2024

An examination of the facilitators and barriers for implementing environmental sustainability plans into corporate strategy

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AN EXAMINATION OF THE FACILITATORS AND BARRIERS FOR IMPLEMENTING ENVIRONMENTAL SUSTAINABILITY PLANS INTO CORPORATE STRATEGY

A Research Project

Presented to the Faculty of

The Graziadio Business School

Pepperdine University

In Partial Fulfillment

of the Requirements for the Degree

Master of Science

in

Organization Development

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by

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August 2024

This research project, completed by

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under the guidance of the Faculty Committee and approved by its members, has been submitted to and accepted by the faculty of The Graziadio Business School in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE
IN ORGANIZATION DEVELOPMENT

Date: August 2024

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Abstract

This study examined how organizations integrate environmental sustainability and corporate strategy, describing that intersection as strategic sustainability. The goal of the study was to use qualitative interviews of public American corporations to understand the facilitators and barriers to strategic sustainability. The study identified three facilitators (i.e., emerging regulations, customer demand, and leadership) and two barriers (i.e., data quality and education). These results suggest corporations leverage upcoming regulations, leaders who advocate for sustainability, and customer demand to embed sustainability while improving their education and data quality. Additionally, the research suggests more quantitative research and validation of the results.

Keywords: sustainability, strategy, environment, business

Acknowledgments

I would like to thank my family and friends for being fantastic influences in my lives. Particularly Jane Huston for being a wonderful spouse and my parents and brother for being there for me through this whole project and helping me out. I would like to thank my thesis advisor, Chris Worley, for offering lots of great tips and guidance including showing me the Embedded Sustainability framework I use for part of this study. I would like to thank other Pepperdine faculty, particularly Darren Good, for listening to my ideas on my thesis across the years I was in the program. I would also like to thank Terri Egan for being a great advisor when I was in the program before I had to restart due to COVID-19. I would also like to thank the IRB committee for helping keep research safe and the scientific community for continuing to try and create useful knowledge to improve the world.

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Chapter 1: Introduction

New conversations about how corporations operate have emerged as businesses are considered key contributors to climate change (International Panel on Climate Change, 2023). In response, many corporations now have extensive environmental sustainability goals which can be implemented in a variety of ways, including ethical mandates, business value creation tactics, regulatory compliance, and more. Yet, whether corporations are doing enough and how quickly they attempt to adapt is a large debate in science and society (Engert et al., 2015). Some research shows there may be a strategic advantage for companies that deeply integrate environmental sustainability into their corporate strategy (Lazlo & Zhexembayeva, 2011). For example, Patagonia is heralded for continuing to innovate in environmental practices and has seen continued economic success (Eich, 2021). What approach corporations take will affect their performance and the rate at which climate change can be mitigated. Examining how corporations attempt to embed sustainability into strategy can offer practice and theory implications for corporate strategy and environmental sustainability.

Purpose of the Study

This study focused on understanding the facilitators and barriers corporations face trying to implement environmental sustainability plans into corporate strategy. Three research questions were examined:

- To what extent is environmental sustainability embedded into the company's strategy?
- What facilitators support the integration of environmental sustainability plans into corporate strategy?
- What barriers obstruct the integration of environmental sustainability plans into corporate strategy?

Significance of the Study

Identifying specific barriers and facilitators to incorporate sustainable value creation into strategic planning will help leaders to mitigate the harmful and accelerating effects of climate change. The major contributions possible from this study include:

- Key strategies that are worth further exploration for businesses
- Language that leaders use that prevents them from exploring strategic sustainability
- Areas where future research can accelerate strategic sustainability

Definitions

Business Strategy: A company's business strategy is a comprehensive plan to assess where it will operate, what approaches it will use, how it will differentiate its products and services from others, the broad sequence of action to be taken, and its economic logic (Hambrick & Fridericksson, 2005). This is similar to other business strategy definitions that consider it as a representation of a position in the environment and guide to decisions in the company.

Corporate Sustainability: Corporate sustainability, as defined by Dyllick and Hockerts (2002), means "meeting the needs of a firm's direct and indirect stakeholders [...], without compromising its ability to meet the needs of future stakeholders as well" (p. 13). It entails considering a company's needs, while protecting, sustaining, and enhancing the human and natural resources that will be needed in the future (Labuschagne et al., 2005). This definition derives from the original definition of sustainability put forth by the 1987 United Nations Brundtland Commission.

Strategic Sustainability: Lazlo and Zhexembayeva (2011) define strategic sustainability as any sustainability plan that is deeply embedded in the company's corporate strategy. They argue sustainability is simply a longer-term view of value creation and will eventually be fully incorporated into all companies because it considers a more complete picture of success.

Scope Emissions: Scope 1, Scope 2, and Scope 3 emissions are terms used to classify the extent to which greenhouse gasses are leaked into the atmosphere based on their sources. These classifications are part of the Greenhouse Gas Protocol, a widely recognized system for carbon accounting (Greenhouse Gas Protocol, 2022).

Scope 1 refers to all emissions from sources that are owned or controlled by the organization. This includes emissions from activities such as combustion of fossil fuels in company-owned vehicles, boilers, or other equipment. Scope 2 refers to all emissions from the generation of purchased electricity, heating, and cooling consumed by the organization. Scope 2 emissions come from activities that are not directly owned or controlled by the organization but are related to its energy consumption. For example, electricity purchased from an energy company for an organization that makes furniture would be considered a Scope 2 emission. Scope 3 refers to all indirect emissions from activities outside the organization's own operations but are related to the organization's activities. Scope 3 emissions include emissions from the value chain, such as those from the supply chain, transportation of goods, employee commuting, business travel, and waste disposal.

Study Outline

Chapter 1 provided a high-level overview of the major reasons why environmental sustainability is an emerging topic in corporations and several key definitions that will be used throughout this research. Chapter 2 provides a literature review of sustainability frameworks and describes research on barriers and facilitators in strategic sustainability. Chapter 3 documents the methods used in this study to examine the research questions. Chapter 4 describes the results of the research. Chapter 5 is a discussion of the results of the research and offers recommendations for OD practitioners and future research.

Chapter 2: Literature Review

The purpose of this study was to understand the extent to which sustainability was embedded in corporate strategies and identify the facilitators and barriers for implementing environmental sustainability plans into corporate strategy. This chapter outlines research focused on sustainability, strategic sustainability, and already identified facilitators or barriers to sustainability in corporations.

Frameworks for Sustainability

A sustainability framework represents an approach to thoroughly analyze some aspect of preserving the environment. Many frameworks focus on the mindset of the company (Dyllick & Hockers, 2002; Van der Byl & Slawinski, 2015) or attempt to shift a mindset through a process (Elkington, 1994; Shape et al., 2016). Mindset frameworks are powerful tools to help companies think about how they are conceptualizing sustainability or making decisions about it. Other frameworks focus on directly integrating sustainability into strategy (Glavas & Fitzgerald, 2020; Lazlo & Zhexembayeva, 2011). These frameworks offer comprehensive assessments of generic sustainability strategies any company can consider, and a powerful intervention through a large group process.

Mindset Frameworks

Mindset frameworks focus on the people in a company. For example, Van der Byl and Slawinski (2015) found a variety of mindsets that can be used to look at sustainability from win-win to trade-off to integrative or paradoxical. A win-win mindset is one where someone seeks a solution that increases profits and improves environmental sustainability at the same time. A trade-off mindset, for example, is where there is a tension between profits and sustainability. In these cases, profits might be sacrificed to

achieve sustainability objectives or vice versa. A paradoxical mindset is one where there are no simple solutions to tensions; the problems may be better addressed as interrelated contradictions. Paradoxes are often resolved through integrative solutions.

Hanh et al. (2018) outlined three aspects of paradoxical mindsets: descriptive, instrumental, and normative. The descriptive aspect describes different ways firms respond to tensions. For example, if a company wants to expand its manufacturing to increase production it may harm a local river with increased pollution. The descriptive aspect of the paradox would describe the ways in which the leaders grappled with the paradox, potentially including how they kept both the environmental concern and business concern in mind. The instrumental approach looks for connections between sustainability and outcomes. In the example above, this could mean aspects of the paradox that go beyond the organization, perhaps involving other animals and people who use the river that may be polluted. The normative aspect prescribes how tensions between issues should be decided by ethical principles and corporate actions. Continuing the example, the normative aspect could include discussion about moral frameworks like whether it is ethical to let fish die in the river as part of the factory expansion.

Dyllick and Hockers's (2002) framework highlights how a business can be introverted, extroverted, conservative, and visionary in its approach to sustainability. The introverted approach looks at whether the action for sustainable development is necessary and useful for the company and focuses on strategies to reduce risk. The extroverted approach focuses on external relationships and communications. It suggests that sustainability is best approached in partnership with others. Sustainability initiatives are viewed to improve brand and public perception. The conservative approach focuses on efficiency by avoiding waste and emissions. A visionary approach looks at where

competitive advantages are derived from differentiation and innovation. The visionary approach is closest to the strategic sustainability lens used in this study to better understand companies seeking to embed sustainability deep inside. These mindset frameworks attempt to broaden the tools we have to think about decision making in corporate sustainability.

Elkington's (1994) triple bottom line framework argued there should be an equal level of importance on profits, people, and the planet offering a more complex lens than was commonly used at that time. By broadening firm performance analysis to include non-financial data, Elkington (1994) gave a simple way to popularize discussions about sustainability. One challenge for this framework is that while it asks the business to review multiple dimensions, it does not offer deep ways to integrate them or facilitate moving away from a trade-off mindset. Sharpe et al. (2016) utilized three horizons (i.e., short, medium, and long term) that shift from an established way of thinking to an emerging paradigm. These three horizons help organizations work with complex and intractable problems and uncertain futures. The practice often involves a facilitated conversation with diverse stakeholders to assist sense-making and strategic action.

Strategic Sustainability Frameworks

This second category of sustainability frameworks more closely works on integrating sustainability into core strategy work. Lazlo and Zhexembayeva (2011) highlight seven ways embedding sustainability into strategy can create value including influencing industry standards, protecting and enhancing a brand, entering new markets, differentiating products, reducing waste, mitigating risk, or reducing costs. The framework can be used to analyze companies' current approaches and suggest areas for them to consider as they mature and evolve. Wu et al. (2012) created a framework for

corporate strategic change toward sustainability that focuses on dynamic capabilities. They include aspects including scanning, identification, and reconfiguration capabilities. Scanning can include information-processing systems like receiving novel ideas form customers. Identification can include analyzing and processing an opportunity to find a win-win between the company's environmental and economic goals. Reconfiguration can include changing organizational routines such as how it processes waste. They argue there is a sequential logic to these three dynamic capabilities from scanning to reconfiguration. Lazlo and Zhexembayeva (2011) focus on generic actions a company can take without going too deeply into a company's capabilities. Wu et al. (2012) focus on common capabilities a company can build and highlight a sequence that can help companies become more dynamic.

Barriers and Facilitators in Strategic Sustainability

Previous research has examined various barriers and facilitators associated with implementing strategic sustainability. Studies have examined examples of mindsets in companies and how they frame sustainability, how leadership can shape mindsets in companies through decision-making frameworks, how culture prevents shifting corporate mindsets, and how economic conditions influence mindsets in corporations. Each of these areas is part of an integrated strategy a corporation needs to adopt to create change.

Framing

How sustainability efforts are framed has been researched as a barrier. According to Carroll (2015), some businesses find the term corporate social responsibility off-putting whereas sustainability does not elicit objections. For example, Ashforth and Reing (2014) conducted an ethnographic study of Natura, a natural food coop, that struggled internally with two subgroups, each framing sustainability differently. A moral

group adopted negative attitudes toward the pragmatist camp even though both groups wanted some blend of sustainability and profitability. This trade-off mindset led to challenges in sustainability efforts and group conflict.

Leadership

Epstein et al. (2010) highlighted top management's role in avoiding framing issues. They studied four large companies that were considered successful in sustainability and found that senior managers resolved conflicts between social, environmental, and financial performance higher up in the organization. Front-line managers did not see the tradeoffs as difficult when leaders incorporated sustainability issues into their corporate strategy, including specific sustainability strategies and measurement systems. This deeper integration of sustainability into the company's core operations removed the barrier of the initiative being deprioritized because it was explicitly ranked against other initiatives.

Another aspect of leadership discussed by Sisodia and Cooperrider (2022) is the role of fear in leading sustainable change. They documented the case of The Florida Ice and Farm Company. Between 2004 and 2019, the company transformed into a sustainability champion as classified by the World Economic Forum. They focused on the role the CEO, Ramon Mendiola, played in this change. The authors noted that at the beginning of the change, Ramon's consciousness was rooted in fear. As he realized the impact the company could have, his fear gave way to excitement and joy. The outlook of a leader, particularly the CEO, can be a barrier initially and later a facilitator that can accelerate the shift to strategic sustainability. This is consistent with Liao (2022) whose literature review of sustainable leadership highlighted the facilitative role of

transformational leadership style in promoting employee engagement and job satisfaction that can benefit strategic sustainability initiatives.

Culture

An organization's culture has also been studied as a barrier to implementing strategic sustainability. Schein (1997) operationalizes culture in three levels: (a) artifacts - visible organizational structures and processes; (b) espoused values - strategies, goals, and norms that stem from stated values; and (c) underlying assumptions - unconscious or deep assumptions held in the organization that drive culture.

Some researchers have hypothesized that certain cultures or culture change may be a prerequisite for ambitious sustainability activities. In a study of an international mining company, Baumgartner (2009) used Schein's (1997) culture definitions and interviewed multiple layers of the organization. He discovered two central tenets in its culture: (1) the company had to make money for its shareholders and (2) measurement and control were central aspects of doing business. He argued these basic assumptions indicated that the full integration of sustainability principles within the company would be difficult. Epstein et al. (2010) found that soft and informal systems were associated with successful strategic sustainability execution. Both studies found that culture was a prerequisite for a deep strategic sustainability plan. Rather than a constraint, culture can help to frame a change initiative in positive ways (Worley & Beaujolin, 2023).

Defensive reactions are another culturally related barrier. Iivonen (2018) claimed Coca-Cola engaged in a defensive reaction that was labeled repression by ignoring the tension between obesity and its own economic goals and not radically shifting its behaviors. This barrier led to a continued state where an organization is content with its progress even as the problem gets worse. In the case study of Natura, Ashforth and

Reginen (2014) identified how an idealist group would judge and get angry with a pragmatic group. The pragmatic group still believed in the ideals of the idealists but felt defensive of the need for profits.

Economic Conditions & Regulations

Another barrier to implementation can be economic conditions themselves. Ashforth and Reginen (2014) noticed an ebb and flow between the idealists and the pragmatists in a co-op in terms of who won decisions. When the co-op did well, the idealists had more success in decisions. When the co-op struggled financially, the pragmatists had more success in decisions. This is a good dimension to be aware of in studies of strategic sustainability as it could underlie other issues, unknowingly influencing those issues if not properly assessed.

Regulations can help or hinder sustainability. The environmental economics literature has two different views: the pollution haven hypothesis and the Porter hypothesis. The pollution haven hypothesis predicts more stringent regulations will increase compliance costs. For example, a company may need to spend extra money to hire a compliance officer or gather new data that does not help operations. The Porter hypothesis argues regulations can have a positive effect as they can promote cost-cutting or foster innovation (Dechezlepretre & Sato, 2017).

Conclusion

Much of the sustainability research to date has focused on mindsets in corporations. There has been less research on strategic sustainability. According to Cooperrider and McQuaid (2012), most managers have not yet figured out how to turn sustainability challenges into strategic opportunities. Given the importance of strategy to corporate success, this study interviewed managers and leaders to delve deeper into barriers of framing, leadership, culture, and economic conditions to discover effective ways to facilitate strategic sustainability.

Chapter 3: Methods

This study identified the extent to which sustainability was embedded in a corporation's strategy as well as the facilitators and barriers for implementing environmental sustainability plans. This chapter describes the methods used in the present study: the research design, study population, recruitment, ethical considerations, data collection, data analysis procedures, and the role of the researcher.

Research Design

This research study used a mixed-methods, multiple case study design (Yin, 2017). Data was collected using one-to-one interviews along with a questionnaire to discover themes in strategic sustainability. This approach describes the lived experience of individuals about a phenomenon as described by the participants (Creswell & Creswell, 2018, p. 13). Qualitative interviews can identify new themes in a niche, in this case, strategic sustainability. The strengths of this approach are that it can surface nuance and complexity for further research. The weakness of this approach is that it is not easy to generalize due to a smaller sample size. The quantitative questionnaire was used to assess a company's strategic aims against prior strategic sustainability research. The advantage of this method is that it is easy to compare answers across each question. The disadvantages are less nuance in each answer.

Study Population and Sample

The population for this study was defined as all publicly traded corporations with operations in the U.S. The population was narrowed to those firms having created goals for either the Science Based Targets initiative (SBTi) or Net Zero Tracker (NZT) program. The SBTi database shows organizations how much and how quickly they need to reduce their greenhouse gas emissions to prevent the worst effects of climate change.

They gather and validate information about the company's environmental goals and tag whether companies are focused on scope 1, 2, 3, or all three scopes. They report progress on whether the company is on track or behind on its own goal and whether a company has set a goal with SBTi. The SBTi is a partnership between the Carbon Disclosure Project, the United Nations Global Compact, World Resources Institute, and the World Wide Fund for Nature. The NZT database increases transparency and accountability of net zero targets pledged by nations, states and regions, cities, and companies. Data is collected on targets and on factors that indicate the integrity of those targets. The Tracker reports companies that have achieved a net zero status and indicate if the status has been externally validated. NZT is a collaboration between Oxford Net Zero, The Energy & Climate Intelligence Unit, The Data-Driven EnviroLab, and NewClimate Institute.

Using these two databases could naturally bias the sample toward companies with clear intentions to adopt sustainability strategies and practices. However, organizations without expressed goals do not necessarily represent unsustainable intentions. In reality, global standards for measuring corporate climate goals are still in development. Moreover, it was important for this study to distinguish between facilitators and constraints to effective and ineffective strategic sustainability. Studying these facilitators and constraints without some understanding of their association with effectiveness could result in an irrelevant list. Therefore, while no one consistent global standard exists, this study used two popular measurement frameworks with public databases to highlight companies with an intention to have strategic sustainability: SBTi and NZT.

Representing each firm, the participants in this study included sustainability leaders, operations leaders, strategy leaders, members of a corporate social responsibility unit, and members of the corporate C-Suite. A purposive sample was drawn utilizing

inclusion and exclusion criteria. To be included in the study the individual must work for a publicly traded company, have more than five years of experience in the environmental sustainability industry, have a sustainability-related, senior management role, and be able to commit the necessary time to participate. These criteria were defined to recruit participants who have direct insight and experience into the challenges and generative trends associated with creating and implementing environmental sustainability strategies.

The overall study lasted nine months. Interviewee recruitment, confirming and scheduling participants for their interviews, took six months.

Recruitment

I sent a study invitation to each study candidate (Appendix A), a target population of hundreds of potential participants to obtain voluntary participation. The organizations were found from the SBTi database, filtering to companies with US operations. The participants were found by using LinkedIn or social networks to identify people at the organizations in the database. As participants responded, I scheduled the interviews over video conference. In all, 948 qualified companies were invited to the study, 114 responded, and 11 completed interviews. This study has no evidence that the 11 who completed interviews were substantially different from the 114 who initially responded.

I requested that the research participants join the interview with their video function enabled to establish rapport and collect non-verbal data (e.g., body language, visible tension). Participants signed a consent form electronically before the interview. During the interview, I asked a series of semi-structured questions and follow-up questions, which were scheduled for a 60-minute period. The questionnaire was filled out partially based on the organization's published sustainability reports and partially taken during the qualitative interview.

Ethical Considerations

Each interview was recorded to allow for optimal data review, and I maintained secure field notes from all interviews. After the interview, the notes and recordings were identified by an alias, and the master document that identified the participants by their alias was stored in a separate, password-protected file. This was to protect individual and company identities and prevent any harm to the interviewees.

Data Collection

Each interviewee was asked to participate in a one-hour interview, totaling 10 and a half hours of interview data. One interviewee only completed 30 minutes of an interview. Additional follow-up with the interviewees took place after the initial interviews. The study used published reports and articles by the company about their sustainability goals to assess some of the questions about embedding sustainability. The interview began with a set of warm-up questions to engage the participant, questions about the history of sustainability in the company and definitions for context, and then went into the three primary research questions. For the first research question, the interviewee was asked for their opinion about the extent to which sustainability was integrated in their organization. Additionally, they were asked to provide examples of each of six key strategies outlined by Lazlo and Zhexembayeva (2011), including mitigating risk, reducing waste, differentiating products, entering new markets, protecting brand, or influencing industry standards. The final section of the interview covered research questions two and three, focused on barriers and facilitators of strategic sustainability, respectively. To learn about facilitators and barriers for each company, participants were asked what helped them develop stronger sustainability strategies, and if culture helped. The interview questions are presented in Table 1.

Table 1

Study Interview Questions

Warm-up questions	1. Tell me a little bit about your background and work history. 2. What do you like about your work?
Company Sustainability Initiatives Overview and Mindset Questions	1. How does the organization currently define environmental sustainability? 2. How did the idea or concept of environmental sustainability emerge in the company? 3. To what extent is environmental sustainability embedded into your company's strategy? Can you give me some examples that demonstrate or show that embeddedness?
Embedded Sustainability Strategies Exploration (Yes or No questions with a follow up question asking for an example if time permitted)	Is your environmental sustainability strategy intended to: 1. Mitigate business risk? 2. Reduce energy, waste, and materials? 3. Differentiate your products through environmental sustainability strategies? 4. Enter new markets through environmental sustainability strategies? 5. Protect and enhance your brand? 6. Influence industry standards?
Barriers and Facilitators Exploration	1. What are the barriers to developing a stronger environmental sustainability strategy in your company? 2. What are the facilitators to developing a stronger environmental sustainability strategy in your company? 3. To what extent does the culture of your company support or hinder strategies to achieve environmental sustainability? 4. Is there resistance to ideas to improve environmental sustainability at your company? If so, why?

Data Analysis Procedures

Interview results were analyzed to identify themes across participants. The following steps, described in Creswell and Creswell (2018), were used to guide the study:

1. Organize and prepare the data for analysis. Transcribe interviews, scan materials, and type up field notes.
2. Read or look at all the data. Look for general ideas and begin a sketchbook of ideas.
3. Code all of the data. Taking text data, segmenting sentences or images into categories, and labeling those categories with a term, often based on the actual language of the interview.
4. Generate a description and themes. Create a description of the setting and categories from the data.
5. Represent the description and themes. Describe how the description and themes will be represented in the qualitative narrative (pp. 193-194).

Additionally, once the themes were generated, a reliability check was performed by taking the quotes from the interviews, randomizing them, and asking three colleagues to organize them into categories. The categories developed by the colleagues were compared to my generated categories to create a reliability index. The index suggested that all quotes were attributed to the theme picked by me most of the time. The emerging regulations theme performed best and the education and leadership themes performed least well. A method like this is imperfect, but does suggest these themes have some reliability. See Table 2 below for reliability results.

Table 2

Reliability Ratio per Theme

Theme	Percentage
Emerging regulations	100%
Customer demand	89%
Leadership	67%
Data quality	73%
Education	67%

The study also used a metric about SBTi goal progress. It was measured by looking to see whether the organization had made positive progress towards their own committed goals by 2022 (the latest progress data from SBTi) or have gone further away from their goal (e.g., if the organization is 25% closer to their emissions reduction target, that is positive, if they are 25% further away, that is negative). Then I looked at correlations between this metric, data about themes, and generic sustainability strategies. I used a Pearson's correlation metric to look at statistical significance.

The Role of the Researcher

In qualitative research, the role of the researcher as the primary data collection instrument necessitates some description of the researcher's values, assumptions, and biases in the study. My perceptions of sustainability are shaped by a lifetime of outdoor activities and a desire to live within the boundaries of our planet's environment. For decades I have spent weekends outdoors camping, rock climbing, and various other activities. These values led me to a bias that the climate is important to protect, values which could influence my interpretation of these interviews. Additionally, I have spent multiple years working for large corporations. This has led me to a bias that corporate

leaders often do what is best for the business so I have a bias that a win-win mindset could work easily in a corporation. Every effort will be made to ensure objectivity, and stating my conscious biases here is part of that effort.

Chapter 4: Results

The purpose of this research was to identify the extent to which sustainability was embedded in strategy and the facilitators and barriers for embedding environmental sustainability plans into corporate strategy. This chapter reports out the results of interviewing leaders at 11 public corporations operating in the U.S. (10 of 11 were also founded in the U.S.).

Descriptive Data

Tables 3 and 4 describe background information on the sample organizations included in this study. The companies interviewed were spread across multiple industries, including technology, food & consumer products, media, pharmaceuticals, consulting services and energy. Individuals interviewed were most frequently Chief Sustainability Officers or Directors of Sustainability. Other titles interviewed were VP of Strategy, Director, General Counsel, Policy Manager Sustainability, and Sustainability Analyst.

Table 3

Sample Size by Industry

Industry	Sample size
Technology	2
Food & Consumer Products	2
Media	2
Pharmaceuticals/Biotechnology	3
Consulting services	1
Energy	1

Table 4

Sample Size by Title

Title	Sample Size
VP of Sustainability /Chief Sustainability Officer	5
VP of Strategy/Chief Strategy Officer	1
Director of Sustainability	3
Director, General Counsel	1
Policy Manager Sustainability	1
Sustainability Analyst	1

Defining Sustainability

I asked participants how their organization currently defined environmental sustainability. I wanted to contextualize the responses from the interviewee inside of their definition of environmental sustainability to keep the conversation more precise. Of the 10 answers (one participant was not asked this question due to time constraints), the main focus was on an organization's impact on the environment in multiple ways. For example, interviewee 2 said:

> Our company does think about environmental sustainability holistically where it's everything from scope, one, two, and three. It includes how things that we are directly responsible and accountable for to things that are indirectly responsible to the types of customers that we work with and what those customer expectations are to the types of suppliers and the type the types of products that suppliers provide.

Some respondents focused on the relationship between sustainability and a company's business model or talked about how their strategy and definition overlapped. In one example, the interviewee talked about how the organization wanted to align themselves with others, so their definition used other external definitions from other organizations.

Overall, this question helped in specific interviews to clarify environmental sustainability apart from broader sustainability discussions which often encompass the social and governance aspects of managing an organization.

How Embedded is Sustainability in Each Company

I asked each organization about how embedded they believed sustainability was in their company directly and then through a set of generic sustainability strategy questions. For the direct questions about embedding sustainability, four of 11 said they were pretty far along. The rest said either partially embedded (three of 11) or to a low extent (four of 11). Interviewee 7, who claimed sustainability was deeply embedded as a core growth lever, said, “Our whole commitment to sustainability and social impact is part of our overall growth strategy, our business strategy… We have six growth catalysts and one of them is around sustainability.”

In the partially embedded category, one theme that emerged from the respondents was that they had got their leadership team committed but not the whole organization yet. Interviewee 10 said:

> So at the highest levels of the organization and the CEO is bought in, the senior leaders are involved in and now our efforts are trying to make it real and actionable for those middle management layers who are given very prescriptive or strict business guidelines around how to spend the company's money and resources and time and make sure that they don't feel as if [sustainability and other goals] are always in competition.

For those who felt sustainability was only a little embedded or ancillary to their core business, they mentioned often that the efforts felt mainly bottoms up. Interviewee 1 said:

> I raised my hand. I volunteered to lead this effort and really educate myself as well as others on the team and the board on what ESG [environmental, social, and governance] means, environmental sustainability and all these topics… it was me leading this initiative. There were routine communications with leadership and the board, but in terms of getting full buy-in, that was a hurdle we were not able to clear.

Generic Sustainability Strategy

Interviewees were asked about which of Lazlo and Zhexembayeva's (2011) embedded sustainability strategies they used. Table 5 below describes the results.

Table 5

Interviewee Responses to Embedded Sustainability Strategies

Is your environmental sustainability strategy intended to:	**"Yes"**	**Percentage**
Mitigate business risk?	11	100.00%
Reduce energy, waste, and materials?	11	100.00%
Differentiate your products through environmental sustainability strategies?	9	81.82%
Enter new markets through environmental sustainability strategies?	5	45.45%
Protect and enhance your brand?	10	90.91%
Influence industry standards?	10	90.91%

Note. N=11

All or nearly all interviewees indicated that their strategies addressed both low-level, basic issues (i.e., risk management) as well as higher-level, sophisticated issues (i.e., influencing industry standards). The strategy about entering new markets through environmental sustainability had the lowest response, with only five of 11 interviewees saying they used it.

Facilitators and Barriers to Embedding Sustainability

This section describes the key themes discovered in this study. Table 6 gives an overview of the themes discovered.

Table 6

Themes from Interview Data Regarding Facilitators and Barriers

Facilitators (n=11)	**Number of interviewees who mentioned theme**	**Percentage**
Emerging Regulations	6	54.55%
Customer Demands	5	45.45%
Leadership	8	72.73%
Barriers (n=11)		
Data Quality	7	63.64%
Education	7	63.64%

Facilitator 1: Emerging Regulations

New regulations in Europe and the US are making sustainability a more common element of strategy. Six interviewees agreed that regulations were new and facilitators for their work. Six interviewees discussed how regulations made their business case building easier. Interviewee 11 said:

> I think legislation can very much be the friend of the sustainability director. Because most businesses prefer to operate within the bounds of the law rather than outside the bounds of the law. So from that perspective, legislation can be really helpful in terms of just being able to have that conversation and say, sorry, we need to invest in whatever it might be, we need to invest in environmental management, we have to invest in having an environmental control system.

Projects that used to be optional can become required or more urgent in the face of emerging regulations. Two sustainability leaders interviewed enjoyed having additional arguments, beyond potential savings or a moral rationale, to influence leadership. Interviewee 4 mentioned how regulations change the mindset of the company saying:

> I think acknowledging that there is an emergence of regulation happening, certainly supports our continued work on this topic. So whether it be the potential need to report under some new SEC requirements in North America or whether it's CSRD and Europe, it's no longer going to be allowed for large companies to not report their environmental performance in the future.

Interviewee 9 discussed how regulations not only helped the internal case but actually aided demand for their environmental sustainability products and entire industry:

> I would say the Inflation Reduction Act has definitely helped not just our company but the [industry]. Because now the focus has moved; a lot of buyers are interested in buying [our industry] supply and certainly, you have gone from the place of having too much supply to not having enough supply.

Facilitator 2: Customer Demand

For sophisticated business-to-business (B2B) businesses, customer demand is facilitating their strategic sustainability work while direct-to-consumer businesses have more complexity in consumer demands related to sustainability initiatives. Sophisticated B2B customers are starting to ask and/or require businesses to have sustainability data and processes documented in their procurement processes. Although more complicated, consumer facing organizations also must respond to demand for sustainability in their core products and services. While five interviewees discussed customer demand as a facilitator of strategic sustainability, one interviewee discussed it as a barrier due to the customer's political leanings. Overall, the emerging regulations seemed to correspond and compliment increased customer demand in the data. Interviewee 7 said:

> In our case [a supplier for large retailers], they have a lot of demands. So they're an important stakeholder and they have high expectations of suppliers like us. We have to satisfy their requirements. That could be a barrier to entry, but that's part of our growth strategy, making sure we satisfy the requirements and the retailers who sell our products.

Three B2B companies were hearing increased demands for sustainability from their buyers and saw that as a strategic reason to embed sustainability. Interviewee 4 highlights how some of their efforts were to improve performance for their customers:

> It's also the awareness that [environmental sustainability] is no longer optional in more and more parts of the world, and not just for us, but for our customers. So if we're doing it, probably less for our own reporting purpose and more so that we can help customers improve their performance.

Two direct-to-consumer (DTC) businesses had more complicated answers. Interviewee seven discusses the nuances of consumers preferences for balancing sustainability, quality, and price:

> Consumers do not want to compromise on quality, price, or convenience. They want to live more sustainably, they want to use sustainable products, but again, they do not want to compromise so there's a gap there somehow; we call it the consumer intention action gap.

Thus, consumer demand is not a pure facilitator of strategic sustainability as businesses must assess the risk of making something too expensive or creating a product that consumers may perceive as less high quality like a smaller bottle that uses less water but may not seem as big as another product. For example, two DTC businesses noted how politics was a factor that affected consumer demands and constrained sustainability efforts. Interviewee 5 said:

> We need to be careful because our [consumers] may not like the fact that we're doing [sustainability actions] because some of them probably are climate deniers… how far ahead do I want to push [my sustainability work] without causing too much…attention?

Facilitator 3: Leadership

Seven companies specifically mentioned leadership as a facilitator for their strategic sustainability. Like regulation and customer demand, this prioritization accelerated the efforts to change the organization and embed sustainability. Two

companies mentioned their leaders acting from a trade-off mindset, especially when economic conditions were hard or a large event like an acquisition was pending. The companies that appeared to embed sustainability most deeply in the strategy had deep buy-in from the CEO, the board, and the executive leadership team. Interviewee 4 said:

> I think we've benefited from a senior executive team being very open to this and recognizing this was going to be important… [Our leadership's] own personal values align with being more environmentally responsible. But I think they also looked at it analytically. I got the impression that [the executives think] the future is not going to look like the past…so we cannot just think about our business and how we operate it the way we thought about it…. So you know, innovation is important. So it's probably a combination of personal values and then the recognition that innovation brings value.

One company mentioned that a leadership change helped their strategic sustainability. Interviewee eight said:

> [We got a new CEO in 2020] he was very vocal and supportive about internal initiatives around the environmental and climate space, recognizing that it's good for the world… I think that was a good enabler as far as strategy and progressing the environmental sustainability initiatives.

Support from the top also was enhanced when executives' personal values were aligned and the executives' felt innovation was a key priority for the business at this time. For three companies, this commitment showed up as looking for win-wins instead of thinking of sustainability as a tradeoff mindset. Three companies mentioned that the buy-in allowed for restructuring the organization to put sustainability in the executive team, or a different function than it used to be. Interviewee 7 described a period of getting buy-in from the team over a few years that then led to restructuring and promotion of their role:

> About 18 months ago, we moved the [sustainability leadership] role out of the supply chain department. Now I report to the head of growth and strategy. I'm now part of the senior leadership team which is great because I now have more of a voice at the table. So the focus of the role, the responsibility around sustainability and social impact has escalated over

> the last five years. Moving under the head of growth and strategy does a couple things: it's a growth catalyst [that] now I'm reporting to the owner of that strategy. I'm also more on a peer level with these other executives like the heads of marketing of [large product divisions]... so I get to work alongside them instead of through our supply chain department.

Interviewee 5 was in the beginning of this buy-in process and noted how many peers found a barrier as they started in a similar role:

> I'm starting to hit the standard wall internally that happens with all folks in my position, which is trying to figure out the things that we can actually get done [in our first year in the job]. So I'm just working on my strategy for next year and really trying to figure out what are those key drivers that I can align with the other business units on, and what can I actually achieve?

Multiple interviews mentioned the importance of tenure in the sustainability leadership. Interviewee 3 said, "The first three years I spent building a business case for [our company]. After three years, I had extensive leadership buy-in and we announced our global commitment."

Two interviewees discussed the barriers they faced as they hit trade-off mindsets in leadership. Interviewee 6 said:

> There's definitely a trade-off mindset. There's an assumption that it costs more on the operation side. And then on the storytelling side, there's an assumption that [it] is really political and dry and depressing and no one wants to talk about it. And it's kind of antithetical to [our industry]. So we have to chip away at progress on a regular basis.

Barrier 1: Data Quality

Six of the interviews brought up data in some context as a barrier to strategic sustainability. Accounting for carbon and climate science is much newer and more complicated than financial accounting. Many organizations do not have the tools, processes, knowledge, or will to invest in data for sustainability. Interviewee 7 said:

> We manage more and more data every year. We have a lot of data, we have to disclose a lot of data. We have a lot of reports we have to

> complete and we have to be intentional about that. At the end of the day, there's still a lot of data to process [and] to measure all that water reduction, greenhouse gas emission reduction, electricity reductions, you know, just keeping track of that and making sure that the data is robust and collected in a timely manner. It's still quite manual today, but we're looking at new tools that will help us and… prioritize what we need to do to get to our net zero carbon by 2040. So we're in the midst of building a new data architecture, which will help us to ensure that our data is audit ready, which will be required in the future, I think.

Interviewee 3 echoed this challenge:

> You can imagine having worked at a tech company yourself, it's all about the data. And so building the data infrastructure to surface [all] those metrics… was a big lift, like because [our company] does not have a lot of the data everyone presumes it has.

Two interviewees mentioned that they are learning their companies have previously misreported data, especially scope three data which is the emissions associated with a company's activities that are not directly from production or employee activities. Interviewee 4 said, "We've learned our reported scope three is underestimating our true scope three. We're just now getting our arms around our true scope three."

These challenges can be awkward for public companies to confront after making public commitments and demonstrates the difficulty of obtaining accurate data, especially from indirect environmental impacts through suppliers and how consumers use their products. Asking the right questions and enough questions is a common concern, as interviewee 5 noted:

> The question I always have looking at [sustainability initiatives] is what does that really mean? And so that's what I'm trying to do is… strip away any of the fluff, only talk about the things that we have… through data and through programmatic development and… if we do not have things to say we're not gonna say them.

Others reported the challenges of how data can be analyzed at different levels of the organization. Interviewee 11 explained:

> If I can get a laptop which uses 20% less electricity, the laptop might cost $50 more or $100 more. In most organizations, the IT director is responsible for the budget for buying the laptops. The real estate director is responsible for the energy bill. The IT director says well, why should I spend another $100 on this laptop? Whereas actually, if you can go up a level often it's the CFO where everything coalesces. You can make a much more intelligent decision. Actually, if I spend the $100 over here, I save $150 over there. Now I can make intelligent budget decisions.

Barrier 2: Education

Four interviewees specifically mentioned education as a barrier. Sustainability ends up affecting many roles in an organization, many of which have employees that are not trained in sustainability. This created a large lift for organizations at all levels of the company and hindered embedding sustainability when employees do not understand it or even consider it in their core processes. Interviewee 9 said:

> I think people tend to think about the big picture of sustainability, but I feel like some challenges are getting the researchers who actually build the product to think about it in more detail. So that the invention itself will be a little more sustainable rather than working harder on recycling. If you could just teach them a little basic groundwork of sustainability and just the fact that we care about this a lot as a company and it's a driving force of our sales, then maybe innovation would be more sustainable.

Three interviewees mentioned how more detail and education lead to more interest in doing sustainability work. Interviewee 10 said:

> So when we went back to the table to do an SBTi level goal, a huge part was just about making sure people understood what it was going to take to achieve the goal. And so educating folks around you to not just set [a] number [that] is interesting, or it’s round or it’s pretty, or it’s 30 by 2030, or whatever people used to do. But actually saying this is the science based trajectory of what’s expected of us…. These are the kinds of investments in the kinds of programs that we can run. Once we were able to demonstrate costs and project details there was actually a lot more interest even though there is a significant expense because people saw, okay, there is a viable path here.

Without appropriate education, interviewee 10 suggests there is more fear and hesitation. When people get clear then they feel more confident and interested than when it is not

clear to them how or what they can do. Interviewee 10 also described the situation with many suppliers they worked with:

> When we talk about suppliers and decarbonization, when it comes to scope three, the biggest barrier is still climate literacy. There are still many of our suppliers that probably want to do what we want them to do. They just do not know how or they do not have a resource or it's not part of their regulatory regime so they've never hired somebody. Maybe they've even gone so far as to make some good decisions by accident, right? They put solar on their roof or something but they do not know how it actually contributes to their emissions reduction. So when we talk about the tens of thousands of suppliers all over the world, there's a big gap in understanding I think.

One interviewee mentioned how the enthusiasm in company employees can go the wrong direction. Interviewee 6 reported:

> When you have a lot of enthusiastic, smart, and capable employees, but they do not have the subject matter expertise, they might go 150 miles an hour in the wrong direction. So we have to work quite hard to harness but then channel and direct different teams who otherwise might be digging around in the recycling bins.

Two interviewees mentioned that education challenges exist for the top leadership of their companies as well. Interviewee 1 said:

> I would say the biggest challenge from our point of view is just educating the C-suite and the board on ESG and aligning that to company strategy, mitigating risk, coming up with opportunities about how ESG will help us as a company.

Three interviewees mentioned resource restraints as a barrier to better education. Interviewee 8 said:

> A barrier in our organization is just funding for folks who are in [the sustainability] space and want to get a Global Reporting Initiative (GRI) certification or want to get a green house gas (GHG) certification, right or you want to go to this conference. So like, [funding for] those professional development opportunities.

One interviewee mentioned company policies and fears even interfere with professional development opportunities. Interviewee 8 indicated:

> I have a great example I can give you. I was invited locally to speak on an SEC panel at a time [our company was] getting more and more questions around ESG… corporate told me I was not allowed to participate on a panel… I thought it was gonna be a layup and a really great opportunity for me for local networking, just giving my insight as a sustainability [expert]. And the corporate told me no, because of the political risk.

Relationships between Progress on SBTi Goals and Study Data

Table 7 shows the themes each organization mentioned and if they were making positive progress to meet their commitments towards environmental sustainability in 2022 (the most recent year reported by SBTi). As described in Chapter 3, a simple measure was used: whether the organization has made positive progress towards their own committed goals or have gone further away from their goal. Table 7 also reports the correlation between SBTi progress and whether the theme was mentioned.

Table 7

SBTi Progress and Themes Comparison

Organization	Positive Progress towards SBTi Goal	Has Regulation Theme	Has Customer Demand Theme	Leadership Facilitator Theme	Data Quality	Education
1	N	N	N	N	N	Y
2	Y	Y	N	Y	N	N
3	Y	Y	N	Y	Y	N
4	Y	Y	Y	Y	Y	N
5	Y	Y	N	N	Y	N
6	N	N	N	N	N	Y
7	Y	Y	Y	Y	Y	Y
8	Y	N	N	Y	Y	Y
9	N	N	Y	Y	N	Y
10	Y	N	Y	Y	Y	Y
11	Y	Y	Y	Y	Y	Y
Correlation		0.67*	0.15	0.54	0.81*	-0.46
P-Value		0.024	0.66	0.085	0.0025	0.15

Note. Significant at $p < .05$.

Eight of 11 companies were on track to meet their own SBTi goals in 2022. Two companies mentioned all five major themes. Both the regulations and data quality themes had correlations with statistically significant results (0.67 and 0.81, respectively). Companies bringing up those themes were likely to be on track with their SBTi goal.

Table 8 shows which generic sustainability strategy each organization mentioned against the same SBTi progress metric.

Table 8

SBTI Progress and Generic Sustainability Strategies Comparison

Org	Progress towards SBTi goal	Mitigate business risk?	Reduce energy, waste, and materials?	Differentiate your products through environmental sustainability strategies?	Enter new markets through environmental sustainability strategies?	Protect and enhance your brand?	Influence industry standards?
1	N	Y	Y	N	N	N	N
2	Y	Y	Y	Y	N	Y	Y
3	Y	Y	Y	Y	Y	Y	Y
4	Y	Y	Y	Y	N	Y	Y
5	Y	Y	Y	Y	N	Y	Y
6	N	Y	Y	N	N	Y	Y
7	Y	Y	Y	Y	Y	Y	Y
8	Y	Y	Y	Y	Y	Y	Y
9	N	Y	Y	Y	Y	Y	Y
10	Y	Y	Y	Y	N	Y	Y
11	Y	Y	Y	Y	Y	Y	Y
Correlation	N/A	N/A	N/A	0.77*	0.15	0.52	0.52
P-Value	N/A	N/A	N/A	0.0056	0.66	0.10	0.10

All companies said their environmental sustainability work supported mitigating business risk and reducing emissions, which suggests that companies have already implemented the basic business logic of sustainability but also removed that as a potential influence on SBTi performance. Entering new markets and differentiating your products for environmental sustainability were acknowledged by the fewest interviewees. Several companies on track for their SBTi goals had extensive buy-in from the executive team and over two years of continued sustainability leadership internally. The differentiating products through environmental sustainability strategy showed statistically significant correlation with the SBTi progress metric.

Qualitatively, the correlations were slightly depressed because one organization in the sample, a highly respected one regarding sustainability, reported negative progress due to expansion of its operations even as its core business was aggressively pursuing carbon emissions reductions. Moreover, the correlations data should be viewed cautiously as the data is ordinal and has direction but is not continuous. Nevertheless, the data highlighted a few results as potentially having non-random results.

Summary

This chapter shared the major themes uncovered from interviews with leaders in sustainability at publicly traded companies in the U.S. It described three key facilitators of strategic sustainability and two barriers. Overall, the emerging regulations around sustainability are changing the environment for corporations and creating new strategic opportunities for leadership, data, and education, particularly for B2B businesses.

Chapter 5: Discussion

This study identified the facilitators and barriers for implementing environmental sustainability plans into corporate strategy. Three research questions were examined:

- To what extent is environmental sustainability embedded into the company's strategy?
- What facilitators support the integration of environmental sustainability plans into corporate strategy?
- What barriers obstruct the integration of environmental sustainability plans into corporate strategy?

The prior chapter shared the study results to these questions. In this chapter, I discuss potential new learnings from the data, implications for theory and practice, limitations of this study, and directions for future research. The results suggested that strategic sustainability was moderately embedded in these companies; four of the six strategies were used by 90% or more of the companies. When Lazlo and Zhexembayeva (2011) was published, many companies did not have an annual report on sustainability.

While a report can be published, several interviews discussed that the whole leadership team were not yet bought in. Even when companies had extensive buy-in and tenured sustainability leadership, corporate leadership had many challenges evaluating risk profiles of strategic sustainability initiatives and educating all employees. Less than 50% of the companies were using sustainability as a strategic direction to enter new markets, which suggests there is still more room to grow on more advanced strategies. This study shows progress over the last 10-15 years, which aligns to research that sustainability is becoming a more mainstream issue (De Oliveira et al., 2024).

For the research questions related to barriers and facilitators, the data discovered is partially new but supports prior research. While it may be counterintuitive to suggest that new regulations can facilitate strategic sustainability, Dechezlepretre and Sato (2017)

had described the process in which environmental regulations can drive firm competitiveness through cost cutting, innovation, and more. New regulations are emerging quickly and were commonly discussed in the interviews, so they seemed new to the corporate leaders but not to the literature. This theme showed a strong correlation with making progress on SBTi goals, suggesting it could be worth further investigation.

Customer demands facilitating strategic sustainability was less discussed in prior research where studies showed that economic conditions could alter demand for sustainable products but did not discuss the dynamics of B2B customer demands separately from DTC demands. New regulations may interact with customer demand pressures to drive some of the new B2B customer demands, so only very recent research would be able to study that relationship. Customer breadth can also constrain the embedding of sustainability efforts where some customers may be actively against sustainability so non-sustainability focused strategies may perform better.

Leadership's ability to facilitate strategic sustainability was seen in prior research, including Epstein et al. (2010)'s discussion of how leaders can create decision frameworks to make middle-manager's process simpler. Many of the interviewees interviewed seemed familiar with some of the ideas around mindsets but spreading that information across the whole organization still seemed challenging.

Data quality as a key barrier to strategic sustainability is a fairly new finding in this research stream. As companies respond to new regulations about reporting more data, the need for better data does become clearer. In prior research, there were extensive discussions about the need to assess non-financial data (Elkington 1994), but less about the challenges and struggles to get accurate data and the need for technology to facilitate that. This theme, while considered a barrier by many respondents, also showed a strong

positive correlation with making progress on one's SBTi goals. This suggests that companies thinking about data quality often are making progress on their SBTi goals. Given the correlation, this theme could be worth further investigation.

Education was covered in prior literature as well, particularly around mindset research (Hahn et al., 2018; Van der Byl & Slawinski, 2015). The mindset research does not seem to be fully integrated in practice across companies interviewed although Bikel (2022) has some promising research about corporate boards and paradoxical mindsets. Some companies had successfully moved beyond trade-off mindsets across most levels, but most of them still had leaders described as sticking to a trade-off mindset. Several interviewees did mention how their company's leadership were trying to make sustainability decisions easier at all levels of their company, and others mentioned it being difficult and not well thought through.

Practice Implications

One implication of the findings for businesses is to find ways to combine digital transformation and strategic sustainability efforts. One interviewee described how their company achieved their climate goals despite not executing their climate plans because they happened to digitize their business in the same time period. This had the unintended positive consequences of reducing their environmental impact by reducing physical production needs and carbon usage, as well as making data easier to track. Multiple interviewees suggested that sustainability is really an organizational transformation project, so digital transformations could naturally fit. For example, planning for digital transformations could be routinely conducted with a sustainability lens. When a company undertakes a digital transformation, it could assess the plans' climate impact and include both a transformation lead and sustainability lead in the planning process.

A second implication is to explore efforts and methods that can accelerate the embedding of sustainability in a B2B environment. The data in this study suggested that a virtuous cycle exists where suppliers want more sustainable products, so you are meeting your customers' needs at the B2B level. One method potentially worth further exploration is supplier standards, as several companies mentioned using standards.

DTC companies face a more complex challenge. Consumers can be fickle in what they say and what they do. Companies can encourage innovation that maintains price, convenience, and quality even as they mitigate or enhance environmental impacts. They can prototype low risk solutions at a small scale and engage in learning to discover how to balance sustainability, convenience, and value. Distinguishing between plans while prototyping, where the unit economics can suffer, and production at scale when green products may be both cheaper and more environmentally friendly.

A third implication is that job tenure for sustainability leadership is an important factor for companies in embedding sustainability in their strategy. Retaining key sustainability talent may be helpful for a company's embedding of sustainability in their core strategy as the relationships, education, and buy-in can take time to build.

A fourth implication for practice is to innovate in corporate environmental sustainability education. While employees do not need to know everything, integrating strategic sustainability requires more education of employees. Middle and lower levels of an organization typically receive less development investment. Nonetheless, finding the right kinds of investments that teach new concepts like win-win mindsets, carbon accounting, and decision-making processes that look at non-financial data could be added into learning and development. Companies could learn more about the gaps in knowledge in the middle and lower areas as well as what facilitates at that level a smooth integration

of a win-win mindset encompassing financial profitability and environmental sustainability.

Study Limitations

This study had several limitations, including sample composition and size and research bias. A larger sample size, potentially across other project teams, industries, departments, and levels of seniority, could have provided deeper insights into the intersections of environmental sustainability and corporate strategy. Furthermore, initially this study hoped to separate out leaders and laggards in the industry, but the difficulty of identifying and recruiting enough laggards made this impractical to report findings about. Future research could review the results of this study with a larger sample size. I tried to mitigate this downside by creating a simple progress metric using data from SBTi. Additionally, I looked at statistical correlations and significance to understand key results better even with a small sample. Finally, I am motivated by wanting to see further sustainability practices developed. This bias was mitigated through a reliability check and use of standardized qualitative methods and a mix of qualitative and quantitative research methods. Future research would benefit from adding researchers to the team with different perspectives and expanding the mixed methods used in this research.

Conclusion

In this study, we examined US public corporations' efforts to embed sustainability in their core strategy. Multiple themes emerged that highlighted how sustainability efforts benefited from new regulations, customer demand, and leaders who believed in environmental sustainability and were impeded by data quality and a lack of employee awareness and education. There is still much more to discover about the intersection of environmental sustainability and corporate strategy. The study limitations notwithstanding, this qualitative study added new knowledge to guide both practice and research in this important area.

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Appendix A: Consent Form

Consent Form
IRB #: 23-07-2200
Study Title: Trends and Challenges in Strategic Corporate Sustainability

Authorized Study Personnel
Principal Investigator: Nathan Maton | Mobile: (301) 641-8246
Faculty Chair/Sponsor: Chris Worley | Mobile: (949) 726-2143

Key Information:
If you agree to participate in this study, the project will involve:

- Sharing your experience implementing and creating strategic sustainability initiatives
- You will be asked to participate in one ~60-minute individual interview
- There are minimal risks associated with this study
- Your identity will be kept confidential before, during, and after the research study, and all data will be reported at an aggregate level only
- You will not be paid for your participation
- You will be provided with a copy of this consent form

Invitation
You are invited to take part in this research study. The information in this form is meant to help you decide whether or not to participate. If you have any questions, please ask.

Why are you being asked to be in this research study?
You are being asked to be in this study because you have 5+ years of experience in corporate environmental sustainability.

What is the reason for doing this research study?
This research study aims to understand how corporate environmental sustainability initiatives are incorporated into the strategy. Additionally, it seeks to understand the barriers and facilitators to that happening.

What will be done during this research study?
You will be asked to engage in one 1:1 interview with the XX, which will last approximately 60 minutes and will be conducted by zoom, in a location of your choice.

How will my data be used?
Data from our conversation will be analyzed using qualitative research techniques. Data will be analyzed to assign codes, reveal themes and categories, summarized, and then reported as a collection of the generative trends, and challenges in developing new leaders that have come up due to hybrid and complex working environments becoming more of the norm.

What are the possible risks of being in this research study?
The risks associated with participating in this study are minimal. To ensure your privacy and comfort, I recommend you use a personal email account and device for our interview and have access to a private, safe, and comfortable location where you are unlikely to be interrupted. You may request breaks at any time or withdraw your participation at any time for any reason.

What are the possible benefits to you?
You will assist in contributing to academic research on the future of strategic sustainability.

However, you may not get any direct benefit from being in this research study.

What are the possible benefits to other people?
Society may benefit from gaining a researched set of best practices for strategic sustainability.

What are the alternatives to being in this research study?
Instead of being in this research study, you can decide to not participate in the interviews.

What will being in this research study cost you?
There is no cost to you for participating in this research study.

Will you be compensated for being in this research study?
No compensation will be provided for participation in this study.

What should you do if you have a problem during this research study?
Your welfare is the major concern of every member of the research team. If you have a problem as a direct result of being in this study, you should immediately contact one of the people listed at the beginning of this consent form.

How will information about you be protected?
Reasonable steps will be taken to protect your privacy and the confidentiality of your study data. All interview responses will be kept confidential, and only aggregated and non-identifiable data will be presented in this study or any future publication(s).

All digital recordings or print notes associated with this study will be secured and handled according to Pepperdine University's Information Security Policies. Any potential loss of confidentiality will be minimized by securing data in password-protected files on a password-protected computer. There will be no hard copies of the data.

The only persons who will have access to your research records are the study personnel, the Institutional Review Board (IRB) of Pepperdine University, and any other person, agency, or sponsor as required by law. The information from this study may be published in scientific journals or presented at scientific meetings but the data will be reported as summarized data and your identity will be kept strictly confidential.

All data and notes will be destroyed within five years.

What are your rights as a research participant?
You may ask any questions concerning this research and have those questions answered before agreeing to participate in or during the study.

For study-related questions, please contact the investigator(s) listed at the beginning of this form.

For questions concerning your rights or complaints about the research, contact the Institutional Review Board (IRB) by phone at (310)568-2305 or email at gpsirb@pepperdine.edu.

What will happen if you decide not to be in this research study or decide to stop participating once you start?
You can decide not to be in this research study, or you can stop being in this research study ("withdraw') at any time before, during, or after the research begins for any reason. Deciding not to be in this research study or deciding to withdraw will not affect your relationship with the investigator or with Pepperdine University.
You will not lose any benefits to which you are entitled.

Documentation of informed consent
You are voluntarily deciding whether or not to be in this research study. Signing this form means that (1) you have read and understood this consent form, (2) you have had the consent form explained to you, (3) you have had your questions answered, and (4) you have decided to be in the research study. You will be given a copy of this consent form to keep.

Participant Feedback Survey
To meet Pepperdine University's ongoing accreditation efforts and to meet the Accreditation of Human Research Protection Programs (AAHRPP) standards, an online feedback survey is included.

Participant Name (Please Print): _____

Participant Signature: _____ Date _____

Investigator Certification:
My signature certifies that all elements of informed consent described on this consent form have been explained fully to the subject. In my judgment, the participant possesses the capacity to give informed consent to participate in this research and is voluntarily and knowingly giving informed consent to participate.

Signature of Person Obtaining Consent (Principal Investigator): _____

Date _____

Nathan Maton
(301) 641-8246
nathan.maton@pepperdine.edu
Graduate Student, M.S. Organization Development
Pepperdine University | Graziadio Business School

Appendix B: Study Invitation

Dear [Name]

For those of you I have not had the pleasure of meeting, my name is Nathan Maton. I'm reaching out as a Masters of Organization Development Student at the Graziadio Business School at Pepperdine University. I am conducting a research study that aims to understand **trends and challenges to developing corporate environmental sustainability plans**, and I need your help!

You have been identified as someone who is either an executive or works in the corporate environmental sustainability space. I would like to invite you to participate in a 1-hour [recorded] interview in a location of your choice to discuss your background and experience. Some topics we will cover include barriers and facilitators to implementing environmental sustainability, different methods of approaching sustainability, and your perspectives on what is shaping the industry.

Participation in this study is voluntary, and your identity as a participant will be protected before, during, and after the time that study data is collected. You may withdraw from the study at any time without penalty. The results of our interviews will be confidential and reported at the aggregate summary level only.

Please respond to this email confirming or declining your interest in participating in this study. If you have any questions or concerns, please contact me directly via email or phone at (301) 641-8246

Thank you in advance for your participation and support!

Sincerely,
Nathan Maton

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Masters in Organization Development
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