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ECONOMICS OF BUSINESS AND STRATEGY

Sustainability in the Portuguese Corporate Sector: Strategic Integration, SDG Alignment, Reporting Practices and Competitiveness

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**SUSTAINABILITY IN THE PORTUGUESE CORPORATE SECTOR:
STRATEGIC INTEGRATION, SDG ALIGNMENT, REPORTING
PRACTICES AND COMPETITIVENESS**

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Abstract

This dissertation analyses the extent to which Portuguese companies integrate sustainability into their corporate strategy. It is grounded in the recognition that companies may implement specific actions, publish reports or use sustainability frameworks without fully integrating sustainability into their priorities, internal responsibilities or decision-making processes. In this sense, the research adopts a multidimensional approach, focused on strategic integration, sustainability reporting, engagement with the Sustainable Development Goals (SDGs), alignment with European sustainability requirements and the contribution of sustainability to innovation and competitiveness. The research follows a quantitative methodology, based on a questionnaire addressed to Portuguese companies of different sizes and sectors.

The results show that sustainability integration remains limited, uneven and only partially formalised. Most of the surveyed companies indicate that they do not currently engage in any of the sustainability areas considered. Among the companies that report some form of engagement, integration tends to be mainly minimal or moderate, often associated with compliance requirements, specific projects or particular areas of the organisation. Despite the implementation of actions and initiatives, the existence of internal structures dedicated to sustainability and regularly monitored targets remains uncommon. Reporting practices, engagement with the SDGs and preparation for European sustainability requirements also show uneven levels of development and implementation across companies. The results also indicate that most companies consider sustainability to contribute to innovation and competitiveness, particularly when higher levels of strategic integration are present. Overall, the findings suggest that sustainability is gaining importance in the Portuguese business context, although the transition from isolated initiatives to strategic, measurable and consolidated integration remains incomplete.

Key Words: Corporate Sustainability; Strategic Integration; Sustainability Reporting; Sustainable Development Goals (SDGs); EU Sustainability Regulation; Innovation and Competitiveness

Resumo

Esta dissertação analisa em que medida as empresas portuguesas integram a sustentabilidade na sua estratégia corporativa. Parte do reconhecimento de que as empresas podem implementar ações específicas, publicar relatórios ou recorrer a referenciais de sustentabilidade sem a integrar plenamente nas suas prioridades, responsabilidades internas ou processos de tomada de decisão. Neste sentido, a investigação adota uma abordagem multidimensional, centrada na integração estratégica, no reporte de sustentabilidade, no envolvimento com os Objetivos de Desenvolvimento Sustentável (ODS), no alinhamento com requisitos europeus de sustentabilidade e no contributo da sustentabilidade para a inovação e a competitividade. A investigação segue uma metodologia quantitativa, baseada num questionário dirigido a empresas portuguesas de diferentes dimensões e setores.

Os resultados mostram que a integração da sustentabilidade permanece limitada, desigual e apenas parcialmente formalizada. A maioria das empresas inquiridas indica não ter, atualmente, envolvimento em nenhuma das áreas de sustentabilidade consideradas. Entre as empresas que indicam algum envolvimento, a integração tende a ser sobretudo mínima ou moderada, surgindo frequentemente associada ao cumprimento de requisitos, a projetos específicos ou a determinadas áreas da organização. Embora sejam implementadas ações e iniciativas, a existência de estruturas internas dedicadas à sustentabilidade e de metas regularmente monitorizadas revela-se pouco frequente. As práticas de reporte, o envolvimento com os ODS e a preparação para os requisitos europeus de sustentabilidade apresentam também níveis desiguais de desenvolvimento e implementação entre empresas. Os resultados indicam ainda que a maioria das empresas considera que a sustentabilidade contribui para a inovação e a competitividade, sobretudo na presença de níveis mais elevados de integração estratégica. No geral, os resultados sugerem que a sustentabilidade está a ganhar importância no contexto empresarial português, embora a transição de iniciativas isoladas para uma integração estratégica, mensurável e consolidada permaneça incompleta.

Palavras-chave: Sustentabilidade Corporativa; Integração Estratégica; Reporte de Sustentabilidade; Objetivos de Desenvolvimento Sustentável (ODS); Regulação Europeia de Sustentabilidade; Inovação e Competitividade

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1. Introduction

Among the world's 250 largest companies, sustainability reporting has become almost universal, as KPMG's 2024 Survey of Sustainability Reporting shows that 96% of these companies now report on sustainability (KPMG International, 2024). This figure, however, reflects the reality of the largest corporations rather than that of the broader corporate landscape. At the same time, this growing visibility does not necessarily mean that sustainability is fully integrated into corporate strategy. Firms are increasingly expected to embed sustainability concerns into their priorities, organisational culture and daily operations (Ahmić, 2022; Khizar et al., 2021). This reflects a multidimensional understanding of sustainability, in which economic, environmental and social objectives are considered together with a long term orientation towards present and future stakeholders (Meuer et al., 2020; Pazienza et al., 2022). However, the concept remains ambiguous, as there is no universally accepted definition and companies may interpret and apply sustainability in different ways (Landrum, 2018; Meuer et al., 2020; Pazienza et al., 2022).

For this reason, it is important to distinguish sustainability engagement from strategic integration. Companies may adopt specific initiatives, communicate commitments or respond to external requirements without making sustainability central to organisational priorities and long term strategy (Ivory & MacKay, 2020; Landrum, 2018). Sustainability integration should therefore be understood as a continuum, ranging from limited adoption mainly driven by compliance to more advanced forms in which sustainability is embedded across organisational levels, operations and decision processes (Baumgartner & Ebner, 2010; Ivory & MacKay, 2020; Landrum, 2018). Thus, the central issue is not only whether companies engage with sustainability, but whether this engagement is supported by strategic priorities, monitored targets and organisational practices (Baumgartner & Ebner, 2010; Ivory & MacKay, 2020; Landrum, 2018), as well as by reporting systems capable of communicating how sustainability commitments are translated into concrete action (Oncioiu et al., 2020; Rusu et al., 2024).

This problem has become more relevant as international and European sustainability frameworks have gained influence. Internationally, the Sustainable Development Goals provide a common framework for linking corporate activities to broader sustainable development priorities (Elalfy et al., 2021; UNRIC, 2015). However, references to the SDGs do not necessarily indicate substantive integration, since companies may mention the goals without

connecting them to concrete actions, measurable targets or key performance indicators (Heras-Saizarbitoria et al., 2022; Hummel & Szekely, 2022; Song et al., 2022). At the European level, sustainability has become more formalised through regulatory instruments such as the CSRD, which requires companies within its scope to disclose sustainability information according to the ESRS and incorporates double materiality (Kosi & Relard, 2024), the EU Taxonomy, which classifies environmentally sustainable economic activities (Hummel & Bauernhofer, 2024) and the CSDDD, which establishes due diligence obligations regarding adverse human rights and environmental impacts across operations and value chains (Baltrunaite et al., 2024; Bueno et al., 2024).

The growing regulatory relevance of sustainability has also increased the importance of sustainability reporting. Sustainability reporting allows companies to disclose economic, social and environmental performance and communicate how sustainability is incorporated into their activities (Rusu et al., 2024; Tommasetti et al., 2020). However, the existence of a report does not guarantee meaningful disclosure, as quality depends on the reliability, transparency, completeness and comparability of the information provided (Al-Shaer, 2020; Luque-Vílchez et al., 2023; Yahaya, 2025). This is particularly relevant because sustainability information is expected to support stakeholder evaluation, accountability and decision-making, although disclosure may still be limited by heterogeneous practices, weak comparability and insufficiently detailed or verifiable information (Luque-Vílchez et al., 2023; Yahaya, 2025).

At the same time, sustainability is not only associated with strategic and organisational challenges, as it may also generate positive outcomes for firms. Previous research suggests that sustainability practices can support innovation capacity (Aboelmaged & Hashem, 2019; Alyahya et al., 2022), while sustainable environmental strategies have been associated with competitiveness (Padilla-Lozano & Collazzo, 2022; Wang et al., 2022). Therefore, analysing sustainability integration also requires examining whether companies perceive sustainability as contributing to innovation and competitive positioning.

This issue is particularly relevant in Portugal, where the business structure is overwhelmingly composed of SMEs. According to Instituto Nacional de Estatística (2025), in 2024, approximately 99.9% of Portuguese enterprises were small and medium sized enterprises. This matters because SMEs often face specific barriers to sustainability adoption, including limited financial and human resources, lack of specialised knowledge and the perception that sustainability practices and reporting requirements are complex, costly or mainly associated

with larger companies (Pereira, 2024). Although sustainability reporting appears more established among Portuguese listed companies, research on PSI firms still identifies limitations in the depth and quality of disclosed information (Lima, 2021). More broadly, recent studies suggest that sustainability reporting and SDG disclosure have become more visible in Portugal, but remain uneven, particularly regarding quantitative indicators, disclosure depth and the connection with strategic priorities (Branquinho, 2024; Gomes, 2024; Lima, 2021; Loureiro et al., 2024).

This creates an important research gap. Existing evidence in Portugal tends to focus on specific dimensions of sustainability, such as reporting or SDG disclosure, or on particular groups of firms, such as listed companies or SMEs. Although valuable, this evidence provides only a partial understanding of corporate sustainability integration in the Portuguese business landscape. There is still limited evidence that examines companies of different sizes, sectors and organisational realities within the same empirical framework, while also considering the different dimensions through which sustainability may be integrated and perceived. This is important because corporate sustainability integration is multidimensional and cannot be assessed only through reporting, SDG disclosure or isolated initiatives. It also concerns the extent to which sustainability is incorporated into strategy, targets and organisational practices, how companies prepare for European sustainability requirements and how they perceive its contribution to innovation and competitiveness. Therefore, a broader empirical approach is needed to understand whether sustainability is becoming a strategic and operational concern among companies operating in Portugal, or whether it remains fragmented, informal or mainly communicational.

Against this background, this dissertation examines the extent to which companies operating in Portugal integrate sustainability into their corporate strategy. The study adopts a multidimensional approach based on five pillars: strategic integration, sustainability reporting, SDG engagement, alignment with European sustainability requirements, and the perceived contribution of sustainability to innovation and competitiveness. Accordingly, the study is guided by the following central research question and secondary research questions:

- Central RQ. To what extent do Portuguese companies integrate sustainability into their corporate strategy?

- RQ1. How is sustainability strategically integrated into companies' strategies, targets and actions?
- RQ2. What sustainability reporting practices are adopted and what motivations or benefits are associated with them?
- RQ3. How do companies engage with the SDGs and translate them into priorities, targets and KPIs?
- RQ4. To what extent are companies aligned with or prepared for European sustainability requirements?
- RQ5. How is sustainability perceived to contribute to innovation and competitiveness?
- RQ6. Do sustainability practices differ according to company size or sector?

The main objective of this dissertation is to assess the extent to which sustainability is integrated into companies operating in Portugal and to identify the main gaps, challenges and opportunities shaping current practices, as operationalised through the research questions presented above.

Methodologically, the dissertation adopts a quantitative and cross-sectional research design based on a structured questionnaire. The questionnaire was distributed to Portuguese enterprises of different sectors and organisational sizes and was organised around the five analytical pillars of the study. The data were analysed through descriptive statistics and exploratory bivariate tests to identify patterns, differences and levels of maturity among respondent companies.

The dissertation is organised as follows. Following this introduction, Chapter 2 presents the literature review, discussing the main contributions related to the areas considered in the study and presenting the conceptual model. Chapter 3 describes the methodology, including the research design, data collection process, sample profile and data analysis strategy. Chapter 4 presents and discusses the empirical results of the study. Finally, Chapter 5 presents the main conclusions, contributions, limitations and suggestions for future research.

2. Literature Review

2.1. Corporate Sustainability and Strategic Integration

2.1.1. Concepts and Evolution

The concept of corporate sustainability has its roots in earlier debates on corporate responsibility, business ethics and sustainable development, although it still lacks a universally accepted definition (Meuer et al., 2020; Pazienza et al., 2022). Within this debate, corporate social responsibility (CSR) and corporate sustainability (CS) are closely related but distinct concepts. CSR reflects the recognition that business activity generates economic, social and environmental impacts, while also involving stakeholder concerns and voluntary action beyond legal requirements (Dahlsrud, 2008). CS, in turn, represents a broader and longer-term approach, concerned with the integration of environmental, social and economic dimensions into corporate strategy and business activities (Crane et al., 2019).

An important contribution to this evolution was Carroll's (1991) pyramid of corporate social responsibility, which organised business responsibilities into economic, legal, ethical and philanthropic dimensions. It showed that firms are expected to remain profitable, comply with the law and act ethically, while philanthropy represents a voluntary expression of social commitment, thereby recognising that the role of the firm extends beyond profit generation. Elkington (1997) framed corporate sustainability as the effort to reconcile social, economic and environmental objectives through the Triple Bottom Line approach, which highlights the interdependence of these dimensions and recognises that tensions may arise between them. Dyllick and Hockerts (2002) further strengthened the long-term dimension of the concept by defining corporate sustainability as the fulfilment of the needs of direct and indirect stakeholders in the present, while preserving the firm's capacity to meet the needs of future stakeholders.

Despite its increasing relevance, corporate sustainability remains conceptually ambiguous, as the literature continues to highlight the absence of a common definition (Landrum, 2018). Meuer et al. (2020), for example, identified 33 different definitions across influential publications, while Pazienza et al. (2022) argue that this lack of clarity may lead firms to adopt arbitrary and sometimes ineffective sustainability practices. To address this, Pazienza et al. (2022) propose that corporate sustainability can be meaningfully defined around its environmental, social and economic pillars, with the broader purpose of safeguarding opportu-

nities for future generations. They further clarify that the economic dimension should be understood not as short-term profit maximisation, but as sustained profitability and long-term viability, and that the three dimensions are not substitutable, meaning that stronger performance in one cannot compensate for the neglect of another. Overall, the literature shows a shift from narrower notions of corporate responsibility towards a multidimensional and strategically embedded business paradigm. Corporate sustainability is therefore increasingly understood as requiring attention to economic, social and environmental dimensions, together with a long-term orientation and concern for both present and future stakeholders (Meuer et al., 2020; Pazienza et al., 2022).

2.1.2. Strategic Integration of Sustainability

Sustainability has increasingly become a central element of corporate strategy (Ahmić, 2022). Recent studies reinforce this view by showing that sustainability orientation involves embedding sustainability values into corporate culture and daily operations, guiding firms towards broader sustainability goals and contributing to organisational resilience, adaptability and stronger environmental performance (Ahmić, 2022; Khizar et al., 2021).

The literature also shows that sustainability integration is not uniform, but develops across different levels of maturity. Baumgartner and Ebner (2010) distinguish between beginner, elementary, satisfactory and sophisticated levels, showing that firms differ in how deeply sustainability is incorporated into their activities and supporting the view that strategic integration should be understood as a gradual process rather than a binary condition. Likewise, Ivory and MacKay (2020) distinguish between peripheral and strategic integration. According to these authors, sustainability remains peripheral when it is not connected to the core spatial and temporal dimensions of strategy, and becomes strategic when it extends across organisational levels, involves different actors, influences operations and shapes the firm's long-term direction. Consistent with the broader literature on sustainability maturity (Landrum, 2018), these contributions suggest that strategic integration should be understood as a continuum, ranging from limited or peripheral adoption to a central role within corporate strategy.

At the operational level, digitalisation can represent an important mechanism through which sustainability is implemented within firms. Digital technologies contribute to more sustainable business practices by improving operational efficiency, reducing resource consumption

and helping firms align environmental and economic objectives, particularly in production, logistics and purchasing, where digital tools can support more informed sustainability decisions (Schrade-Grytsenko et al., 2025). Digital transformation may further help firms improve energy efficiency, optimise production processes and reduce waste, particularly through the use of data analytics to forecast demand more accurately and avoid overproduction (Tang et al., 2025). However, the relationship between digitalisation and sustainability may vary according to technological infrastructure, economic conditions, environmental policies and the institutional context (Zuo et al., 2024).

2.2. Sustainability Reporting

2.2.1. Concept, Theoretical Lenses and Motivations

Sustainability reporting has become a central mechanism through which organisations disclose their economic, social and environmental performance and communicate their contribution to sustainable development (Rusu et al., 2024). As both a management and accountability mechanism, it enables organisations to evaluate how sustainability is incorporated into their operations and to communicate the impacts generated by these practices (Tommasetti et al., 2020), as well as to show how sustainability is embedded in corporate vision, governance, strategy and long-term performance (Oncioiu et al., 2020; Rusu et al., 2024).

The literature explains sustainability disclosure through complementary theoretical perspectives. Stakeholder theory emphasises disclosure as a response to stakeholder expectations and accountability demands (Bauwhede & Cauwenberge, 2022), while legitimacy theory links it to the need for firms to be perceived as legitimate by society (Buil et al., 2024; Gutiérrez-Ponce & Wibowo, 2023). Institutional theory highlights how regulatory, normative and societal pressures shape sustainability practices (García-Sánchez et al., 2023; Risi et al., 2023), whereas signalling theory views disclosure as a way of communicating qualities that stakeholders cannot directly observe (Friske et al., 2023). Taken together, these perspectives suggest that no single theoretical lens is sufficient to capture the full complexity of sustainability disclosure, which is simultaneously shaped by stakeholder expectations, legitimacy seeking, institutional pressures and signalling motives (Loureiro et al., 2024).

These theoretical perspectives are also reflected in the motivations that lead firms to report. Qian et al. (2020) identify reputational considerations, regulatory pressures and CEO direction as the main drivers. Reputational concerns encourage firms to signal their sustainability

commitment, regulatory compliance creates external pressure to disclose, and CEO commitment and expectations play an important internal role in promoting change. Reporting may also be influenced by shareholder and customer expectations, business growth opportunities, risk mitigation, innovation and cost reduction, although these motives tend to carry less weight than normative and regulatory pressures (Qian et al., 2020). Overall, sustainability reporting serves not only to evaluate and communicate sustainability performance, but also to encourage more responsible business conduct and contribute to broader sustainable development objectives (Rusu et al., 2024).

2.2.2. Main International Frameworks (ESG, GRI, IIRC, SASB, TCFD)

Yusof and Widyasamratri (2025) argue that, with the expansion of sustainability reporting, ESG has emerged as one of the main approaches for assessing organisational performance beyond financial metrics, covering environmental impacts, social issues such as human rights, labour relations and inclusion, and governance aspects such as board structure, transparency, shareholder rights, risk oversight, compliance and disclosure quality. The ESG approach can reinforce corporate image, strengthen stakeholder confidence, improve access to capital, increase investor attractiveness and enhance corporate resilience. However, it also faces important limitations, including difficulties in consistently measuring its three dimensions, uneven data quality and the absence of common definitions and measurement approaches, which may weaken the credibility and comparability of ESG assessments (Yusof & Widyasamratri, 2025).

GRI is regarded as one of the most widely used sustainability reporting frameworks globally (Areta Hiziroglu & Dogan, 2025), developed to establish a shared reporting language through which organisations can disclose their economic, environmental and social impacts in a transparent, measurable and comparable way (Global Reporting Initiative, 2020). Organised into Universal, Sector and Topic Standards, it helps organisations identify material issues while addressing industry specific sustainability challenges (Global Reporting Initiative, 2020; Luque-Vílchez et al., 2023), making it suitable for all organisations regardless of size, sector or geographic setting (Global Reporting Initiative, 2023). However, materiality assessment does not follow a standardised procedure, and firms may adopt the same standards but apply them differently, thereby weakening consistency across reports (Luque-Vílchez et al., 2023).

Alongside ESG and GRI, other frameworks have emerged to address specific reporting purposes. The IIRC promotes the integration of financial and non-financial information to explain how value is generated over time (Carmo et al., 2023); the SASB adopts an industry specific approach, focusing on sustainability issues that are financially material and may directly affect a firm's operations or earnings (IFRS Foundation, n.d.); and the TCFD focuses specifically on climate related risks and opportunities and their financial implications for organisations (Principale & Pizzi, 2023). According to Yusof and Widyasamratri (2025), these frameworks are often used in a complementary rather than mutually exclusive way, although clearer alignment across standards remains necessary, as their coexistence increases complexity, limits comparability and may encourage superficial compliance or greenwashing.

2.2.3. Reporting Benefits and Challenges

Sustainability reporting has become a key instrument for communicating firms' sustainability efforts and responding to stakeholder expectations (Sehgal et al., 2023; Yahaya, 2025). It can also support business continuity by strengthening supply chains and creating long-term value (Halkos & Nomikos, 2021).

The literature identifies several benefits associated with sustainability reporting, including reputational gains, greater credibility, improved stakeholder communication, talent attraction, employee well-being, innovation, lower risk exposure, improved access to capital, stronger operational performance and competitive advantage (Lima, 2021; Setyaningsih et al., 2024; Suhatmi et al., 2024). It may also support more informed decision-making, greater transparency and a clearer understanding of the company's strategic approach (Pereira, 2024; Sehgal et al., 2023; Yahaya, 2025). Some studies further associate it with investor confidence, market expansion, customer satisfaction and financial performance (Lima, 2021; Qian et al., 2020; Setyaningsih et al., 2024; Suhatmi et al., 2024). However, financial outcomes should be interpreted cautiously, as empirical evidence remains mixed: while some studies find positive associations (Ershadi et al., 2024; Oncioiu et al., 2020; Thayaraj & Karunarathne, 2021), others find no significant impact (Ebaid, 2023; Kowsana & Muraleethran, 2021; Wahyuningtyas et al., 2022). This suggests that financial effects may depend on factors such as industry, firm size, time horizon, reporting quality and institutional context (Abu-Allan, 2025; Suhatmi et al., 2024).

Despite these advantages, sustainability reporting still faces significant challenges. It remains largely voluntary and lacks a globally accepted framework comparable to that used in financial reporting (Lima, 2021). The coexistence of multiple standards complicates the process, while organisations face difficulties related to measurement, stakeholder involvement and the absence of common definitions (Jain & Tripathi, 2022). At the organisational level, limited expertise, scarce resources, insufficient managerial support, difficulties in identifying material issues and concerns about disclosing sensitive information create further barriers, leading many firms to perceive reporting as more costly than beneficial (Ismaeel & Zakaria, 2020; Jain & Tripathi, 2022).

Reporting quality also remains a central concern, since publication alone does not guarantee meaningful disclosure and quality depends on the practices adopted by the firm (Al-Shaer, 2020). Reports often lack detailed, accurate and verifiable data (Moses et al., 2020; Yahaya, 2025), while weak assurance practices and low comparability further limit the usefulness of disclosed information (Luque-Vílchez et al., 2023). Although external assurance can enhance credibility and reduce information asymmetries, it does not ensure complete or effective disclosure but rather indicates greater reporting rigour than in firms without such verification (Bauwhede & Cauwenberge, 2022; Lima, 2021). Overall, while sustainability reporting can generate important benefits, doubts remain about the quality, comparability and credibility of the information disclosed (Sehgal et al., 2023; Yahaya, 2025).

2.2.4. Greenwashing and Comparability Challenges

A central tension in the sustainability literature concerns the distinction between substantive and symbolic approaches. Substantive strategies reflect a genuine and often proactive commitment to improving environmental performance, frequently beyond basic legal compliance, whereas symbolic strategies primarily seek to signal commitment without necessarily being translated into concrete organisational practices (Delmas & Montes-Sancho, 2010; Hyatt & Berente, 2017).

This tension becomes particularly visible in greenwashing, commonly understood as the communication of false, exaggerated or selective claims about a company's sustainability performance in order to create an overly positive image (Nemes et al., 2022; Xu et al., 2023). In practice, companies may rely on vague environmental statements, broad green campaigns or misleading references to certifications and standards to appear environmentally responsible

without implementing substantive changes (Feghali et al., 2025). Although awareness of this phenomenon has increased, its practices have become more widespread and increasingly sophisticated (Feghali et al., 2025; Nemes et al., 2022).

Although greenwashing may sometimes result from ignorance or poorly conceived communication rather than deliberate deception, its consequences remain significant. It weakens corporate accountability, reduces transparency and undermines consumer trust (Nemes et al., 2022). Xu et al. (2023) further show that greenwashing may generate direct costs for firms through the resources spent on maintaining a false image and penalties when misleading claims are exposed, while in the longer term it can damage reputation, reduce financial returns and erode market share. At a broader level, greenwashing can distort competition, undermine the efficient allocation of resources, create imbalances in productive capacity, increase environmental risks and weaken the long-term sustainability of industries and markets (Xu et al., 2023).

Alongside greenwashing, comparability remains a major challenge in sustainability reporting. As the number of standard setters increased, investors voiced growing concerns about the limited comparability of disclosed information (Bernow et al., 2019). This problem is reinforced by the qualitative nature of some indicators and by the frequent presence of incomplete, ambiguous and self-declared information in corporate reports. As a result, even reports prepared under the same standard, such as GRI, do not necessarily achieve a high level of comparability across firms (Boiral & Henri, 2017).

2.3. SDGs in the Corporate Context

2.3.1. Corporate Role and Determinants of SDG Disclosure

The year 2015 marked a major turning point in the global sustainability agenda, as the 193 Member States of the United Nations adopted the 2030 Agenda and established the Sustainable Development Goals (SDGs) (UNRIC, 2015). Comprising 17 goals and 169 targets, the SDGs were designed to address economic, social and environmental challenges in both developed and developing countries, while emphasising that progress should be inclusive. The framework recognises the interdependence of issues such as poverty, inequality, decent work and climate change, and requires the involvement of all actors in society (UNRIC, 2023). Within this agenda, companies are increasingly recognised as central contributors, particularly when the SDGs are embedded in corporate strategy rather than treated as external sus-

tainability concerns (García-Sánchez et al., 2021; Jimenez et al., 2021). Consistent with this view, Jimenez et al. (2021) argue that progress towards the SDGs requires firms to move beyond a traditional business approach and integrate sustainability into their core purpose.

The literature identifies several factors that explain SDG disclosure, including company characteristics, reporting practices and institutional conditions (Pizzi et al., 2021). At the firm level, size is one of the most discussed determinants, with larger companies generally showing higher disclosure levels due to greater external pressure and resource availability (Elalfy et al., 2021; García-Sánchez et al., 2021; Rosati & Faria, 2019), although some studies find no significant effect (Gutiérrez-Ponce & Wibowo, 2023; Loureiro et al., 2024). Industry affiliation is also relevant, as firms operating in environmentally sensitive sectors tend to signal SDG commitment more actively due to greater external pressure (Elalfy et al., 2021). At the reporting level, prior experience with non-financial reporting, the use of frameworks such as the GRI and external assurance are positively associated with SDG disclosure (Elalfy et al., 2021; Gutiérrez-Ponce, 2023; Pizzi et al., 2021; Rosati & Faria, 2019). Institutional pressures also matter, as government regulation, stakeholder expectations and competitive dynamics encourage firms to demonstrate SDG commitment (Alyahya et al., 2022), while national institutional settings shape incentives for implementation and compliance (Biermann et al., 2017). Overall, firms may engage with the SDGs for both reactive and proactive reasons, ranging from compliance and risk mitigation to improving legitimacy, reputation and organisational capability (Rosati & Faria, 2019).

2.3.2. SDG Alignment: Opportunities, Challenges and SDG-Washing

Although corporate SDG reporting has progressed, meaningful alignment between disclosure, business objectives and substantive action remains difficult (Heras-Saizarbitoria et al., 2022). When substantively integrated, the SDGs can link sustainability objectives to organisational activities, foster innovation and create new business opportunities (de Villiers et al., 2021), while also improving consumer perceptions of firms in terms of reputation and trust, contributing to stronger customer loyalty (Barta et al., 2023). Financial and resource constraints can also limit implementation, especially when sustainability initiatives and reporting practices are perceived as costly and demanding and when benefits are not immediate (Jain & Tripathi, 2022).

Monitoring corporate SDG contributions is also difficult, as no universally accepted methodology exists to measure impact and progress (Fernandes, 2020). This limitation is further reinforced by the difficulty of organising SDG information in a coherent and comparable way (Buil et al., 2024), contributing to reporting that is often unclear, vague, superficial and difficult to evaluate, with limited quantitative and forward-looking content and low overall quality (Heras-Saizarbitoria et al., 2022; Hummel & Szekely, 2022; van der Waal & Thijssens, 2020). These problems are also reflected in uneven engagement with specific goals. SDGs 8, 12, 13 and 5 are the most frequently addressed, while SDGs 2, 14, 15 and 16 receive less attention (Gutiérrez-Ponce, 2023; Izzo et al., 2020), suggesting that firms tend to prioritise goals that are more reputationally advantageous or closer to business objectives rather than those associated with lower economic returns (Song et al., 2022). In Portugal, the pattern is partially different, with SDGs 3, 7, 8, 12 and 13 most frequently mentioned and SDG 2 among the least addressed (Branquinho, 2024; Gomes, 2024; Loureiro et al., 2024). Since SDG targets are mainly formulated at the national or global level, firms may also struggle to identify which goals are most relevant to their activities (Low et al., 2023).

These limitations are directly linked to the risk of SDG-washing, defined by the United Nations Global Compact and the Global Reporting Initiative as the practice of emphasising positive SDG contributions while overlooking significant negative impacts, thereby creating an impression of stronger alignment than actual practices justify (Buil et al., 2024). This risk is reinforced by the broad and flexible nature of the SDG framework, which enables cherry-picking and allows attention to a limited number of goals to be presented as wider alignment with the 2030 Agenda (Heras-Saizarbitoria et al., 2022). Empirical evidence shows that SDG disclosure often consists of brief references, limited information on concrete actions, weak explanation of measurement practices and scarce evidence of operationalisation (Heras-Saizarbitoria et al., 2022; Song et al., 2022; van der Waal & Thijssens, 2020). This is also evident in the frequent use of SDG icons and visual devices as impression management tools rather than substantive disclosure mechanisms (Heras-Saizarbitoria et al., 2022).

2.4. European Sustainability Regulation

2.4.1. From NFRD to CSRD, EU Taxonomy and CSDDD

European sustainability regulation has evolved from a relatively limited disclosure regime into a broader framework combining reporting, classification and due diligence obligations.

A first major turning point was the Non-Financial Reporting Directive (NFRD), adopted in 2014 and applicable from the 2017 financial year, which shifted disclosure from a largely voluntary practice to mandatory non-financial reporting for certain large public interest entities (Bauwhede & Cauwenberge, 2022; Sharma, 2025). Under this Directive, companies were required to disclose information on environmental, social, governance, human rights, gender diversity, working conditions and anti-corruption matters (Bauwhede & Cauwenberge, 2022). In the Portuguese context, Decree-Law No. 89/2017 transposed the NFRD into national law (Decree-Law No. 89/2017, 2017). However, despite expanding sustainability disclosure, the NFRD was criticised for its narrow scope and for the limited comparability and reliability of the information reported (Kosi & Relard, 2024).

The Corporate Sustainability Reporting Directive (CSRD), in force since January 2023, was introduced to address these weaknesses by replacing the NFRD with a broader and more demanding reporting framework (Kosi & Relard, 2024; Sharma, 2025). It extends the range of entities covered, broadens the topics reported and requires firms to disclose sustainability information in accordance with the European Sustainability Reporting Standards (ESRS), developed by EFRAG (Fornasari & Traversi, 2024; Kosi & Relard, 2024). A central innovation is double materiality, which requires companies to report both how sustainability issues affect the firm and how the firm affects society and the environment (Baltrunaite et al., 2024). This regulatory shift is also relevant for SMEs. To support them, EFRAG developed the Voluntary Standard for SMEs (VSME), a simplified and voluntary sustainability reporting framework aligned with the ESRS but adapted to smaller firms' size and capacity. Its purpose is to help SMEs provide sustainability information to large companies, access sustainable finance and manage environmental and social challenges more effectively (EFRAG, n.d.). This is particularly important in Portugal, where SMEs represent the vast majority of the national business structure (Instituto Nacional de Estatística, 2025). In Portugal, CSRD implementation follows a phased calendar: entities previously subject to the NFRD must report in 2025 on the 2024 financial year; other large companies, initially expected to report in 2026, saw their deadline postponed to 2028 under Directive (EU) 2025/794; and listed SMEs, originally expected to report in 2027, now face a 2029 deadline under the same Directive (IAP-MEI, n.d.).

Alongside disclosure regulation, the EU Taxonomy adds a classificatory dimension. Established by Regulation (EU) 2020/852, it provides a system for identifying environmentally

sustainable economic activities, guiding investment and reducing greenwashing (Baltrunaite et al., 2024; Hummel & Bauernhofer, 2024). It is built around six environmental objectives covering climate change, water, marine resources, circular economy, pollution and biodiversity, and distinguishes between taxonomy eligible and taxonomy aligned activities, with the latter requiring compliance with technical screening criteria and minimum social safeguards (Hummel & Bauernhofer, 2024). A further step is the Corporate Sustainability Due Diligence Directive (CSDDD), adopted in April 2024, which imposes conduct obligations on large companies by requiring them to identify, prevent and mitigate adverse human rights and environmental impacts linked to their operations and chain of activities. It also requires meaningful stakeholder engagement and transition plans aligned with the 1.5°C objective of the Paris Agreement (Baltrunaite et al., 2024; Bueno et al., 2024). Taken together, these instruments contribute to a more coherent sustainability reporting landscape across the European Union (Hummel & Jobst, 2024).

2.4.2. Alignment Challenges and Opportunities

The transition from the NFRD to this broader European sustainability framework has created both important opportunities and significant implementation challenges. The move towards the CSRD represents a major step towards more consistent, standardised and decision useful sustainability reporting (Bauwhede & Cauwenberge, 2022; Kosi & Relard, 2024; Sharma, 2025). At the same time, it places firms in a far more demanding regulatory environment, requiring substantial adjustments in reporting systems, internal processes and management practices (Baumüller & Sopp, 2022).

A central source of complexity is the introduction of double materiality, which requires firms to assess both financial and impact materiality, making implementation more demanding as companies must collect, analyse and disclose ESG information from both perspectives. These pressures are particularly relevant for SMEs and non listed firms, which are more likely to experience compliance difficulties due to more limited financial and technical resources. As a result, the implementation of the CSRD may be uneven across companies, depending on their capabilities and level of preparedness (Sharma, 2025).

At the same time, the literature highlights relevant opportunities associated with this evolving regulatory context. The CSRD is expected to improve the consistency and credibility of ESG reporting, facilitate cross-firm comparison and encourage a deeper integration of sustaina-

bility into corporate strategy and operations (Sharma, 2025). The EU Taxonomy complements this by providing a shared reference point for identifying environmentally sustainable activities, thereby reducing opportunities for greenwashing (Paccès, 2021). Similarly, the CSDDD may strengthen legal certainty and generate positive economic effects by increasing the attractiveness of compliant companies across product, labour and financial markets, while also encouraging operational improvements (Baltrunaite et al., 2024). More broadly, these instruments may act as catalysts for a closer alignment between sustainability reporting, corporate governance and strategic decision-making (Sharma, 2025).

2.5. Sustainability, Innovation and Competitiveness

The literature increasingly treats sustainability, innovation and competitiveness as mutually reinforcing dimensions of firm performance. Innovation is widely regarded as central to long-term organisational competitiveness, while sustainability oriented practices can strengthen firms' capacity to innovate (Bich Do et al., 2026; Urbancová & Vrabcová, 2023). In particular, sustainable development practices have been found to foster green innovation, as sustainability awareness may influence firms' ability to introduce more environmentally conscious products and processes (Aboelmaged & Hashem, 2019; Alyahya et al., 2022). This relationship is reciprocal, since innovation may also improve sustainability performance (Kuzma et al., 2020).

The connection between sustainability and competitive advantage can be grounded in the resource-based view. Barney (1991) argues that sustained competitive advantage depends on resources that are valuable, rare, difficult to imitate and difficult to substitute. Hart (1995) extends this logic through the natural-resource-based view, identifying pollution prevention, product stewardship and sustainable development capabilities as potential sources of competitive advantage. This theoretical link is also supported empirically. Sustainable environmental strategy has been shown to enhance competitiveness (Padilla-Lozano & Collazzo, 2022; Wang et al., 2022), while green innovation has been associated with stronger financial performance and better positioning in international markets, particularly as consumers increasingly value environmentally responsible practices (Padilla-Lozano et al., 2024). Sustainability innovation can therefore support competitiveness through corporate image, cost reduction, product quality, customer satisfaction, stakeholder alignment and stronger market position (Le & Ikram, 2022; Wang et al., 2022). European evidence further reinforces this view, showing green innovation as a route to economic growth and competitiveness while address-

sing climate related challenges (Baneliene & Strazdas, 2023). In line with this, Hermundsdottir and Aspelund (2021) conclude that most studies identify a positive relationship between sustainability innovation and firm competitiveness, with only a small fraction reporting negative effects.

Despite this positive relationship, the effects on financial performance remain more nuanced and are not always immediate or consistent, as discussed in Section 2.2.3. Some studies suggest that sustainability reporting can contribute to improved market and financial outcomes and to value creation (Oncioiu et al., 2020), while greater investment in sustainable projects has also been associated with better financial results (Pulino et al., 2022). In contrast, Monteiro et al. (2024) report no significant differences in financial performance between Portuguese companies that publish sustainability reports and those that do not. A more consistent pattern emerges when attention shifts to longer-term effects, as Liao et al. (2025) show that environmental innovation improves firm performance over time, with benefits becoming more evident in the long run, especially when driven by altruistic and strategic motivations rather than egoistic ones. Overall, sustainability may not always generate immediate financial gains, but it can represent an important source of differentiation, competitiveness and long-term performance, especially when supported by innovation and embedded in corporate strategy (Branquinho, 2024; Liao et al., 2025).

2.6. Corporate Sustainability in Portugal

The Portuguese business landscape is overwhelmingly dominated by small and medium-sized enterprises, which therefore occupy a central position in the transition towards a more sustainable economic system (Pereira, 2024). In 2024, they represented approximately 99.9% of all firms in Portugal, corresponding to 1,574,963 out of a total of 1,576,606 companies (Instituto Nacional de Estatística, 2025). Despite their structural weight in the economy, efforts to strengthen sustainability awareness among Portuguese SMEs remain insufficient, as progress is constrained by limited financial and human resources and by a limited understanding of their actual impacts. SMEs also tend to perceive sustainability reporting as overly complex and costly, partly because it has traditionally been associated with large companies (Pereira, 2024).

Among listed firms, sustainability reporting is considerably more established. Companies in the PSI 20 are required to publish annual reports and disclose non-financial information

(Lima, 2021), with sustainability reports being the most commonly used format for this purpose, followed by integrated reports (Loureiro et al., 2024). These companies rely heavily on internationally recognised frameworks, particularly the GRI Standards, which have become the benchmark for sustainability reporting among PSI firms (Gomes, 2024; Lima, 2021), and the widespread use of external assurance further indicates a relatively advanced reporting culture in this segment (Lima, 2021). This development is linked to transparency, stakeholder expectations and an increasingly demanding regulatory environment (Gomes, 2024; Lima, 2021).

However, the literature consistently highlights important limitations in the quality and depth of these practices. Although most PSI 20 companies incorporate the SDGs into their corporate strategies, the extent of that integration differs substantially across firms (Branquinho, 2024). Similarly, Loureiro et al. (2024) identify a gradual increase in SDG reporting among Portuguese companies, while also showing that progress remains slow and modest, as firms report on average on only about half of the 17 SDGs. More broadly, Gomes (2024) and Lima (2021) argue that qualitative narratives continue to prevail over more rigorous quantitative evidence, and reporting often appears to function more as a marketing or reputational tool than as a robust account of long-term value creation and substantive sustainability commitments. These limitations are compounded by weak comparability and incomplete compliance with reporting standards, meaning that the spread of reporting practices has not been matched by equivalent progress in reporting quality. This is particularly relevant in an uneven Portuguese landscape, where meaningful engagement remains largely concentrated in larger corporations or firms with a specialised sustainability focus (Gomes, 2024; Lima, 2021). Sectoral differences also persist, with Branquinho (2024) showing higher reporting quality in Basic Materials, Utilities and Technology, and more frequent SDG references in the Energy and Financial sectors.

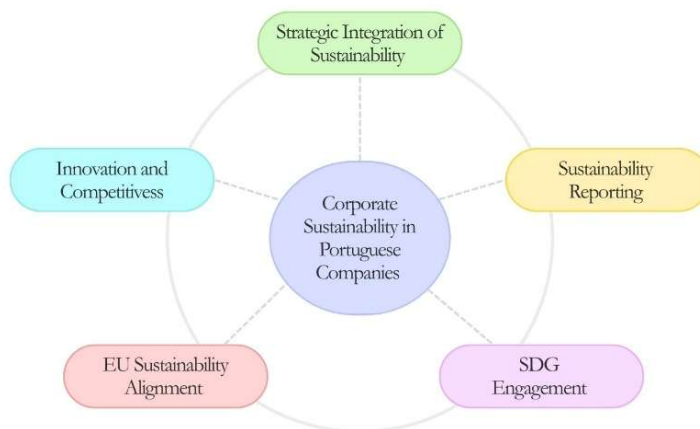
Taken together, these findings point to a dual reality in Portugal. Listed companies show a more consolidated pattern of sustainability and SDG reporting, even if the quality and depth of their disclosures still require improvement (Lima, 2021). SMEs, despite their structural weight in the Portuguese economy, continue to face important barriers to adoption (Pereira, 2024). The next challenge lies less in expanding disclosure volume and more in improving its quality, quantitative rigour, strategic integration, standardisation and capacity to demonstrate sustainable value creation over time (Gomes, 2024; Lima, 2021).

2.7. Integrative Synthesis and Conceptual Model

The literature shows that sustainability becomes strategically relevant when it moves beyond isolated initiatives or external communication and begins to influence organisational priorities, internal practices, decision-making and long-term value creation (Ahmić, 2022; Ivory & MacKay, 2020; Khizar et al., 2021). However, disclosure cannot be treated as direct evidence of strategic integration, since firms may respond to institutional and stakeholder pressures without necessarily reflecting substantive internal change (Delmas & Montes-Sancho, 2010; Hyatt & Berente, 2017). It is therefore necessary to distinguish between the communication of sustainability and its effective incorporation into corporate strategy (Ivory & MacKay, 2020; van der Waal & Thijssens, 2020). This distinction is particularly relevant in Portugal, where sustainability reporting and SDG disclosure have become more common, especially among larger and listed companies, but still present limitations in depth, comparability and strategic relevance (Loureiro et al., 2024). These gaps support the central research question of this thesis: “To what extent do Portuguese companies integrate sustainability into their corporate strategy?”

Drawing on the literature reviewed in this chapter, Figure 1 presents the conceptual model of the study. The model places corporate sustainability in Portuguese companies at the centre and organises it around five thematic axes: strategic integration of sustainability, sustainability reporting, SDG engagement, EU sustainability alignment, and innovation and competitiveness. It functions as a visual map of the literature review rather than as a deterministic causal model, and its circular structure highlights that these dimensions are interrelated rather than independent.

Figure 1. *Conceptual Model of the Study*



As shown in Figure 1, the five pillars capture complementary aspects of corporate sustainability. Strategic integration concerns the embedding of sustainability in strategy, targets and actions; sustainability reporting covers disclosure practices, frameworks, motivations and perceived benefits; SDG engagement assesses references, initiatives, priorities, targets and KPIs; EU sustainability alignment captures firms' positioning regarding the CSRD, the EU Taxonomy and the CSDDD; and innovation and competitiveness examine whether sustainability is perceived as contributing to innovation and competitive positioning. In this way, the model links the theoretical discussion developed in the literature review to the empirical structure of the study, which is operationalised in the following methodology chapter.

3. Methodology

3.1. Methodological Approach

This dissertation is grounded in a positivist research philosophy and adopts a deductive approach. Following Saunders et al. (2019), positivism assumes that reality can be systematically observed, measured and analysed, with the researcher remaining independent from the phenomenon under study. This position is appropriate because the dissertation examines corporate sustainability practices through structured and measurable questionnaire data. Consistent with this philosophy, the literature review informs the central research question: “To what extent do Portuguese companies integrate sustainability into their strategy?” and guides the empirical analysis.

The methodological design is quantitative, based on a survey, and follows a cross-sectional time horizon. Data were collected from Portuguese companies at a single point in time, allowing the dissertation to analyse the current situation rather than changes over time. Given the multidimensional nature of corporate sustainability, the empirical design is anchored in the conceptual model developed in Section 2.7 and illustrated in Figure 1, which guides the questionnaire operationalisation, variable definition and analytical strategy presented in this chapter.

3.2. Questionnaire Design and Structure

To operationalise the conceptual model, a structured questionnaire was created in Microsoft Forms and made available in English and Portuguese. It was first drafted in English and then translated into Portuguese, with the Portuguese version reviewed and adjusted by the researcher, a native Portuguese speaker, to ensure clarity, linguistic accuracy and appropriate terminology across both versions. The full English version of the questionnaire, including the introductory text and all survey questions, is provided in Annex D. The Portuguese version followed the same content, differing only in language.

Section 1 collected company profile information and included an initial screening question to confirm whether the company had practices, initiatives or activities in at least one of the areas covered by the study, ensuring that only eligible respondents completed the subsequent items. Sections 2 to 6 corresponded directly to the five analytical pillars previously presented. Most questions used predefined response options, including binary, ordinal and multiple response formats, while a limited number of optional open questions allowed respondents to

provide more specific information when necessary. The questionnaire design prioritised clarity, logical sequencing and ease of completion. Skip logic ensured that respondents only answered questions relevant to their company's situation, reducing respondent burden and the risk of inconsistent or irrelevant answers.

3.3. Population and Data Collection

The target population of this study consists of Portuguese enterprises, covering different sectors and organisational sizes. This broad scope is consistent with the purpose of the dissertation, which is to describe current sustainability practices across the Portuguese business context rather than focusing on a specific industry, region or type of firm.

The survey was distributed by email using professional addresses obtained from a commercially licensed business database named BaseDadosEmpresas, complemented where applicable by publicly available contacts. The database contained 120,418 email contacts and was not filtered by sector, size, region or other characteristics, in order to maximise the number of potential responses. According to INE data, there were 1,576,606 enterprises in Portugal in 2024 (Instituto Nacional de Estatística, 2025). Therefore, the 120,418 contacts available in BaseDadosEmpresas correspond to approximately 7.6% of the total number of enterprises in the country. Although limited, this was considered the most viable distribution source, since no complete public institutional list of email contacts for Portuguese companies is available.

An additional screening procedure was conducted to assess the adequacy of the database in relation to the target population, namely whether the available contacts were compatible with the concept of enterprise used in the study. A conservative operational screening was therefore applied using the organisation's name and activity category. Using this criterion, 6,684 contacts were identified as potentially not corresponding to enterprises, representing approximately 5.6% of the database. These contacts included non-profit organisations, such as foundations and social support entities, as well as clubs and federations, cultural institutions, public administration bodies and educational institutions not clearly classifiable as enterprises. After excluding these contacts, the adjusted database would contain approximately 113,734 contacts more closely aligned with the target population of the study, equivalent to around 7.2% of the total number of enterprises reported by Instituto Nacional de Estatística (2025) for 2024. This figure should be interpreted with caution because the classification was

based only on the information available in the database and not on formal legal or statistical records.

The number of contacts in the database does not necessarily correspond to the number of companies effectively reached by the survey. Some addresses may have been invalid, outdated or inactive, meaning that the exact number of companies contacted cannot be determined with precision. During the survey distribution process, approximately 5% of the email addresses generated automatic delivery failure notifications. Applying this rate indicatively to the adjusted database of 113,734 contacts, approximately 5,687 addresses may not have been functional, leaving around 108,047 potentially active enterprise contacts. This figure should be interpreted as an operational estimate rather than an exact measure of the number of companies effectively reached. Data collection closed on 19 May 2026, with 1,676 responses received by that date. Of these, 98 respondents did not provide consent for data processing and were excluded from the analysis, resulting in a final valid sample of 1,578 responses, corresponding to 94.2% of all responses initially collected.

Based on the estimated number of potentially active enterprise contacts, the gross response rate was approximately 1.6% ($1,676 / 108,047 \times 100 = 1.55\%$). After excluding the 98 responses without consent, the adjusted valid response rate for the analytical sample was approximately 1.5% ($1,578 / 108,047 \times 100 = 1.46\%$). Although low in absolute terms, this response rate is acceptable in the context of a large-scale unsolicited B2B email survey, where low participation is expected due to the absence of prior recruitment or direct personal contact with respondents. This interpretation is consistent with evidence that response rates vary substantially in organisational research (Baruch & Holtom, 2008) and that email surveys tend to obtain lower response rates than paper-based mail surveys (Shih & Fan, 2009). The findings should therefore be interpreted as descriptive evidence from participating organisations, not as statistically representative of all Portuguese companies.

3.4. Sample Profile

The sample covers a broad range of sectors (Annex A, Table A1). Excluding the “Other” category, the most represented sectors are Retail and Distribution, Consulting and Professional Services, Tourism and Hospitality, and Construction and Real Estate, accounting for approximately 15%, 14%, 12%, and 11% of respondents, respectively. The least represented sectors are Agri-food Industry and Transport, Logistics and Mobility, each accounting for

around 2%. Within the “Other” category, the Social Sector is the largest subgroup, representing approximately 20% of responses, followed by Culture, Arts and Music, with around 10% (Annex A, Table A2).

The sample is predominantly composed of SMEs, which together represent around 95% of respondents. Micro-enterprises account for approximately 63% of the sample, followed by small companies (23%) and medium-sized companies (9%), while large companies represent around 5% (Annex A, Table A3). This profile is consistent with the structure of the Portuguese business landscape, where SMEs account for the overwhelming majority of firms (Instituto Nacional de Estatística, 2025).

3.5. Sample Filtering and Analytical Subsamples

The structure of the questionnaire involved a sequential filtering logic, which generated different analytical subsamples throughout the study. The full valid sample consisted of 1,578 respondents who completed the questionnaire and provided consent for their data to be processed. Within this group, Q4 functioned as an entry filter for the substantive sections of the questionnaire. This question asked whether the company had practices, initiatives or activities in at least one of the sustainability areas covered by the study. Of the 1,578 valid respondents, 924 companies (58.6%) declared that they did not have any sustainability practices, initiatives or activities in the areas covered by the questionnaire. These respondents were automatically redirected to the end of the questionnaire and did not answer the subsequent sections. The remaining 654 companies (41.4%) answered affirmatively to Q4 and therefore proceeded to Q5 and to the following sections of the questionnaire.

A further distinction was applied in the bivariate analysis. Although 654 respondents answered Q5, 19 selected the category “Not integrated”. Since this category was small and would generate sparse cells in several contingency tables, it was excluded from most bivariate association analyses. As a result, most bivariate analyses were conducted on 635 respondents, corresponding to companies that reported at least minimal integration of sustainability. The exception is the analysis between company size and the level of sustainability integration itself, which includes all 654 respondents who answered Q5. This filtering procedure is summarised in Annex A, Table A4.

3.6. Data Analysis Strategy

The five analytical pillars were translated into questionnaire items and measurable empirical dimensions, as detailed in Annex A, Table A5, which links each pillar to the corresponding survey items and clarifies the purpose of each set of questions. Company profile variables, namely sector of activity and company size, are not conceptual pillars of the model. Instead, they are used to characterise the sample and, where relevant, to contextualise the interpretation of results across different types of companies.

The study is descriptive and exploratory. It describes the current state of sustainability practices among the respondent companies and explores patterns and maturity levels across firms that differ in size, sector, sustainability experience and regulatory preparedness. The aim is not to establish causal relationships, but to provide a structured empirical understanding of how Portuguese companies position themselves across the main sustainability dimensions identified in the conceptual model.

After data collection, survey responses were exported from Microsoft Forms and organised in Microsoft Excel. Subsequently, all statistical analyses were conducted using IBM SPSS Statistics (Version 31.0) (IBM Corp., 2024). Statistical significance was established at the 5% level ($\alpha = .05$). The data analysis followed a staged procedure, combining descriptive statistics with exploratory inferential analyses.

The first stage consisted of data preparation and organisation. The dataset was reviewed in order to ensure that responses were complete, coherent and suitable for statistical analysis. The second stage consisted of descriptive statistical analysis. Descriptive statistics were initially computed to characterise the sample and the main study variables. Categorical variables were summarised using absolute and relative frequencies (n, %). Continuous variables were described using measures of central tendency and distribution, including the median (Mdn), mode (Mo), first quartile (P25), third quartile (P75), and observed minimum and maximum values (Min., Max.).

After the descriptive analysis, inferential analyses were conducted to examine potential associations between variables of interest. The third stage consisted of bivariate association analysis. Cross-tabulations were first used to explore whether variables from different pillars appeared to be related. In particular, the analysis examined whether higher levels of strategic integration (Q5) were associated with more developed reporting practices (Q10), deeper

SDG engagement (Q15), greater alignment with European sustainability requirements (Q21, Q22, Q23), and stronger perceived effects on innovation and competitiveness (Q25, Q27).

The fourth stage involved group comparison analysis using the company profile variables collected in Section 1 of the questionnaire. Company size (Q3) was used to compare levels of strategic integration (Q5), status of reporting practices (Q10), and reference or development of initiatives related to the SDGs (Q15) across micro, small, medium and large companies. Sectoral comparisons (Q2) regarding the status of reporting practices (Q10) were also conducted.

The fifth stage consisted of response consistency and validation checks. This was done through cross-checks between logically related questions, in order to assess whether responses were coherent across the questionnaire. For example, companies reporting high strategic integration (Q5) were compared with the existence of a dedicated sustainability team, department or function (Q6), the existence of sustainability targets regularly monitored (Q7), and the existence of sustainability actions or initiatives (Q8). Finally, the association between the reference or development of initiatives related to the SDGs (Q15) and the identification and action on specific SDG targets (Q18) was also assessed.

Given that all variables under study were measured on nominal or ordinal scales, relationships between categorical variables were assessed using Pearson's chi-square test of independence. For each contingency table, the assumptions underlying Pearson's chi-square test were examined, particularly the expected cell frequencies. Following established recommendations, chi-square results were considered reliable when no more than 20% of the cells had expected frequencies below 5 and no expected frequency was lower than 1. Whenever these assumptions were violated, categories were collapsed to create new variables with fewer response categories. This procedure was adopted to increase expected cell frequencies, reduce sparsity within contingency tables and improve compliance with the assumptions of the chi-square test. The strength of statistically significant associations was evaluated using Cramer's V coefficient. Following Cohen's (1988) guidelines, values of approximately .10, .30 and .50 were interpreted as indicating small, moderate and large effect sizes, respectively. Both statistical significance and effect size measures were considered when interpreting the results (Cohen, 1988; Marôco, 2018).

When both variables were ordinal, the Gamma coefficient was additionally used to assess the direction and strength of the ordinal association. Positive Gamma values indicate that higher categories of one variable tend to be associated with higher categories of the other variable, while negative values indicate that higher categories of one variable tend to be associated with lower categories of the other variable. Both statistical significance and effect size measures were considered when interpreting the results.

Overall, the data analysis strategy combines descriptive statistics, association analysis, group comparisons and consistency checks. This structure allows each pillar of the conceptual model to be examined individually, while also exploring how the five pillars relate to one another in practice. To make the connection between the research questions and the empirical analysis explicit, the mapping between each research question and the corresponding analytical procedures is presented in Annex A, Table A6.

3.7. Validity, Reliability and Ethical Considerations

Validity was addressed through content, face and construct validity. Content validity is supported by the alignment between the literature review, the conceptual model and the questionnaire; face validity was strengthened through the supervisor's review of the questionnaire before distribution; and construct validity is supported by the correspondence between each theoretical construct and the survey items used to operationalise it. Reliability is supported by the use of a structured questionnaire with standardised wording, predefined response options and skip logic, which improves comparability and reduces irrelevant or contradictory answers. Data collection and processing followed the General Data Protection Regulation (GDPR), ensuring informed consent, voluntary participation, anonymity, the collection of organisational data that did not identify respondents or companies, secure storage and exclusive academic use.

4. Results and Discussion

4.1. Analytical Levels of Interpretation

The empirical results are interpreted through two analytical levels. The first concerns the full sample, as Q4 was answered by all respondents and served as a filtering question. As shown in Annex B, Table B1, around 41% of respondents report that their company currently engages in practices, initiatives or activities in at least one of the sustainability areas covered in this study, while around 59% report no current engagement in any of them. The second analytical level concerns the subgroup of companies that reported some sustainability engagement in Q4, since only these respondents answered the remaining questions. Therefore, Sections 4.2 and 4.3 should be interpreted as describing this more sustainability oriented subgroup, rather than the full sample. Within this subgroup, strategic integration also remains uneven, with most companies concentrated at minimal or moderate levels and only a small share reporting full integration into corporate strategy (Annex B, Table B2). This distinction is essential for interpreting both the descriptive results and the bivariate analysis presented in the chapter.

4.2. Descriptive Profile of Sustainability Practices among Engaged Companies

4.2.1 Organisational Structures, Targets and Actions

Among companies that report some degree of sustainability integration into corporate strategy, formalisation remains less developed than practical implementation. Dedicated sustainability teams, departments or functions are reported only by a minority of respondents (Annex B, Table B3), and companies without regularly monitored sustainability targets are more frequent than those with such targets (Annex B, Table B4). By contrast, specific sustainability actions or initiatives are much more common, suggesting that sustainability engagement is more visible in practical initiatives than in dedicated structures or regularly monitored targets (Annex B, Table B5).

The areas of engagement show a multidimensional profile, with environmental and social issues emerging as the most common areas of action, followed by digitalisation, economic issues and innovation (Annex B, Table B6). This pattern is consistent with the environmental, social and economic dimensions of corporate sustainability (Elkington, 1997; Pazienza et al., 2022), while the relevance of digitalisation reflects the growing role of digital technologies in sustainable business practices (Schrade-Grytsenko et al., 2025; Tang et al., 2025).

4.2.2 Sustainability Reporting

Within the engaged subgroup, sustainability reporting remains limited, with around half of respondents indicating that their company does not prepare and publish sustainability reports, although a relevant share is planning to do so (Annex B, Table B7). This indicates that reporting is not yet consolidated, despite emerging interest. Given the predominance of SMEs in the sample, this pattern may reflect the constraints that these firms face in adopting structured sustainability reporting practices (Pereira, 2024).

Among organisations that already prepare sustainability reports, ESG is the most frequently used reference, followed by internally developed criteria and GRI (Annex B, Table B8). This pattern is consistent with the relevance attributed in the literature to ESG criteria (Yusof & Widyasamratri, 2025) and to the GRI framework (Areta Hiziroglu & Dogan, 2025). However, the use of internally developed criteria and the fact that some respondents indicate that no structured methodology is used suggest that reporting practices remain heterogeneous and not always anchored in established international references. Reporting is mainly driven by reputational, institutional and stakeholder related motivations. The most frequently selected objectives are improving brand reputation and market positioning, alignment with international best practices or industry expectations, transparency and stakeholder trust, monitoring internal performance and legal compliance (Annex B, Table B9). This pattern is consistent with literature linking sustainability disclosure to reputational, stakeholder and institutional drivers (Bauwhede & Cauwenberge, 2022; Qian et al., 2020), as well as with Portuguese evidence on reporting motivations (Gomes, 2024; Lima, 2021).

Among organisations that prepare and publish sustainability reports, most respondents state that reporting has generated benefits (Annex B, Table B10). These benefits are mainly reputational, operational, internal and strategic, while financial or economic effects are less frequently identified (Annex B, Table B11). This broadly aligns with the benefits identified in the literature, although the results suggest that direct financial gains are less salient in this sample (Lima, 2021; Pereira, 2024; Setyaningsih et al., 2024).

4.2.3 United Nations Sustainable Development Goals (SDGs)

SDG integration remains limited within the subgroup of companies that report some engagement with sustainability, as most companies neither refer to the SDGs nor develop initiatives related to them, while a smaller share reports ongoing or planned SDG initiatives,

programmes or projects (Annex B, Table B12). This limited integration may be partly associated with the predominance of SMEs in the sample, since resource constraints can limit the capacity of these firms to implement sustainability initiatives (Jain & Tripathi, 2022), while ongoing or planned initiatives suggest a gradual but still uneven incorporation of the SDGs into corporate practice, consistent with Portuguese evidence (Gomes, 2024; Lima, 2021).

Among companies that engage with the SDGs, attention is concentrated on a limited set of goals, especially SDGs 8, 5, 12, 13 and 7 (Annex B, Table B13). This pattern is broadly consistent with international evidence highlighting corporate attention to SDGs 8, 12, 13 and 5 (Gutiérrez-Ponce, 2023; Izzo et al., 2020), and with Portuguese evidence identifying SDGs 7, 8, 12 and 13 among the most frequently mentioned (Branquinho, 2024; Gomes, 2024; Loureiro et al., 2024). Conversely, SDGs 2 and 14 are among the least selected goals, which is also consistent with prior findings (Branquinho, 2024; Gomes, 2024; Gutiérrez-Ponce, 2023; Izzo et al., 2020; Loureiro et al., 2024). When respondents identify the SDGs considered most important for their company, SDGs 12, 8 and 13 stand out, reinforcing the concentration of perceived relevance around responsible production, decent work and climate action (Annex B, Table B14).

The identification and monitoring of specific SDG targets remains less developed, suggesting that SDG engagement is more often expressed through references or qualitative ambitions than through measurable targets (Annex B, Table B15). This aligns with studies showing that companies may refer to the SDGs without clearly demonstrating their translation into action or measured outcomes (Heras-Saizarbitoria et al., 2022; Hummel & Szekely, 2022), and with Portuguese evidence pointing to the predominance of qualitative narratives over rigorous quantitative evidence (Gomes, 2024; Lima, 2021). Regarding strategic embedding, the SDGs are most frequently included at the governance or management level, while communication of SDG progress to stakeholders and incorporation of the SDGs into KPIs across functions are reported by smaller shares of respondents. By contrast, oversight committees, structured reviews and links between SDG targets and executive remuneration or incentives are far less common (Annex B, Table B16). Regarding company KPI monitoring, targets 12.5, 7.2, 8.5 and 13.2 are the most frequently identified SDG targets, while some respondents indicate that their company does not monitor SDG targets through KPIs (Annex B, Table B17). Overall, SDG engagement remains concentrated around a limited set of

goals and is more visible in governance and communication than in systematic measurement and incentive mechanisms.

4.2.4 EU Sustainability Alignment

Alignment with EU sustainability requirements is still developing among the subgroup of companies that either refer to the SDGs or report ongoing or planned SDG initiatives, programmes or projects. The CSRD percentages refer to this routed subgroup (N = 245), while the EU Taxonomy, CSDDD and KPI results are based on smaller valid subgroups, as indicated in the respective tables.

CSRD compliance remains limited, with most respondents indicating either non applicability or future alignment, while preparation within the next one to two years is also relevant and full compliance is reported only by a minority (Annex B, Table B18). This may reflect the predominance of SMEs in the sample, as well as the complexity of CSRD implementation, including double materiality requirements (Sharma, 2025). EU Taxonomy assessment appears more advanced, although it remains largely partial. Most respondents indicate that their company is already aligned with the EU Taxonomy, but partial alignment is more common than full alignment, and a relevant share is still preparing this process (Annex B, Table B19). Implementation of due diligence processes aligned with the CSDDD is also limited, although many companies are preparing for compliance or considering future adaptation, while full compliance is reported only by a small share of respondents (Annex B, Table B20).

Quantifiable indicators are mainly concentrated on energy consumption or renewable energy share, waste reduction or recycling rate, water use, and employee diversity and inclusion, whereas supply chain risk and human rights compliance are less frequently monitored (Annex B, Table B21). Overall, full CSRD compliance and due diligence processes aligned with the CSDDD are still limited, while EU Taxonomy alignment is frequently partial.

4.2.5 Innovation and Competitiveness

Sustainability is frequently perceived as a driver of innovation, with most respondents indicating that it has stimulated innovation in their company (Annex B, Table B22), which is in line with evidence linking sustainability awareness and sustainable development practices to green innovation (Aboelmaged & Hashem, 2019; Alyahya et al., 2022). Among these respondents, innovation is mainly associated with process improvement or optimisation, followed by organisational innovation and the application of digital technologies for sustaina-

bility purposes (Annex B, Table B23). The relevance of organisational innovation is consistent with literature linking sustainability orientation to organisational culture and daily operations (Khizar et al., 2021), while the use of digital technologies is consistent with studies highlighting their role in supporting sustainable business practices (Schrade-Grytsenko et al., 2025; Tang et al., 2025). New partnerships and collaborations, as well as new products, are also reported, although less frequently, suggesting that sustainability related innovation can extend beyond internal processes to external collaboration and market offerings (Annex B, Table B23).

Sustainability is also perceived as contributing to competitiveness, although more often moderately than strongly (Annex B, Table B24). This perception is consistent with studies showing that sustainable environmental strategies can positively influence firms' competitiveness (Padilla-Lozano & Collazzo, 2022; Wang et al., 2022).

4.3. Bivariate Analysis within the Engaged Subsample

The bivariate analysis focuses on the engaged subgroup rather than on the full sample, since only these respondents answered the questions after Q4. Except where explicitly stated, analyses involving sustainability integration exclude the 19 respondents who selected "Not integrated" in Q5, due to the small size of this category and the risk of sparse cells. Therefore, these analyses are based on 635 respondents with at least minimal sustainability integration.

4.3.1. Strategic Sustainability Integration and Corporate Practices

The association between sustainability integration into corporate strategy and sustainability reporting status was statistically significant, $\chi^2(9, N = 635) = 75.06; p < .001$, with a small effect size (Cramer's $V = .198$). As shown in Table 4.1, companies with higher levels of sustainability integration are more likely to prepare and publish sustainability reports regularly, whereas non-reporting is more concentrated among companies with lower levels of integration. Gamma indicates a moderate negative ordinal association (Gamma = $-.408, p < .001$), reflecting the coding of the reporting variable, where more regular reporting corresponds to lower numerical categories. Taken together, these results indicate that strategic integration is associated with more developed sustainability reporting practices, in line with literature that presents reporting as a mechanism for assessing and communicating how sustainability is integrated into corporate strategy (Oncioiu et al., 2020; Rusu et al., 2024).

Table 4.1 *Preparation and Publication of Sustainability Reports According to the Level of Sustainability Integration into Corporate Strategy (N = 635)*

Sustainability reporting status	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
Yes, regularly	9 (4.9)	37 (15.0)	37 (24.2)	21 (38.9)
Yes, occasionally	6 (3.3)	17 (6.9)	11 (7.2)	6 (11.1)
Not yet, but planning to	38 (20.9)	75 (30.5)	50 (32.7)	11 (20.4)
No sustainability reporting	129 (70.9)	117 (47.6)	55 (35.9)	16 (29.6)
Total	182 (100.0)	246 (100.0)	153 (100.0)	54 (100.0)

Note. Percentages are column percentages. The “Not integrated” category in Q5 is not included. $\chi^2(9, N = 635) = 75.06, p < .001$; Cramer's $V = .198$; Gamma = $-.408$; $p < .001$.

A statistically significant association was also found between sustainability integration and SDG engagement status, $\chi^2(6, N = 635) = 117.08, p < .001$, with a moderate effect size (Cramer's $V = .304$). As shown in Table 4.2, companies with higher levels of sustainability integration are more likely to report ongoing or planned SDG initiatives, programmes or projects, whereas the absence of SDG references or related initiatives is more concentrated among companies with lower levels of integration. Gamma indicates a moderate negative ordinal association (Gamma = $-.485, p < .001$), reflecting the coding of the SDG variable, where more active SDG engagement corresponds to lower numerical categories. Taken together, these results indicate that strategic integration is associated with more active SDG engagement, in line with literature suggesting that corporate contributions to the SDGs become more meaningful when the goals are embedded into strategy rather than used mainly as communication tools (García-Sánchez et al., 2021; Jimenez et al., 2021).

Table 4.2 *SDG Reference or Initiative Development According to the Level of Sustainability Integration into Corporate Strategy (N = 635)*

SDG engagement status	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
Reference to the SDGs only	18 (9.9)	35 (14.2)	20 (13.1)	14 (25.9)
Ongoing or planned SDG initiatives, programmes or projects	11 (6.0)	50 (20.3)	68 (44.4)	29 (53.7)
No reference to or initiatives related to the SDGs	153 (84.1)	161 (65.4)	65 (42.5)	11 (20.4)
Total	182 (100.0)	246 (100.0)	153 (100.0)	54 (100.0)

Note. Percentages are column percentages. The “Not integrated” category in Q5 is not included. $\chi^2(6, N = 635) = 117.08, p < .001$; Cramer's $V = .304$; Gamma = $-.485, p < .001$.

The analysis did not reveal a statistically significant association between sustainability integration and CSRD implementation or compliance status, $\chi^2(9, N = 245) = 16.83$; $p = .052$, with a small effect size (Cramer's $V = .151$) (Annex C, Table C1). Although the p -value was close to the significance threshold and the distribution suggested greater CSRD preparedness among companies with higher sustainability integration, the main analysis did not reach conventional levels of statistical significance. Therefore, an additional exploratory analysis was performed by collapsing sustainability integration into two broader categories, distinguishing minimally or moderately integrated companies from largely or fully integrated companies. This analysis revealed a statistically significant association, $\chi^2(3, N = 245) = 9.00$; $p = .029$; Cramer's $V = .192$ (Annex C, Table C2), suggesting that higher sustainability integration may be associated with more advanced stages of CSRD implementation. However, this result should be interpreted cautiously, since the evidence from the main analysis is not strong enough to confirm a statistically significant relationship in the present sample. The limited robustness of the association may be partly related to the predominance of SMEs, since non-listed SMEs are not directly subject to mandatory CSRD reporting requirements (Kosi & Relard, 2024).

Similarly, no statistically significant association was observed between sustainability integration into corporate strategy and EU Taxonomy alignment status. The initial contingency table using the four original integration categories violated Pearson's chi-square assumptions, as 50.0% of cells had expected frequencies below 5, with a minimum expected frequency of 0.34. Therefore, sustainability integration was recoded into two broader categories, distinguishing minimally or moderately integrated organisations from largely or fully integrated ones. The recoded analysis provided an acceptable distribution of expected frequencies and revealed no statistically significant association, $\chi^2(3, N = 94) = 1.53$; $p = .675$, with a small effect size (Cramer's $V = .128$) (Annex C, Table C3). Response patterns were broadly similar across lower and higher integration levels, suggesting that sustainability integration is not meaningfully associated with EU Taxonomy alignment in this sample.

Similarly, no statistically significant association was found between sustainability integration and CSDDD implementation status. In the initial contingency table using the four original categories of sustainability integration, the assumptions underlying Pearson's chi-square test were substantially violated. Specifically, 10 out of 16 cells (62.5%) had expected frequencies below 5, and the minimum expected frequency was 0.19. Therefore, sustainability integration

was again recoded into the two broader categories previously mentioned. The recoded analysis showed no statistically significant association, $\chi^2(3, N = 86) = 0.72, p = .869$, with a negligible to small effect size (Cramer's $V = .091$) (Annex C, Table C4). These results should, however, be interpreted with caution, as 37.5% of the cells still had expected frequencies below 5 and the minimum expected frequency was 1.40. Overall, the findings suggest that sustainability integration is not meaningfully associated with CSDDD implementation status in this sample, which may partly reflect the fact that the CSDDD mainly imposes conduct obligations on large companies, while the sample is predominantly composed of SMEs (Baltrunaite et al., 2024; Bueno et al., 2024).

By contrast, sustainability integration was significantly associated with sustainability acting as a driver of innovation, $\chi^2(3, N = 635) = 93.84; p < .001$, with a moderate effect size (Cramer's $V = .384$). As shown in Table 4.3, companies with higher levels of sustainability integration are more likely to report innovation driven by sustainability, while reports of no innovation driven by sustainability are more prevalent among those with lower levels of sustainability integration. Gamma indicates a strong positive ordinal association (Gamma = .613, $p < .001$). These results suggest that greater strategic integration is associated with a higher likelihood of sustainability acting as a catalyst for organisational innovation, in line with evidence linking sustainability orientation and sustainable development practices to green innovation capabilities (Aboelmaged & Hashem, 2019; Alyahya et al., 2022).

Table 4.3 *Sustainability as a Driver of Innovation According to the Level of Sustainability Integration into Corporate Strategy (N = 635)*

	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
Sustainability as a driver of innovation				
No	99 (54.4)	69 (28.0)	13 (8.5)	7 (13.0)
Yes	83 (45.6)	177 (72.0)	140 (91.5)	47 (87.0)
Total	182 (100.0)	246 (100.0)	153 (100.0)	54 (100.0)

Note. Percentages are column percentages. The “Not integrated” category in Q5 is not included. $\chi^2(3, N = 635) = 93.84; p < .001$; Cramer's $V = .384$; Gamma = .613; $p < .001$.

This analysis examines the relationship between sustainability integration and the perceived contribution of sustainability to competitiveness, capturing respondents' perceptions rather than objective measures of competitive performance. The association was statistically significant, $\chi^2(9, N = 635) = 107.25; p < .001$, with a small to moderate effect size (Cramer's $V = .237$). As shown in Table 4.4, companies with higher levels of sustainability integration are

more likely to perceive sustainability as contributing to competitiveness, whereas perceptions of no current contribution or only future potential are more concentrated among companies with lower levels of integration. Gamma indicates a moderate negative ordinal association (Gamma = $-.454$, $p < .001$), reflecting the coding of the competitiveness variable, where stronger perceived contribution corresponds to lower numerical categories.

Taken together, these results suggest that organisations in which sustainability is more deeply embedded within corporate strategy are considerably more likely to perceive sustainability as a factor that enhances competitiveness. Although the effect size was not large, the association was meaningful and consistent across all categories of sustainability integration. These results are consistent with previous studies showing that sustainable environmental strategies can strengthen competitiveness (Padilla-Lozano & Collazzo, 2022; Wang et al., 2022).

Table 4.4 *Perceived Contribution of Sustainability to Competitiveness According to the Level of Sustainability Integration into Corporate Strategy (N = 635)*

Perceived contribution of sustainability to competitiveness	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
Yes, significantly	16 (8.8)	34 (13.8)	56 (36.6)	26 (48.1)
Yes, to some extent	56 (30.8)	109 (44.3)	67 (43.8)	19 (35.2)
Not yet, but there is potential	65 (35.7)	70 (28.5)	18 (11.8)	6 (11.1)
No	45 (24.7)	33 (13.4)	12 (7.8)	3 (5.6)
Total	182 (100.0)	246 (100.0)	153 (100.0)	54 (100.0)

Note. Percentages are column percentages. The “Not integrated” category in Q5 is not included. $\chi^2(9, N = 635) = 107.25$; $p < .001$; Cramer's V = .237; Gamma = $-.454$; $p < .001$.

4.3.2. Company Size and Strategic Sustainability Integration

Unlike the remaining bivariate analyses involving sustainability integration, this analysis includes the “Not integrated” category from Q5, resulting in 654 respondents, because the objective is precisely to examine how the full range of sustainability integration levels varies according to company size.

Company size was significantly associated with sustainability integration into corporate strategy, $\chi^2(12, N = 654) = 64.26$; $p < .001$, with a small effect size (Cramer's V = .181). As shown in Table 4.5, larger companies are more concentrated in the higher integration categories, while micro enterprises show greater concentration at minimal integration. Small and medium sized companies are mainly concentrated at moderate integration. Gamma indicates a weak but statistically significant positive ordinal association (Gamma = .170, $p = .001$),

suggesting that company size is associated with sustainability integration, although the relationship is not strong enough to be interpreted as a dominant determinant. Overall, the results suggest that larger organisations tend to integrate sustainability more deeply into their corporate strategies than smaller organisations.

Table 4.5 *Level of Sustainability Integration into Corporate Strategy According to Company Size (N = 654)*

Level of sustainability integration	Company size			
	Micro (<10 em- ployees) n (%)	Small (10–49 em- ployees) n (%)	Medium (50–249 em- ployees) n (%)	Large (250+ em- ployees) n (%)
Not integrated	8 (2.5)	9 (5.4)	0 (0.0)	2 (2.9)
Minimally integrated	112 (35.4)	40 (24.0)	24 (23.5)	6 (8.7)
Moderately integrated	98 (31.0)	78 (46.7)	49 (48.0)	21 (30.4)
Largely integrated	65 (20.6)	36 (21.6)	25 (24.5)	27 (39.1)
Fully integrated	33 (10.4)	4 (2.4)	4 (3.9)	13 (18.8)
Total	316 (100.0)	167 (100.0)	102 (100.0)	69 (100.0)

Note. Percentages are column percentages. This table includes all respondents who reported sustainability engagement in Q4 and answered Q5, including those who selected “Not integrated”. $\chi^2(12, N = 654) = 64.26$; $p < .001$; Cramer's V = .181; Gamma = .170; $p = .001$.

Company size was more strongly associated with sustainability reporting status, $\chi^2(9, N = 635) = 180.22$; $p < .001$, with a moderate effect size (Cramer's V = .308). As shown in Table 4.6, larger companies are more likely to prepare and publish sustainability reports regularly, while non-reporting is more concentrated among smaller companies. Medium sized and large organisations are also more likely to report either current sustainability reporting practices or plans to implement them in the near future. Gamma indicates a strong negative ordinal association (Gamma = $-.596$, $p < .001$), reflecting the coding of the reporting variable. Taken together, these results suggest that organisational size is an important factor associated with sustainability reporting adoption, in line with evidence that sustainability reporting practices are more developed among larger and listed companies (Lima, 2021).

Table 4.6 *Sustainability Reporting Status According to Company Size (N = 635)*

Sustainability reporting status	Company size			
	Micro (<10 em- ployees) n (%)	Small (10–49 em- ployees) n (%)	Medium (50–249 em- ployees) n (%)	Large (250+ em- ployees) n (%)
Yes, regularly	12 (3.9)	22 (13.9)	32 (31.4)	38 (56.7)
Yes, occasionally	13 (4.2)	12 (7.6)	9 (8.8)	6 (9.0)
Not yet, but planning to	70 (22.7)	52 (32.9)	38 (37.3)	14 (20.9)
No sustainability reporting	213 (69.2)	72 (45.6)	23 (22.5)	9 (13.4)
Total	308 (100.0)	158 (100.0)	102 (100.0)	67 (100.0)

Note. Percentages are column percentages. This analysis includes only respondents whose companies reported at least minimal sustainability integration in Q5. $\chi^2(9, N = 635) = 180.22$; $p < .001$; Cramer's $V = .308$; Gamma = $-.596$; $p < .001$.

The association between company size and SDG engagement was also statistically significant, $\chi^2(6, N = 635) = 28.63$; $p < .001$, although the effect size was small (Cramer's $V = .150$). As shown in Table 4.7, larger companies are more likely to report some form of SDG engagement, either through communication activities or through ongoing or planned initiatives, programmes or projects, while the absence of SDG references or related initiatives is more concentrated among smaller companies. Gamma indicates a weak to moderate negative ordinal association (Gamma = $-.267$, $p < .001$), reflecting the coding of the SDG engagement variable, where more active SDG engagement corresponds to lower numerical categories. Taken together, these results suggest that larger organisations tend to report greater engagement with the SDGs. This is broadly in line with literature indicating that larger firms tend to disclose more sustainability and SDG information due to greater resource availability and stronger exposure to stakeholder expectations (Elalfy et al., 2021; Rosati & Faria, 2019).

Table 4.7 *SDG Reference or Initiative Development According to Company Size (N = 635)*

SDG engagement status	Company size			
	Micro (<10 em- ployees) n (%)	Small (10–49 em- ployees) n (%)	Medium (50–249 em- ployees) n (%)	Large (250+ em- ployees) n (%)
Reference to the SDGs only	35 (11.4)	21 (13.3)	19 (18.6)	12 (17.9)
Ongoing or planned SDG initiatives, programs or projects	59 (19.2)	37 (23.4)	36 (35.3)	26 (38.8)
No reference to or initiatives related to the SDGs	214 (69.5)	100 (63.3)	47 (46.1)	29 (43.3)
Total	308 (100.0)	158 (100.0)	102 (100.0)	67 (100.0)

Note. Percentages are column percentages. This analysis includes only respondents whose companies reported at least minimal sustainability integration in Q5. $\chi^2(6, N = 635) = 28.63$; $p < .001$; Cramer's $V = .150$; Gamma = $-.267$; $p < .001$.

4.3.3. Sector of Activity and Sustainability Reporting

The association between sector of activity and sustainability reporting status was statistically significant, $\chi^2(26, N = 635) = 62.44$; $p < .001$, with a small to moderate effect size (Cramer's $V = .222$). Since sector is a nominal variable, Gamma was not interpreted. To reduce sparse cells, the categories “Yes, regularly” and “Yes, occasionally” were combined into a single category, as both indicate that the company already prepares and publishes sustainability reports. The detailed distribution is presented in Annex C, Table C5.

Tourism and Hospitality has the highest presence among organisations that already report, although it is also strongly represented across the other reporting categories. This may reflect the importance of reputation, stakeholder trust and public image in a sector exposed to consumers and local communities. The relevance of reputation is consistent with Qian et al. (2020), while the role of stakeholder expectations can be interpreted through stakeholder theory (Bauwhede & Cauwenberge, 2022), and the importance of credibility and social acceptance through legitimacy theory (Gutiérrez-Ponce & Wibowo, 2023). Construction and Real Estate, Energy, Environment and Natural Resources, and Transport, Logistics and Mobility also show a relevant reporting profile, as they are proportionally more represented among organisations that already report than among those that do not. This may reflect their greater environmental visibility, given their connection to territorial impacts, resource use, energy consumption, emissions or mobility systems, and is consistent with evidence that environmentally sensitive sectors tend to disclose more sustainability information due to stronger external pressure and stakeholder scrutiny (Elalfy et al., 2021).

By contrast, Retail and Distribution and Consulting and Professional Services are more represented among organisations that do not report or are still planning to report, suggesting that formal sustainability reporting is less institutionalised in these sectors within the sample. This may reflect lower direct exposure to environmentally visible impacts, while the presence of SMEs may also limit reporting adoption due to resource, knowledge and technical constraints (Pereira, 2024; Sharma, 2025). Overall, the findings indicate that sustainability reporting practices differ according to sector of activity. Although the association was not large, sectoral differences appear to play a meaningful role in the adoption of sustainability reporting.

4.3.4. Strategic Sustainability Integration and Organisational Implementation

Sustainability integration was significantly associated with the presence of a dedicated sustainability team, department or function, $\chi^2(3, N = 635) = 83.27$; $p < .001$, with a moderate effect size (Cramer's $V = .362$). As shown in Table 4.8, companies with higher levels of sustainability integration are more likely to have a dedicated sustainability structure, while the absence of such structures is more concentrated among companies with lower levels of integration. Gamma indicates a strong positive ordinal association (Gamma = .591, $p < .001$). Taken together, these results suggest that the institutionalisation of sustainability through dedicated organisational structures is closely associated with strategic integration, as companies where sustainability is more deeply embedded in corporate strategy appear more likely to allocate formal responsibilities and resources to sustainability activities.

Table 4.8 *Existence of a Dedicated Sustainability Structure According to the Level of Sustainability Integration into Corporate Strategy (N = 635)*

Existence of a dedicated sustainability structure	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
No	169 (92.9)	183 (74.4)	81 (52.9)	26 (48.1)
Yes	13 (7.1)	63 (25.6)	72 (47.1)	28 (51.9)
Total	182 (100.0)	246 (100.0)	153 (100.0)	54 (100.0)

Note. Percentages are column percentages. The “Not integrated” category in Q5 is not included. $\chi^2(3, N = 635) = 83.27$; $p < .001$; Cramer's $V = .362$; Gamma = .591; $p < .001$.

The existence of regularly monitored sustainability targets was also significantly associated with sustainability integration, $\chi^2(3, N = 635) = 111.02$; $p < .001$, with a moderate to large effect size (Cramer's $V = .418$). As shown in Table 4.9, companies with higher levels of sustainability integration are more likely to have established sustainability targets that are regularly monitored, while the absence of such targets is more concentrated among companies with lower levels of integration. Gamma indicates a strong positive ordinal association (Gamma = .612, $p < .001$). Taken together, these results suggest that the establishment and monitoring of sustainability targets are closely associated with strategic integration, as companies where sustainability is more deeply embedded in corporate strategy appear considerably more likely to adopt formal sustainability objectives and monitoring mechanisms. This was the largest effect size observed among the sustainability indicators analysed, indicating a substantively meaningful relationship between the variables.

Table 4.9 *Establishment of Regularly Monitored Sustainability Targets According to the Level of Sustainability Integration into Corporate Strategy (N = 635)*

Regularly monitored sustainability targets	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
No	150 (82.4)	127 (51.6)	49 (32.0)	12 (22.2)
Yes	32 (17.6)	119 (48.4)	104 (68.0)	42 (77.8)
Total	182 (100.0)	246 (100.0)	153 (100.0)	54 (100.0)

Note. Percentages are column percentages. The “Not integrated” category in Q5 is not included. $\chi^2(3, N = 635) = 111.02$; $p < .001$; Cramer's $V = .418$; Gamma = .612; $p < .001$.

The implementation of sustainability actions or initiatives was likewise significantly associated with sustainability integration, $\chi^2(3, N = 635) = 69.50$; $p < .001$, with a moderate effect size (Cramer's $V = .331$). As shown in Table 4.10, companies with higher levels of sustainability integration are more likely to report the implementation of sustainability actions or initiatives, while the absence of such initiatives is more concentrated among companies with lower levels of integration. Gamma indicates a strong positive ordinal association (Gamma = .614, $p < .001$). Taken together, these results suggest that the implementation of sustainability actions and initiatives is closely associated with the extent to which sustainability is embedded within corporate strategy, as companies with more advanced sustainability integration appear more likely to translate sustainability commitments into concrete operational practices. The moderate effect size indicates that the association is both statistically significant and practically meaningful.

Table 4.10 *Implementation of Specific Sustainability Actions or Initiatives According to the Level of Sustainability Integration into Corporate Strategy (N = 635)*

Specific sustainability actions or initiatives	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
No	57 (31.3)	18 (7.3)	7 (4.6)	4 (7.4)
Yes	125 (68.7)	228 (92.7)	146 (95.4)	50 (92.6)
Total	182 (100.0)	246 (100.0)	153 (100.0)	54 (100.0)

Note. Percentages are column percentages. The “Not integrated” category in Q5 is not included. $\chi^2(3, N = 635) = 69.50$; $p < .001$; Cramer's $V = .331$; Gamma = .614; $p < .001$.

4.3.5. SDG Engagement and SDG Target Identification and Action

The association between the level of SDG engagement and the identification of, and action on, specific SDG targets was statistically significant, $\chi^2(3, N = 245) = 14.44$, $p = .002$, with a small to moderate effect size (Cramer's $V = .243$). The detailed cross-tabulation is presented

in Annex C, Table C6. Organisations reporting ongoing or planned SDG initiatives, programmes or projects tended to demonstrate more developed levels of SDG target engagement than those that only referred to the SDGs in their communications.

Specifically, organisations with ongoing or planned SDG initiatives were more likely to report qualitative SDG ambitions and quantitative SDG ambitions that had not yet been measured. In contrast, organisations that only referenced the SDGs were substantially more likely to report merely mentioning SDG targets without expressing any concrete ambition. However, quantitative SDG ambitions with measured progress were relatively similar across the two groups. Gamma indicates a weak to moderate positive ordinal association ($\text{Gamma} = .271$, $p = .008$). These findings suggest that organisations that move beyond symbolic references to the SDGs and implement concrete SDG initiatives are more likely to adopt structured and ambitious approaches to SDG target development and monitoring. This is consistent with literature showing that corporate SDG engagement may remain superficial when references to the goals are not accompanied by clear actions, measurement or operational implementation (Heras-Saizarbitoria et al., 2022; Song et al., 2022; van der Waal & Thijssens, 2020).

4.4. Discussion

The results show that sustainability integration among the surveyed companies remains limited and uneven. The empirical answer to the central research question must be understood at two levels. In the full sample, sustainability is not yet widely adopted, since approximately 59% of respondents indicate no engagement in any of the sustainability areas considered in this study, while approximately 41% report engagement in at least one area. Among this engaged subgroup, integration into corporate strategy is mostly minimal or moderate, with only a small share reporting full integration, where sustainability acts as a key driver of decision-making across all areas. This distinction is essential, because the remaining analyses refer only to the engaged subgroup and should not be interpreted as representing the full sample. Overall, sustainability is present in part of the sample, but is not yet consistently embedded in strategy, structures, targets and decision-making processes, which is consistent with maturity views of corporate sustainability (Baumgartner & Ebner, 2010; Ivory & MacKay, 2020; Landrum, 2018).

The findings show that sustainability is mainly implemented through specific initiatives and selected areas of activity, especially environmental and social areas, followed by digitalisation,

economic issues and innovation, while formalisation remains weaker. Dedicated sustainability structures are reported by a minority of respondents, and regularly monitored targets are absent in more than half of the companies analysed. This answers RQ1: sustainability is being integrated mainly through specific initiatives and areas of activity, while its incorporation into formal responsibilities and monitored targets remains less developed. Reporting is also not consolidated, as around half of the engaged subgroup does not prepare sustainability reports, although many plan to do so. Among reporting companies, ESG and GRI appear among the main references, but internally developed criteria are also common, and some companies report using no structured methodology, which may limit consistency and comparability (Luque-Vílchez et al., 2023; Yusof & Widyasamratri, 2025). Reporting is mainly driven by reputational, institutional and stakeholder related reasons, and its perceived benefits are mostly reputational, operational, internal and strategic, which is consistent with legitimacy (Gutiérrez-Ponce & Wibowo, 2023), stakeholder (Bauwhede & Cauwenberge, 2022) and institutional perspectives (García-Sánchez et al., 2023; Risi et al., 2023). In response to RQ2, sustainability reporting remains limited and uneven among the companies analysed. It is not yet consolidated, the methodologies used vary across companies and regular reporting is more common where sustainability is more strongly integrated into corporate strategy.

The results on SDGs and European sustainability requirements show that sustainability engagement remains only partially translated into external frameworks. Regarding RQ3, most companies in the engaged subgroup neither refer to the SDGs nor develop initiatives related to them. Among those that do, engagement is concentrated on a limited group of goals, especially SDGs 8, 5, 12, 13 and 7, reflecting the prioritisation of goals more closely connected to business objectives or reputation (Song et al., 2022). This answers RQ3: companies engage with the SDGs in a limited and selective way. Where the SDGs are used, they tend to be expressed through references, qualitative ambitions or governance level inclusion rather than through measurable targets, KPIs and reported progress. These patterns can be interpreted through the distinction between symbolic and substantive sustainability, as sustainability engagement is not always accompanied by the formalisation, measurement and implementation mechanisms needed to indicate deeper integration (Hyatt & Berente, 2017). Regarding European sustainability requirements, the results suggest that alignment is still developing and uneven. This part of the analysis should be interpreted with caution, because these questions were answered only by companies that referred to the SDGs or reported ongoing or planned SDG initiatives. Even within this narrower subgroup, full CSRD compliance and

due diligence processes aligned with the CSDDD remain uncommon, while EU Taxonomy alignment appears more frequent but mostly partial. In response to RQ4, European sustainability requirements are already present in the agenda of some companies, but preparation remains uneven and full alignment is still limited. This may be partly explained by the predominance of SMEs in the sample, as non listed SMEs are not directly subject to mandatory CSRD reporting requirements (Kosi & Relard, 2024), CSDDD obligations mainly target very large companies (Baltrunaite et al., 2024; Bueno et al., 2024), and SMEs often face resource, knowledge and technical constraints that make alignment with EU sustainability requirements more difficult (Sharma, 2025).

The relationship between sustainability, innovation and competitiveness deserves greater emphasis, as it is one of the strongest empirical results of the study. Among the engaged subgroup, sustainability is frequently perceived as having stimulated innovation, particularly where it is more highly integrated into corporate strategy. The association between strategic integration and sustainability driven innovation presents the highest Gamma value among the cross tabulations analysed (Gamma = .613), indicating a strong positive association between higher levels of integration and the perception that sustainability has stimulated innovation. The main forms of innovation identified are process improvement, organisational innovation and the application of digital technologies, which is consistent with studies linking sustainability to green innovation capabilities (Aboelmaged & Hashem, 2019; Alyahya et al., 2022). Sustainability is also perceived as contributing to competitiveness, although more often moderately than strongly, and this perception is more frequent among companies with higher strategic integration. These results are consistent with studies associating sustainability strategies with competitiveness (Hermundsdottir & Aspelund, 2021; Le & Ikram, 2022; Padilla-Lozano & Collazzo, 2022; Wang et al., 2022). However, the fact that this contribution is more often moderate than strong may reflect the long-term nature of sustainability effects, since the benefits of environmental innovation tend to become more visible over time (Liao et al., 2025). In response to RQ5, sustainability is perceived to contribute to innovation, while its contribution to competitiveness is recognised mainly as a perceived and moderate effect. These findings can be interpreted through maturity models, as higher sustainability integration is associated with a move beyond isolated initiatives towards more developed outcomes linked to innovation and competitiveness (Baumgartner & Ebner, 2010; Ivory & MacKay, 2020; Landrum, 2018), and through the resource-based view, as sustainability may support

competitive advantage when linked to firm resources and capabilities (Barney, 1991; Hart, 1995).

Finally, in response to RQ6, the bivariate results indicate differences by company size and sector. Larger companies are more likely to report higher levels of sustainability integration, regular reporting and SDG engagement, which may reflect greater resources, more formalised management systems and stronger exposure to stakeholder and institutional pressures (Elalfy et al., 2021; Rosati & Faria, 2019). Sectoral differences are also observed, but they are less pronounced and should be interpreted cautiously due to the dispersion of responses across sector categories and the weaker strength of association.

5. Conclusion

5.1. Main Conclusions

This dissertation examined the extent to which Portuguese companies integrate sustainability into their corporate strategy. Based on a multidimensional approach, the study analysed sustainability beyond isolated initiatives, considering strategic integration, reporting practices, SDG engagement, alignment with European sustainability requirements, and the perceived contribution of sustainability to innovation and competitiveness. The central conclusion is that sustainability integration among the Portuguese companies surveyed is developing, but remains limited, uneven and only partially formalised. In the full sample, around 59% of respondents reported no current engagement in any of the sustainability areas considered in the study. This shows that, despite the growing relevance of sustainability in academic, business and regulatory debates, sustainability engagement is not yet widespread among the Portuguese companies surveyed.

Among the companies that reported some sustainability engagement, the results show a profile of partial and uneven development. Sustainability is more often minimally or moderately integrated than fully embedded into corporate strategy, meaning that it is frequently associated with compliance, specific projects or selected organisational areas. Practical initiatives are relatively common, especially in environmental and social areas, but dedicated sustainability structures and regularly monitored targets remain less widespread. This gap between action and formalisation is also visible in reporting, SDG engagement and alignment with European sustainability requirements, which are present in part of the sample but often remain heterogeneous, partial or weakly connected to measurable progress. At the same time, sustainability is frequently perceived as contributing to innovation and competitiveness, although this result reflects perceived business relevance rather than objective performance.

The bivariate analysis reinforces the central role of strategic integration. Higher levels of sustainability integration are consistently associated with more developed sustainability practices, including more regular reporting, more active SDG engagement, dedicated sustainability structures, monitored targets, specific actions, and stronger perceived contributions to innovation and competitiveness. Regulatory alignment shows weaker and less consistent associations, suggesting that preparedness for European sustainability requirements may also depend on factors beyond internal strategic integration. Overall, the findings indicate that

the main distinction is not only between companies that engage or do not engage with sustainability, but between isolated engagement and more strategic, measurable and organisationally embedded integration.

5.2. Theoretical Implications

This dissertation contributes to the literature on corporate sustainability in three main ways. First, it reinforces the importance of analysing corporate sustainability as a multidimensional phenomenon. The findings show that sustainability cannot be adequately understood through a single dimension, but requires a broader analysis of how it is incorporated into strategy, organisational formalisation, reporting, SDG engagement, European sustainability alignment, innovation and competitiveness.

Second, the study supports the view that sustainability integration is not a simple yes or no condition, but a continuum with different levels of development, consistent with maturity perspectives of corporate sustainability (Baumgartner & Ebner, 2010; Ivory & MacKay, 2020; Landrum, 2018). The dissertation adds empirical evidence from Portugal by showing that companies differ in the extent to which sustainability is integrated into strategy, with the majority positioned at minimal or moderate levels rather than full integration.

Third, the findings strengthen the relevance of strategic integration as a key analytical dimension in corporate sustainability research. Although the associations identified do not prove causality, higher levels of integration are linked to more developed sustainability practices across several areas, suggesting that strategic integration is connected to the formalisation and maturity of sustainability within companies. This also relates to the distinction between substantive and symbolic sustainability adoption. The pattern identified in this dissertation, where several companies report isolated practices without fully integrating sustainability into strategy, structures or measurement systems, is more consistent with symbolic adoption than with substantive integration (Hyatt & Berente, 2017). By analysing companies of different sizes and sectors within the same empirical framework, the dissertation also extends evidence on the Portuguese corporate context and shows that sustainability engagement is emerging, but the transition from isolated action to strategic, measurable and organisationally embedded sustainability remains incomplete.

5.3. Practical Implications

From a practical perspective, the findings have implications for companies, sectoral associations and policy makers. The most immediate implication is that, in the Portuguese context, the priority is not only to deepen sustainability among companies already engaged, but also to involve companies that are not yet engaged in sustainability practices. Since around 59% of the surveyed companies reported no current engagement in any of the sustainability areas analysed, policy efforts should prioritise this group through awareness initiatives, simplified guidance, accessible tools and technical support, especially for smaller firms with fewer internal resources.

For companies already engaged with sustainability, the challenge is to move from isolated initiatives to more structured and measurable practices. This implies clearer internal responsibilities, priority areas, monitored targets and stronger links between sustainability and strategic decisions. Sectoral associations can support this process by providing examples, indicators, reporting templates and training initiatives specific to each sector. Policy makers should also complement regulatory pressure with practical support, helping companies improve measurement, reporting and preparedness for European sustainability requirements.

5.4. Limitations and Future Research

This dissertation has several limitations. First, the study is based on self-reported survey data, which may lead respondents to overstate the maturity of their company's sustainability practices or to provide incomplete information about activities within the organisation. Second, the findings cannot be statistically generalised to all Portuguese companies. They should therefore be interpreted as descriptive evidence based on the participating companies, rather than as representative evidence of the entire Portuguese business sector.

Third, the survey was distributed by email using professional email addresses obtained either from publicly available sources or from a business database named BaseDadosEmpresas. Although this strategy made it possible to reach a large number of companies, some contacts may have been outdated, inactive, invalid or not regularly monitored. As a result, the exact number of companies effectively reached cannot be determined with precision. Fourth, the study may also be affected by non-response bias, since companies that chose to answer the questionnaire may already be more aware of, interested in or engaged with sustainability than

those that did not respond. As a result, the findings may overestimate the actual degree of sustainability engagement and integration among Portuguese companies.

Fifth, the questionnaire was not pre-tested before distribution. Although it was designed to be clear and logically structured, the absence of a pre-test may have increased the risk of ambiguity or inconsistent interpretation of some items. Sixth, the type of data collected limits the depth of the statistical analysis. Most variables are nominal, binary, ordinal or multiple-response items, which allowed the study to describe patterns and explore associations, but not to establish causal relationships. In addition, competitiveness was analysed through respondents' perceptions, rather than through objective indicators of company performance.

A further limitation concerns the scope of the bivariate analysis. The study prioritised the associations most directly aligned with the research questions and the conceptual model. For this reason, innovation was examined in relation to sustainability integration, while its possible association with company size was not analysed. The relationship between sector of activity and sustainability integration into corporate strategy was also not included, as the combination of several sector categories and integration levels would likely produce sparse cells and reduce the robustness of the results.

These limitations create several opportunities for future research. In particular, further research could examine the relationship between company size and the perceived contribution of sustainability to innovation and competitiveness, an association not tested in this dissertation. Sectoral differences could also be explored in greater depth, extending the analysis beyond reporting practices to strategic integration, SDG engagement and regulatory alignment. Finally, future research could complement the analysis of perceived competitiveness by examining whether sustainability is associated with objective indicators of competitiveness and financial performance, such as productivity, profitability, sales growth, market position or other business outcomes.

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Annexes

Annex A – Methodological Tables

Table A1 *Distribution of Respondents by Primary Sector of Activity (N = 1,578)*

Sector of activity	n	%
Agriculture, Forestry and Fisheries	36	2.3
Agri-food Industry	25	1.6
Manufacturing Industry	93	5.9
Energy, Environment and Natural Resources	38	2.4
Construction and Real Estate	169	10.7
Retail and Distribution	229	14.5
Transport, Logistics and Mobility	34	2.2
Tourism and Hospitality	191	12.1
Information and Communication Technologies (ICT)	90	5.7
Financial Services and Insurance	36	2.3
Health, Sciences and Pharmaceuticals	109	6.9
Education and Training	108	6.8
Consulting and Professional Services	226	14.3
Other	194	12.3
Total	1578	100.0

Note. Percentages are calculated based on the final valid sample (N = 1,578). Respondents who did not provide consent were automatically redirected to the end of the questionnaire and therefore did not answer the sample characterisation questions.

Table A2 *Distribution of Responses Classified under the “Other” Category (N = 193)*

Sector category	n	%
Administration	1	0.5
Animal care	3	1.6
Architecture	11	5.7
Associations and representative bodies	9	4.7
Auction activities	1	0.5
Audiovisual, multimedia and photography	16	8.3
Automotive	8	4.1
Beauty and personal care	6	3.1
Ceramics and crafts	3	1.6
Cleaning services	3	1.6
Construction and forestry	1	0.5
Culture, arts and music	19	9.8
Entertainment and leisure activities	4	2.1
Events	12	6.2
Funeral services	2	1.0
General services	5	2.6
Laundry	3	1.6
Local and rural development	1	0.5
Media, communication and journalism	2	1.0

Metrology	1	0.5
Notary services	2	1.0
Pest control and disinfection	1	0.5
Public sector and public administration	16	8.3
Repair and maintenance	2	1.0
Security	1	0.5
Social sector	39	20.2
Sports and fitness	11	5.7
Technical equipment and installations	4	2.1
Trade union	2	1.0
Yoga, meditation and holistic therapies	4	2.1
Total	193	100.0

Note. This table presents the researcher's recoding of the open-ended responses provided by respondents who selected "Other" in the sector question. Although 194 respondents selected this option, one respondent did not provide any written specification in the open-ended field. Consequently, the table is based on 193 valid and classifiable open-ended responses. The categories were defined after reviewing the content of the responses, since the original answers were broad, heterogeneous and not directly comparable in their initial form.

Table A3 *Distribution of Respondents by Company Size (N = 1,578)*

Company size	n	%
Micro (<10 employees)	991	62.8
Small (10-49 employees)	370	23.4
Medium (50-249 employees)	140	8.9
Large (250+ employees)	77	4.9
Total	1578	100.0

Note. Percentages are calculated based on the final valid sample (N = 1,578). Respondents who did not provide consent were automatically redirected to the end of the questionnaire and therefore did not answer the sample characterisation questions.

Table A4 *Sample Filtering and Analytical Subsamples*

Sample stage	Operational criterion	n
Initial completed responses	Completed survey responses received before consent exclusion	1,676
Excluded responses	Respondents who did not provide consent for data processing	98
Final valid sample	Respondents with valid consent included in the analytical dataset	1,578
Companies without reported sustainability engagement	Respondents answering "No" to Q4 and redirected to the end of the questionnaire	924
Companies reporting sustainability engagement	Respondents answering "Yes" to Q4 and proceeding to Q5	654
Respondents selecting "Not integrated"	Respondents selecting "Not integrated" in Q5 and redirected to the end of the questionnaire	19
Main bivariate analysis sample	Respondents with at least minimal sustainability integration, excluding the "Not integrated" category in Q5	635

Table A5 *Operationalisation of the Conceptual Model*

Analytical pillar	Questionnaire items	How the pillar is measured
Strategic integration of sustainability	Q5-Q9	Integration level; existence of sustainability team/function; monitored targets; sustainability initiatives; areas in which the company engages with sustainability
Sustainability reporting	Q10-Q14	Reporting status and frequency; frameworks or methodologies used; motivations underlying reporting practices; perceived reporting benefits
SDG engagement	Q15-Q20	Type of SDG engagement; prioritised SDGs; most important SDGs; SDG target maturity; embedding practices; SDG targets monitored through KPIs.
EU sustainability alignment	Q21-Q24	CSRD compliance or preparedness; EU Taxonomy assessment; implementation of CSDDD due diligence; sustainability areas monitored with quantifiable KPIs.
Innovation and competitiveness	Q25-Q27	Sustainability as a driver of innovation; areas of innovation stimulated by sustainability; perceived contribution to competitiveness.

Table A6 *Mapping Between Research Questions and Analytical Procedures*

Research question	Analytical procedures used
Central RQ: To what extent do Portuguese companies integrate sustainability into their corporate strategy?	Integrated interpretation of descriptive statistics, bivariate association analysis, group comparison analysis and response consistency checks.
RQ1: How is sustainability strategically integrated into companies' strategies, targets and actions?	Descriptive statistics on strategic integration and related organisational practices. Response consistency checks between strategic integration, sustainability teams, monitored targets and sustainability actions or initiatives.
RQ2: What sustainability reporting practices are adopted and what motivations or benefits are associated with them?	Descriptive statistics on reporting practices, motivations and perceived benefits. Bivariate association analysis between strategic integration and reporting status.
RQ3: How do companies engage with the SDGs and translate them into priorities, targets and KPIs?	Descriptive statistics on SDG practices and prioritised SDGs. Bivariate association analysis between strategic integration and SDG engagement. Response consistency checks between SDG reference or development of initiatives and the identification and action on specific SDG targets.
RQ4: To what extent are companies aligned with or prepared for European sustainability requirements?	Descriptive statistics on alignment with or preparedness for European sustainability requirements. Bivariate association analysis between strategic integration and European sustainability requirement variables.
RQ5: How is sustainability perceived to contribute to innovation and competitiveness?	Descriptive statistics on perceived contributions to innovation and competitiveness. Bivariate association analysis between strategic integration and perceived effects on innovation and competitiveness.

RQ6: Do sustainability practices differ by company size or sector?	Group comparison analysis using company profile variables. Comparisons by company size for strategic integration, reporting practices and SDG engagement. Sectoral comparisons regarding the status of reporting practices.
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Annex B – Descriptive Analysis Tables

Table B1 *Distribution of Respondents by Engagement in Any Sustainability Area (N = 1,578)*

Engagement status	n	%
No current engagement	924	58.6
Engagement in at least one sustainability area	654	41.4
Total	1578	100.0

Note. Engagement refers to the existence of practices, initiatives or activities in at least one of the following areas: integration of sustainability into corporate strategy, sustainability reporting, SDG engagement, compliance with European Union sustainability requirements, or innovation driven by sustainability. Respondents who reported no current engagement in any sustainability area did not answer the subsequent sections of the questionnaire.

Table B2 *Distribution of Respondents by Level of Sustainability Integration into Corporate Strategy (N = 654)*

Level of sustainability integration	n	%
Not integrated	19	2.9
Minimally integrated	182	27.8
Moderately integrated	246	37.6
Largely integrated	153	23.4
Fully integrated	54	8.3
Total	654	100.0

Note. This table includes respondents who reported engagement in at least one sustainability area in Q4 and therefore answered Q5. Respondents who selected “Not integrated” in Q5 (n = 19) were directed to the end of the questionnaire and did not answer subsequent items. Therefore, subsequent descriptive analyses from Q6 onward are based on respondents whose companies reported at least minimal sustainability integration (N = 635).

Table B3 *Distribution of Respondents by Existence of a Dedicated Sustainability Structure (N = 635)*

Existence of a dedicated sustainability structure	n	%
No	459	72.3
Yes	176	27.7
Total	635	100.0

Note. This question was shown only to respondents whose companies reported at least minimal sustainability integration in Q5.

Table B4 *Distribution of Respondents by Establishment of Regularly Monitored Sustainability Targets (N = 635)*

Regularly monitored sustainability targets	n	%
No	338	53.2
Yes	297	46.8
Total	635	100.0

Note. This question was shown only to respondents whose companies reported at least minimal sustainability integration in Q5.

Table B5 *Distribution of Respondents by Implementation of Specific Sustainability Actions or Initiatives (N = 635)*

Specific sustainability actions or initiatives	n	%
No	86	13.5
Yes	549	86.5
Total	635	100.0

Note. This question was shown only to respondents whose companies reported at least minimal sustainability integration in Q5.

Table B6 *Distribution of Respondents by Areas of Engagement with Sustainability (N = 634)*

Area of engagement	n	%
Environmental	544	85.8
Social	480	75.7
Economic	296	46.7
Governance	181	28.5
Innovation	281	44.3
Value chain and suppliers	243	38.3
Digitalization	350	55.2
Does not engage in any sustainability area	1	0.2
Other	16	2.5

Note. This optional item was shown only to respondents whose companies reported at least minimal sustainability integration in Q5. The number of valid responses is lower than in mandatory questions because the item was optional. As respondents could select more than one option, percentages do not sum to 100%.

Table B7 *Distribution of Respondents by Sustainability Reporting Status (N = 635)*

Sustainability reporting status	n	%
Yes, regularly	104	16.4
Yes, occasionally	40	6.3
Not yet, but planning to	174	27.4
No sustainability reporting	317	49.9
Total	635	100.0

Note. This question was shown only to respondents whose companies reported at least minimal sustainability integration in Q5. Regular reporting refers to reporting once a year or more often; occasional reporting refers to reporting less frequently than once a year.

Table B8 *Distribution of Respondents by Standards or Frameworks Followed for Sustainability Reporting (N = 144)*

Standard, framework or approach	n	%
GRI	27	18.8
ESG	69	47.9
SASB	8	5.6
IIRC	2	1.4
TCFD	6	4.2
Internally developed criteria	49	34.0
No structured methodology is used	15	10.4

Other	23	16.0
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Note. This question was shown only to respondents whose organisations reported preparing and publishing sustainability reports regularly or occasionally. As respondents could select more than one option, percentages do not sum to 100%.

Table B9 *Distribution of Respondents by Objectives or Motivations for Sustainability Reporting (N = 144)*

Objective or motivation	n	%
Enhancing transparency and stakeholder trust	91	63.2
Complying with legal requirements	76	52.8
Improving brand reputation and market positioning	106	73.6
Attracting investment or sustainable financing	37	25.7
Gaining competitive advantage	47	32.6
Aligning with international best practices or industry expectations	98	68.1
Monitoring internal performance	81	56.3
Other	6	4.2

Note. This question was shown only to respondents whose organisations reported preparing and publishing sustainability reports regularly or occasionally. As respondents could select more than one option, percentages do not sum to 100%.

Table B10 *Distribution of Respondents by Whether Sustainability Reporting Generated Benefits (N = 144)*

Benefits generated	n	%
No	31	21.5
Yes	113	78.5
Total	144	100.0

Note. This question was shown only to respondents whose organisations reported preparing and publishing sustainability reports regularly or occasionally.

Table B11 *Distribution of Respondents by Benefits Generated from Sustainability Reporting (N = 113)*

Type of benefit	n	%
Reputational	84	74.3
Operational	75	66.4
Financial and economic	41	36.3
Commercial	43	38.1
Regulatory and compliance	52	46.0
Internal	63	55.8
Strategic	59	52.2
Other	0	0.0

Note. This question was shown only to respondents who indicated that sustainability reporting had generated benefits for the company. As respondents could select more than one option, percentages do not sum to 100%. The questionnaire included examples for each category to clarify the meaning of the different types of benefits.

Table B12 *Distribution of Respondents by SDG Reference or Initiative Development (N = 635)*

SDG engagement status	n	%
Reference to the SDGs only	87	13.7

Ongoing or planned SDG initiatives, programs or projects	158	24.9
No reference to or initiatives related to the SDGs	390	61.4
Total	635	100.0

Note. This question was shown only to respondents whose companies reported at least minimal sustainability integration in Q5.

Table B13 *Distribution of Respondents by Prioritised Sustainable Development Goals (SDGs) (N = 245)*

Prioritised SDG	n	%
SDG 1 - No Poverty	55	22.4
SDG 2 - Zero Hunger	42	17.1
SDG 3 - Good Health and Well-being	90	36.7
SDG 4 - Quality Education	109	44.5
SDG 5 - Gender Equality	134	54.7
SDG 6 - Clean Water and Sanitation	79	32.2
SDG 7 - Affordable and Clean Energy	116	47.3
SDG 8 - Decent Work and Economic Growth	154	62.9
SDG 9 - Industry, Innovation and Infrastructure	84	34.3
SDG 10 - Reduced Inequalities	109	44.5
SDG 11 - Sustainable Cities and Communities	97	39.6
SDG 12 - Responsible Consumption and Production	129	52.7
SDG 13 - Climate Action	120	49.0
SDG 14 - Life Below Water	51	20.8
SDG 15 - Life on Land	69	28.2
SDG 16 - Peace, Justice and Strong Institutions	60	24.5
SDG 17 - Partnerships for the Goals	89	36.3
Other	5	2.0

Note. This question was shown only to respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects. As respondents could select more than one option, percentages do not sum to 100%.

Table B14 *Distribution of Respondents by SDGs Identified as Most Important for the Company (N = 191)*

Identified SDG	n	%
SDG 1 - No Poverty	18	9.4
SDG 2 - Zero Hunger	9	4.7
SDG 3 - Good Health and Well-being	33	17.3
SDG 4 - Quality Education	43	22.5
SDG 5 - Gender Equality	37	19.4
SDG 6 - Clean Water and Sanitation	12	6.3
SDG 7 - Affordable and Clean Energy	28	14.7
SDG 8 - Decent Work and Economic Growth	60	31.4
SDG 9 - Industry	27	14.1
SDG 10 - Reduced Inequalities	43	22.5
SDG 11 - Sustainable Cities and Communities	30	15.7
SDG 12 - Responsible Consumption and Production	63	33.0
SDG 13 - Climate Action	58	30.4

SDG 14 - Life Below Water	18	9.4
SDG 15 - Life on Land	18	9.4
SDG 16 - Peace	13	6.8
SDG 17 - Partnerships for the Goals	22	11.5
All SDGs	2	1.0

Note. This was an optional open-ended question shown only to respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects. The number of valid responses is lower than in mandatory questions because the item was optional. As responses could mention more than one SDG, percentages do not sum to 100%.

Table B15 *Distribution of Respondents by Identification and Action on Specific SDG Targets (N = 245)*

SDG target status	n	%
Mentioned SDG targets without specific ambition	82	33.5
Qualitative SDG ambition, without metrics	77	31.4
Quantitative SDG ambition, not yet measured	42	17.1
Quantitative SDG ambition with measured progress	44	18.0
Total	245	100.0

Note. This question was shown only to respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects.

Table B16 *Distribution of Respondents by Practices Implemented to Embed SDGs into Strategy (N = 245)*

Practice implemented	n	%
SDGs included at governance or management level	128	52.2
SDG targets linked to executive remuneration or incentives	20	8.2
SDGs incorporated into KPIs across functions	65	26.5
Oversight committee or structured review for SDG progress	32	13.1
Communication of SDG progress to stakeholders	71	29.0
Other	27	11.0

Note. This question was shown only to respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects. As respondents could select more than one option, percentages do not sum to 100%.

Table B17 *Most Frequently Mentioned SDG Targets Monitored Through KPIs (N = 135)*

SDG target monitored through KPIs	n	%
SDG target 12.5	49	36.3
SDG target 7.2	32	23.7
SDG target 8.5	22	16.3
SDG target 13.2	21	15.6
SDG target 5.5	16	11.9
No KPI monitoring	12	8.9
No specific target identified	33	24.4

Note. This was an optional open-text question shown only to respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects. The number of valid responses is lower than in mandatory questions because the item was optional. As responses could mention more than one SDG target, percentages do not sum to 100%. Open-text responses were coded and grouped by SDG target by the author. The table reports only the most frequently mentioned identifiable SDG targets, as the full distribution was highly dispersed and extensive. “No KPI monitoring” refers to respondents who

explicitly stated that their company does not monitor SDG targets through KPIs. “No specific target identified” refers to responses that did not allow the rigorous identification of a specific SDG target.

Table B18 *Distribution of Respondents by CSRD Implementation or Compliance Status (N = 245)*

CSRD implementation or compliance status	n	%
Already fully compliant	29	11.8
Preparing to comply within the next one to two years	65	26.5
Not yet compliant, but planning to align later	72	29.4
Not applicable	79	32.2
Total	245	100.0

Note. This question was shown only to respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects.

Table B19 *Distribution of Respondents by Alignment with the EU Taxonomy for Sustainable Activities (N = 94)*

EU Taxonomy alignment status	n	%
Fully aligned	20	21.3
Partially aligned	41	43.6
Not aligned, but in preparation	25	26.6
Not applicable	8	8.5
Total	94	100.0

Note. This question was shown only to respondents who indicated that their company was either already fully compliant with the CSRD or preparing for compliance within the next one to two years.

Table B20 *Distribution of Respondents by CSDDD Implementation Status (N = 86)*

CSDDD implementation status	n	%
Already fully compliant	11	12.8
Preparing to comply within the next one to two years	47	54.7
Not yet compliant, but planning to align later	24	27.9
Not applicable	4	4.7
Total	86	100.0

Note. This question was shown only to respondents whose companies were fully aligned, partially aligned or preparing alignment with the EU Taxonomy.

Table B21 *Distribution of Respondents by Sustainability Areas Monitored Through Quantifiable Indicators (KPIs) (N = 58)*

Sustainability area monitored through KPIs	n	%
Greenhouse gas emissions (Scope 1, 2, 3)	30	51.7
Energy consumption or renewable share	51	87.9
Waste reduction or recycling rate	51	87.9
Water use	46	79.3
Employee diversity and inclusion	43	74.1
Supply chain risk and human rights compliance	14	24.1
Other	1	1.7

Note. This question was shown only to respondents who indicated that their company had either already implemented a due diligence process aligned with the CSDDD or was preparing implementation within the next one to two years. As respondents could select more than one option, percentages do not sum to 100%.

Table B22 *Distribution of Respondents by Whether Sustainability Has Been a Driver of Innovation (N = 635)*

Sustainability as a driver of innovation	n	%
No	188	29.6
Yes	447	70.4
Total	635	100.0

Note. This question was shown only to respondents whose companies reported at least minimal sustainability integration in Q5. Respondents who selected “No” were directed to the question on competitiveness.

Table B23 *Distribution of Respondents by Areas in Which Sustainability Stimulated Innovation (N = 447)*

Area where sustainability stimulated innovation	n	%
Development of new products	151	33.8
Improvement or optimisation of processes	355	79.4
Adoption of new business models	111	24.8
Organisational innovation	254	56.8
New partnerships and collaborations	212	47.4
Application of digital technologies for sustainability purposes	224	50.1
Other	8	1.8

Note. This question was shown only to respondents who indicated that sustainability had been a driver of innovation in their company. As respondents could select more than one option, percentages do not sum to 100%.

Table B24 *Distribution of Respondents by Perceived Contribution of Sustainability to Competitiveness (N = 635)*

Perceived contribution of sustainability to competitiveness	n	%
Yes, significantly	132	20.8
Yes, to some extent	251	39.5
Not yet, but there is potential	159	25.0
No	93	14.6
Total	635	100.0

Note. This question was shown only to respondents whose companies reported at least minimal sustainability integration in Q5.

Annex C – Bivariate Analysis Tables

Table C1 *CSRD Implementation or Compliance Status According to the Level of Sustainability Integration into Corporate Strategy (N = 245)*

CSRD implementation or compliance status	Level of sustainability integration			
	Minimally integrated n (%)	Moderately integrated n (%)	Largely integrated n (%)	Fully integrated n (%)
Already fully compliant	1 (3.4)	7 (8.2)	12 (13.6)	9 (20.9)
Preparing to comply within the next one to two years	3 (10.3)	22 (25.9)	28 (31.8)	12 (27.9)

Not yet compliant, but planning to align later	12 (41.4)	26 (30.6)	20 (22.7)	14 (32.6)
Not applicable	13 (44.8)	30 (35.3)	28 (31.8)	8 (18.6)
Total	29 (100.0)	85 (100.0)	88 (100.0)	43 (100.0)

Note. Percentages are column percentages. This analysis includes only respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects. The “Not integrated” category in Q5 is not included. $\chi^2(9, N = 245) = 16.83$; $p = .052$; Cramer's $V = .151$; Gamma = $-.251$; $p < .001$.

Table C2 *CSRD Implementation or Compliance Status According to Recoded Levels of Sustainability Integration into Corporate Strategy (N = 245)*

CSRD implementation or compliance status	Level of sustainability integration	
	Minimally/Moderately integrated n (%)	Largely/Fully integrated n (%)
Already fully compliant	8 (7.0)	21 (16.0)
Preparing to comply within the next one to two years	25 (21.9)	40 (30.5)
Not yet compliant, but planning to align later	38 (33.3)	34 (26.0)
Not applicable	43 (37.7)	36 (27.5)
Total	114 (100.0)	131 (100.0)

Note. Percentages are column percentages. This exploratory analysis uses recoded levels of sustainability integration and includes only respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects. $\chi^2(3, N = 245) = 9.00$; $p = .029$; Cramer's $V = .192$; Gamma = $-.268$; $p = .004$.

Table C3 *Alignment with the EU Taxonomy for Sustainable Activities According to Recoded Levels of Sustainability Integration into Corporate Strategy (N = 94)*

EU Taxonomy alignment status	Level of sustainability integration	
	Minimally/Moderately integrated n (%)	Largely/Fully integrated n (%)
Fully aligned	6 (18.2)	14 (23.0)
Partially aligned	17 (51.5)	24 (39.3)
Not aligned, but in preparation	7 (21.2)	18 (29.5)
Not applicable	3 (9.1)	5 (8.2)
Total	33 (100.0)	61 (100.0)

Note. Percentages are column percentages. This analysis includes only respondents who indicated that their company was either already fully compliant with the CSRD or preparing for compliance within the next one to two years. Sustainability integration was recoded into two broader categories because the original contingency table had sparse expected frequencies. $\chi^2(3, N = 94) = 1.53$; $p = .675$; Cramer's $V = .128$; Gamma = $.026$; $p = .877$.

Table C4 *CSDDD Implementation Status According to the Recoded Levels of Sustainability Integration into Corporate Strategy (N = 86)*

CSDDD implementation status	Level of sustainability integration	
	Minimally/Mod- erately integrated n (%)	Largely/Fully integrated n (%)
Already fully compliant	3 (10.0)	8 (14.3)
Preparing to comply within the next one to two years	18 (60.0)	29 (51.8)
Not yet compliant, but planning to align later	8 (26.7)	16 (28.6)
Not applicable	1 (3.3)	3 (5.4)
Total	30 (100.0)	56 (100.0)

Note. Percentages are column percentages. his analysis includes only respondents whose companies were fully aligned, partially aligned or preparing alignment with the EU Taxonomy. Sustainability integration was re-coded into two broader categories because the original contingency table had sparse expected frequencies. $\chi^2(3, N = 86) = 0.72$; $p = .869$; Cramer's $V = .091$; Gamma = .017; $p = .930$.

Table C5 *Sustainability Reporting Status According to Company Sector of Activity (N = 635)*

Sector of activity	Sustainability reporting status		
	Reporting regu- larly/occasionally n (%)	Not yet, but planning to n (%)	No sustainability reporting n (%)
Agriculture, Forestry and Fisheries	9 (6.3)	1 (0.6)	14 (4.4)
Agri-food Industry	4 (2.8)	4 (2.3)	6 (1.9)
Manufacturing Industry	11 (7.6)	16 (9.2)	25 (7.9)
Energy, Environment and Natural Resources	12 (8.3)	7 (4.0)	4 (1.3)
Construction and Real Estate	16 (11.1)	11 (6.3)	27 (8.5)
Retail and Distribution	6 (4.2)	24 (13.8)	49 (15.5)
Transport, Logistics and Mobility	8 (5.6)	4 (2.3)	1 (0.3)
Tourism and Hospitality	25 (17.4)	30 (17.2)	50 (15.8)
Information and Communication Technologies (ICT)	6 (4.2)	10 (5.7)	17 (5.4)
Financial Services and Insurance	2 (1.4)	1 (0.6)	8 (2.5)
Health, Sciences and Pharmaceuticals	8 (5.6)	12 (6.9)	11 (3.5)
Education and Training	11 (7.6)	14 (8.0)	15 (4.7)
Consulting and Professional Services	10 (6.9)	21 (12.1)	48 (15.1)
Other	16 (11.1)	19 (10.9)	42 (13.2)
Total	144 (100.0)	174 (100.0)	317 (100.0)

Note. Percentages are column percentages. This analysis includes only respondents whose companies reported at least minimal sustainability integration in Q5. $\chi^2(26, N = 635) = 62.44$; $p < .001$; Cramer's $V = .222$.

Table C6 *Identification and Action on Specific SDG Targets According to SDG Engagement Status (N = 245)*

SDG target status	SDG engagement status	
	Reference to the SDGs only n (%)	Ongoing/planned SDG initiatives, programmes or projects n (%)
Mentioned SDG targets without specific ambition	42 (48.3)	40 (25.3)
Qualitative SDG ambition, without metrics	20 (23.0)	57 (36.1)
Quantitative SDG ambition, not yet measured	10 (11.5)	32 (20.3)
Quantitative SDG ambition with measured progress	15 (17.2)	29 (18.4)
Total	87 (100.0)	158 (100.0)

Note. Percentages are column percentages. This analysis includes only respondents whose companies either referred to the SDGs or reported ongoing or planned SDG initiatives, programmes or projects. $\chi^2(3, N = 245) = 14.44$; $p = .002$; Cramer's $V = .243$; Gamma = .271; $p = .008$.

Annex D – Questionnaire

Master's Thesis Survey – Sustainability in Portuguese Companies

This questionnaire is part of a Master's dissertation in Economics of Business and Strategy at the Faculty of Economics of the University of Porto, focusing on sustainability practices in Portuguese companies.

The questionnaire is organised into five main sections covering the integration of sustainability into corporate strategy, sustainability reporting practices, engagement with the United Nations Sustainable Development Goals (SDGs), alignment with European Union sustainability requirements, and the role of sustainability in innovation and competitiveness. To reduce response time and facilitate completion, respondents may answer only the sections that are relevant to their organisation or in which it currently has active practices, initiatives or experience. Where a section is not applicable, respondents will be able to proceed to the next section.

The questionnaire is available in both Portuguese and English. Both versions will be provided and respondents may choose the one they prefer to complete.

This survey is designed in line with the European Union's sustainability directives (including the CSRD, CSDDD, EU Taxonomy and related standards). The questions aim to capture objective and comparable data on how Portuguese companies are preparing for and

integrating these requirements. Please answer as accurately as possible based on your company's current practices and plans.

Your organisation is being contacted because its professional email address is publicly available or included in a commercially licensed business database, such as Iberinform, BaseDadosEmpresas or QuantumDatabase. These contacts are used solely to invite organisations to participate in this academic study. The email address used for the invitation will not be linked to any survey responses and will be deleted after the data collection phase.

The questionnaire collects only non-identifiable information, such as your company's sector of activity, size and answers about sustainability practices, strategic integration, engagement with the Sustainable Development Goals (SDGs), reporting practices and related topics. No information that could identify your organisation or any individual is requested or stored, and Microsoft Forms does not collect login details when the form is set to allow anonymous responses.

All responses are recorded anonymously, processed only by the researcher and analysed exclusively in aggregate form.

The legal basis for contacting companies is legitimate interest in conducting academic research, with the option to object at any time by replying to the invitation email. The processing of survey responses is based on the performance of a task carried out in the public interest, namely scientific research. The data collected will be stored securely on the researcher's personal computer, will be used exclusively for academic purposes within the scope of the Master's dissertation and will be deleted after the thesis defence, expected to occur between 31 July 2026 and 18 December 2026.

Once the questionnaire is submitted, it is not possible to withdraw responses because they are anonymous and cannot be linked to any participant.

For questions related to data protection or the exercise of your rights, you may contact the Data Protection Officer of the University of Porto at dpo@reit.up.pt.

By selecting "Yes" in the consent question below, you confirm that you have read this information and agree to participate under the conditions described.

Completing the survey should take approximately 5 minutes.

For any questions or further information, please contact: up202005764@fep.up.pt

Thank you for your collaboration!

*Required

Consent and Data Processing Authorization

1. Do you consent to participate in this study and authorize the collection and processing of your data as described?*

☐ Yes

☐ No

Note: Selecting the option “No” will automatically direct the respondent to the end of the questionnaire.

Section 1 - Company Profile

2. What is your company’s primary sector of activity?*

(Please select one)

☐ Agriculture, Forestry and Fisheries

☐ Agri-food Industry

☐ Manufacturing Industry

☐ Energy, Environment and Natural Resources

☐ Construction and Real Estate

☐ Retail and Distribution

☐ Transport, Logistics and Mobility

☐ Tourism and Hospitality

☐ Information and Communication Technologies (ICT)

☐ Financial Services and Insurance

☐ Health, Sciences and Pharmaceuticals

☐ Education and Training

☐ Consulting and Professional Services

☐ Other: _____

3. What is the size of your company?*

☐ Micro (<10 employees)

☐ Small (10–49 employees)

☐ Medium (50–249 employees)

☐ Large (250+ employees)

4. Does your company currently engage in practices, initiatives or activities in at least one of the following areas: the integration of sustainability into corporate strategy, sustainability reporting, engagement with the United Nations Sustainable Development Goals (SDGs), compliance with European Union sustainability requirements or innovation related to sustainability?*

☐ Yes, our company has practices, initiatives or activities in at least one of these areas

☐ No, our company does not have practices, initiatives or activities in any of these areas

Note: Selecting the option “No, our company does not have practices, initiatives or activities in any of these areas” will automatically direct the respondent to the end of the questionnaire.

Section 2 - Strategic Integration of Sustainability

5. How is sustainability currently integrated into your company’s corporate strategy?*

(Please select one)

☐ Not integrated (sustainability is not considered in strategy or operations, and is not given any priority)

☐ Minimally integrated (considered only for compliance purposes, with low priority)

☐ Moderately integrated (included in specific areas or projects, with moderate priority)

☐ Largely integrated (core part of business strategy, with high priority)

☐ Fully integrated (a key driver shaping decision-making across all areas, with very high priority)

Note: Selecting the option “Not integrated” will automatically direct the respondent to the end of the questionnaire.

6. Does your company have a dedicated sustainability team, department, or function?*

☐ Yes

☐ No

7. Has your company established sustainability targets (quantitative and/or qualitative) that are regularly monitored?*

☐ Yes

☐ No

8. Does your company implement specific actions or initiatives related to sustainability?*

☐ Yes

☐ No

9. In which areas does your company engage with sustainability?

(Select all that apply)

☐ Environmental (e.g., emission reduction, energy efficiency, circular economy, biodiversity conservation)

☐ Social (e.g., working conditions, health and safety, diversity and inclusion, community engagement)

☐ Economic (e.g., fiscal transparency, shared value creation)

☐ Governance (e.g., compliance structures, diversity in decision making bodies)

☐ Innovation (e.g., development of sustainable products, services, processes, or business models)

☐ Value chain and suppliers (e.g., sustainability criteria in the selection and monitoring of partners and suppliers)

☐ Digitalization (e.g., use of digital technologies to promote sustainable practices, such as sensors or monitoring platforms)

☐ Does not engage in any sustainability area

☐ Other(s): _____

Section 3 - Sustainability Reporting

10. Does your organization prepare and publish sustainability reports?*

☐ Yes, regularly (once a year or more often)

☐ Yes, occasionally (less frequently than once a year)

☐ Not yet, but planning to

☐ No, we do not report on sustainability

Note: If the option “Not yet, but planning to” or “No, we do not report on sustainability” is selected, the respondent will be automatically directed to Section 4 – Sustainable Development Goals (SDGs).

11. Please specify the standards or frameworks your company follows for sustainability reporting:*

(Select all that apply)

☐ GRI (Global Reporting Initiative)

- ☐ ESG (Environmental, Social and Governance)
- ☐ SASB (Sustainability Accounting Standards Board)
- ☐ IIRC (International Integrated Reporting Council)
- ☐ TCFD (Task Force on Climate-related Financial Disclosures)
- ☐ Internally developed criteria
- ☐ No structured methodology is used
- ☐ Other(s): _____

12. What are the primary objectives or motivations behind your company's sustainability reporting?*

(Select all that apply)

- ☐ Enhancing transparency and stakeholder trust
- ☐ Complying with legal requirements
- ☐ Improving brand reputation and market positioning
- ☐ Attracting investment or sustainable financing
- ☐ Gaining competitive advantage
- ☐ Aligning with international best practices or industry expectations
- ☐ Monitoring internal performance
- ☐ Other(s): _____

13. Has sustainability reporting generated benefits for your company?*

- ☐ Yes
- ☐ No

Note: If the option "No" is selected, the respondent will be automatically directed to Section 4 – Sustainable Development Goals (SDGs).

14. What kind of benefits has your company observed from sustainability reporting?*

(Select all that apply)

- ☐ Reputational (e.g., enhanced public image, stronger stakeholder trust)
- ☐ Operational (e.g., improved internal efficiency, enhanced risk management, process optimization)
- ☐ Financial and economic (e.g., access to sustainable financing, investor appeal, cost savings)
- ☐ Commercial (e.g., customer acquisition, competitive differentiation, new markets)
- ☐ Regulatory and compliance (e.g., anticipation of legal requirements, alignment with EU

directives)

☐ Internal (e.g., increased employee engagement, cultural alignment, talent retention)

☐ Strategic (e.g., improved decision making, incorporation of sustainability into long term planning)

☐ Other(s): _____

Section 4 - United Nations Sustainable Development Goals (SDGs)

Please note that any mention of the SDGs in this questionnaire refers to the 17 Sustainable Development Goals adopted by the United Nations in 2015.

15. Has your company made reference to or developed initiatives, programs or projects related to the Sustainable Development Goals (SDGs)?*

☐ Yes, we only made reference to the SDGs (e.g., in communication)

☐ Yes, we have ongoing or planned initiatives, programs or projects related to the SDGs

☐ No, we have not made any reference or undertaken initiatives related to the SDGs

Note: If the option “No, we have not made any reference or undertaken initiatives related to the SDGs” is selected, the respondent will be automatically directed to Section 6 – Innovation and Competitiveness.

16. Which Sustainable Development Goals (SDGs) has your company prioritized? *

(Select all that apply)

☐ SDG 1 – No Poverty

☐ SDG 2 – Zero Hunger

☐ SDG 3 – Good Health and Well-being

☐ SDG 4 – Quality Education

☐ SDG 5 – Gender Equality

☐ SDG 6 – Clean Water and Sanitation

☐ SDG 7 – Affordable and Clean Energy

☐ SDG 8 – Decent Work and Economic Growth

☐ SDG 9 – Industry, Innovation and Infrastructure

☐ SDG 10 – Reduced Inequalities

☐ SDG 11 – Sustainable Cities and Communities

☐ SDG 12 – Responsible Consumption and Production

☐ SDG 13 – Climate Action

☐ SDG 14 – Life Below Water

- ☐ SDG 15 – Life on Land
- ☐ SDG 16 – Peace, Justice and Strong Institutions
- ☐ SDG 17 – Partnerships for the Goals
- ☐ Other(s): _____

17. Which of the SDGs you selected above are the most important for your company? _____

18. Has your company identified and acted on specific SDG targets?*

(Please select one)

- ☐ Mentioned SDG targets without any expressed ambition
- ☐ Expressed a qualitative SDG ambition (narrative, no metrics)
- ☐ Set quantitative SDG ambition but not yet measured
- ☐ Set quantitative SDG ambition and report measured progress

19. Which of the following practices has your company implemented to embed SDGs into its strategy?*

(Select all that apply)

- ☐ SDGs included in governance/management level (e.g., board oversight)
- ☐ SDG targets linked to executive remuneration or incentives
- ☐ SDGs incorporated into KPIs across functions
- ☐ Oversight committee or structured review for SDG progress
- ☐ Communication of SDG progress to stakeholders (e.g., annual report)
- ☐ Other(s): _____

20. Which SDG targets are your company's KPIs primarily monitoring?

Examples include: SDG 13.2 – integrate climate change measures into strategies; SDG 7.2 – increase renewable energy share; SDG 8.5 – achieve full and productive employment; SDG 12.5 – reduce waste generation; SDG 5.5 – ensure women's full participation in leadership. For detailed information on the targets of each SDG, please consult the following United Nations website: <https://unric.org/en/united-nations-sustainable-development-goals/>

(Please answer using the SDG target number and, if possible, its description) _____

Section 5 - EU Sustainability Alignment

21. Is your company already implementing the requirements of the Corporate Sustainability Reporting Directive (CSRD) or compliant with them? *

- ☐ Yes, fully compliant already
- ☐ Yes, in preparation (within 1–2 years)
- ☐ No, but planning to align later
- ☐ No, not applicable

Note: If the options “No, not applicable” or “No, but planning to align later” are selected, the respondent will be automatically directed to Section 6 – Innovation and Competitiveness.

22. Is your company assessing activities according to the EU Taxonomy for Sustainable Activities?*

- ☐ Yes, fully aligned
- ☐ Yes, partially aligned
- ☐ No, but in preparation
- ☐ No, not applicable

Note: If the option “No, not applicable” is selected, the respondent will be automatically directed to Section 6 – Innovation and Competitiveness.

23. Has your company implemented a due diligence process in line with the Corporate Sustainability Due Diligence Directive (CSDDD)?*

- ☐ Yes, fully compliant already
- ☐ Yes, in preparation (within 1–2 years)
- ☐ No, but planning to align later
- ☐ No, not applicable

Note: If the options “No, not applicable” or “No, but planning to align later” are selected, the respondent will be automatically directed to Section 6 – Innovation and Competitiveness.

24. Which sustainability areas are currently monitored with quantifiable indicators (KPIs)?

(Select all that apply)

- ☐ Greenhouse gas emissions (Scope 1, 2, 3)
- ☐ Energy consumption / renewable share
- ☐ Waste reduction / recycling rate
- ☐ Water use
- ☐ Employee diversity and inclusion

☐ Supply chain risk and human rights compliance

☐ Other(s): _____

Section 6 - Innovation and Competitiveness

25. Has sustainability been a driver of innovation in your company?*

☐ Yes

☐ No

Note: If the option “No” is selected, the respondent will be automatically directed to question 27.

26. In which areas has sustainability stimulated innovation?

(Select all that apply)

☐ Development of new products

☐ Improvement or optimization of processes

☐ Adoption of new business models

☐ Organizational innovation (e.g., work practices, talent management, corporate culture)

☐ New partnerships and collaborations

☐ Application of digital technologies for sustainability purposes

☐ Other(s): _____

27. Has sustainability contributed to strengthening your company’s competitiveness?*

☐ Yes, significantly

☐ Yes, to some extent

☐ Not yet, but there is potential

☐ No

Final Note

Thank you for taking the time to complete this questionnaire!

Your input is essential for collecting reliable and relevant data, allowing for a meaningful and robust analysis of how Portuguese companies are integrating sustainability into their corporate strategies.

For any questions or clarifications regarding this research, feel free to reach out through the following email address: up202005764@fep.up.pt

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