitability more as competing goals or rather as mutually supportive goals. Majority of them (67%) perceive green investments as an important way of creating a competitive advantage in the market (see: Figure 7).

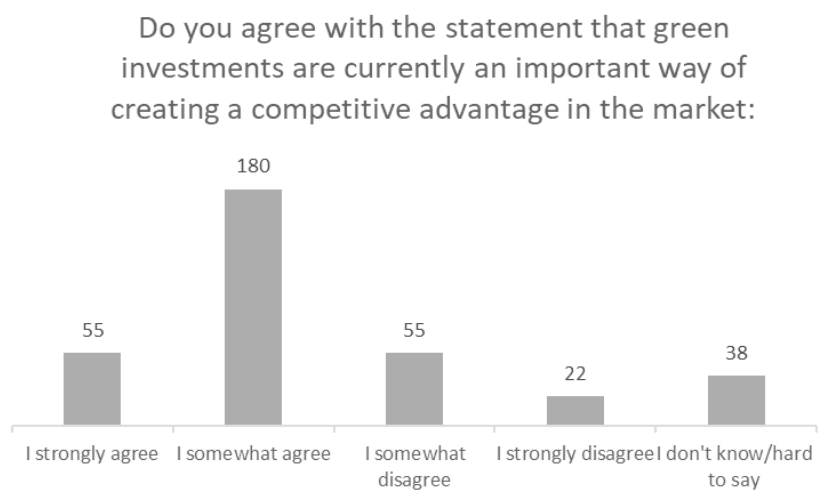


Figure 7. Sustainability Versus Profitability (Number of Firms, n = 350)

Source: the author's own elaboration.

Underlying of all goals is motivation. According to self-determination theory motivation can be autonomous or controlled. Autonomous motivation denotes an intrinsic desire to act, because it is personally valuable or inherently rewarding, whereas controlled motivation characterises goal-directed activities which are not self-determined. In this latter case, organisational behaviour is driven by a sense of pressure from internal and external stakeholders (Ernst et al., 2022). Different types of firms' motivation is an important issue to be recognised while developing behaviourally-informed public interventions to promote environmental

business conduct. Only 29 enterprises declared that they do not invest in green solutions at all. Among those 321 which do invest: 121 – do so because it is financially rewarding in the long run, 91 – because that is what their customers or enterprises they collaborate with expect of them, 37 – because of the legal requirements. 72 enterprises declared intrinsic motivation – “because this is the right thing to do” (Figure 8).

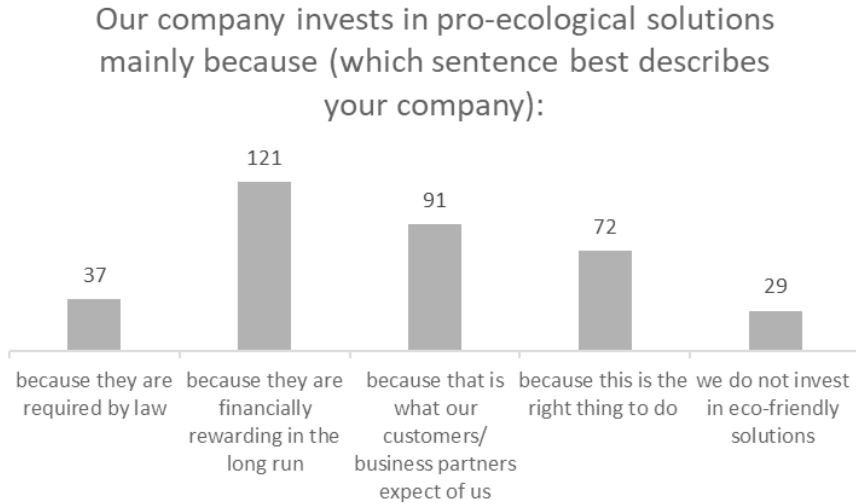


Figure 8. Motivations to Invest in Pro-ecological Solutions (Number of Firms, n = 350)

Source: the author’s own elaboration.

Belief Formation – Biased Estimates of Firm’s Environmental Impact

The second problem to be addressed in behaviour change interventions is the fact that people instead of forming their beliefs according to the rules of logic and probability often rely on mental shortcuts and intuitive judgments and as a result over- or underestimate outcomes and probabilities. Organisations are also constrained by time and resources and for that reason are prone to behavioural biases, however to a lesser degree than individuals because of the procedures that are put in place before decisions are taken (Wilson, Sonderegger, 2016; PwC, 2018). They are especially prone to overconfidence – their performance are often more highly rated than it is in practice. If it is true in reference to environmental business performance this unduly high self-assessment can give rise to the false notion about the need and firm’s potential to

enhance its environmental sustainability efforts. Only 14 out of 350 of enterprises participated in the survey stated that they are not interested in what peer companies are doing to reduce their environmental impact and 32 – do not follow what peer companies are doing in this area due to lack of time but they would like to have such knowledge. Among those who use social comparisons (304 enterprises) – 66 consider they are leaders in their efforts to reduce business environmental impact, 166 – are equally good, and 72 – that they are falling behind in this respect.

Which sentence best describes your company?

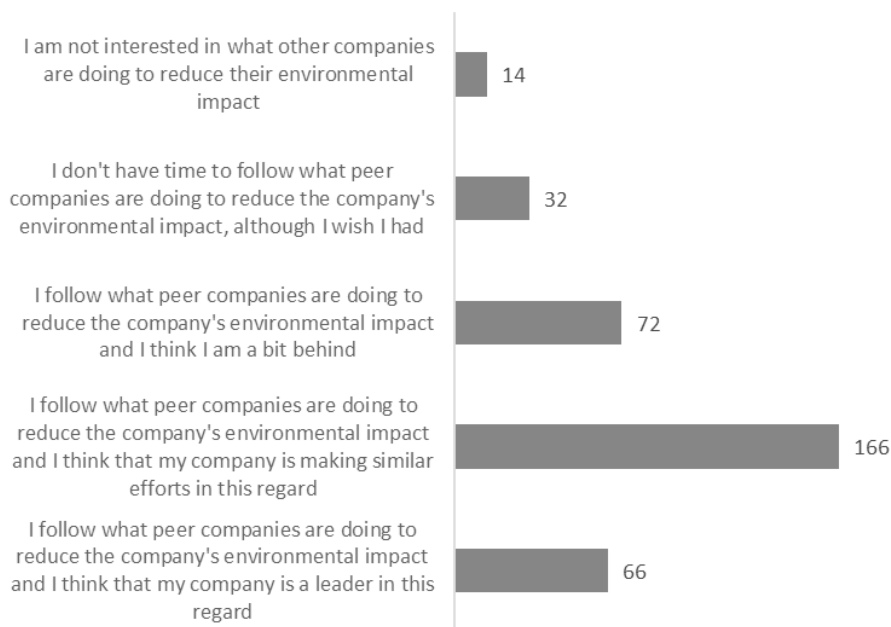


Figure 9. Using Social Comparisons and Self-assessment of Company's Impact on Environment (Number of Firms, n = 350)

Source: the author's own elaboration.

Choice – An Excessive and Confusing Quantity of Information

Businesses are continually taking in and processing massive amounts of information. How they use the information depends on who they receive it from. This is the so-called messenger effect. The weight decision makers give to information depends on whether a source can be deemed as credible. Information from “trusted sources” is more likely to be relied upon when making decisions and more likely to influence behaviour

(Fell, Giorgi, 2016; PwC, 2018). Therefore, firms were asked about their trusted sources as regards implementing pro-ecological solutions in the company. Moreover, in the light of existing literature (Schmidt et al., 2016) the impact of source credibility should be perceived as topic – and organisation – specific, thus, it has been statistically verified whether the selection of the source as trustworthy depends on firm’s characteristics such as firm’s size and the scope of the activity.

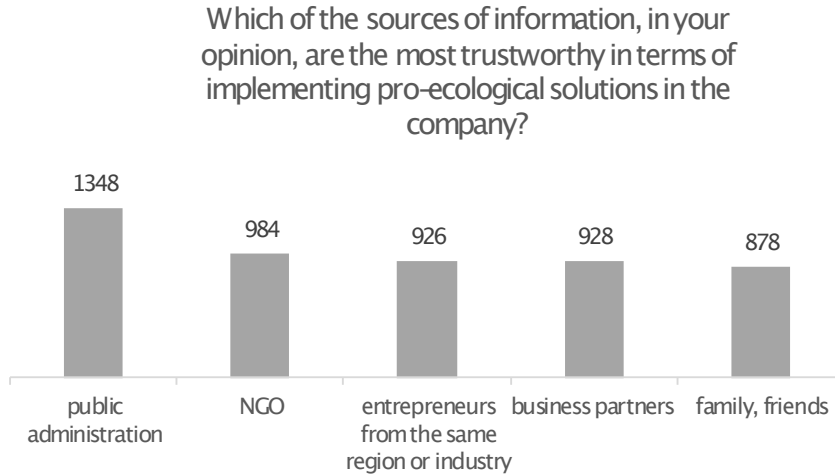


Figure 10. Trustworthy Sources of Environmental Information (Rating Scale 1–5, in points, n = 350).

Source: the author’s own elaboration.

Generally, representatives of public administration – state officials, representatives of local government units are considered as the most trustworthy source of information when implementing pro-ecological solutions in the company. Followed by the third sector activists – foundations, associations and non-governmental environmental organizations, next – entrepreneurs with whom they maintain relationships, and entrepreneurs from the same region or industry. Family members and friends are considered as the least trustworthy in this respect.

In order to test the hypotheses that: the size of the company (micro, small, medium) has a significant impact on the trust in a specific source of environmental information (H1), and that the scope of business activity of the company (local, regional, national, international) has a significant impact on the trust in a specific source of environmental information (H2), Spearman’s Rho tests were conducted, at the significance level of

0.05. The analysis in both of the aforementioned cases did not show any statistically significant correlations. Hence, it can be concluded that trust in a specific source of environmental information was not related to the firm's size, nor its scope of activity.

Determination – A Lack of a True Company Commitment to Sustainability

The fourth problem to be addressed in behaviour change interventions involves the intention-action gap. Achieving long term goals requires self-regulation and self-control. Effects of efforts made are not immediately visible and people lose motivation. For firms balancing “the people, profit and planet” can be a challenging task. Therefore, firms that decided to be more environmentally responsible may sacrifice their environmental goals for short-term profits. Therefore, the respondents were asked about the factors that strengthen the determination to sustainable development of the company.

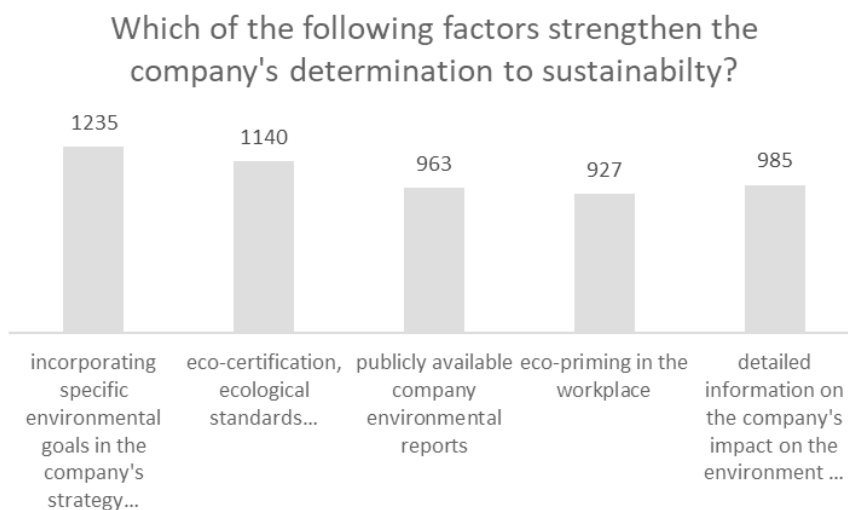


Figure 11. Factors That Motivate Enterprises to Sustainable Development (Rating Scale 1–5, in points, n = 350)

Source: the author's own elaboration.

Incorporating specific environmental goals in the company's strategy and internal monitoring of the degree of their achievement was considered as the most motivating factor for a company to sustainable development. Followed by eco-certification and adoption of ecological standards that are audited by authorized third parties. A minor role in this respect play:

detailed information on the company's impact on the environment that enable better analysis of the costs and benefits of the company's activities, publicly available company environmental reports and priming in the workplace, i.e. ecological graphics, inscriptions, etc. in the working environment.

Discussion and Conclusions

Considerable body of literature on the behavioural factors that affect organisational behaviour divide the factors into: cognitive, social and cultural (Wilson, Sonderegger, 2016; PwC, 2018). This paper takes a somewhat different approach by adapting the ABCD framework (OECD, 2019), which focuses on four key aspects of behavioural problems, namely: attention, belief formation, choice and determination in a corporate context. Although all four dimensions are closely interrelated and affect each other, their distinction allows for a more fine-grained approach in policy-making.

Our research shows that green investments are currently perceived by businesses as an important way of creating a competitive advantage in the market (67%). Among those who invest in pro-ecological solutions most do so because it is financially rewarding in the long run (38%), which implies instrumental logic behind corporate sustainability. Other reasons are: pressure from the customers and business partners (28%) and legal requirements (12%). More than every fifth respondent (22%) asserted autonomous motivation. This is an interesting finding given the fact that extant literature suggests that contrary to controlled motivation – autonomous motivation generally results in more beneficial organisational behaviour in terms of e.g. knowledge sharing (Minbaeva, Santangelo, 2018), or higher level of innovation (Debrulle et al., 2020), and is easier to sustain over time than motivation based purely on reward and punishment. As a policy implication, it appears reasonable to argue that political leadership should not so much be aligned to match the motivation of decision makers in targeted firms but encourage a move from controlled to autonomous motivation, by e.g. integrating extrinsic motivation into organisational self-image, appealing to underlying factors of intrinsic motivation, such as need of autonomy, competence and relatedness (see: PwC, 2018).

If we put our findings in a European context – the report delivered for the European Commission “Study on due diligence requirements through supply chain” (European Commission, 2020, p. 71) points to reputational pressure to comply with environmental protection as a primary motivation

of European businesses to undertake due diligence (Due diligence is a broad concept which refers to identification, prevention, mitigation and accounting for adverse corporate impacts on the environment or human rights). However, the study involved European enterprises of all sizes, with 65.90% of business respondents with over 1000 employees; thus, large ones. In the literature, it has been suggested that companies react differently to external stakeholder pressure depending on their size (Haleem et al., 2022; Böttcher, Müller, 2015; Brammer et al., 2012). It has been also suggested that smaller organisations value more economic factors than reputation. Reputation is more important for larger organisations as they are more highly profile and attract more media attention (PwC, 2018, p. 29). Our findings confirm this view.

Moreover, our research shows that publicly available environmental reports are considered as a factor which does not notably strengthen the SME's determination to sustainability. Hence, caution is needed about hopes for nudging companies to improve their environmental performance through disclosure requirements (see: Tang, Demeritt, 2018). In the light of the EU Corporate Sustainability Reporting Directive (CSRD) – non-financial reporting is compulsory only for large companies and listed SME's. This means that most of SME's in the EU disclose information on a voluntary basis. They do so, because sometimes it is expected from them by their providers, clients, or suppliers, or they need it to apply for financial resources or because they imitate large companies. And while the literature on sustainability reporting is extensive, this is not the case for the scholarship focused on SMEs. The study of Ortiz-Martínez and Marín-Hernández (2023) is a rare example. They examined the voluntarily issued sustainability reports available on the Global Reporting Initiative (GRI) database for 2016–2018 by European SMEs. Their lexical analysis showed that there is some kind of a template for developing sustainability reports used by all the companies under investigation. This should be taken into account in the ongoing discussion of the convenience of the adoption of voluntary reporting standards also for non-listed SMEs.

Another point to note is that when a practice has ambiguous evaluation criteria as is the case with corporate sustainability, social comparison plays an important role in belief formation. In our survey respondents were asked to make a self-assessment of their environmental efforts relative to their peers. Vast majority (76%) claim to be the leaders or at least to make similar efforts to reduce their business impact on environment. Only 24% admitted to fall behind in this respect. This finding is important as unduly high self-assessment can give rise to the false notion about the need and firm's potential to improve its environmental performance.

Finally, our study revealed that representatives of public administration – state officials, representatives of local government units are considered as the most trustworthy source of information when implementing pro-ecological solutions in the company. This is somewhat contrary to extant literature which posits that “distant’ regulatory pressure” fails to reduce the SME’s reluctance to voluntarily engage in corporate sustainability (Ernst et al., 2022). This finding can be arguable explained by the fact that Polish SMEs implement many green investments owing to public subsidies therefore it is important for them to do it in accordance with the subsidy requirements.

These results contribute to existing evidence of the starting dispositions of SMEs as targets of public policies promoting environmental goals in the EU. They should be taken into account when designing behavioural interventions, for instance, in the assessment how environmental concerns align with entrepreneurs’ goals and motivations to frame policy issue appropriately, what sources of information to use to be more likely to influence entrepreneurs’ behaviour, what are the best entry points for influence, peer pressure or other.

Limitations of the study include single-item measures. Attention, similar though as the three remaining behavioural issues, is a complex construct which is hardly to be captured adequately using only one or a few items. Therefore, in the next step multi-item measures should be considered to cover sufficient territory of the proposed target behavioural constructs. As regards attention, it could be attention breadth and depth, or attention sequence.

Moreover, to spur future research on promoting corporate environmental sustainability through behaviourally informed public interventions we conclude with a call for research that investigate the interaction of various behavioural biases relevant for corporate sustainability issues in different contexts. For instance, managerial overconfidence proves to be one of the most widely and controversially discussed personality traits of executives (Kunz, Sonnenholzner, 2013). On one hand, it is showed that overconfident CEOs tend to underestimate firm’s environmental risk leading to a low level of ex-ante environmental safeguards (Qin, 2019), on the other – that CEOs overconfidence mitigate e.g. the sunk-cost fallacy (Mo, Park, Lim, 2021), or risk-aversion and thereby promotes the green innovation (Galasso, Simcoe, 2011).

References

- Abrahamse, W. and Steg, L. (2013) “Social influence approaches to encourage resource conservation: A meta-analysis”, *Global Environmental Change*. Vol. 23(6), pp. 1773–1785. DOI: 10.1016/j.gloenvcha.2013.07.029.
- Assoratgoon, W. and Kantabutra, S. (2023) “Toward a sustainability organizational culture model”, *Journal of Cleaner Production*. Vol. 400, p. 136666. DOI: 10.1016/j.jclepro.2023.136666.
- Baumeister R.F., Tice D.M. and Vohs K.D. (2018) “The strength model of self-regulation: Conclusions from the second decade of willpower research”, *Perspectives on Psychological Science*. Vol. 13(2), pp. 141–145. DOI: 10.1177/1745691617716946.
- Be the Business (2019) *Raising UK competitiveness: Inside the mindsets of leaders of firms*. Available at: <https://www.bethebusiness.com/wp-content/uploads/2019/03/Raising-UK-Competitiveness.pdf> (Access 16.01.2024).
- Bocken, N., Short, S., Rana, P. and Evans, S. (2014) “A literature and practice review to develop sustainable business model archetypes”, *Journal of Cleaner Production*. Vol. 65, pp. 42–56. DOI: 10.1016/j.jclepro.2013.11.039.
- Böttcher, C. and Müller, M. (2015) “Drivers, Practices and Outcomes of Low-carbon Operations: Approaches of German Automotive Suppliers to Cutting Carbon Emissions”, *Business Strategy and the Environment*. Vol. 24, pp. 477–498. DOI: 10.1002/bse.1832.
- Brammer, S., Hoejmose, S. and Marchant, K. (2012) “Environmental management in SMEs in the UK: Practices, pressures and perceived benefits”, *Business Strategy and the Environment*. Vol. 21(7), pp. 423–434. DOI: 10.1002/bse.717.
- Burrato, A. and Lotti, L. (2023) “The impact of salient labels and choice overload on sustainability judgments: An online experiment investigating consumers’ knowledge and overconfidence”, *Food Quality and Preference*. Vol. 107, p. 104846. DOI: 10.1016/j.foodqual.2023.104846.
- Callegaro, M., Manfreda, K. and Vehovar, V. (2015) *Web Survey Methodology*, SAGE.
- Carmine, S. and De Marchi, V. (2023) “Reviewing Paradox Theory in Corporate Sustainability Toward a Systems Perspective”, *Journal of Business Ethics*. Vol. 184, pp. 139–158. DOI: 10.1007/s10551-022-05112-2.
- Davenport, T. and Beck, J. (2001) *The Attention Economy: Understanding the New Currency of Business*. Harvard Business Press.

- de Oliveira, U.R., Menezes, R.P. and Fernandes, V.A. (2023) “A systematic literature review on corporate sustainability: contributions, barriers, innovations and future possibilities”, *Environment, Development and Sustainability*. DOI: 10.1007/s10668-023-02933-7.
- Debrulle, J., Maes, J. and Gardiner, E. (2021) “New ventures: how team motivation affects financial outcomes”, *Journal of Business Strategy*. Vol. 42(6), pp. 367–373. DOI: 10.1108/JBS-06-2020-0119.
- Dyllick, T. and Hockerts, K. (2002) “Beyond the business case for corporate sustainability”, *Business Strategy and the Environment*. Vol. 11(2), pp. 130–141. DOI: 10.1002/bse.323.
- Epstein, M. and Roy, M. (2003) “Making the Business Case for Sustainability: Linking Social and Environmental Actions to Financial Performance”, *The Journal of Corporate Citizenship*. Vol. 9, pp. 79–96. DOI: 10.9774/GLEAF.4700.2003.sp.00009.
- Epstein, M., Buhovac, A. and Yuthas, K. (2015) “Managing Social, Environmental and Financial Performance Simultaneously”, *Long Range Planning*. Vol. 48, pp. 35–45. DOI: 10.1016/j.lrp.2012.11.001.
- Ernst, R.-A., Gerken, M., Hack, A. and Hülsbeck, M. (2022) “SMES’ reluctance to embrace corporate sustainability: The effect of stakeholder pressure on self-determination and the role of social proximity”, *Journal of Cleaner Production*. Vol. 335, p. 130273. DOI: 10.1016/j.jclepro.2021.130273.
- European Commission (2020) *Study on due diligence requirements through supply chain*. Available at: <https://op.europa.eu/en/publication-detail/-/publication/8ba0a8fd-4c83-11ea-b8b7-01aa75ed71a1/language-en> (Access 16.01.2024).
- European Union (2021) *Special Eurobarometer 517. Future of Europe*. Available at: <https://europa.eu/eurobarometer/surveys/detail/2554> (Access 16.01.2024).
- Falkier, J. (2008) “Limited Attention as a Scarce Resource in Information-Rich Economies”, *The Economic Journal*. Vol. 118(532), pp. 1596–1620. DOI: 10.1111/j.1468-0297.2008.02182.x.
- Fell, D. and Giorgi, S. (2016) *ORGANISER: A behavioural approach for influencing organisations*, Department of Energy & Climate Change, UK. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/508516/6_1906_DECC_Organiser_document_proof_150316_v8b.pdf (Access 16.01.2024).
- Fertilo, R. and Faraci, R. (2022) “Business model innovation for sustainability: a new framework”, *Innovation & Management Review*. Vol. 19(3), pp. 222–236. DOI: 10.1108/INMR-07-2021-0125.

- Galasso, A. and Simcoe, T. (2011) “CEO Overconfidence and Innovation”, *Management Science*. Vol. 57(8), pp. 1469–1484. DOI: 10.1287/mnsc.1110.1374.
- Ghesla, C., Grieder, M., Schmitz, J. and Stadelmann, M. (2020) “Pro-environmental incentives and loss aversion: A field experiment on electricity saving behavior”, *Energy Policy*. Vol. 137, p. 111131. DOI: 10.1016/j.enpol.2019.111131.
- Gifford, S. (1992) “Allocation of entrepreneurial attention”, *Journal of Economic Behavior & Organization*, Vol. 19(3), pp. 265–284. DOI: 10.1016/0167-2681(92)90038-D.
- Hahn, T., Figge, F., Pinkse, J. and Preuss, L. (2018) “A Paradox Perspective on Corporate Sustainability: Descriptive, Instrumental, and Normative Aspects”, *Journal of Business Ethics*. Vol. 148, pp. 235–248. DOI:10.1007/s10551-017-3587-2.
- Haleem, F., Farooq, S., Cheng, Y. and Waehren, B.V. (2022) “Sustainable Management Practices and Stakeholder Pressure: A Systematic Literature Review”, *Sustainability*. Vol. 14(4), p. 1967. DOI: 10.3390/su14041967.
- Hofman, B., de Vries, G. and van de Kaa, G. (2022) “Keeping Things as They Are: How Status Quo Biases and Traditions along with a Lack of Information Transparency in the Building Industry Slow Down the Adoption of Innovative Sustainable Technologies”, *Sustainability*. Vol. 14(13), p. 8188. DOI: 10.3390/su14138188.
- Hombach, K. and Sellhorn, T. (2019) “Shaping Corporate Actions Through Targeted Transparency Regulation: A Framework and Review of Extant Evidence”, *Schmalenbach Business Review*. Vol. 71, pp. 137–168. DOI: 10.1007/s41464-018-0065-z.
- Karuppiah, K., Sankaranarayanan, B. and Ali, S. (2023) “Systematic review of sustainable business models: Opportunities, challenges, and future research directions”, *Decision Analytics Journal*. Vol. 8, p. 100272. DOI: 10.1016/j.dajour.2023.100272.
- Kiran, G. (2021) “Examining the role of availability heuristic in climate crisis belief”, *Berkeley Scientific Journal*. Fall, pp. 33–35. Available at: https://escholarship.org/content/qt74m0k7cp/qt74m0k7cp_noSplash_d389874952f51c5b6876fe3e658f9b98.pdf?t=rcrlmm (Access 14.01.2024).
- Kunz, J. and Sonnenholzner, L. (2023) “Managerial overconfidence: promoter of or obstacle to organizational resilience?”, *Review of Managerial Science*. Vol. 17, pp. 67–128. DOI: 10.1007/s11846-022-00530-y.
- Liebe, U., Gewinner, J. and Diekmann, A. (2021) “Large and persistent effects of green energy defaults in the household and business sectors”,

- Nature Human Behaviour*. Vol. 5, pp. 576–585. DOI: 10.1038/s41562-021-01070-3.
- Ling, R. (2020) “Confirmation Bias in the Era of Mobile News Consumption: The Social and Psychological Dimensions”, *Digital Journalism*. Vol. 8(5), pp. 596–604, DOI: 10.1080/21670811.2020.1766987.
- Long, T. (2019) *Sustainable Business Strategy* in Leal Filho, W., Azul, A.M., Brandli, L., Özuyar, P.G. and Wall, T. (eds.) *Encyclopedia of the UN Sustainable Development Goals: Decent Work and Economic Growth*. UK: Springer, pp. 1–11. DOI: 10.1007/978-3-319-71058-7_49-1.
- Lozano, R., Carpenter, A. and Huisingh, D. (2015) “A review of theories of the firm and their contributions to corporate sustainability”, *Journal of Cleaner Production*. Vol. 106(1), pp. 430–442. DOI: 10.1016/j.jclepro.2014.05.007.
- Luo, B., Tang, Y., Chen, E., Li, S. and Luo, D. (2020) “Corporate Sustainability Paradox Management: A Systematic Review and Future Agenda”, *Frontiers in Psychology*. Vol. 11, p. 579272. DOI: 10.3389/fpsyg.2020.579272.
- Minbaeva, D. and Santangelo, G. (2018) “Boundary spanners and intra-MNC knowledge sharing: The roles of controlled motivation and immediate organizational context”, *Global Strategy Journal*. Vol. 8(2), pp. 220–241. DOI: 10.1002/gsj.1171.
- Mo, K., Park, S. and Lim, Y. (2021) “The Effect of CEO Overconfidence on Firm’s Sustainable Management”, *International Journal of Entrepreneurship*. Vol. 25(3). Available at: <https://www.abacademies.org/articles/The-Effect-of-CEO-Overconfidence-on-Firms-Sustainable-Management.pdf> (Access 14.01.2024).
- Nijhof, A., and Jeurissen, R. (2010) “The glass ceiling of corporate social responsibility: Consequences of a business case approach towards CSR”, *International Journal of Sociology and Social Policy*. Vol. 30(11/12), pp. 618–631. DOI: 10.1108/01443331011085222.
- Ocasio, W. (1997) “Towards an attention-based view of the firm”, *Strategic Management Journal*. Vol. 18 (S1), pp. 187–206. DOI: 10.1002/(SICI)1097-0266(199707)18:1+ <187::AID-SMJ936>3.0.CO;2-K.
- Ocasio, W. (2011) “Attention to attention”, *Organization Science*. Vol. 22(5), pp. 1286–1296. DOI: 10.1287/orsc.1100.0602.
- OECD (2019) *Tools and Ethics for Applied Behavioural Insights: The BASIC Toolkit*. Paris: OECD Publishing.
- Ortiz-Martínez, E. and Marín-Hernández, S. (2023) “Sustainability Information in European Small- and Medium-Sized Enterprises”, *Journal of the Knowledge Economy. Early View*. DOI: 10.1007/s13132-023-01386-7.

- PwC(2018)*Applying Behavioural Insights in Policies Aimed at Businesses, Final Report for the Ministry of Economic Affairs and Climate Policy, Government of the Netherlands*. Available at: <https://www.binnl.nl/kennisbank/publicaties/publicaties+oude+opmaak/HandlerDownloadFiles.ashx?idnv=2057442> (Access 14.01.2024).
- Qin, B. (2019) “CEO Overconfidence and Corporate Environmental Performances”. Available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3440407 (Access 14.01.2024). DOI: 10.2139/ssrn.3440407.
- Rauscher, S. and Zielke, A. (2019) *Nudging in Management Accounting. Assessment of the Relevance of Nudging in the Corporate Context*. Wiesbaden: Springer Gabler. DOI: 10.1007/978-3-658-28017-8.
- Rode, J., Heinz, N., Cornelissen, G. and Le Menestrel, M. (2021) “How to encourage business professionals to adopt sustainable practices? Experimental evidence that the *business case* discourse can backfire”, *Journal of Cleaner Production*. Vol. 283, p. 124618. DOI: 10.1016/j.jclepro.2020.124618.
- Roetzel, P. (2019) “Information overload in the information age: a review of the literature from business administration, business psychology, and related disciplines with a bibliometric approach and framework development”, *Business Research*. Vol. 12, pp. 479–522. DOI: 10.1007/s40685-018-0069-z.
- Schaltegger, S. and Wagner, M. (eds.) (2006) *Managing and Measuring the Business Case for Sustainability*. London: Routledge.
- Schaltegger, S., Lüdeke-Freund, F. and Hansen, E. (2012) “Business cases for sustainability: the role of business model innovation for corporate sustainability”, *International Journal of Innovation and Sustainable Development*. Vol. 6(2), pp. 95–119. DOI: 10.1504/IJISD.2012.046944.
- Schmidt, A., Ranney, L., Pepper, J. and Goldstein, A. (2016) “Source Credibility in Tobacco Control Messaging”, *Tobacco regulatory science*. Vol. 2(1), pp. 31–37. DOI: 10.18001/TRS.2.1.3.
- Schwartz, B. (2004) *The paradox of choice: Why more is less*. New York: Ecco.
- SFOE (2021) *Behavioural Insights in Energy Policy. Final report, Swiss Federal Office of Energy*. Available at: <https://www.bfe.admin.ch/bfe/de/home/news-und-medien/publikationen.html> (Access 14.01.2024).
- Simon, H.A. (1971) *Designing organizations for an information-rich world* in Greenberger, M. (ed.) *Computers, Communications, and the Public Interest*. Baltimore: John Hopkins Press, pp. 38–52.
- Smith, W. and Lewis, W. (2011) “Toward a theory of paradox: A dynamic equilibrium model of organizing”, *Academy of Management Review*. Vol. 36(2), pp. 381–403. DOI: 10.5465/amr.2009.0223.

- Spektor, M., Bhatia, S. and Gluth, S. (2021) “The elusiveness of context effects in decision making”, *Trends in Cognitive Sciences*. Vol. 25(10), pp. 834–854. DOI: 10.1016/j.tics.2021.07.011.
- Stieler, M. and Henike, T. (2022) “Innovation nudging – A novel approach to foster innovation engagement in an incumbent company”, *Creativity and Innovation Management*. Vol. 31(1), pp. 35–48. DOI: 10.1111/caim.12475.
- Tang, S. and Demeritt, D. (2018) “Climate Change and Mandatory Carbon Reporting: Impacts on Business Process and Performance”, *Business Strategy and the Environment*. Vol. 27(4), pp. 437–455. DOI: 10.1002/bse.1985.
- Tversky, A. and Kahneman, D. (1973) “Availability: A heuristic for judging frequency and probability”, *Cognitive Psychology*. Vol. 5(2), pp. 207–232. DOI: 10.1016/0010-0285(73)90033-9.
- Users TCP and IEA (2020) *Behavioural insights for demand-side energy policy and programmes: An environment scan*. Available at: <https://userstcp.org/wp-content/uploads/2020/11/Users-TCP-and-IEA-2020-BI-report.pdf> (Access 14.01.2024).
- Wilson, S. and Sonderegger, S. (2016) *Understanding the Behavioural Drivers of Organisational Decision-Making: Rapid Evidence Assessment*. Cabinet Office. Available at: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/508370/Behavioural_Drivers_of_Organisational_Decision_Making-REALinksFINAL.pdf (Access 14.01.2024).