

MASTERARBEIT | MASTER'S THESIS

Titel | Title

Achieving Sustainability Through Corporate Culture? The Influence of
Corporate Culture on the Implementation and Effectiveness of
Sustainability Measures

verfasst von | submitted by

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angestrebter akademischer Grad | in partial fulfilment of the requirements for the degree of
Master of Science (MSc)

Wien | Vienna, 2026

Studienkennzahl lt. Studienblatt |
Degree programme code as it appears on
the student record sheet:

UA 066 915

Studienrichtung lt. Studienblatt | Degree
programme as it appears on the student
record sheet:

Masterstudium Betriebswirtschaft

Betreut von | Supervisor:

Univ.-Prof. Dr. Oliver Fabel M.A.

Abstract (Deutsch)

Die Studie untersucht, ob eine grüne Unternehmenskultur (GOC) mit einer beobachtbaren Umweltleistung in Verbindung steht und ob Umweltorientierung (EO) diese Beziehung verstärkt. Basierend auf Forschungen zur Unternehmenskultur und Nachhaltigkeit wird GOC als ein gemeinsames System von Umweltwerten, Annahmen und Praktiken konzeptualisiert, während die Umweltleistung anhand des Environmental Pillar Score der Environmental, Social and Governance (ESG)-Ratings gemessen wird. Mitarbeiterbefragungsdaten aus Deutschland und Österreich (N=148) wurden auf Branchenebene aggregiert und mit 308 ESG-Beobachtungen auf Unternehmensebene verknüpft, die aus Refinitiv Datastream stammen. Die Regressionsanalysen liefern keine belastbaren Belege für einen direkten Effekt von GOC auf die Umweltleistung oder für einen moderierenden Einfluss von EO. Die Unternehmensgröße erweist sich als der konsistenteste Prädiktor des Environmental Pillar Scores. Die Ergebnisse deuten darauf hin, dass sich nachhaltigkeitsorientierte kulturelle Werte nicht automatisch in messbare ESG-Ergebnisse niederschlagen. Stattdessen scheint die extern beobachtbare Umweltperformance stärker von strukturellen Kapazitäten und institutionellen Rahmenbedingungen abzuhängen als von der kulturellen Ausrichtung allein.

Abstract (English)

This study examines whether Green Organizational Culture (GOC) is associated with observable environmental performance and whether Environmental Orientation (EO) strengthens this relationship. Drawing on organizational culture and sustainability research, GOC is conceptualized as a shared system of environmental values, assumptions and practices, while environmental performance is measured using the Environmental Pillar Score of Environmental, Social and Governance (ESG) ratings. Employee survey data from Germany and Austria (N = 148) were aggregated to the industry level and linked to 308 firm-level ESG observations, obtained from Refinitiv Datastream. Regression analyses provide no robust evidence for a direct effect of GOC on environmental performance or a moderating effect of EO. Firm size emerges as the most consistent predictor of Environmental Pillar Scores. These findings suggest that sustainability-oriented cultural values do not automatically translate into measurable ESG outcomes. Instead, externally observable environmental performance appears to depend more strongly on structural capacity and institutional pressures than cultural orientation alone.

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List of Abbreviations

CS	Corporate Sustainability
CSR	Corporate Social Responsibility
CSRD	Corporate Sustainability Reporting Directive
ESG	Environmental, Social and Governance
EO	Environmental Orientation
EU	European Union
GOC	Green Organizational Culture
ICB	Industry Classification Benchmark
ICC	Intraclass Correlation Coefficient
SDGs	Sustainable Development Goals
SMEs	Small-and medium-sized enterprises
WCED	World Commission on Environment and Development

1 Introduction

In recent years, corporate sustainability (CS) has evolved into a central strategic priority for firms worldwide. Increasing regulatory pressure, investor scrutiny and stakeholder expectations require organizations to demonstrate measurable environmental performance (Epstein & Buhovac, 2010; Gillan et al., 2021; Leonidou et al., 2015). Sustainability is no longer merely a normative aspiration but has become deeply embedded in political and financial systems. For instance, the European Union (EU) and its member states contributed €31.7 billion in public climate finance in 2024 (European Commission, 2024). Such financial commitments illustrate growing institutionalization of sustainability within regulatory and capital market frameworks.

Parallel to this institutional expansion, sustainability has gained prominence at the organizational level. Firms increasingly integrate environmental considerations into corporate strategies, mission statements and public communication (Epstein & Buhovac, 2010). Environmental, Social and Governance (ESG) ratings have emerged as a mechanism for evaluating CS performance, providing standardized and comparable metrics that influence investor decisions and corporate reputations (Arouri et al., 2019; Clément et al., 2023). As a result, organizations are not only expected to articulate sustainability commitments but also to translate them into observable and measurable environmental outcomes.

Within this context, organizational culture is frequently portrayed as an internal driver of sustainability transformation (Harris & Crane, 2002; Porter et al., 2016; Post & Altman, 1994). Green organization culture (GOC) is commonly conceptualized as a shared system of environmental values, norms and assumptions that guide organizational members towards responsible ecological behavior (Dreyer et al., 2021; Siswanti & Muafi, 2022). Prior research shows that deeply embedded sustainability-oriented cultures enhance green innovation and achieve both competitive advantage and environmental benefits (Bai et al., 2024; Gürlek & Tuna, 2018). From this perspective, cultural commitments are assumed to foster consistent environmental action across organizational levels and thereby improve measurable sustainability outcomes.

However, the relationship between green culture and objectively observable environmental performance remains largely contested at the theoretical level as prior studies have predominantly adopted conceptual and qualitative approaches (Bansal, 2003;

Harris & Crane, 2002; Linnenluecke & Griffiths, 2010). While many studies emphasize the positive role of sustainability-oriented culture, critical perspectives caution that cultural greening may remain symbolic or rhetorical unless reinforced by institutional and regulatory pressures (Harris & Crane, 2002). Organizations may adopt the language of sustainability without fundamentally altering formal structures (Vollero, 2022). This raises the central question whether corporate culture can actually and effectively influence environmental performance?

Existing research exhibits several limitations. First, many studies rely on self-reported or internally assessed performance measures rather than externally validated ESG indicators (Afum et al., 2020; Fok et al., 2022; Islam et al., 2019). Second, the role of employees' attitudes remains underexplored in this context. Although employees are recognized as important agents for change (Collier & Esteban, 2007; Lozano, 2012), prior studies have often focused on managerial attitudes or strategic perspectives rather than employee-based perceptions of green culture (Bansal, 2003; Harris & Crane, 2002; Porter et al., 2016). Third, prior work often uses heterogeneous cultural measurement instruments which limits the comparability across studies (Denison & Mishra, 1995; Gürlek & Tuna, 2018; Marshall et al., 2015). Moreover, empirical evidence from the European context, where sustainability reporting has become increasingly institutionalized over recent years, remains limited.

This study addresses these gaps by empirically examining whether GOC is associated with externally assessed environmental performance, measured by the Environmental Pillar Score of ESG ratings. In addition, it investigates whether environmental orientation (EO), reflecting the strategic integration of environmental objectives, strengthens this relationship. By combining employee-based cultural assessments with standardized ESG performance data, this study bridges internal organizational dynamics and externally observable sustainability outcomes. The central question guiding this thesis is therefore:

Does corporate culture drive environmental performance?

By testing this relationship within the European regulatory context, this study contributes to literature in three ways. First, it links employee-level perceptions of GOC to externally validated ESG environmental performance data. Second, it examines the moderating role of EO as a strategic activation mechanism. Third, it provides empirical evidence from

Germany and Austria, where sustainability reporting has become increasingly formalized under evolving EU regulation.

The remainder of this thesis is structured as follows. Section 2 reviews the theoretical foundations of CS, organizational culture and GOC. Section 3 develops the hypotheses and presents the research model. Section 4 outlines the methodology and data. Section 5 reports the empirical results. Section 6 discusses the findings, limitations and implications for future research. Lastly, Section 7 sums up the key takeaways of this study.

2 Theoretical Background

2.1 Corporate Sustainability

2.1.1 Definition and Development

Friedman (1970) famously argued that corporations themselves cannot bear responsibilities beyond profit maximization, as only individuals and not firms can hold moral duties. According to this view, environmental preservation and social responsibility fall outside the scope of corporate activity. Over time, however, this profit-centered perspective has been increasingly challenged in light of growing awareness of environmental degradation and social inequality. A major conceptual turning point was marked by the World Commission on Environment and Development (WCED), whose report “Our Common Future” introduced the notion of sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (World Commission on Environment and Development, 1987). This principle has since shaped international sustainability agendas, including the United Nation’s Sustainable Development Goals (SDGs) which provide a comprehensive framework encouraging governments and businesses to align their strategies with environmental, social and economic priorities (Arora & Mishra, 2019).

Building on this foundation, the concept of CS has gained prominence in both research and managerial practice (Islam et al., 2019). Although widely discussed, the concept is characterized by a lack of uniformity, with multiple definitions leading to ambiguity. Two primary approaches to defining CS can be distinguished. The first follows the WCED understanding and conceptualizes CS as a three-dimensional construct encompassing environmental, economic and social dimensions (Montiel, 2008). This perspective is often referred to as the triple bottom line (Tseng et al., 2019). A second stream adopts a

narrower lens and equates sustainability primarily with environmental responsibility (Montiel, 2008).

The debate is further complicated by the conceptual overlap with Corporate Social Responsibility (CSR). Historically, CSR and environmental management emerged as distinct fields focusing on social and ecological issues, respectively. Over time, these domains have increasingly converged, with contemporary definitions of CS typically also integrating both dimensions. Although CSR and CS come from different origins, they increasingly share a common vision: integrating economic performance with social and environmental responsibilities. Unlike CSR, whose origins are diffuse, CS can be more clearly traced to the WCED's definition of sustainable development and gained traction in academic discourse in the early 1990s (Montiel, 2008).

Achieving sustainable development requires firms to integrate and balance their activities simultaneously across environmental, economic and equity principles. In practice, this involves applying these principles to products, organizational practices and policies. This challenges the traditional assumption that environmental integrity and social equity necessarily conflict with economic prosperity (Bansal, 2005). At the same time, sustainability differs fundamentally from conventional operational objectives. Whereas traditional performance targets are typically linked to short-term financial indicators, sustainability involves pursuing multiple dimensions of performance at the same time. Moreover, the environmental and social implications of corporate activities often unfold over extended time horizons and are inherently more difficult to measure than standard managerial outcomes. This increases the complexity of performance assessments and strategic decision-making (Epstein & Buhovac, 2010).

Early research predominantly approached CS from a compliance-oriented environmental perspective, focusing on the adoption of environmental standards, classifications and reporting schemes (Azzone & Bertele, 1994; Benn et al., 2006). These studies often portrayed external forces, such as regulations and societal or customer pressures as the main drivers of sustainability, while largely treating the organization itself as a "black box", thereby neglecting how internal cultural dynamics shape environmental responses (Howard-Grenville, 2006).

Recognizing this limitation, other research has shifted scholarly attention towards the internal organizational mechanisms underlying sustainability implementation,

particularly the role of organizational culture as a central driver for sustainability (Harris & Crane, 2002; Porter et al., 2016; Post & Altman, 1994). Rather than viewing firms as passive recipients of external pressures, this perspective emphasizes how shared norms and organizational processes that shape collective understanding can influence how sustainability initiatives are enacted and prioritized within organizations (Howard-Grenville, 2006). In this context, internal pressures, including staff turnover and reduced workplace satisfaction become increasingly relevant (Wilkinson et al., 2001). At the same time, sustainability has become increasingly embedded in corporate vision statements, strategic planning and public communication, driven by rising stakeholder expectations, regulation and growing demand for sustainable products. As a result, sustainability has received increasing attention on corporate agendas (Bebic et al., 2024; Lozano, 2015).

2.1.2 Measuring Corporate Sustainability

As the concept of CS has evolved, the traditional focus on profit maximization has gradually shifted toward a more holistic understanding of corporate success that integrates environmental, social and economic considerations. This development has been driven by rising societal expectations and global initiatives such as the SDGs, the Paris Agreement's 1.5° Celsius target and the EU's Circular Economy Action Plan (Jaganjac et al., 2025). Together, these frameworks emphasize the need for transparent, comparable and credible sustainability information. In response, sustainability reporting has become a central component of corporate practice (Bebic et al., 2024).

Initially, environmental accountability was driven primarily by non-profit organizations. Over time, however, competitive dynamics as well as sustainability and financial ratings have increasingly pressured companies to disclose their environmental and social impacts. Regulatory bodies have further institutionalized disclosure practice by introducing reporting requirements and procedural standards, prompting firms to integrate sustainability concerns more firmly into their strategic decision-making (Vollero, 2022).

To enhance transparency and comparability, international frameworks like the Global Reporting Initiative and Sustainability Accounting Standards Board provide guidance on reporting processes, minimum requirements and performance indicators (Christensen et al., 2021). Today, firms disclose sustainability information either through mandatory or voluntary reporting. Mandatory disclosure is legally prescribed and specifies the scope,

timing and format of required information (Vollero, 2022). Voluntary disclosure, in contrast, provides firms with greater discretion regarding the scope and form of reporting and is often motivated by efforts to reduce information asymmetries, increase legitimacy and strengthen stakeholder relationships (Thomsen & Conyon, 2012).

In the European context, the Corporate Sustainability Reporting Directive (CSRD) represents a major expansion of mandatory sustainability disclosure in the EU. Large companies who were previously already subject to the former Non-Financial Reporting Directive must apply the new standards for the 2024 financial year, while additional large firms will follow in 2025. Small-and medium-sized enterprises (SMEs) will be required to report from 2027 financial year, with an optional deferral until 2028 (European Parliament & Council of the European Union, 2022). Although the EU has already announced a temporary easing and simplification of reporting requirements in February 2025 in order to reduce administrative burdens, the broader regulatory trajectory continues to move toward comprehensive, standardized sustainability reporting (Directorate-General for Financial Stability, Financial Services and Capital Markets Union, 2025; European Parliament, 2025).

As a result, firms are increasingly expected to disclose how sustainability issues affect their business and how they address environmental and social risks (Vollero, 2022). This evolving regulatory and institutional landscape highlights the growing importance of reliable sustainability measurement and reinforces the need of empirical research examining how internal and external drivers influence firms' environmental outcomes.

2.1.3 Environmental, Social and Governance Reporting

ESG ratings have emerged as a key instrument for assessing CS performance. Initially developed to support the financial sector in evaluating companies along non-financial criteria (Escrig-Olmendo et al., 2019), ESG metrics now play a broader role by helping firms build reputation (Aroui et al., 2019), manage risks (Chollet & Sandwidi, 2018) and attract investment capital (Cheng et al., 2014). ESG scores provide standardized, quantitative assessments of sustainability practices and enable cross-company comparisons (Clément et al., 2023).

Empirical evidence shows that mandatory ESG and CSR reporting enhance transparency, strengthen stakeholder trust and induce meaningful changes in organizational behavior, such as reduced greenhouse gas emissions and improvements in water quality (Qian &

Schaltegger, 2017; Tsang et al., 2023; Yang et al., 2022). Voluntary disclosure, meanwhile, is frequently used to reduce information asymmetries and enhance legitimacy. By providing additional insights beyond regulatory requirements, firms may lower their cost of capital and improve stakeholder relations (Thomsen & Conyon, 2012).

The ESG framework is structured around three dimensions. The environmental pillar covers key ecological issues that the company faces such as carbon emissions, climate-change vulnerability, pollution and waste management, biodiversity and environmental opportunities. The social pillar relates to a company's risk profile in regard to human capital, product responsibility and stakeholder relations, while the governance pillar includes board structure, compensation, ownership, business ethics and transparency (Giese et al., 2021). Although all three components contribute to a firm's overall ESG score, the environmental dimension often exerts particular influence due to its relevance for both regulatory scrutiny and long-term business risks (Escrig-Olmedo et al., 2019).

2.1.4 Greenwashing and the Credibility of Sustainability Reporting

Over recent decades, companies have increasingly disclosed environmental information. However, a greater reporting volume does not necessarily reflect substantive improvements in corporate environmental performance. Rather, firms often highlight favorable initiatives while downplaying or omitting negative outcomes, a tendency that has emerged alongside growing public concern for environmental issues (Vollero, 2022). Some scholars even argue that, in certain cases, firms simply append the language of sustainability to established business practices without meaningfully altering their underlying behavior (Banerjee, 2012). The increasing pressure to appear environmentally responsible, particularly among globally operating firms, can result in discrepancies between sustainability communication and actual practices (Vollero, 2022). Such divergence illustrates a clear rhetoric-practice gap.

This gap is closely linked to the notion of greenwashing, commonly understood as the practice of emphasizing positive environmental information while withholding unfavorable details, thereby cultivating a disproportionately positive impression of corporate environmental performance (Lyon & Maxwell, 2011). Greenwashing is facilitated by the proliferation of sustainability reporting frameworks, particularly when disclosure remains voluntary and insufficiently regulated. Such contexts enable firms to

exaggerate environmental claims or present misleading narratives, thereby undermining comparability, verifiability and reliability of sustainability information (Vollero, 2022).

Empirical evidence shows that this tendency is weaker among companies operating in institutional environments characterized by strong social scrutiny and globally embedded norms (Marquis et al., 2016). By contrast, mandatory reporting requirements enhance the reliability of disclosed information because they impose standardized content, verification procedures and reporting boundaries (Consoni & Colauto, 2016). Ultimately, greenwashing is more likely to occur in organizations where sustainability functions primarily as a communicative instrument rather than as a deeply embedded organizational value (Vollero, 2022).

2.1.5 Influence on Company Success

The integration of sustainability measures into corporate strategy has important implications for a company's long-term competitiveness and strategic orientation. Empirical research examining the relationship between CS and firm performance, however, has yielded heterogeneous and sometimes contradictory results.

Early long-term evidence by Eccles et al. (2014) shows that sustainability-oriented U.S. firms achieve superior performance compared to their counterparts in both stock market performance and accounting-based indicators over an 18-year period, particularly in consumer-facing and brand-driven industries. In resource-intensive contexts, sustainability practices are primarily linked to operational efficiency, mitigating risk and reducing costs in the long term. Some later studies further provide supportive evidence for positive performance effects (Fu & Li, 2023; Qu & Zhang, 2023; Sindhu et al. 2024).

Other studies, however, report more mixed findings. While some studies find no significant relationship between ESG and firm performance (Buallay, 2022) or even negative effects (Deb et al., 2024; Duque-Grisales & Aguilera-Caracuel, 2021), others document positive effects that vary across institutional and market contexts (Ting et al., 2020).

Despite these divergent findings, the literature consistently confirms that sustainability engagement enhances corporate reputation, an important intangible asset influencing long-term corporate success (e.g., Arouri et al., 2019; Martínez-Ferrero et al., 2016; Sethi et al., 2016). At the same time, the mechanisms through which ESG and sustainability

practices translate into performance outcomes remain insufficiently understood, highlighting the need for further empirical research (Linnenluecke, 2022).

2.2 Corporate Culture

2.2.1 Definition

Corporate culture has long been the subject of academic debate and numerous attempts have been made to define the concept. Pettigrew (1979) emphasizes that individuals require shared understanding and meanings to function effectively within organizations, framing culture as a collectively maintained system of reference. Similarly, Hofstede et al. (1990) describe organizational culture as a phenomenon that encompasses the entire organization, develops over time and is rooted in socially constructed patterns that are difficult to change. Other definitions emphasize similar elements while individually highlighting different aspects of culture (e.g. Deal & Kennedy, 1999; Martin, 2002; Schultz, 1995; Trice & Beyer, 1993). Synthesizing these perspectives, Schein (2004) defines organizational culture as a pattern of shared basic assumptions that develops within groups based on common experiences. Any social unit with a shared history forms cultural patterns whose strength depends on the stability of membership and the emotional intensity of shared experiences. Culture extends beyond individual members, providing meaning and continuity even when individuals leave the organization.

Furthermore, Schein (2004) describes culture as characterized by depth, stability, breadth and integration. Deeply embedded assumptions are particularly stable and enduring, while cultural breadth ensures that shared values and norms influence all aspects of organizational functioning. Integration refers to the interconnectedness of values, rituals and behaviors that collectively shape organizational action. Once a shared group identity has emerged, culture becomes a powerful stabilizing force that creates predictability in collective behavior and constitutes one of the deepest and least visible elements of a group or organization.

Moreover, culture is not simply given but actively formed through both informal group dynamics and deliberate leadership actions. Assumptions that prove successful are reinforced, shared and transmitted to new members as appropriate ways of perceiving, thinking and acting. Although culture is abstract, it has concrete behavioral consequences which become observable in member behavior. Additionally, it is closely intertwined with

leadership, as leaders both shape and manage culture, but culture also influences how leadership is interpreted and enacted (Schein, 2004).

2.2.2 Levels of Corporate Culture

To better understand corporate culture, Schein (2004) distinguishes three levels, as illustrated in *Figure 1*.

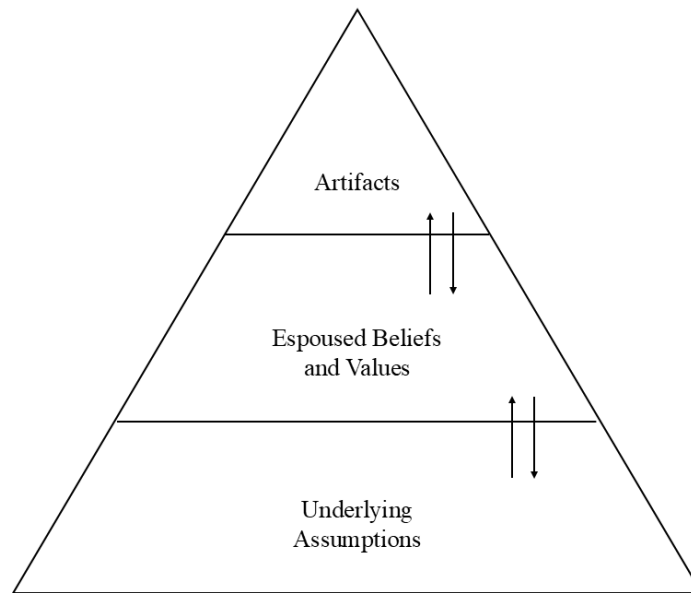


Figure 1: Levels of Culture (adapted from Schein, 2004)

The first level, which represents the surface, is called artifacts. Artifacts encompass everything that one can see, hear or feel when encountering a new group whose culture is unfamiliar. This includes visible and tangible manifestations such as language, published values, rituals, physical layouts, organizational structures and the general climate of the organization. While artifacts are easy to observe, they are often difficult to interpret (Schein, 2004).

The second level consists of espoused beliefs and values, which refer to consciously held principles and ideals that guide behavior. These values typically originate from founders or leaders who propose how things should be done. Over time, if they prove effective, they become collectively shared and may gradually evolve into deeper assumptions. However, espoused values do not always correspond to actual behavior, particularly when they involve moral or ethical principles that cannot be directly tested. In such cases, they gain legitimacy through social reinforcement within the group. As a result, there is often a gap between what organizations claim to value and what they actually do. Espoused

beliefs and values therefore represent an intermediate level: more visible than hidden assumptions but not always reflected in practice (Schein, 2004).

The third and deepest level consists of basic underlying assumptions. These are beliefs that were once values but have become taken-for-granted truths. They operate unconsciously, are rarely questioned and shape how group members perceive reality. When such assumptions are challenged, members may experience discomfort because the group's shared meaning structure is threatened. These assumptions form the core of culture and are the most powerful determinants of behavior. Consequently, understanding an organization's culture requires examining not only visible manifestations but also the deeper assumptions that are formed through shared learning processes (Schein, 2004).

2.2.3 Influence on Company Success

The influence of corporate culture on organizational performance has been widely examined, though empirical findings remain mixed. Early empirical contributions by Deal and Kennedy (1982), Denison and Mishra (1995) and Peters and Waterman (1982) support the view that culture positively affects long-term performance. In contrast, Ott (1989) and Byles and Keating (1989) argue that the impact of culture is context dependent and that even strong cultures can hinder performance when misaligned with organizational needs.

More recent discussions refine these perspectives. Joseph and Kibera (2019) find that organizational culture significantly explains variations in market performance, particularly over the long term, as the development of shared norms and values requires time. Cultures that align closely with a firm's strategy and structure tend to enhance organizational effectiveness and foster sustained competitive advantage.

Cultural strength, referring to how deeply values and beliefs are shared and strongly held within an organization (O'Reilly & Chatman, 1996), plays a central role in this relationship. When aligned with strategic objectives, strong cultures facilitate coordination, promote motivation and reinforce goal alignment (Deal & Kennedy, 1982; Peters & Waterman, 1982; Sørensen, 2002). Organizational leaders are crucial in this process, as they can shape and transform organizational culture by articulating a shared vision that fosters employee loyalty, commitment and ultimately higher productivity (Jarnagin & Slocum, 2007).

However, a strong culture alone does not guarantee improved performance. Early empirical work found limited evidence of a universal positive effect (Siehl & Marthin, 1990) and later studies emphasize that culture enhances performance only when it is strategically aligned and adaptable to environmental change (Sørensen, 2002). Thus, culture can be a powerful asset when it supports the organization's goals, but a liability when it does not.

2.3 Green Organizational Culture

2.3.1 Conceptualization

Businesses are increasingly recognized as key actors in creating a more sustainable society, raising the question of how organizations can effectively become “greener” (Harris & Crane, 2002). Prior research emphasized that technical solutions alone are insufficient. Instead, sustainable transformation requires changes in values, beliefs and behavioral norms. Becoming sustainable is therefore largely a matter of cultural change, thereby directly linking sustainability to organizational culture (Post & Altman, 1994; Shrivastava, 1995; Stead & Stead, 1992; Welford, 1995).

The literature uses several related terms, such as “green organizational culture” (Harris & Crane, 2002; Porter et al., 2016), “organizational green culture” (Wang, 2019) as well as “culture of sustainability” (Riemer et al., 2025) or “corporate environmentalism” (Banerjee, 2002). Despite differing labels, these approaches share the assumption that environmentally responsible behavior must become culturally embedded rather than treated as an isolated management practice.

As research on GOC is still emerging, the concept has been defined in various ways in literature. Siswanti and Muafi (2022) describe GOC as a combination of values, symbols, assumptions and artifacts that express aspirations toward environmental responsibility. Vargas-González et al. (2023) highlight shared values and environmentally oriented practices that evolve within organizations, while Dreyer et al. (2021) emphasize that green values guide both individual and collective decisions toward ecological protection and social equity. Gürlek and Tuna (2018) further argue that general definitions of organizational culture can be extended to include environmental principles, thereby shaping expected behavioral patterns.

Schein's (2004) cultural framework offers a particularly helpful perspective. Applied to the environmental context, GOC encompasses artifacts through formal structures and technical measures such as sustainability reports, the incorporation of sustainability targets into performance evaluations and employee training programs (Dunphy et al., 2003). Espoused values include ethical orientations and support for sustainability, reflecting a better alignment between corporate behavior and societal expectations (Crane, 2000). At the deepest level, embedding sustainability involves a transformation of core assumptions which includes the recognition that human and ecological systems are fundamentally interconnected. These environmental assumptions, once internalized, strongly influence how organizations interpret their role in society and interact with the natural environment (Linnenluecke & Griffiths, 2010; Purser, 1994).

Across these and other definitions in literature, five common elements of GOC can be identified: an emphasis on environmental management patterns, symbols that express ecological commitment, shared organizational values guiding sustainable behavior, management-driven ecological beliefs and the adoption of formal environmental management standards (Villar & Guevara, 2025). Overall, GOC is conceptualized as a form of cultural transformation triggered by environmental challenges (Porter et al., 2016). For the further use of GOC in this thesis, GOC is understood as the shared system of values, assumptions and practices that guide organizational members toward environmental responsibility and integrates sustainability considerations into everyday behaviors, decisions and organizational routines.

2.3.2 Literature Perspectives

Early research in the 1990s proposed that environmentally responsible corporations require ecological values to be integrated across the entire organization and value chain (Shrivastava, 1995). Hence, to address ecological degradation, organizations must adopt a management approach focused on environmental and technological risks as central issues. Stead and Stead (1992) emphasized the alignment of economic priorities with ecological ones, while Welford (1995) highlighted the need to replace short-term profit orientation with intergenerational thinking.

Building on these debates, Harris and Crane (2002) offered a foundational yet critical perspective examining managers' perceptions of cultural greening. They argued that much of the literature at that time oversimplified cultural change, placed excessive

emphasis on voluntariness and lacked empirical grounding. Their findings indicated that cultural greening was difficult to initiate, often superficial and largely dependent on external regulation rather than internal conviction. They also identified a pronounced rhetoric-practice gap, explaining it through organizational inertia, slow cultural maturation and weak regulatory pressure.

Over a decade later, Porter et al. (2016) documented substantial progress. Managers in their study were personally committed to sustainability, linked environmental practices to their own values and invested effort in understanding and advancing sustainability initiatives. Leadership support emerged as a decisive success factor and symbolic actions such as public commitments helped translate values into organizational routines. Although cultural development remained slow, Porter et al. (2016) observed that sustainability had become more deeply embedded over time, contradicting the pessimistic outlook of Harris and Crane (2002). They also stressed that no single form of GOC exists and successful configurations vary depending on organizational context (Porter et al., 2016).

More recent research confirms that GOC has matured into a recognized and strategically relevant concept (Aggarwal & Agarwala, 2021). Stakeholders such as customers, suppliers and employees influence sustainability adoption and put firms under pressure (Epstein & Buhovac, 2010). Internal dynamics, on the other hand, such as declining organizational loyalty, rising turnover and reduced employee satisfaction shape cultural greening as well. Specific human resource management and employee empowerment are essential to a company's sustainability strategy (Wilkinson et al., 2001).

Numerous studies document benefits of GOC, including higher productivity, stronger employer branding, greater innovation and increased customer trust (Bansal & Roth, 2000; Gürlek & Tuna, 2018; Leonidou et al., 2015). GOC also contributes to competitive advantage, because such deeply embedded values and practices are difficult for competitors to imitate (Wang, 2019). Further, it can be a cost advantage by reducing energy and material consumption as well as saving resources like water (Gürlek & Tuna, 2018). It also enables a firm to project a more distinctive and appealing image to the public and other stakeholders (Leonidou et al., 2015).

Despite these advances, some companies still struggle to embed sustainability into their organizational cultures (Vollero, 2022). Many have treated sustainability as an isolated

topic that is insufficiently integrated into the company's overall strategy (Epstein & Buhovac, 2010). Some managers continue to view sustainability primarily as a catalyst for innovation, learning and creativity, resulting in limited and fragmented attention (Porter et al., 2016). Moreover, established organizational norms and routine practices may stabilize existing ways of operating and discourage deviations, thereby constraining the integration of sustainability into daily organizational activities (Mutua et al., 2025).

Implementing sustainability further depends on the presence of a cooperative organizational environment in which employees are willing to prioritize long-term collective outcomes over short-term individual interests. Particularly in larger organizations, this collective orientation tends to be weaker, leading to more self-interested behavior and weakening commitment to sustainability initiatives (Cordes et al., 2010). When proclaimed sustainability values are not consistently reflected in actual organizational practices, efforts to embed sustainability culturally are undermined. Such discrepancies foster employee skepticism and normalize resistance, making it difficult to establish a shared and enduring commitment to sustainability across the organization (Mutua et al., 2025).

Ultimately, CSR policies and mission statements alone are not enough. Several studies highlight that effective sustainability integration requires organizations to develop a collective understanding of what sustainable development entails (Baumgartner, 2014). Missions must be understood and embraced by employees, who carry the primary responsibility for implementing ethical corporate behavior in daily operations. The success of policies and guidelines presented by management relies on employee responsiveness and commitment (Collier & Esteban, 2007). Hence, employees can be important agents for change in the process of becoming a sustainability-oriented organization (Banerjee, 2002). Commonly shared ecologically friendly values form the foundation of organizational change, steering and limiting employees' change efforts. To ensure widespread engagement, environmental initiatives must be communicated upward, downward and laterally (Bansal, 2003). Ultimately, sustainability can occupy a central organizational role only when it is woven into the culture and not treated as an add-on (Porter et al., 2016).

2.3.3 Implementing Green Organizational Culture

Riemer et al. (2025) conceptualize the development of a green culture as a dynamic and non-linear journey rather than a straightforward process. The emergence of GOC unfolds over time and is shaped by contextual conditions, dynamics, leadership commitment and the presence of internal champions who actively advocate for sustainability. Although organizations progress through this journey in different ways, four broad stages can be identified that illustrate how cultural greening gradually evolves.

The process often begins with the emergence of a sustainability initiative, typically driven by individuals or a small group with strong personal motivation for ecological or social causes. These early champions play a central role in raising awareness, experimenting with small-scale projects and mobilizing interest among colleagues. At this stage, sustainability efforts are usually fragmented and not yet aligned with the company's overall strategy. Nevertheless, this initial phase is crucial because it introduces sustainability into the organizational discourse and lays the groundwork for further development (Riemer et al., 2025).

As sustainability gains attention, organizations enter a second phase of visibility and engagement. Here, sustainability is communicated more broadly and organizations introduce symbols, events or dedicated sustainability teams to make the topic more tangible to employees. Management support often comes visible through speeches, internal policies or company goals. Despite this progress, the challenge at this stage lies in preventing sustainability from becoming merely symbolic. Without deeper anchoring in routines and employee beliefs, visibility remains superficial and fails to induce genuine cultural change. Building employee engagement and translating symbols into shared practices therefore marks a central task of this stage (Riemer et al., 2025).

In the third stage, institutionalization and system alignment, sustainability becomes embedded in formal structures, policies and organizational routines. Companies introduce formal governance mechanisms such as sustainability committees, reporting systems and designated roles. Sustainability targets are integrated into performance evaluations, planning and decision-making processes. At this point, sustainability is recognized as an integral part of the company's strategic direction, reflecting a clear EO rather than an optional concern (Riemer et al., 2025).

The final stage, characterized by ingrained and habitualized practices, is reached when sustainability has become second nature within the organization. Practices, values and decision-making processes consistently reflect sustainability principles and employees act in environmentally and socially responsible ways as part of their daily routines. Sustainability is no longer treated as a special project but is normalized. At this stage, GOC is deeply integrated, resilient to external shocks and contributes to long-term competitiveness and legitimacy (Riemer et al., 2025). According to Schein's (2004) cultural framework, this stage corresponds to the transformation of values into basic underlying assumptions.

Additionally, Riemer et al. (2025) emphasize that organizations do not progress linearly through these stages. Shifts in leadership, loss of institutional knowledge or external pressures may accelerate or delay development. Thus, GOC emerges through continuous, context-specific learning. Complementing these insights, Aggarwal and Agarwala (2021) highlight managerial practices that support cultural greening. Green recruitment brings in employees whose values align with environmental goals. Green training builds awareness and develops necessary skills, while green performance management integrates sustainability into evaluations and reward systems. Drawing on Srinivasan and Kurey (2014) leadership emphasis, message credibility, peer involvement and employee empowerment have been identified as key enablers for embedding environmental values into everyday organizational routines (Muisyo et al., 2021).

2.3.4 Dimensions of Green Organizational Culture

Harris and Crane (2002) highlight three dimensions of GOC that illustrate how environmental values become embedded within organizations: depth, degree and diffusion (see *Figure 2*). Together, these dimensions help assess how extensively a green orientation is internalized, structurally anchored and shared across the organization.

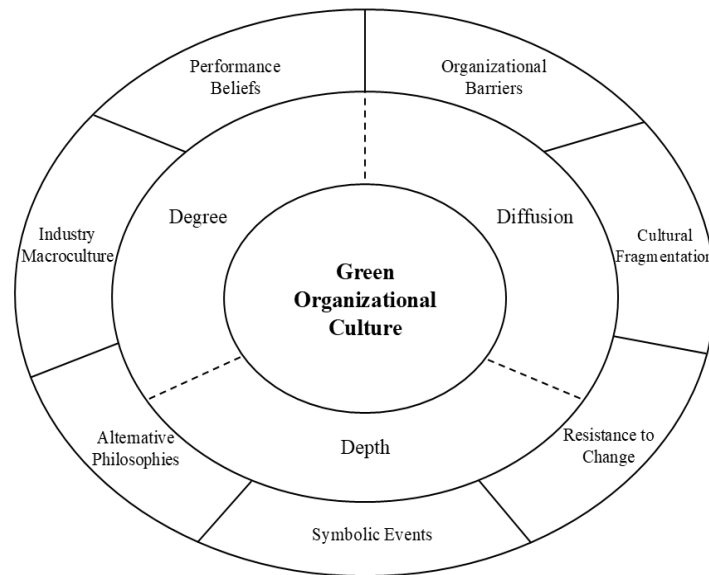


Figure 2: *Depth, Degree and Diffusion of Organizational Greening (adapted from Harris & Crane, 2002)*

The first dimension, depth, refers to the extent to which organizational members personally internalize sustainability values. Depth is shaped by symbolic events, alternative business philosophies and individual resistance to change. Positive symbolic events and visible managerial support for environmental initiatives reinforce commitment, whereas inconsistent signals weaken it. Likewise, organizations whose guiding philosophy prioritizes environmental management are more likely to internalize green values. Resistance arises when managers or employees perceive environmental initiatives as temporary trends, limiting the cultural shift needed for deeper transformation. Hence, cultural transformation requires considering employees' attitudes (Aggarwal & Agwarwala, 2021).

Degree reflects the industry macro culture and prevailing performance beliefs. Firms operating in environmentally sensitive industries tend to integrate green values more thoroughly into their systems and practices. Performance beliefs, in turn, indicate how strongly managers believe that sustainability positively affects business outcomes. Such beliefs encourage the integration of green values into the corporate culture, promoting its overall greening (Aggarwal & Agwarwala, 2021).

The third dimension, diffusion, concerns how widely sustainability values are shared across different parts of the organization. Diffusion can be hindered by organizational barriers and cultural fragmentation. Professional, functional or regional subcultures may vary in their commitment to environmental issues. Moreover, centralized decision-

making structures or internal political dynamics may impede the spread of green practices (Aggarwal & Agwarwala, 2021).

Taken together, these dimensions highlight that GOC varies in depth, structural presence and organizational reach. A fully developed GOC is one in which sustainability values are deeply internalized, embedded in formal systems and widely shared across subcultures, enabling consistent and enduring environmentally responsible behavior.

3 Hypotheses Development and Research Model

3.1 Green Organizational Culture and Environmental Performance

Previous research provides consistent evidence that a strong GOC enhances firms' sustainability outcomes. GOC positively affects environmental performance by encouraging environmentally responsible behavior and the implementation of green practices (Gürlek & Tuna, 2018). These initiatives should translate into higher environmental performance within ESG metrics. Moreover, GOC also fosters green innovation, which mediates the link between organizational values and sustainability outcomes (Wang, 2019). Leonidou et al. (2015) further identify GOC as a key internal driver of environmentally friendly business strategies that strengthen both competitive and environmental performance. Similarly, Bai et al. (2024) find that corporate culture significantly improves ESG performance in Chinese firms through mechanisms of innovation and information transparency.

However, early and more critical perspectives caution that the relationship between environmental values and actual outcomes is neither linear nor uncontested. Harris and Crane (2002) argue that cultural greening is often difficult to initiate and remains superficial, as prevailing approaches tend to overemphasize voluntariness while underestimating organizational inertia and the importance of external pressure. This rhetoric-practice gap raises doubts about whether stated cultural commitments consistently translate into measurable sustainability outcomes, particularly as ESG ratings increasingly assess firm's actual behavior rather than symbolic communication. More recent research suggests that this skepticism may be less pronounced under certain conditions, especially when sustainability values are actively supported by leadership and translated into everyday practices (Porter et al., 2016). When GOC is genuinely embedded in organizational routines rather than remaining symbolic, it should enable consistent adoption of environmental practices, thereby improving environmental performance.

Given that ESG ratings increasingly emphasize firms' actual environmental management rather than symbolic communication, GOC has become a central explanatory factor for sustainability performance. Collectively, these findings suggest that stronger GOC is associated with superior environmental performance within ESG metrics.

H1: A stronger Green Organizational Culture leads to a higher Environmental Pillar Score

3.2 The Moderating Role of Environmental Orientation

Prior research suggests that the effectiveness of GOC depends on the extent to which environmental values are translated into strategic intent. Although GOC fosters shared pro-environmental values and collective commitments, such cultural orientations do not automatically translate into measurable sustainability outcomes. Instead, their impact depends on whether these values are embedded within a coherent environmental strategy (Bai et al., 2024). This argument is consistent with earlier work on corporate culture, which argues that cultural values enhance performance when they are aligned with strategic priorities and integrated into operational practices (Galpin et al., 2015; Hart & Milstein, 1999). Moreover, corporate culture plays a critical role in enabling managers to navigate trade-offs that arise when environmental objectives must be balanced with other organizational priorities (Epstein & Buhovac, 2010).

While GOC captures the cultural dimensions of environmental responsibility in terms of shared values and norms (Siswanti & Muafi, 2022), EO reflects the strategic integration of environmental objectives into organizational decision-making processes (Gabler et al., 2025).

EO provides this alignment by systematically integrating environmental objectives into decision-making processes and ensuring that managerial intent and employee behavior follow the same environmental trajectory (Gabler et al., 2025; Leonidou et al., 2015). By embedding environmental considerations in core organizational routines, EO creates consistency between managerial intent and employee behavior. This alignment increases authenticity, strengthens employee commitment and reinforces the translation of cultural values into substantive environmental action. Thereby, sustainability-related values translate into concrete environmental practices rather than remaining rhetorical commitments (Collier & Esteban, 2007; Islam et al., 2019). Accordingly, EO functions as a strategic boundary condition that determines whether and to what extent green cultural

values are translated into improved sustainability outcomes. While GOC reflects the normative foundation of sustainability within the organization, EO operationalizes these norms through strategic direction and organizational processes, thereby amplifying their potential impact on measurable sustainability outcomes.

H2: Environmental orientation positively moderates the effect of Green Organizational Culture on the Environmental Pillar Score

3.3 Research Model

Building on the theoretical foundations outlined in the previous chapters, this study proposes a model that examines the influence of GOC on firm's environmental sustainability performance. As depicted in *Figure 3*, GOC serves as the independent variable, whereas environmental performance, captured through the Environmental Pillar Score of the ESG framework, functions as the dependent variable. Although ESG scores primarily measure quantifiable aspects of CS and do not fully reflect qualitative components such as organizational values, strategic orientation or mission statements (Gillan et al., 2021), they remain the most widely used, accessible and empirically validated indicators for assessing firms' sustainability practices (Cini & Ricci, 2018). Given the focus of this study, only the Environmental Pillar Score is used as it isolates environmental outcomes from the social and governance dimensions.

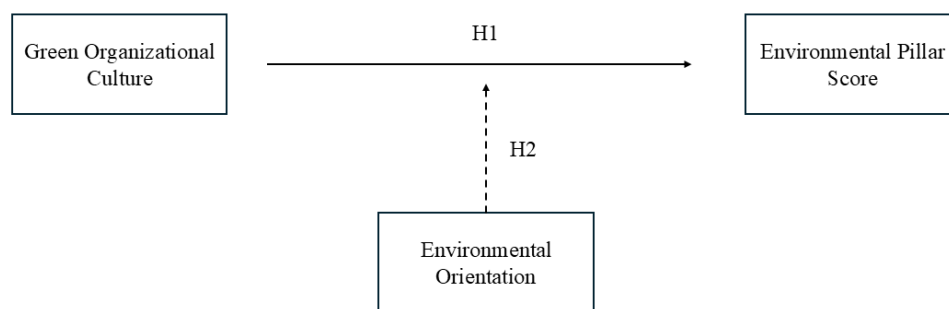


Figure 3: *Hypothesized Model*

To account for the strategic integration of environmental priorities, EO is incorporated as a moderating variable. EO reflects the degree to which environmental objectives are embedded into strategic decision-making and organizational routines to foster ecological commitment. Prior research shows that EO originates at the strategic level and diffuses throughout the organization, shaping shared values, employee behavior and ultimately reducing the firm's environmental footprint (Banerjee, 2002). When EO is strong, cultural

norms and environmental practices are more likely to align, suggesting that EO strengthens the positive relationship between GOC and environmental performance.

4 Methodology

4.1 Data Collection and Measures

To test the hypotheses, an online survey was administered using the SoSci Survey platform, a widely used tool for academic questionnaire research (see *Appendix A* for the full questionnaire). Participants were recruited on a voluntary basis through the researcher's personal network as well as an online survey platform. The survey targeted employees working in Germany and Austria. Both countries operate within comparable institutional and regulatory environments in the EU, particularly with regard to sustainability regulation and ESG reporting requirements. The questionnaire was formulated in English. To ensure a common understanding of the central construct, participants were provided with a brief introduction of GOC before responding to the respective items. Subsequently, respondents were asked to assess their general knowledge of ESG. This short self-assessment was measured using items from the subjective knowledge scale developed by Flynn and Goldsmith (1999), which demonstrated satisfactory internal consistency ($\alpha = 0.78$).

GOC was measured using a shortened version of the scale developed by Aggarwal and Agarwala (2021). As the original scale is relatively time-intensive and each GOC-factor is represented by multiple items, this study employs an eight-item adaptation that captures each GOC dimension with at least one item. This reduces respondent fatigue while preserving coverage of all core dimensions. Responses were recorded on a 5-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree", with higher scores indicating a stronger GOC. Reliability and validity of the original scale have been thoroughly established by the authors. The reduced scale demonstrates good internal consistency ($\alpha = 0.82$), indicating reliable measurement of the construct. Given that the focus of this study lies on the overall strength of GOC rather than on its individual dimensions, the items were aggregated into a single composite GOC score by averaging the respective item responses at the individual level.

Next, participants were asked to rate the EO of their current employer. For this purpose, the scale developed by Gabler et al. (2015) was used, which captures perceptions of environmental policies, communication practices, values and expectations. Participants

rated EO on a 7-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree”, where higher scores indicate a stronger strategic orientation toward environmental issues. The scale has demonstrated high reliability in the prior study ($\alpha = 0.93$).

Environmental performance data were obtained from Refinitiv Datastream via the Eikon platform, one of the largest global databases of financial and sustainability-related information. This study focuses exclusively on the Environmental Pillar Score, which quantifies a firm’s impact on natural ecosystems and its adoption of environmental management practices intended to reduce ecological risks and enhance long-term value creation (Datastream, 2025). The score ranges from 0 to 100, with higher values indicating stronger environmental performance. The initial dataset consisted of 1,365 firms operating in Germany and Austria. Firms lacking an Environmental Pillar Score were removed, resulting in 308 observations. Each firm was matched to one of the eleven industries defined by the Industry Classification Benchmark (ICB) represented in the dataset, enabling the combination of firm-level environmental data with industry-level aggregated data of GOC and EO. All scores obtained refer to the most recent financial year available.

4.2 Analytical Approach

An important methodological consideration of this study concerns the aggregation of individual-level survey data to the industry level. Because the survey was conducted anonymously, individual responses could not be matched to specific firms in the ESG dataset. Instead, respondents reported the industry of their employer using the eleven categories defined by the ICB, supported by examples to ensure accurate classification.

All survey-based items were then aggregated by computing mean values within each ICB industry. As a result, GOC and EO are treated as industry-level contextual predictors, while environmental performance remains measured at the firm level. This analytical structure follows an ecological inference logic. Consistent with the organizational field perspective (DiMaggio & Powell, 1983; Scott, 1994), industries can be conceptualized as socially and institutionally structured domains in which organizations are embedded in shared regulatory, normative and competitive environments. As such, industries represent meaningful social and institutional contexts that shape organizational behavior and performance through regulatory and competitive pressures. Prior research suggests that industries differ substantially in terms of resource availability, cost structures and

regulatory exposure, thereby shaping the feasibility and prioritization of sustainability initiatives (Awate & Kasar, 2024). Moreover, the formulation and implementation of sustainability initiatives are contingent upon industry characteristics and the broader local and global environments in which firms operate (Epstein & Buhovac, 2010). To statistically assess whether individual-level constructs could be meaningfully aggregated to the industry level, variance components analyses were conducted. Intraclass Correlation Coefficients (ICC) were used as criteria to evaluate the extent of between-group variance attributable to group membership.

While industry-level aggregation inevitably obscures within-industry heterogeneity and may mask firm-specific cultural dynamics, this design provides a robust framework for examining how cultural and strategic orientations at the industry level relate to variation in firm-level environmental performance.

To examine the proposed relationships, a firm-level regression analysis was conducted with GOC and EO functioning as industry-level predictors, using STATA (Version 18). To test hypothesis 1, the following baseline regression model was estimated:

$$Environmental Pillar_i = \beta_0 + \beta_1 GOC_j + \sum_k \beta_k Controls_i + \varepsilon_i$$

To test hypothesis 2, the moderation term was incorporated:

$$Environmental Pillar_i = \beta_0 + \beta_1 GOC_j + \beta_2 EO_j + \beta_3 (GOC_j \times EO_j) + \sum_k \beta_k Controls_i + \varepsilon_i$$

For model validation, all key regression assumptions were examined. This included tests of linearity, homoscedasticity and potential multicollinearity. In addition, the normality of the residuals was assessed. Given the data structure, both predictors were mean-centered prior to estimation to reduce multicollinearity and to facilitate the interpretation of lower-order effects in the presence of interaction terms. Firm size, functioning as a control variable, was log-transformed due to its right-skewed distribution and to limit the influence of extreme values. All regression models were estimated using cluster-robust standard errors at the industry level to account for potential heteroskedasticity and the within-industry correlation of error terms. Overall, these adjustments strengthen the robustness of the empirical results.

Several control variables were included to mitigate potential confounding effects, including both firm-level and industry-level variables. At the firm level, these comprise firm size and revenue, both retrieved from Datastream. Since revenue was not available for a sufficient number of observations, it could not be consistently included in the main regression models. Instead, revenue was examined as part of a robustness check reported in *Appendix B*.

At the industry level, mean ESG knowledge was calculated as the average self-reported ESG knowledge score per industry and included to capture sector-wide familiarity with sustainability concepts. In addition, the number of survey respondents per industry was included as a control variable to account for differences in the reliability of the aggregated industry-level measures.

5 Results

5.1 Descriptive Statistics

The initial dataset comprised 234 survey responses. Responses from individuals who were not currently employed were excluded ($n = 27$). Furthermore, observations with missing values on any of the GOC, EO or ESG knowledge items were removed ($n = 56$). In addition, three observations were excluded because the respondents were neither employed in Germany nor Austria and therefore did not provide meaningful insights for the purpose of this study. This was done to ensure consistent measurement of all key constructs and to avoid distortions in aggregation. Following these data-cleaning procedures, the final analytical sample consists of 148 observations, which are summarized in *Table 1*.

VARIABLES	N	Mean	SD	Min	Max
Age	148	35.25	13.91	21.00	62.00
Tenure	148	6.07	7.57	0.50	27.50
Green Organizational Culture	148	3.41	0.73	1.62	4.88
Environmental Orientation	148	5.07	1.41	1.00	7.00
ESG Knowledge	148	4.71	1.43	1.00	7.00

Table 1: Individual-level Summary Statistics

The majority of respondents are employed in Germany (75%), while 25% are based in Austria. This shows a clear dominance of German respondents. With respect to gender, 57.43% of the respondents are male and 42.57% female. Although the survey provided the option to indicate a non-binary gender identity, none of the respondents selected this option. The average age of participants is 35.25 years, ranging from 21 to 62 years. The largest share of respondents falls within the 25 to 29 years age group, representing 38.51% of the sample. The second largest segment comprises participants aged between 18 to 24 years (19.59%), followed by respondents aged from 55 to 59 years (14.19%). The smallest proportion of respondents is observed in the 35 to 39 years age group. In terms of organizational tenure, respondents report an average of 6.07 years, with tenures ranging from 0.5 years to 27.5 years. The largest group of participants has one to three years of professional experience with their current employer (31.76%). Both age and tenure were measured using categorical ranges and subsequently transformed into continuous variables using category midpoints.

On average, respondents report a moderate level of GOC ($M = 3.41$, $SD = .73$, range = 3.25) on a five-point scale. A small number of respondents report a low level of GOC, with 22 observations falling at or below the low-value threshold (≤ 2.5).

EO is on average high ($M = 5.07$, $SD = 1.41$, range = 6) on a seven-point scale. Only 7 respondents report low levels of EO (≤ 2.5), indicating that low organizational EO is relatively uncommon in the sample.

ESG Knowledge is also comparatively high ($M = 4.71$, $SD = 1.43$, range = 6). Nevertheless, 12 respondents report low levels of ESG knowledge (≤ 2.5), suggesting a small variation in familiarity with ESG-related topics within the sample.

Table 2 presents the aggregated industry-level descriptive statistics, including the number of survey respondents per industry as well as industry-level mean values of GOC, EO and environmental performance. The distribution across industries is uneven, ranging from 2 respondents in Real Estate to 29 respondents in Industrials, resulting in an average of 13.45 respondents per industry. Most industries meet or exceed the desired minimum threshold of ten respondents for aggregation. However, four industries are represented by fewer observations (Basic Materials, Real Estate, Telecommunications and Utilities). These industries are retained for subsequent analyses and their influence will be examined separately in additional analyses.

Industry	Number of Respondents	Mean GOC	Mean EO	Mean Environmental Pillar
Basic Materials	3	4.13	6.22	54.59
Consumer Discretionary	23	3.35	4.70	49.50
Consumer Staples	12	3.07	4.65	51.94
Energy	10	3.88	5.92	45.15
Financials	17	3.22	4.63	48.83
Health Care	14	3.56	4.96	58.57
Industrials	29	3.31	5.51	49.34
Real Estate	2	3.69	5.67	48.25
Technology	27	3.65	5.02	43.04
Telecommunications	5	2.43	3.57	44.56
Utilities	6	3.44	5.89	54.51

Table 2: Industry-level Descriptive Statistics

Industry-level mean values of GOC range from 2.43 (Telecommunications) to 4.13 (Basic Materials), indicating considerable heterogeneity across industries. A similar pattern emerges for EO, with mean values ranging from 3.57 (Telecommunications) to 6.22 (Basic Materials). Environmental performance, measured here by the average Environmental Pillar Score, also varies between industries. The highest mean environmental scores are observed in Health Care (58.57), Basic Materials (54.59) and Utilities (54.52) whereas comparatively lower scores are found in Telecommunications (44.56) and Technology (43.04).

Table 3 presents the number of firms and the average firm size for each industry included in the sample. Firm size varies substantially between industries. Across the full sample, firms employ on average 21,985 employees, with the firm size ranging from 6 to 679,472 employees, indicating a highly dispersed distribution. In addition, industries differ considerably in the number of firms represented, with some industries contributing a relatively large share of observations, while others are based on smaller subsamples. Together, these differences reflect structural characteristics of the respective industries and underscore the importance of accounting for firm size in the subsequent analyses.

Industry	Number of Firms	Mean Firm Size
Basic Materials	23	6,272
Consumer Discretionary	56	752
Consumer Staples	10	8,448
Energy	13	4,282
Financials	30	2,454
Health Care	18	2,426
Industrials	77	2,318
Real Estate	18	545
Technology	41	18,413
Telecommunications	13	17,298
Utilities	10	7,568

Table 3: Firm Distribution by Industry

5.2 Aggregation Tests

The aggregation of individual-level measures to the industry level is assessed empirically in this subsequent analysis.

The variance components analysis revealed significant between-industry variance in individual-level perceptions of GOC ($F(10,137) = 2.71, p = 0.0046$). The ICC was 0.12, indicating that approximately 12% of the variance in GOC perceptions was attributable to differences between industries. While the majority of variance remains at the individual level, this value reflects a meaningful degree of shared perceptions within industries. The reliability of the industry-level means was 0.63, suggesting acceptable aggregation quality. Given the limited number of industries and participants per industry, this still supports aggregation of individual-level GOC to the industry level. A similar pattern was observed for EO ($F(10,137) = 2.27, p = 0.0170$). The ICC (0.09) suggests that around 9% of the variance in EO perceptions was located at the industry level. Although the majority of variance remains at the individual level, the presence of significant between-industry variance supports the use of aggregated EO measures in subsequent analyses.

In contrast, no significant between industry-variance was found for ESG Knowledge ($F(10,137) = 0.90, p = 0.534$). The ICC was effectively zero, indicating that variance in ESG Knowledge is almost entirely located at the individual level. Accordingly, ESG

Knowledge does not represent a shared industry-level characteristic and was therefore not aggregated or included as an industry-level control variable. Consequently, the variable is not presented in any of the tables showing industry-aggregated measures.

5.3 Correlation Analysis

Table 4 reports bivariate Pearson correlations between firm-level environmental performance and the main industry-level predictors. GOC shows no significant association with firm's Environmental Pillar Score ($r = 0.03, p < .10$). Similarly, EO is not significantly correlated with environmental performance ($r = 0.05, p < .10$). In contrast, GOC and EO are strongly and positively correlated ($r = .76, p < .01$), indicating that industries characterized by a strong EO also tend to exhibit a pronounced GOC. This finding is consistent with existing theory, which suggests that cultural and strategic dimensions of sustainability must be closely aligned.

Given the cross-level nature of the study design, in which industry-level predictors are related to firm-level outcomes, the absence of significant bivariate relationships between the industry-level predictors and firm-level environmental performance is not unexpected.

Pairwise correlations			
Variables	(1)	(2)	(3)
(1) Environmental Pillar Score	1.000		
(2) GOC Industry Mean	0.031 (0.593)	1.000	
(3) EO Industry Mean	0.046 (0.419)	0.760 (0.000)	1.000

Table 4: Correlation Table

5.4 Main Regression Results

Table 5 reports the results of the firm-level regression analyses examining the relationship between industry-level GOC and EO and firm-level environmental performance, measured by the Environmental Pillar Score. The models were estimated using cluster-robust standard errors at the industry level. Additionally, all models include firm size and the number of survey respondents per industry as control variables.

Model 1 presents the baseline specification testing the direct association between industry-level GOC and environmental performance. The coefficient for GOC is positive but not statistically significant, indicating that variation in industry-level GOC is not associated with differences in firm-level Environmental Pillar Scores ($\beta = 3.061, p > .10$). Among the control variables, log-transformed firm size shows a strong and statistically significant positive effect on environmental performance ($\beta = 8.814, p < .01$). The number of survey respondents per industry is negatively related to environmental performance ($\beta = -0.354, p < .05$). Overall, the model explains 41% of the variance in environmental performance ($R^2 = 0.410$).

VARIABLES	(1) Model 1	(2) Model 2
GOC (centered)	3.061 (3.714)	0.954 (4.905)
EO (centered)	0.758 (1.914)	0.413 (2.137)
GOC x EO		-6.566 (4.637)
Firm Size (log)	8.814*** (0.857)	8.848*** (0.819)
Number of Respondents	-0.354** (0.144)	-0.531** (0.222)
Constant	-18.599* (9.890)	-14.554 (10.349)
Observations	308	308
R^2	0.410	0.414

Robust standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5: Regression Results

Model 2 extends the baseline model by including the interaction term between GOC and EO. In this specification, neither GOC ($\beta = 0.954, p > .10$) nor EO ($\beta = 0.413, p > .10$)

exhibit a statistically significant direct effect on environmental performance. Additionally, it can be observed that the coefficient of GOC decreases to $\beta = 0.954$ and the coefficient of EO ($\beta = 0.413$) also exhibits a similarly low magnitude. The interaction term between GOC and EO is negative ($\beta = -6.566$) but does not reach conventional levels of statistical significance ($p > .10$). Firm size remains positively and highly significantly associated with environmental performance ($\beta = 8.848, p < .01$), which is consistent with the baseline model. The number of respondents per industry continues to retain a negative and statistically significant coefficient ($\beta = -0.531, p < .05$). The inclusion of EO and the interaction term results in only a marginal increase in explained variance ($R^2 = 0.414$), so almost no additional explanatory power was gained when adding the moderation term to the model. Overall, the results indicate that firm size is a robust predictor of environmental performance, whereas neither industry-level GOC nor EO nor their interaction show a statistically significant association with firms' environmental performance in the estimated models.

As a robustness check, revenue was included as an additional firm-level control variable (see *Appendix B*). Due to limited data availability, this specification reduces the sample size. The substantive pattern of results remains largely unchanged, as neither GOC nor the interaction term reach statistical significance. EO becomes marginally significant at the 10 percent level in the reduced sample. However, this effect is not observed in the full-sample models, which suggests that the result is sensitive to sample composition.

5.5 Additional Analyses

Since four of the eleven industries did not meet the threshold of ten respondents, they were excluded in an additional set of analyses. The resulting sample comprises 245 firm-level observations. The explanatory power of the model remains largely unchanged compared to the baseline specification, with R^2 increasing slightly to 0.433.

In contrast to the full-sample models, GOC reaches marginal statistical significance at the 10 percent level in both Model 3 and Model 4 (seen in *Table 6*). This indicates a weak positive association between industry-level GOC and firm-level environmental performance when industries with small respondent counts are excluded. Moreover, the estimated coefficient increases in magnitude relative to the baseline model. EO remains statistically insignificant across specifications and the interaction term between GOC and EO does not exhibit a significant effect either. Firm size continues to show a strong and

positive association with the Environmental Pillar Score and remains highly significant across both specifications. The number of respondents per industry is not statistically significant anymore in these models.

Overall, the pattern of the results remains largely consistent with the baseline models, with the only notable difference being the marginal significance of GOC in the reduced sample.

VARIABLES	(3) Model 3	(4) Model 4
GOC (centered)	8.857* (3.665)	8.869* (3.722)
EO (centered)	-0.606 (1.583)	-0.623 (1.858)
GOC x EO		0.361 (7.790)
Firm Size (log)	9.529*** (0.668)	9.531*** (0.695)
Number of Respondents	-0.158 (0.094)	-0.153 (0.156)
Constant	-29.432*** (6.110)	-29.574** (8.326)
Observations	245	245
R^2	0.433	0.433

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 6: *Regression Results of Reduced Sample Size*

6 Discussion

6.1 Interpretation of the Results

This study examined whether GOC is associated with observable environmental performance, as captured by the Environmental Pillar Score of ESG ratings. In addition,

the study investigated whether EO strengthened this relationship. Contrary to the theoretical expectations derived from prior literature, the empirical results do not provide support for either of the proposed hypotheses. The findings of this study therefore suggest that the relationship between GOC and environmental performance is more complex than commonly assumed in recent literature. While GOC is frequently conceptualized as a central internal driver of CS (Dreyer et al., 2021; Gürlek & Tuna, 2018), the results indicate that sustainability-oriented cultural values alone are not sufficient to explain variation in ESG-based environmental performance.

This pattern resonates with the more skeptical perspective of Harris and Crane (2002), who argue that cultural greening often remains superficial and is primarily driven by external pressures rather than deeply internalized conviction. This view challenges the transformational potential of green culture. Such skepticism becomes particularly plausible when sustainability efforts are not embedded in a broader systemic context. In line with this reasoning, prior research emphasizes that sustainability initiatives frequently address only selected elements of the organizational system and often lack systematic integration across the full range of corporate activities and sustainability dimensions. Focusing predominantly on a single mechanism, such as organizational culture, may therefore result in a limited and narrow contribution to sustainability if it is not complemented by structural and strategic integration across the company system (Lozano, 2012).

From a theoretical perspective, these findings highlight an important distinction between internal cultural commitment and externally observable sustainability outcomes. GOC primarily reflects shared values, norms and underlying assumptions related to environmental responsibility, which operate largely at an informal and often implicit level (Siswanti & Muafi, 2022; Vargas-González et al., 2023). In contrast, the Environmental Pillar Score captures formalized environmental practices, investments and governance structures. It incorporates management systems, investments and compliance mechanisms as well as quantifiable outcomes such as emissions or resource efficiency (Gillan et al., 2021). Informal cultural elements such as shared values or employee beliefs may therefore exert only an indirect or delayed influence on these indicators. As such, the findings suggest that cultural greening does not automatically translate into measurable environmental performance when assessed through standardized ESG indicators.

This discrepancy can be interpreted through the lens of the rhetoric-practice gap in CS. Organizations may articulate strong environmental values and cultivate a green culture without necessarily implementing corresponding changes in formal practices or generating measurable environmental improvements. In this sense, GOC may function more as a normative orientation or rhetorical signal rather than as a direct and immediate driver of ESG-based environmental performance.

In line with Schein's (2004) framework, GOC operates largely at the level of underlying assumptions, whereas ESG scores reflect observable practices and formalized structures. This distinction highlights a potential gap between cultural depth and measurable performance outcomes. Moreover, as argued by Riemer et al. (2025), organizations may be situated at different stages of their greening progress. Cultural transformation processes unfold gradually and the translation of environmental values into formalized structures requires time. This temporal dimension may partly explain why no direct association becomes visible in these cross-sectional analyses.

The absence of a moderating effect of EO further reinforces this interpretation. Although cultural and strategic orientations towards sustainability are conceptually closely aligned, their interaction does not appear to strengthen environmental performance outcomes. This challenges the assumption that strategic environmental alignment necessarily strengthens the translation of cultural values into performance outcomes (Bai et al., 2024; Leonidou et al., 2015). While GOC and EO are strongly correlated, indicating that industries with strong environmental strategies also tend to exhibit stronger green cultures, this alignment alone appears insufficient to generate superior environmental performance as captured by ESG ratings. This pattern again reinforces Lozano's (2012) arguments that isolated sustainability initiatives are unlikely to generate comprehensive sustainability outcomes.

A possible explanation lies again in the decoupling between cultural assumptions and formalized strategic systems. GOC primarily reflects informal, deeply embedded values and shared assumptions (Siswanti & Muafi, 2022; Vargas-González et al., 2023), whereas EO represents more formalized and strategic commitments articulated at the organizational level (Gabler et al., 2025). While both dimensions may coexist within the same organization, they do not automatically ensure operational integration. Strategic environmental objectives may remain disconnected from day-to-day routines, resource allocation and measurable performance systems. In this respect, cultural commitment and strategic orientation can run in parallel without being effectively translated into ESG-

relevant practices. Consequently, the mere alignment of values and strategy may not be sufficient to activate performance-relevant mechanisms that become visible in standardized ESG ratings.

The results show that firm size is consistently associated with Environmental Pillar Scores across all models. This strong and consistent influence of firm size provides additional insight into these dynamics, suggesting that organizational scale and capacity play a more prominent role than cultural orientation within the present analysis. Larger firms are more likely to possess the resources, technical expertise and organizational infrastructure required to implement comprehensive environmental management systems and to meet ESG reporting standards.

The regulatory context further contextualizes this result. As elaborated earlier, mandatory sustainability reporting primarily applies to large enterprises, whereas SMEs are largely exempt from these obligations. ESG databases therefore predominantly include large firms subject to formal disclosure requirements and external scrutiny. Smaller firms may engage in sustainability initiatives on a voluntary basis. Given that SMEs are only marginally represented in the dataset, the empirical analysis largely reflects sustainability dynamics among large organizations, where sustainability is often embedded in formal governance structures and reporting systems (Vollero, 2022). This institutional asymmetry contributes to the limited explanatory power of cultural variables relative to firm size. ESG-based environmental performance thus reflects not only an outcome variable for substantive environmental action but also institutional visibility and reporting obligations. This finding further supports Harris and Crane's (2002) argument that institutional and regulatory pressures play a decisive role in translating environmental commitments into performance outcomes.

The additional analyses provide a more nuanced perspective on these findings. Excluding industries with fewer observations leads to a marginally statistically significant effect at the 10 percent level. This suggests that the relationship between GOC and environmental performance may become more pronounced when industry-level cultural measures are based on a more reliable number of observations. This pattern indicates that the non-significant findings in the full sample may partly reflect reduced reliability of industry-level aggregates in clusters with very small respondent counts. In industries with very small respondent counts, aggregated perceptions of GOC may be less stable and less representative of actual cultural patterns. However, even in the reduced sample, the effect

does not reach conventional levels of statistical robustness ($p < .05$) and the moderating role of EO remains insignificant. This reinforces the conclusion that EO does not appear to amplify the performance effect of GOC in a measurable way in this study. Taken together, these additional findings slightly qualify but do not fundamentally alter the overall conclusion: while GOC may exert a weak positive influence under more stable measurement conditions, its effect appears limited relative to firm size.

Overall, the results suggest that GOC functions less as a direct driver for environmental performance and may rather operate as an enabling background condition. It may operate as a necessary but not sufficient condition for observable environmental performance within ESG frameworks. Cultural greening supports the long-term internalization of sustainability values and fosters employee commitment (Collier & Esteban, 2007; Dreyer et al., 2021), but its effects appear to become performance-relevant only when combined with sufficient organizational resources, formal governance mechanisms and regulatory activation.

6.2 Limitations

A key limitation of this study concerns the levels of measurement and analysis. While the theoretical framework conceptualizes GOC and EO as firm-level constructs, the empirical measurement is based on individual survey responses that were aggregated to the industry level. Consequently, all companies within the same ICB sector are assigned identical values for GOC and EO, which constrains within-sector variation and limits the precision with which firm-level differences can be captured. The findings therefore primarily reflect variation between industries rather than differences between individual firms within those industries and do not allow for causal inference at the firm level.

This limitation is reinforced by the variance components analysis. The ICC values for GOC and EO were relatively low, indicating that only a modest proportion of variance in these constructs is attributable to industry-level differences. Although the presence of significant between-industry variance supports aggregation in principle, the low ICC values suggest limited within-industry homogeneity. Consequently, the aggregated industry-level measures may only imperfectly represent shared cultural characteristics, which attenuates the estimated relationships with environmental performance.

Furthermore, the number of industry-level units is limited to eleven industry clusters. This small number of independent observations at the industry level reduces statistical power

and increases sensitivity of the results to sector-specific variation. In addition, the limited cluster count has methodological implications for statistical inference since cluster-robust standard errors require a sufficiently large number of clusters for reliable estimation. With only eleven clusters, the precision of cluster-adjusted variance estimates is constrained, which calls for cautious interpretation of statistical significance. Although clustering remains theoretically appropriate given the aggregation level of independent variables, the small number of clusters limits the precision of the estimated standard errors. Furthermore, the number of survey responses per industry varies considerably, with some industries represented by relatively few observations. Uneven cluster sizes may affect stability, as clusters with small respondent counts are more sensitive to sampling variability. Although additional analyses were conducted to address this issue, the unequal distribution of observations across industries remains a potential source of estimation instability.

Another limitation concerns the alignment between the survey data and the ESG performance data. While the survey captures employees' perceptions of sustainability-related values and practices, respondents do not necessarily work for the publicly listed firms included in the ESG database. As a result, the aggregated industry-level cultural measures of GOC and EO do not perfectly correspond to the specific firms whose environmental performance is assessed, raising concerns regarding representativeness and construct alignment.

Additionally, the study does not explicitly distinguish between different dimensions or factors of GOC. As a multidimensional construct, GOC may contain components that vary in their relevance for ESG performance. The present design does not allow for the examination of such differentiated effects.

Beyond the structural constraints, several general limitations apply. First, the data collection was geographically restricted to Germany and Austria. Given that both countries are embedded in comparable regulatory and institutional environments, the findings are not fully generalizable to other national contexts with different sustainability regulation, reporting standards or cultural norms. Second, the overall sample size is relatively limited, particularly at higher levels of aggregation. While it is sufficient for exploratory analysis, the restricted number of observations reduces statistical power and limits the ability to detect smaller or more nuanced effects. Third, the survey-based measures of GOC and EO rely on employees' subjective perceptions. While perceptual

measures are commonly used in organizational research and provide valuable insights into internal cultural dynamics, they do not always accurately reflect actual organizational practices. Respondents' answers may be influenced by personal expectations, social desirability or aspirational views of how sustainability should be enacted within their organization, rather than how it is implemented in practice. As a result, the measured constructs can partially capture normative or idealized representations of sustainability, which further contributes to the observed gap between cultural perceptions and externally measured environmental performance.

Taken together, these limitations imply that the results should be interpreted with caution. The findings provide exploratory evidence of industry-level associations between sustainability-oriented cultures, strategic orientations and environmental performance, rather than definitive firm-level causal conclusions.

6.3 Implications and Future Research

The findings of this study carry several implications for future research on sustainability-oriented culture and ESG performance.

First, future studies should aim to establish a direct correspondence between employee-level perceptions of sustainability and the ESG performance of the specific firms in which the respondents are employed. While the approach of this study enables the examination of cross-industry patterns, it does not allow for precise firm-level matching between perceived organizational culture and objectively measured environmental outcomes. Matched datasets would allow for a more precise approach and provide a more accurate assessment of how internal cultural dynamics translate into externally observable sustainability performance, thereby improving construct alignment.

Second, future research should differentiate more explicitly between the distinct dimensions of GOC. Given its multidimensional nature, certain cultural components may be more closely aligned with ESG ratings than others. Disaggregating GOC into its constituent components would allow researchers to identify which aspects of a green culture are most consequential for measurable environmental outcomes and which primarily operate at a symbolic or normative level.

Third, future studies should consider the dynamic and potentially non-linear nature of organizational greening. The development of GOC is unlikely to follow a uniform or

linear trajectory across firms (Riemer et al., 2025). As a result, the relationship between GOC and environmental performance may evolve over time rather than manifest as an immediate association. Consequently, longitudinal studies are needed to capture these dynamics. Research designs that track both employee perceptions and ESG performance over extended periods would provide deeper insights into whether cultural orientations exert delayed, cumulative or threshold effects on measurable sustainability outcomes.

Fourth, future research should more explicitly integrate institutional and regulatory dynamics into the analysis of the culture-performance relationship. The findings of this study indicate that firm size, which is closely linked to reporting obligations, is more consistently associated with ESG-based environmental performance than cultural orientation. This suggests that regulatory pressure may play a critical role in activating or amplifying the performance relevance of sustainability-oriented cultures. Under conditions of limited external accountability, GOC may remain primarily normative and symbolic. However, when mandatory sustainability reporting requirements expand, organizations are increasingly required to formalize, measure and disclose their environmental practices. In such institutional contexts, cultural commitments may be more systematically translated into auditable structures and measurable outcomes. Future studies should therefore examine whether regulatory intensity moderates the relationship between GOC and ESG performance and whether stronger institutional pressures enhance the conversion of cultural orientations into observable environmental results.

At the same time, future research should adopt a broader and more holistic organizational systems perspective. Sustainability transformation typically involves a variety of initiatives, such as environmental management systems, sustainability reporting or eco-efficiency measures, each addressing different elements of the corporate system. Relying predominantly on a single initiative is therefore unlikely to generate comprehensive sustainability outcomes, as no individual mechanism fully captures the multidimensional nature of sustainability (Lozano, 2012). From this perspective, corporate culture represents one important component among several complementary mechanisms and examining culture in isolation may underestimate the systematic interactions required for sustainability-oriented cultures to become embedded in formal structures, operational routines and measurable performance systems.

Taken together, these directions suggest that advancing research in this area requires more fine-grained measurement strategies, firm-level data integration and longitudinal

approaches. Additionally, future research should investigate how individual sustainability initiatives interact over time and whether their combined implementation produces cumulative effects on environmental performance.

7 Conclusion

This study aimed to examine whether corporate culture drives environmental performance. More specifically, it investigated whether GOC is associated with observable environmental performance as reflected in ESG-based Environmental Pillar Scores, and whether EO strengthens this relationship. Contrary to theoretical expectations, the empirical findings provide no robust evidence for either a direct cultural-performance link or a moderating effect of EO. While additional analyses indicate a weak positive association under more stable aggregation conditions, firm size emerges as the most consistent predictor of Environmental Pillar Scores. In this respect, the findings align more closely with the skeptical perspective of Harris and Crane (2002) than with Porter et al.'s (2016) more optimistic view on the transformative capacity of green culture.

These results suggest that sustainability-oriented cultural values and orientations alone do not automatically translate into measurable ESG outcomes. Even when organizations articulate strong environmental commitments and foster internal sustainability norms and values, externally observable performance appears to depend more strongly on other factors. In this respect, the findings resonate with broader debates on potential discrepancies between sustainability rhetoric and substantive implementation, as discussed in the greenwashing literature. The lack of a clear empirical link between GOC and ESG performance underscores the need to carefully distinguish between internal cultural orientation and externally assessed sustainability metrics.

At the same time, the study highlights important methodological considerations for sustainability research. The relationship between culture and performance is sensitive to measurement levels, aggregation procedures and institutional contexts. Advancing this field therefore requires more precise firm-level matching, multidimensional cultural measurement and longitudinal designs to better capture the dynamic processes of organizational greening through which sustainability-oriented cultures become performance-relevant.

Overall, this study contributes to a more differentiated understanding of CS by reconceptualizing GOC not as a direct performance driver but as an enabling institutional condition whose effects depend on structural capacity and regulatory activation.

Looking ahead, the regulatory trajectory within the EU remains uncertain. While the CSRD initially signaled a substantial expansion of mandatory sustainability reporting, recent political discussions have induced adjustments and temporal easing, aimed at reducing administrative burdens for firms (Directorate-General for Financial Stability, Financial Services and Capital Markets Union, 2025). This regulatory ambivalence may have important implications for the future culture-performance relationship identified in this study. If sustainability reporting requirements are weakened or inconsistently enforced, the institutional pressure necessary to translate sustainability-oriented cultural values into formalized and measurable practices may remain limited. Under such conditions, GOC could continue to operate primarily at a normative or symbolic level, without systematically shaping externally observable ESG performance. Ultimately, whether sustainability-oriented cultures become more strongly reflected in measurable ESG outcomes will depend not only on regulatory expansion but also on the credibility and consistency of enforcement mechanisms across industries and organizational capabilities.

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Appendix A

Questionnaire

Introduction:

Welcome to this survey on Green Organizational Culture!

This survey is part of my master thesis exploring how organizations integrate environmental values into their culture and everyday practices.

The concept of Green Organizational Culture refers to the extent to which environmental awareness, sustainability, and green practices are shared and supported within an organization.

Your participation will help to better understand how such values are developed and expressed in different workplaces and industries.

The survey takes about 5–10 minutes to complete. All responses are anonymous and used for research purposes only.

Please answer honestly based on your personal experience within your organization.

Thank you,
Franka Fischer

Block A – Demographics:

A1. What is your gender?

- ☐ Female
- ☐ Male
- ☐ I do not identify with any of the above

A2. How old are you?

- ☐ 18 to 24 years old
- ☐ 25 to 29 years old
- ☐ 30 to 34 years old
- ☐ 35 to 39 years old
- ☐ 40 to 44 years old

- ☐ 45 to 49 years old
- ☐ 50 to 54 years old
- ☐ 55 to 59 years old
- ☐ 55 to 59 years old
- ☐ 60 to 64 years old
- ☐ 65 years or older

A3. Are you currently employed?

- ☐ Yes, I am employed.
- ☐ No, I am unemployed. → End of questionnaire / Redirection to last page

Block B – Job Information

B1. Please indicate the industry of your current employer. (Drop-down list)

1. Basic Materials (e.g. Chemicals, Industrial Metals and Mining)
2. Consumer Discretionary (e.g. Consumer Products, Automobiles and Parts, Travel and Leisure, Retail)
3. Consumer Staples (e.g. Food Producers, Beverages, Personal Care)
4. Energy (e.g. Alternative Energy, Oil, Gas and Coal)
5. Financials (e.g. Banks, Financial Services, Insurance)
6. Health Care (e.g. Pharmaceuticals and Biotechnology, Medical Equipment and Services)
7. Industrials (e.g. Industrial Engineering, Construction and Materials)
8. Real Estate (e.g. Real Estate Investment and Services Development, Real Estate Investment Trusts)
9. Technology (e.g. Technology Hardware and Equipment, Software and Computer Services)
10. Telecommunication (e.g. Telecommunication Service Providers, Telecommunication Equipment)
11. Utilities (e.g. Electricity, Waste and Disposal Services)

B2. How many years have you been working in your current company?

- ☐ Less than 1 year
- ☐ 1 – 3 years
- ☐ 3 – 5 years
- ☐ 5 – 10 years

- ☐ 10 – 15 years
- ☐ 15 – 20 years
- ☐ 20 – 25 years
- ☐ More than 25 years

B3. Which country are you currently working in?

- ☐ Germany
- ☐ Austria
- ☐ Other Country: _____

Block C – ESG Knowledge

Please indicate how knowledgeable you consider yourself to be regarding ESG (Environmental, Social & Governance).

1. I know pretty much about ESG.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Neither
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

2. I do not feel very knowledgeable about ESG.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Neither
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

Block D – Green Organizational Culture

In the following section you will find questions regarding the organizational culture towards sustainability in your company. Please rate the statements according to your perception.

1. In my organization, managers believe that focusing on environment-friendly policies and practices has a negative influence on the financial performance of the company.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree
2. Environmental values are placed at a high priority within the industry group to which my organization belongs.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree
3. I believe that the internal processes in my organization are highly supportive of pro-environmental initiatives.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree
4. In my organization, development of organization wide environmental values is difficult because there are cultural differences between the departments.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree

5. The managers in my organization speak positively about green practices of the firm even during informal interactions over lunch or tea.
- ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree
6. Improving sales and profit is the only objective of my organization. Environmental considerations, like caring for the air quality index, do not matter at all.
- ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree
7. The dominant business philosophy of my organization is to focus on green issues and environmental performance.
- ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree
8. In my organization, there is a resistance to green issues / change among the employees.
- ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Neither
 - ☐ Agree
 - ☐ Strongly Agree

Block E – Environmental Orientation:

In the following section you will find questions regarding the environmental orientation of your company. Please rate the statements according to your perception.

1. My company has a clear policy statement urging environmental awareness.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Somewhat Disagree
 - ☐ Neither
 - ☐ Somewhat Agree
 - ☐ Agree
 - ☐ Strongly Agree
2. Environmental preservation is a high priority in my company.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Somewhat Disagree
 - ☐ Neither
 - ☐ Somewhat Agree
 - ☐ Agree
 - ☐ Strongly Agree
3. My company promotes environmental preservation as a major company goal.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Somewhat Disagree
 - ☐ Neither
 - ☐ Somewhat Agree
 - ☐ Agree
 - ☐ Strongly Agree
4. My company has a responsibility to preserve the environment.
 - ☐ Strongly Disagree
 - ☐ Disagree
 - ☐ Somewhat Disagree
 - ☐ Neither
 - ☐ Somewhat Agree
 - ☐ Agree
 - ☐ Strongly Agree
5. People expect my company to be environmentally-conscious.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Neither
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

6. My company strives for an image of environmental responsibility.

- ☐ Strongly Disagree
- ☐ Disagree
- ☐ Somewhat Disagree
- ☐ Neither
- ☐ Somewhat Agree
- ☐ Agree
- ☐ Strongly Agree

Debrief:

Thank you for taking the time to complete this survey!

Your responses have been recorded successfully. Your contribution is highly appreciated and will be used for research purposes only.

If you have any questions about this study, please feel free to contact me at a12320649@unet.univie.ac.at.

You may now close this window.

Appendix B

Statistical Output

1. Data Distribution and Transformation

Figure B-1.1: Firm Size Distribution, Untransformed

The untransformed distribution of firm size (measured as the number of employees) exhibits substantial right-skewness. A large proportion of firms clusters at employee levels below 40,000. The wide range of observations indicated the presence of outliers and a non-normal distribution.

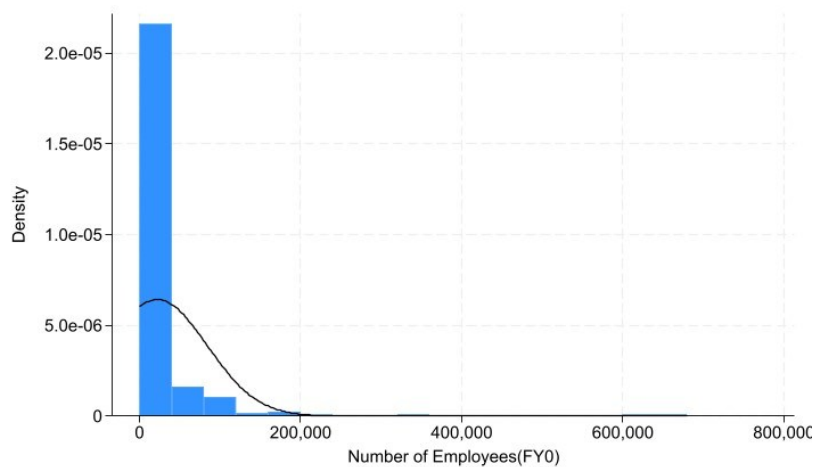


Figure B-1.2: Firm Size Distribution, Log-transformed

To reduce skewness and limit the influence of extreme values, firm size was log-transformed prior to estimation. The transformed variable exhibits a substantially more symmetric distribution and more closely approximates normality.

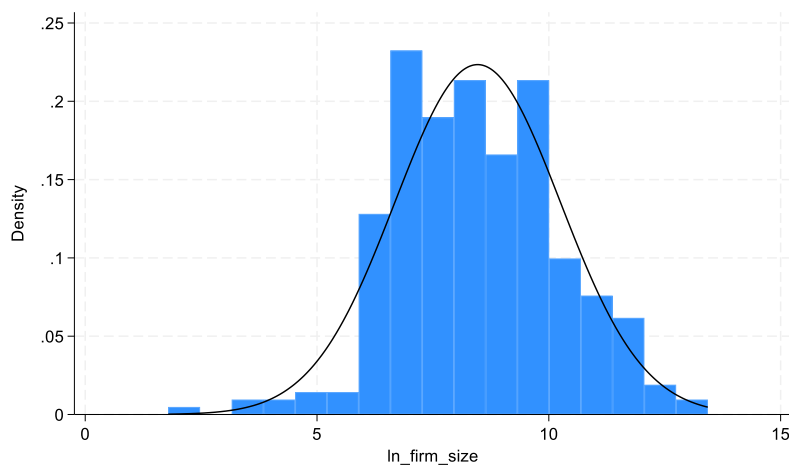


Figure B-1.3: Revenue Distribution, Untransformed

The untransformed distribution of revenue exhibits pronounced right-skewness. The majority of firms cluster at revenue levels well below 500,000,000 USD. A small number of observations display extremely high values, resulting in a long right tail. This wide dispersion indicates the presence of substantial outliers and a non-normal distribution.

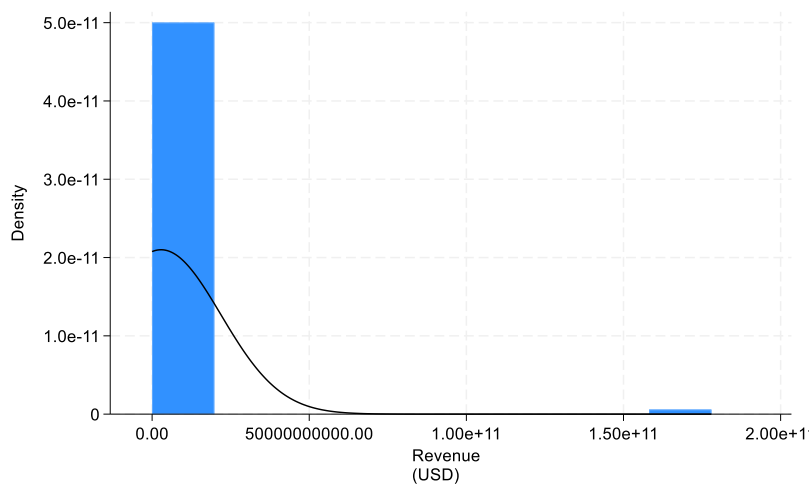
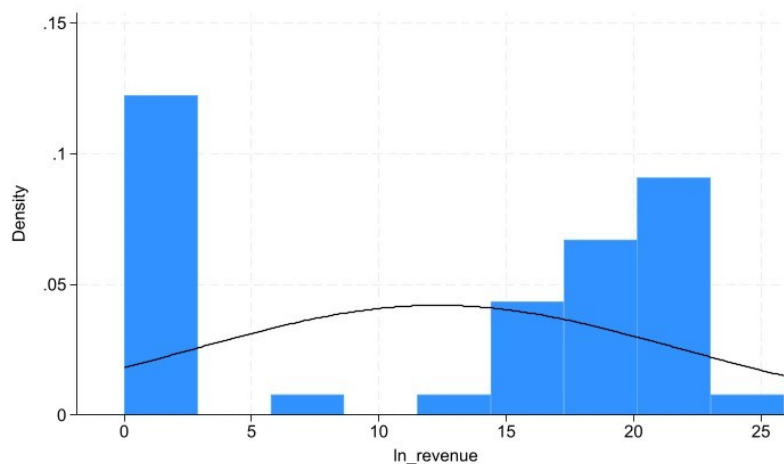


Figure B-1.4: Revenue Distribution, Log-transformed

To reduce skewness and limit the influence of extreme values, revenue was log-transformed prior to estimation. The transformed variable displays a more symmetric distribution and more closely approximates normality than before.



2. Regression Models and Results

Table B-2.1: Overview of Regression Models

Model	Included Variables	Control Variables
Model 1	GOC, EO	Firm Size, Number of Respondents
Model 2	GOC, EO, GOC x EO	Firm Size, Number of Respondents
Model 3	GOC, EO	Firm Size, Number of Respondents
Model 4	GOC, EO, GOC x EO	Firm Size, Number of Respondents
Model 5	GOC, EO, GOC x EO	Firm Size, Number of Respondents, Revenue
Model 6	GOC, EO, GOC x EO	Firm Size, Number of Respondents

Table B-2.2: Overview of Regression Results

Models 1 – 4 are presented and discussed in *Section 5* and *Section 6*.

Models 5 and 6 report robustness checks including the control variable revenue. Due to data availability, these models are based on a reduced sample of 88 observations.

Model 5 includes revenue (log-transformed) as an additional control variable. Model 6 reports the same reduced sample without revenue to allow comparison within an identical sample size.

VARIABLES	(1) Model 1	(2) Model 2	(3) Model 3	(4) Model 4	(5) Model 5	(6) Model 6
GOC (cleaned)	3.061 (3.714)	0.954 (4.905)	8.857* (3.665)	8.869* (3.722)	2.213 (10.427)	1.584 (10.941)
EO (cleaned)	0.758 (1.914)	0.413 (2.137)	-0.606 (1.583)	-0.623 (1.585)	9.122* (5.020)	8.906 (5.049)
GOC x EO	- (0.144)	-6.566 (4.637)	- (0.094)	0.361 (7.790)	-2.238 (6.849)	-1.857 (6.929)
Firm Size (log-transformed)	8.814*** (0.857)	8.848*** (0.819)	9.529*** (0.668)	9.531*** (0.695)	8.697*** (1.264)	8.733*** (1.268)
Number of Respondents	-0.354** (0.144)	-0.531** (0.222)	-0.158 (0.094)	-0.153 (0.156)	0.187 (0.131)	-0.530 (0.398)
Revenue (log-transformed)	- (0.383)	- (0.383)	- (0.383)	- (0.383)	-0.523 (0.383)	- (0.383)
Constant	-18.599* (9.890)	-14.554 (10.349)	-29.432*** (6.110)	-29.574** (8.326)	-14.487 (10.133)	-12.478 (10.154)
Observations	308	308	245	245	88	88
R-squared	0.410	0.414	0.433	0.433	0.550	0.545
R^2	0.410	0.414	0.433	0.433	0.550	0.545

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

3. Regression Diagnostics

In the following the assumptions of the main regression analysis (Model 2) will be examined.

Figure B-3.1: Normal Q-Q Plot of Residuals

The residuals closely follow the reference line, with only minor deviations. This indicates that the residuals are approximately normally distributed. No substantial departures from normality are observable.

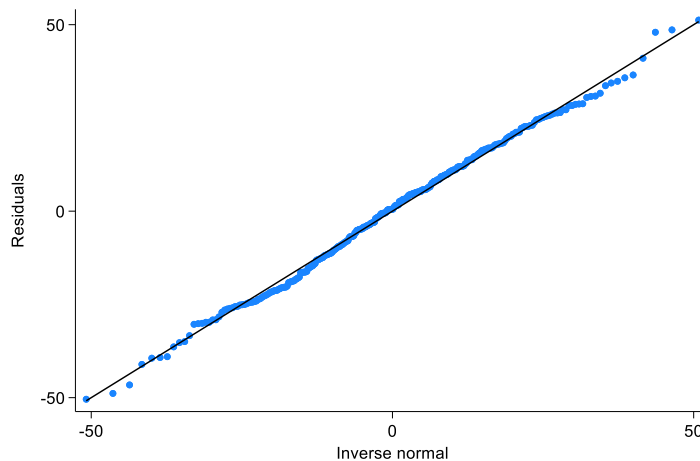


Figure B-3.2: Histogram of Residuals

The histogram of the regression residuals indicates an approximately symmetric distribution centered around zero. The normal density curve closely aligns with the empirical distribution. While minor deviations are observable at the tails, no substantial departures from normality are evident. The distribution of residuals supports the assumption of normality.

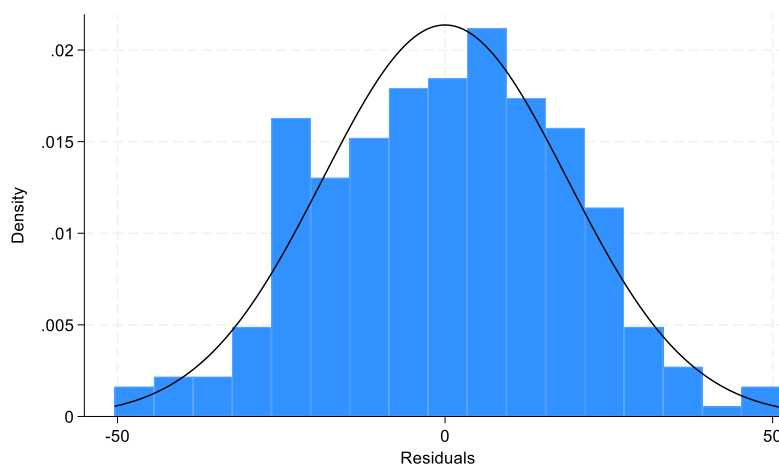


Figure B-3.3: Residuals-vs-Fitted-Plot

The residuals appear randomly dispersed around the horizontal zero line, without a systematic pattern. The variance of residuals remains relatively constant across the range of fitted values, indication no clear evidence of heteroskedasticity. This pattern supports the assumption of homoskedasticity. In fact, cluster-robust standard errors were applied to account for potential heteroskedasticity.

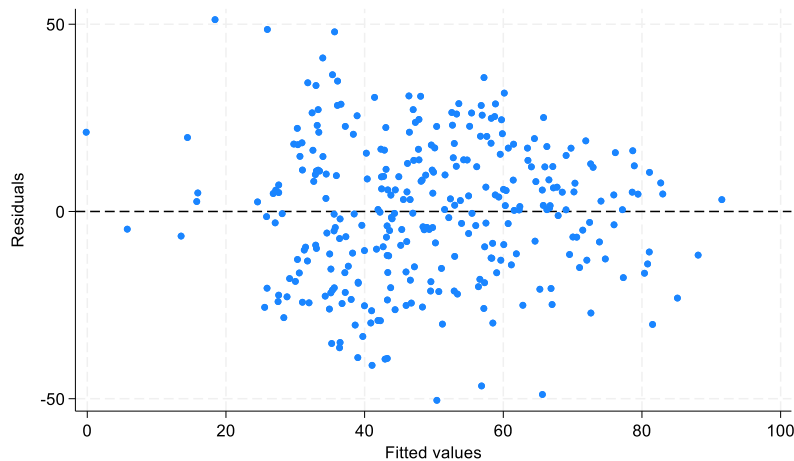


Figure B-3.4: Marginal Effects of GOC at Different Levels of EO

The figure displays predicted Environmental Pillar Scores across varying levels of GOC at low (-1 SD), mean and high (+1 SD) levels of EO. The predicted values suggest only minor differences in slopes across levels of EO. No substantial divergence between the lines is observable, indicating limited evidence of a moderating effect.

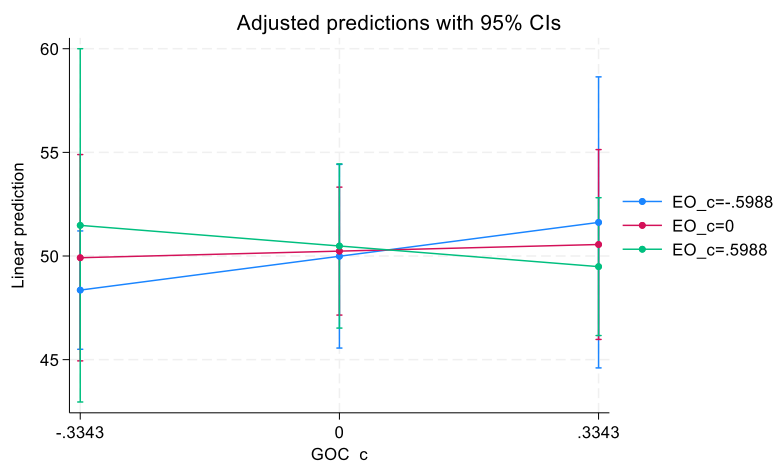


Table B-3.1: Overview of Variance Inflation Factors

All Variance Inflation Factors are below conventional threshold values of 5, indicating no concerns regarding multicollinearity.

Variable	Variance Inflation Factor
GOC (centered)	2.61
EO (centered)	2.34
GOC x EO	2.13
Firm Size (log-transformed)	1.03
Number of Respondents	2.19
Mean IVF	2.06