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**Examining the relationship between SME size and
corporate DEI-related activities**

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ABSTRACT:

The purpose of this study is to explore the current state of small and medium-sized enterprises' social sustainability within the EU context. More specifically, this study aims to identify if there is a relationship between firm size and the depth of adopted diversity (differences between groups of individuals), equity (an individual's access to needed benefits), and inclusion (perceived sense of belonging) related actions in small and medium-sized enterprises. Currently the EU is seeking sustainable development through various sustainability initiatives, which inflict significant changes to the corporate sustainability within the European economic market. One of these initiatives, the Corporate Sustainability Reporting Directive, has extensive impacts on the European companies of all sizes. Despite not directly complying with the directive, small and medium-sized enterprises are forced to practice sustainability reporting within their value chains. As these companies have not been mandated to report previously, the Corporate Sustainability Reporting Directive may impose greater preparation efforts for companies without prior sustainability reporting experience. Theoretically this study builds on literature regarding mandatory and voluntary sustainability reporting, its potential impacts on small and medium-sized enterprises, and the current state of social sustainability in these companies. This is a quantitative study that utilizes data collected from a survey conducted by the Erasmus+, EU-co-funded DEI4SME project. Ordinal logistic regression has been selected as the analysis methodology. The results do not reveal statistically significant relationships between firm size and diversity, equity, and inclusion related actions. However, the non-significant findings indicate an inverse relationship between firm size and the adoption of diversity, equity, and inclusion related actions such that survey respondents have rated micro and small companies' actions higher than medium-sized companies'.

KEYWORDS: social sustainability, diversity, equity, inclusion, sustainability reporting, small and medium-sized enterprises

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Abbreviations

CSRD	Corporate Sustainability Reporting Directive
DEI	Diversity, equity, and inclusion
EFRAG	European Financial Reporting Advisory Group
EC	European Commission
EU	European Union
ESG	Environmental, social, and governance
ESRS	European Sustainability Reporting Standards
MNC	Multinational corporation
NFRD	Non-Financial Reporting Directive
SFDR	Sustainable Finance Disclosure Regulation
SME	Small and medium-sized enterprises
TCFD	Task-force on Climate-related financial disclosure

1 Introduction

Micro, small and medium-sized companies (SMEs), defined by having less than 250 employees and under € 40 million in turnover and € 20 million in balance sheet (European Union, 2013), constitute a majority of the European companies, therefore playing a crucial role in the European business environment (Eurostat, 2023). Currently the European Union is seeking sustainable development through diverse sustainability initiatives, and thus the European economic market is undergoing significant changes related to corporate sustainability. Sustainability in general refers to various environmental, social, and governance (ESG) related activities. Environmental issues are addressed widely through initiatives, while social sustainability has increased in relevance relatively recently.

Social sustainability refers to a variety of aspects, such as social justice, quality of life, and an individual's and the community's capacity (Ajmal et al., 2018). Social sustainability also constitutes diversity, equity, and inclusion (DEI) (Silva et al., 2023) that are considered key aspects of sustainable development (Cisneros-Montemayor et al., 2019). Diversity is described as the differences between groups of individuals (Issifu et al., 2023). Equity refers to the recognition of characteristics which may impact an individual's perception of equity (Issifu et al., 2023) and access to needed benefits (McDermott et al, 2013). Inclusion relates to the perceived and experienced fairness and sense of belonging (Kirschler et al., 2013). Literature indicates that for example diversity and inclusion provide various benefits to organizations in general, such as cost savings, growth opportunities, and increased job satisfaction (O'Donovan, 2017, pp.76-83). In alignment with this, studies focusing on SMEs find that social sustainability activities spur growth (Stoian & Gilman, 2017), lead to higher financial performance, and improved employee and customer satisfaction (Masocha, 2019). Through various sustainability initiatives companies are encouraged and obliged to pursue transparency towards stakeholders and the society as a whole.

Sustainability reporting provides a means for companies to communicate how they achieve competitive advantage (Cheng et al., 2015) through sustainability initiatives and ESG metrics to stakeholders and shareholders (Buallay, 2019). To overcome the shortcomings of prior reporting standards and to mandate private companies to report, from the beginning of 2024, European Union's new Corporate Sustainability Reporting Directive (CSRD) and European Sustainability Reporting Standard (ESRS) have taken effect, requiring large and medium companies to undertake new sustainability reporting standards (European Union, 2023). Even though SMEs are not directly required to comply, they are indirectly impacted by the requirements of the CSRD and are thus forced to exercise sustainability reporting to a varying degree (Allgeier & Feldmann, 2023; European Union, 2023). The implications of the CSRD on SMEs is dualistic, as they are dependent on complying credit institutions' financing and large companies' value chains (Allgeier & Feldmann, 2023). As a result, the ad-hoc requests for SMEs to provide information for credit institutions (Niskala & Palmuaro, 2023, pp.13-15) and large companies is expected to increase substantially (Allgeier & Feldmann, 2023). Consequently, the CSRD may impose greater preparation efforts on companies with no prior sustainability reporting experience (Fiechter et al., 2022). Therefore, SMEs must comprehend the reporting requirements of the CSRD and ESRS and identify the practical repercussions on their resources and capabilities.

Prior studies on large corporations identify firm size (Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Wickert et al., 2016) to be a determinant of the quality and quantity of sustainability reporting. Due to the limited number of employees, SMEs often lack human resources assigned to sustainability, especially related to social concerns (Chowdhury & Shumon, 2020). Therefore, firm size, along with the perceived ambiguity of voluntary sustainability reporting and the lack of comprehensive guidance may instigate challenges for SMEs as the on-take of the CSRD approaches. Specifically, challenges may arise in identifying material ESG constituents, in particular social matters, such as diversity, equity, and inclusion.

In addition to being impacted by and contributing to the European sustainability reporting domain, SMEs have a vital role in the global sustainability context. Given the number of SMEs globally and within the EU, achieving the United Nations' Sustainable Development Goals necessitates substantial contributions from these firms (Chowdhury & Shumon, 2020; Stoian & Gilman, 2017). Consequently, SMEs are expected to adopt socially sustainable actions to enhance transition towards a sustainable economy. These expectations, held by various stakeholders, conflict with the SMEs' capabilities to allocate resources and skills adequately into building socially sustainable practices (Chowdhury & Shumon, 2020). The key lies in the effective utilization of their scarce resources and capabilities (Stoian & Gilman, 2017). A common understanding is that SMEs do not have enough monetary or skills-related resources to adopt social sustainability at a wider level (Chowdhury & Shumon, 2020). As a result, these firms struggle to integrate effective DEI actions into their business operations (O'Donovan, 2017, pp.83-88). However, studies have identified that business performance is influenced by the allocation of focus on sustainability activities (Buallay, 2019; Christensen et al., 2021), and therefore SMEs could benefit from investments into social sustainability, and more specifically, DEI.

Hence, this study explores the state of social sustainability in SMEs and the relationship between firm size and the realization of DEI actions. The objective of this study is to tap into the research opportunity by answering the following research question:

How does SME size affect the sustainability actions in relation to diversity, equity, and inclusion?

Specifically, this study aims to outline the impact of firm size on the adoption of DEI-related actions. As concluded from prior studies in section 2.2.2 Impact of SME size on social sustainability, firm size may impact the state and outcome of various sustainability activities. The overall hypothesis therefore is that SME size affects the firm's DEI-related actions.

This study is conducted in cooperation with the Erasmus+ EU-co-funded project DEI4SME, which addresses social challenges in the EU, exploring various DEI-related questions and developing educational ecosystems for planning, implementing, and measuring social sustainability, specifically DEI, in SMEs. The project's insights are derived from several European countries (University of Vaasa, 2023). To answer the research question, this study analyzes stakeholder data collected by the DEI4SME project via a survey conducted during 23.5.2024-15.8.2024 in Germany, Austria, Finland, and Lithuania. The data is used to identify patterns in the valuation of DEI factors, and for drawing on the linkage between the valuation and firm size.

This study contributes to the limited literature regarding the association between the determinants and the DEI-related outcomes. The contributions of this study are threefold. Firstly, this study extends the literature on emphasis of sustainability issues (Fiechter et al., 2022) by underscoring the social sustainability activities that European SMEs have voluntarily, yet under pressure, adopted for their practices. Secondly, this study provides further understanding of the background elements affecting the depth of sustainability efforts (Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Prashar, 2021) from the DEI perspective by outlining the correlation between firm size and DEI-related actions. Thirdly, by identifying the DEI issues that SMEs have underscored and by distinguishing those DEI factors which have received less attention, this study extends the theoretical framework on how SMEs with varying firm sizes should reallocate their resources to balance their DEI efforts (Allgeier & Feldmann, 2023; Fiechter et al., 2022).

This paper consists of five sections. Section 1 contains an introduction, briefly covering the topic and identifying the research question. Section 2 covers the theoretical background on various sustainability policies, directives, and standards, and delves into the various factors of DEI actions in SMEs. Section 3 outlines the methodology used for this research. Section 4 presents the research results. Section 5 provides an analysis of the findings and their implications to SMEs and the SME social sustainability domain.

2 Theoretical background

This section aims to define social sustainability and more specifically the part of it concerning diversity, equity, and inclusion (DEI), and justify why social sustainability and DEI in particular is currently topical in Europe by delving into the multiple initiatives, frameworks, and legislations for promoting social sustainability within the European Union. As most of the European companies are considered micro, small, and medium companies (SMEs), and these SMEs employ a majority of the European workforce (Eurostat, 2023), their attitudes towards DEI as well as their DEI-related actions and policies impact the European workforce significantly. Therefore, this section describes how SMEs are affected by the social sustainability initiatives and why social sustainability is relevant for SMEs.

2.1 Social sustainability

The concept of social sustainability has been characterized as ambiguous due to a wide scope and a variety of defining criteria (Ajmal et al., 2018). Ajmal et al. (2018) provide that social sustainability refers to concepts such as democracy, social justice, quality of life, individual and the community's capacity, and equity, among others. Social sustainability also comprises of diversity, equity, and inclusion (Silva et al., 2023) and DEI is acknowledged as a key aspect of sustainable development (Cisneros-Montemayor et al., 2019). The Oxford Learner's Dictionary defines diversity as "a range of many people or things that are very different from each other". In organizational context diversity refers to differences between groups of individuals, comprising of, for example, race, gender, or religion (Issifu et al., 2023). Newly hired employees may contribute to the organizational diversity (Issifu et al., 2023) especially in SMEs, where the number of employees is relatively low, and thus each individual carries a larger relative share of the employees collectively. Equity refers to the achievement of peoples' potential and the overall good such that all peoples are able to thrive in their given environment (Issifu et al., 2023). McDermott et al. (2013) suggest that equity comprises of three dimensions;

procedural, distributional, and contextual. In an organizational context, procedural equity denotes involvement in decision-making and governance, while distributional equity refers to a just allocation of benefits and the mitigation of liabilities (Hicks et al., 2022). Contextual equity refers to the recognition of characteristic factors, such as socio-economic and cultural backgrounds (Issifu et al., 2023), which may impact an individual's access to benefits from equity initiatives (McDermott et al., 2013). Equity and equality are often used for mutual purposes, yet their difference has been described such that “while equality can be converted into a mathematical measure in which equal parts are identical in size or number, equity is a more flexible measure allowing for equivalency while not demanding sameness” (McSherry, 2013). The Oxford Learner's Dictionary defines inclusion as “the fact or policy of providing equal opportunities and resources for people who might otherwise not get them, for example people who are disabled or belong to minority groups”. Inclusion aims at valuing and supporting individuals through recognizing their involvement and contribution in a given context (Issifu et al., 2023). Kirschler et al. (2013) further provide that inclusion relates to the perceived and experienced fairness and sense of belonging.

O'Donovan (2017, pp.76-83) proposes that diversity and inclusion offer multiple benefits to organizations, such as cost savings, talent attraction, innovation and creativity, flexibility, and growth opportunities. Inclusion further offers increased commitment and job satisfaction. However, realizing the benefits requires diversity management (O'Donovan, 2017, pp.76-83). DEI poses multiple challenges for organizations, particularly SMEs, and studies indicate that SMEs would benefit from external support to their sustainability actions (Lopez-Torres, 2023). Particularly in relation to DEI, managers struggle to create proactive solutions and instead tend to comply reactively (O'Donovan, 2017, pp.83-88). The main challenges that organizations face with integrating effective DEI actions are, among others, increased costs, lack of skills, and complexity (Chowdhury & Shumon, 2020; O'Donovan, 2017, pp.83-88).

To conclude, social sustainability that includes DEI is advocated for various reasons, extending from global societal initiatives to regional frameworks, national legislations, and corporate strategies. Next, this section presents the various policy frameworks and reporting initiatives related to social sustainability and discusses how the sustainability reporting directives impact SMEs in particular.

2.1.1 Policy frameworks defining social sustainability and related initiatives

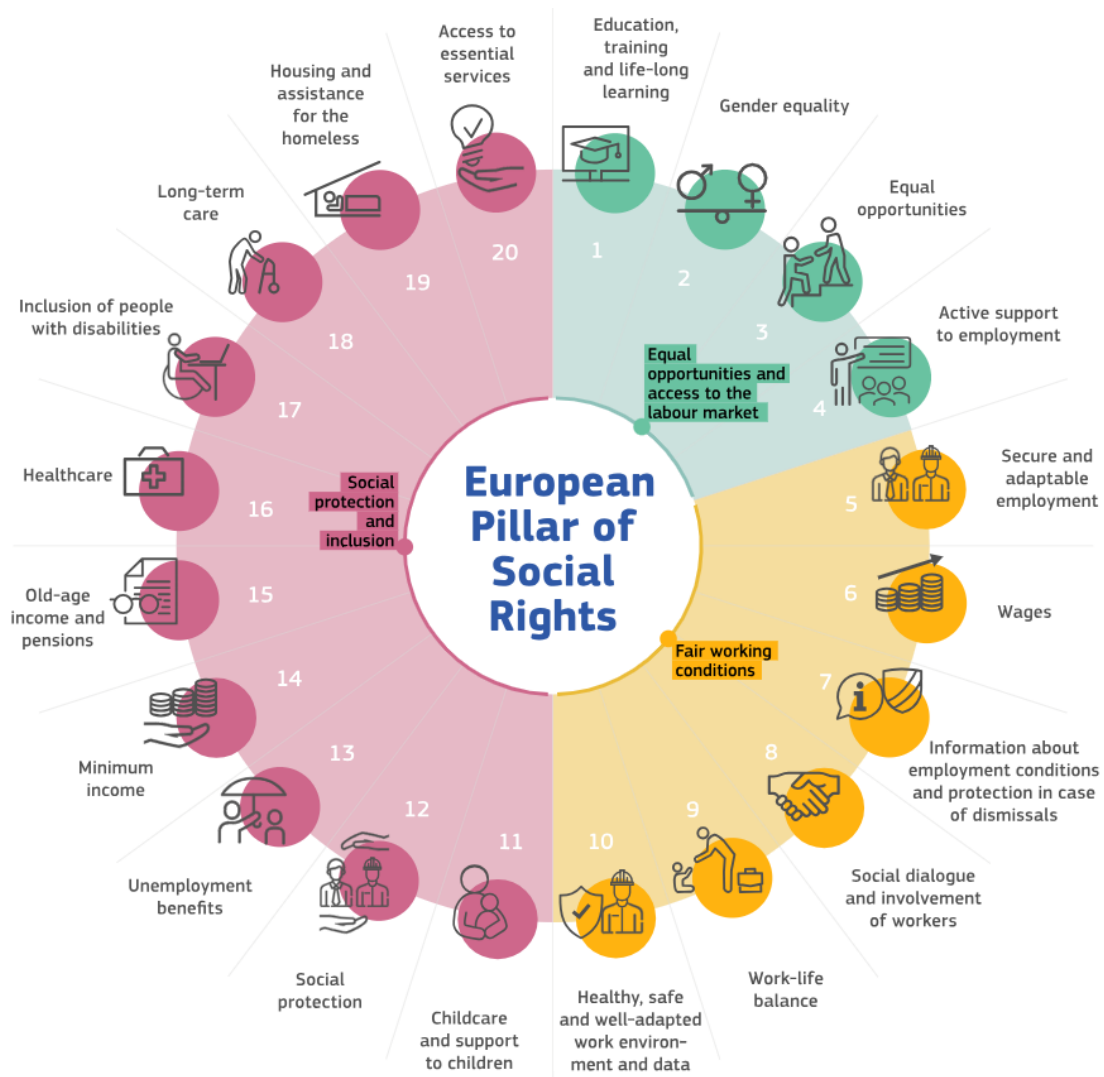
The sustainability initiatives domain is globally vast and ever evolving. Specifically, environmental issues are addressed with numerous policies, frameworks, and directives issued by various organizations alongside the EU. Social sustainability has increased in relevance over the past decade, and a variety of initiatives regarding the managing and reporting of social aspects such as human rights and diversity have been issued to complement the environmental initiatives. This study identifies two main policies as relevant for its purpose: The United Nations' Sustainable Development Goals and the European Pillar of Social Rights. The European Financial Reporting Advisory Group (EFRAG) defines policy as "a set or framework of general objectives and management principles that the undertaking uses for decision-making. A policy implements the undertaking's strategy or management decisions related to a material sustainability matter." These policies have been issued on global or international level with the single main objective of enforcing social, economic, and environmental sustainability.

The United Nations' Sustainable Development Goals (SDGs), effective of 1 January 2016, aim to achieve global sustainability by 2030 (United Nations, 2015). The SDGs are a comprehensive set of 17 society-level goals, 169 targets, and 231 indicators (United Nations, 2015), characterized as one of the amplest frameworks for attempting to respond to global issues (Wettstein et al., 2019) enclosing on environmental, social, and governance related major undertakings. The SDGs address the elimination of poverty, enhancement of health and education, ensuring food security, while also incorporating a variety of other economic, social, and environmental issues into the agenda (United

Nations, 2015). The SDGs provide a global framework for regional and national implementation levels, but the application on organizational level has been difficult (Galli et al., 2018) due to the extent and depth of the framework that requires specialization for practical applicability (Hák et al., 2016). As most investments into infrastructure are made locally, the superficial interconnectivity between the SDGs and organizational procedures may lead to inadequate integration of sustainability principles (Adshead et al., 2019). Therefore, incorporating the SDGs into strategic decision-making could improve the realization of sustainable improvement (Mansell et al., 2020).

Costa et al. (2021) have divided the SDGs into social, environmental, and economic dimensions, with the social dimensions comprising of 1. No poverty, 3. Good health and wellbeing, 4. Quality education, 5. Gender equality, 11. Sustainable cities and communities, and 16. Peace, justice, and strong institutions. They have further attributed 8. Decent work and economic growth, 9. Industry, innovation, and infrastructure, and 10. Reduced inequalities as part of the economic dimensions. Measurement points within the SDGs concerning social sustainability that relate to DEI are primarily located under the SDGs 5, 8, and 10 (United Nations, n.d.).

In addition to advancing sustainability on global level, the European Council, European Parliament, and European Commission (EC) have published the European Pillar of Social Rights doctrine in 2017 (European Commission, 2021) in alignment with the SDGs. The pillar consists of 20 principles and rights that advocate fair and efficient labor markets and systems for social protection and sets out targets for the EU to reach by 2030 (European Commission, 2021). These targets provide that the EU should have at least 78% employment rate, at least 60% of adults should participate in trainings annually, and poverty and social exclusion should be reduced by at least 15 million citizens (European Commission, 2021). The European Pillar of Social Rights answers the call of the United Nations SDGs on the EU level and issues action plans to reach these targets by addressing all the identified key principles and rights and aim to complement EU's existing goals for green transition (European Commission, 2021).



Picture 1. The European Pillar of Social Rights presented in the European Pillar of Social Rights Action Plan (European Commission, 2021, p.3).

The European Pillar of Social Rights advocates social sustainability through addressing diversity, equity, and inclusion in all its objectives. The European Commission has set three headline targets to provide guidance in decision-making within the member states (European Commission, 2021). The first target asserts that at least 78% of the population should be employed by 2030. The sub-targets to reach the goal are to decrease the gender employment gap by 50%, to enhance childcare and childhood education and thus support female employment, and to decrease the rate of unemployment for young people under the age of 30. Furthermore, one of the methods of increasing employment

is by ensuring that underrepresented groups, such as low-skilled people, LGBTIQ people, and persons with disabilities have equal opportunities to participate in the labor market (European Commission, 2021). The second target is that at least 60% of all adults should participate in training every year to enhance employability and enable innovation. Based on the European Commission (2021), education and training provide the basis for continuous professional development, especially with underrepresented groups. The sub-targets for ensuring regular training are to achieve an 80% level of people aged 16-74 with basic digital skills, which according to the EC is a requirement for inclusion, and to reduce the rate of people leaving school early (European Commission, 2021). The third target is to reduce the number of people at risk of poverty or social exclusion by at least 15 million by 2030. The EC monitors the implementation progress for all member states by utilizing the Social Scorecard (European Commission, 2021). The EC (2021) states that urgent actions are required to overcome gender-based discrimination in work life. They further argue that women are underrepresented in managerial positions and boards. As a countermeasure, the European Council (2022) approved the directive 2022/2381 to legally enforce gender balance on corporate boards of listed companies. To conclude, the European Pillar of Social Rights and the SDGs provide a foundation for the realization of diversity, equity, and inclusion. The next section will discuss various legislative initiatives which further support and advance the practical implementation and execution of DEI.

2.1.2 Legislations on social sustainability and DEI

Subsequently to the EU policy frameworks, the EU countries have established various legislations on human rights and fundamental rights to ensure their enactment. For example, in Finland and Germany, the constitutional law maintains the fundamental rights such that the inviolability of human dignity and the freedom and rights of citizens are secured (Federal Ministry of Justice, 2022; Finlex, 1999). More specifically, non-discrimination and equality are secured by national laws (Federal Anti-Discrimination Agency, 2019; Finlex, 2014). Moreover, national occupational health and safety has been

secured by, for example, the Finnish occupational safety law, which orders provisions on the occupational environment to maintain persons' ability to work and to prevent physical and mental health impairments (Finlex, 2002). This is further supported by the Pillar of Social Rights providing that the EU must ensure healthy and safe work environments (European Commission, 2021).

To support the enactment and to promote the visibility of various human rights related legislations, the EC has established sustainability reporting initiatives. Sustainability (social, environmental, economic) reporting initiatives provide tools for companies to communicate their sustainability activities and ESG metrics (Buallay, 2019; Global Reporting Initiative, 2016, p.3), and even to convey their strategies of achieving competitive advantage (Cheng et al., 2015) to stakeholders and shareholders. Likewise, they are instruments to build strategic sustainable business models (Lozano et al., 2016). Sustainability reporting initiatives may be legally enforced by, for instance, EU regulations, which are legal acts with general application and are directly applicable in EU member states (European Union, 2022c), or by EU directives, which are a part of EU law and need to be transposed to EU member states' national law (European Union, 2022b). As such, the reporting directives discussed in this paper are to be transposed to EU member states' national law for applicability.

2.1.2.1 Non-Financial Reporting Directive

As an attempt to mandate organized disclosure of matters other than financial, the European Commission's Non-Financial Reporting Directive 2014/95/EU (NFRD), passed in 2014 and taken effect in 2018, has aimed at enhancing transparency on business sustainability by requiring large, public-interest entities (PIEs), with over 500 employees to report on non-financial information as part of their management reporting (European Union, 2014). Altogether the NFRD has covered around 12 000 companies within the EU (Niskala & Palmuaro, 2023, p.41). Since its on-take, the NFRD has become a fundamental component of the European Commission's Sustainable Finance (European Union, 2018)

and the Green New Deal (European Union, 2019). However, as the NFRD has not had standardized reporting requirements, the comparability of ESG actions has been challenging (Niskala & Palmuaro, 2023, p.3). Furthermore, sustainability reporting has been voluntary for privately owned companies, but without standardized reporting requirements and guidelines, the reported content has materialized as a disarray of emphasis across various ESG factors (Breijer & Orij, 2022; Christensen et al., 2021). Responding to the call of corporations struggling with non-uniform voluntary reporting, organizations have formed various reporting standards for voluntary ESG reporting. Reporting standards offer a framework of rules for reporting content and guidance for practices. The various standards have served two purposes: inform investors of material impacts on the company's financial performance and serve the broader society in the quest for promoting sustainability (Christensen et al., 2021).

Over the years the NFRD has been understood to be inadequate (European Union, 2022a). In 2021 the EC proposed the Corporate Sustainability Reporting Directive (CSRD 2022/2464/EU) to amend the NFRD and overcome its weaknesses by expanding the guidelines of sustainability reporting, thus improving comparability of reported information (European Union, 2022a). The CSRD was approved in the European Parliament in November 2022 and took effect on 5th January 2023 (Niskala & Palmuaro, 2023, p.32). The on-take of the CSRD will result in the most significant alterations to the European reporting framework and the European companies' reporting environment since the issuing of the International Financial Reporting Standards in 2005 (Niskala & Palmuaro, 2023, p.4). The CSRD will extend the amplitude of companies for which sustainability reporting will become mandatory and standardized to cover all publicly traded companies, large private companies, and some EU-external companies that trade within the EU (European Union, 2022a; European Union, 2023; Niskala & Palmuaro, 2023, p.3). As a results, the CSRD will cover around 50 000 companies according to estimates (Niskala & Palmuaro, 2023, p.41). The transition to comply with the CSRD has been divided into phases based on company size and other differentiating factors. Given the

importance of this directive, the next section analyses this directive and its implications for firms, especially when reporting social sustainability in more detail.

2.1.2.2 Corporate Sustainability Reporting Directive

The CSRD's purpose is to increase transparency and comparability of sustainability between companies (European Union, 2022a). Specifically, the directive provides stakeholders information on the company's impact on the environment and society, and investors information for the assessment of investment risks in relation to climate change (Niskala & Palmuaro, 2023, pp.13-15). In practice, the CSRD will elevate sustainability reporting to the level of financial reporting (Muinonen, 2023), where equal quality standards apply to both sustainability and financial reporting (Niskala & Palmuaro, 2023, p.3). Furthermore, the CSRD aims to overcome all shortcomings of the NFRD, starting from mitigating the ambiguity and uplifting the notion of "non-financial", by referring to "sustainability" (De Cristofaro & Gulluscio, 2023).

The on-take of the CSRD has been divided into phase-ins such that by fiscal year 2028 all complying companies need to provide full disclosures (European Union, 2022a). As described by the European Union (2022a), the reliefs in the phase-ins consist, for example, of information gathered from the value chains. For the reporting years 1-3, companies may omit reporting on material aspects related to their value chains if the information is not available to them. Companies are nevertheless obliged to disclose on policies, actions, and targets in relation to their value chains. For SMEs the implication is that those companies compliant with the NFRD can omit much of the information regarding the SMEs in their value chains until the fiscal year 2027, and other large companies will need to fully disclose ESG-related impacts on their value chain by fiscal year 2028 (European Union, 2022a). Therefore, SMEs have until 2027 to build efficient processes for their data collection and reporting to the compliant companies in their value chains.

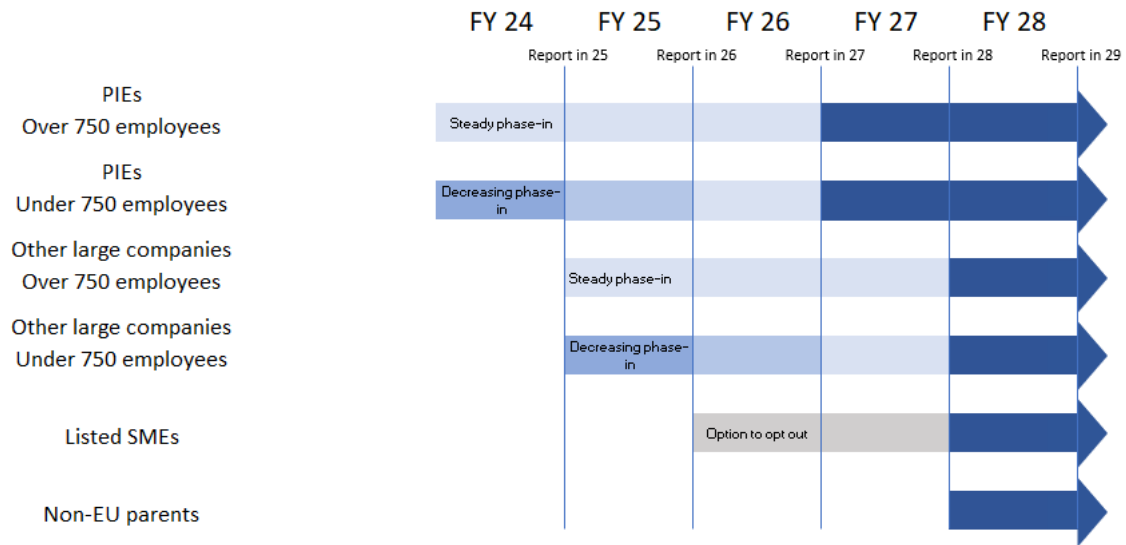


Figure 1. Timeline of CSRD implementation across the companies in scope (Author's own elaboration based on European Union, 2022a).

The CSRD requires mandatory third-party assurance of reported content (European Union, 2022a). The audited disclosure is to be published as part of the management report, which comprises of financial and sustainability disclosures, thus promoting connectivity of financial and non-financial matters (European Union, 2022a). The boundary for the reported content is based on the financial statements, i.e., the report should cover ESG related issues relevant to the business and operations that the financial statements cover (European Union, 2022a). However, due to the double materiality concept, material impacts, risks, and opportunities on the value chain need to be reported as well (European Union, 2022a). This has significant impacts specifically on SMEs, as they are often a part of the larger value chains (Allgeier & Feldmann, 2023).

2.1.2.3 European Sustainability Reporting Standards

As Niskala and Palmuaro (2023, pp.42-44) state, the ESRS provides guidelines for reporting for those companies that comply with the CSRD. In practice, the CSRD dictates the scope and timing of sustainability reporting and the ESRS sets the reporting content.

The ambitious qualitative and quantitative reporting requirements thus establish the magnitude of the reporting task.

The NFRD-compliant companies have been able to choose reporting standards that fit their needs and operations, provided that they adhere to those standards (Niskala & Palmuaro, 2023, p.43). The Global Reporting Initiative (GRI) has been a commonly used set of standards for reporting impact materiality, while the Task-force on Climate-related financial disclosure (TCFD) is mostly utilized for reporting on climate-related activities (Niskala & Palmuaro, 2023, p.43). Likewise, the International Sustainability Standards Board (ISSB), which operates under the International Financial Reporting Standards Foundation (IFRS), is developing a globally functional set of standards (Niskala & Palmuaro, 2023, p.43). The CSRD maintains that to promote global comparability and to mitigate double reporting, the ESRS are aligned with the global sustainability reporting standards (Niskala & Palmuaro, 2023, pp.43-44).

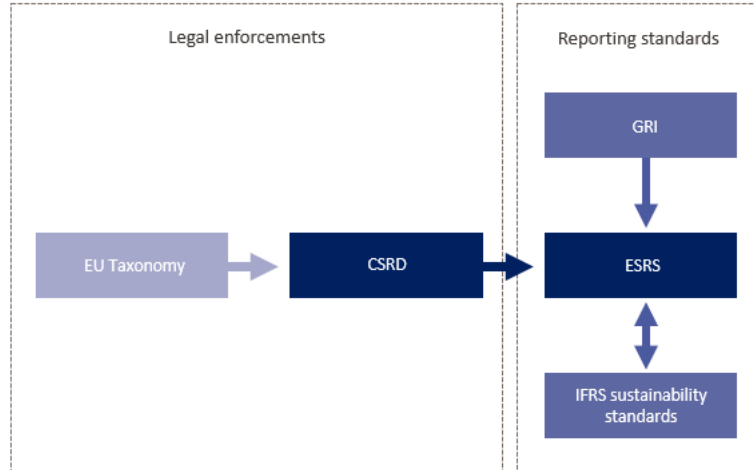


Figure 2. The major reporting standards in connection to the CSRD and ESRS (Adapted from Niskala & Palmuaro, 2023, p.19).

The ESRS has been constructed to incorporate the major reporting standards to maintain that companies already practicing sustainability reporting are able to sustain their reporting practices and content to a large extent (Niskala & Palmuaro, 2023, p.43).

However, companies that have already adopted frameworks other than the ESRS need to distinguish the differences between the standards, evaluate the alignment of scope, and identify any needs for additional data (European Union, 2023). The ESRS apply to all CRSD-complying companies and are tailored to suit the needs of industry-specific requirements and listed SMEs (European Union, 2023). However, separate standards are being developed for non-listed SMEs and companies with EU-external parents (EFRAG, 2023). The separate standards for SMEs are discussed in further detail in section 2.1.3 Impact of reporting directives on SMEs.

The ESRS requires companies to consider double materiality across their value chain (European Union, 2023; Niskala & Palmuaro, 2023, pp.47-49). Materiality refers to the relevance of a sustainability matter from the reporting company's perspective (European Union, 2023). Materiality assessment is the process of identifying the actual and potential materiality of sustainability matters, thus determining the matters that must be included into the sustainability report (European Union, 2023). The materiality assessment is based on the concept of double materiality which considers two perspectives – impact materiality and financial materiality. Impact materiality considers how the company's activities affect the society and environment, while financial materiality considers how the ESG factors affect the company and its financial performance. Both forms of materiality need to be thoroughly considered, and any realized (actual) and likely (potential) impacts may be identified as material (European Union, 2023).

EFRAG (2024) describes impact materiality as the company's actual or potential impact on people and the environment within short, medium, and long-term time periods. For the assessment of impact materiality, the company's operations, products and services, and value chain relationships such as supplier operations must be considered. Furthermore, companies must consider the severity of negative impacts in order to determine their materiality. The severity is assessed by the scale, scope, and the irremediability, i.e., possibility of compensating the negative impacts imposed upon

people or the environment (EFRAG, 2024). Likewise, EFRAG (2024) describes financial materiality as financial risks that could potentially have material influence on the company's financial position, financial performance, flow of cash, and availability and cost of financing in short, medium, and long-term periods. The company should also consider its value chain to determine the financial materiality arising from there. To determine the materiality of a financial risk, the company must evaluate the likelihood and size of the effect (EFRAG, 2024).



Figure 3. Visualization of the materiality assessment process as instructed in the ESRS 1 (Author's own elaboration based on European Commission, 2023a).

The materiality assessment process has been instructed in the ESRS (European Commission, 2023a). Despite becoming mandatory in 2025, some companies have pursued early adoption of the double materiality concept. Correa-Mejía et al. (2024) find that 67% of companies already utilizing the double materiality concept in fact fail to comply with the ESRS materiality assessment. They argue that materiality assessment effectiveness is conditional upon the availability of resources to determine relevant stakeholders and to measure the materiality impact. The implication to SMEs therefore is that they may face challenges in materiality assessment due to lack of resources.

The ESRS contains two sets of standards: two cross-cutting standards, which provide general principles and structure for reporting and requirements for all topics, and ten topical standards with topic-specific requirements for disclosure (Niskala & Palmuaro, 2023, pp.62-66). The regulation (European Union, 2023) holds that the cross-cutting standards are ESRS1: General guidelines and ESRS2: General disclosures, i.e., company strategy, business model, metrics, and targets. The topical requirements provide in-depth obligations for disclosure on environmental, social, and governance activities. The

topical requirements are further divided into sector-agnostic standards, sector-specific standards, and company-specific standards (European Union, 2023). As stated by the European Commission (2023b), the sector-agnostic standards apply to all companies with the intent to maximize data comparability. The company-specific standards include additional disclosure of material topics not covered by the sector-agnostic standards. The sector-specific standards, SME-related requirements, and standards for complying companies that have an EU-external parent are under development and are to be released later (EFRAG, 2023).

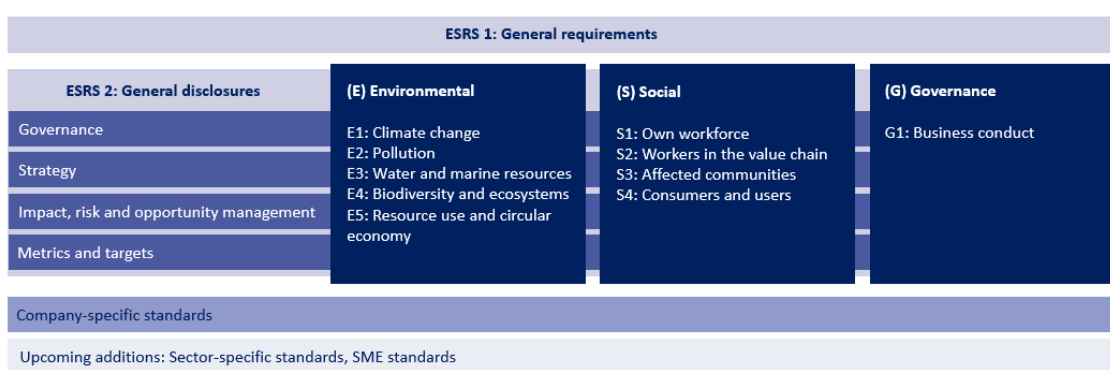


Figure 4. A simplified illustration of the ESRS framework (Author’s own elaboration based on EFRAG, 2023).

As illustrated in Figure 4, the topical requirements are divided into environmental, social, and governance areas (European Union, 2023). As specified in Niskala & Palmuaro (2023, pp.102-269), the environmental aspects require disclosure on factors related to climate change, pollution, water and marine resources, biodiversity and ecosystems, and resource use and circular economy. The social aspects require disclosure on the company’s own workforce, workers in the value chain, affected communities, and consumers and end users. The governance aspects require disclosure on business conduct. Moreover, companies need to consider the double materiality perspective for each reporting topic and identify the topics that are assessed as material (European Union, 2023).

As provided by the European Commission (2023), all reporting companies must disclose information related to the ESRS 1 and ESRS 2 requirements. In practice, to comply with ESRS 1, all sustainability reports must include general disclosure on the preparations taken by the company to produce the sustainability statements. To comply with ESRS 2, all reports must include the general disclosure topics. In terms of governance, companies need to consider the composition, diversity, and roles of management and the board. For strategy assessment, companies must disclose the core components of their business strategy that relate to sustainability (European Union, 2023). The regulations (European Union, 2023) further provision that for impact, risk and opportunity management, companies are obliged to conduct materiality assessments of the ESG topics and disclose information on the process and basis for identifying the material topics. For topics identified as material, companies need to report policies, actions, targets, and metrics. For material topics that are not covered by the ESRS topical areas, i.e., E1-5, S1-4, and G1, companies are required to publish company-specific disclosures (European Union, 2023). As this study focuses on the aspects of DEI within the SME sustainability context, ESRS 1-5 are presented in more detail in Table 1.

Table 1. Comparison of ESRS S1 and ESRS S2 (Author’s own elaboration based on European Union, 2023).

ESRS S1: Own workforce			ESRS S2: Workers in the value chain		
Working conditions	Equal treatment and opportunities for all	Other work-related rights	Working conditions	Equal treatment and opportunities for all	Other work-related rights
Secure employment	Gender equality and equal pay for work of equal value	Child labour	Secure employment	Gender equality and equal pay for work of equal value	Child labour
Working time	Training and skills development	Forced labour	Working time	Training and skills development	Forced labour
Adequate wages	Employment and inclusion of persons with disabilities	Adequate housing	Adequate wages	Employment and inclusion of persons with disabilities	Adequate housing
Social dialogue	Measures against violence and harassment in the workplace	Privacy	Social dialogue	Measures against violence and harassment in the workplace	Water and sanitation
Freedom of association, the existence of work councils and the information, consultation and participation rights of workers	Diversity		Freedom of association, including the existence of work councils	Diversity	Privacy
Collective bargaining, including rate of workers covered by collective agreements			Collective bargaining		
Work-life balance			Work-life balance		
Health and safety			Health and safety		

ESRS S1-4 focus on social sustainability through consideration of own workforce, workers in the value chain, affected communities, and consumers and users (European Union, 2023). Particularly, ESRS S1 and ESRS S2 are based on the key goals of the European Pillar of Social Rights; fair working conditions and terms, equal treatment and opportunities, and other employment rights (Niskala & Palmuaro, 2023, pp. 200-209).

2.1.2.4 Reporting landscape overview

The CSRD is closely interlinked with other EU regulations regarding environmentally sustainable economic activities. The most impactful and significant regulations are the EU Taxonomy regulation and Sustainable Finance Disclosure Regulation. The EU Taxonomy 2020/852 is a classification system for economic activities, classifying activities by their environmental sustainability. The regulation aims to provide investors and businesses with information on the sustainability of investments, while directing investments into sustainable targets through improving the profitability of sustainable

investments, thus aiding with the transition towards a greener economy (Niskala & Palmuaro, 2023, pp.26-27). In practice, the regulation provides key performance indicators on the company's environmentally sustainable performance. Companies complying with the CSRD are also required to report in alignment with the EU Taxonomy regulation (Niskala & Palmuaro, 2023, p.26). Sustainable Finance Disclosure Regulation 2019/2088/EU (SFDR) targets asset managers, financial advisers, and institutional investors with the requirement to disclose information on the sustainability of their investments and the ways in which sustainability risk management is embedded into their decision-making processes (Niskala & Palmuaro, 2023, pp.23-25).

The CSRD is a core constituent of the EU's Sustainable Finance Action Plan (Niskala & Palmuaro, 2023, p.21), which belongs to the European Green Deal. The European Green Deal is a substantial set of policy initiatives which are constructed to tackle challenges with climate change and to endorse the EU to reach its goal of becoming climate neutral by 2050 (Dimes & Molinari, 2022). The EU Green Deal does not directly emphasize social sustainability matters, yet it functions as an umbrella for action plans and directives that address social sustainability. Additionally, the European Pillar of Social Rights has been designed to operate parallel to the EU Green Deal, thus providing an extensive framework for developing environmental, social, and governance sustainability across the European Union (European Commission, 2021).

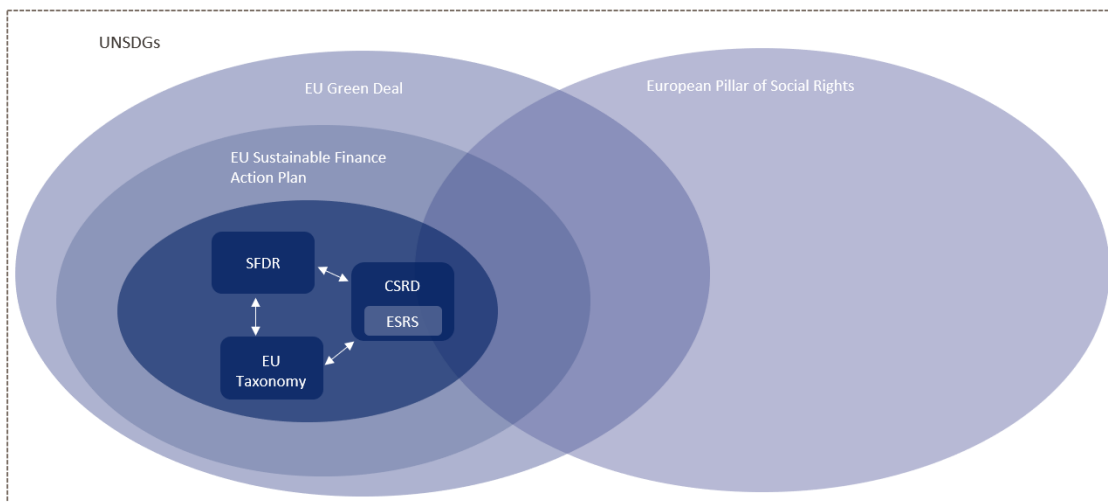


Figure 5. A simplified illustration of the environment of sustainability initiatives (Author’s own elaboration).

Figure 5 depicts the interconnectivity of the EU Green Deal and the initiatives connected to it, in association with the European Pillar of Social Rights. Despite focusing mainly on environmental sustainability, the EU Sustainable Finance Action Plan and its main constituents - CSRD, EU Taxonomy, and SFDR – also address social and governance matters in alignment with the European Pillar of Social Rights. In particular, the CSRD includes disclosure of own workforce, workers in the value chain, affected communities, consumers and users, and general requirements of the disclosure of diversity in managerial positions and the boardroom (European Union, 2023). These aspects support the implementation of the European Pillar of Social Rights’ principles, such as gender equality, equal opportunities, and active support to employment, among others.

While these various legislative frameworks mainly target large, listed companies, their impacts extend to companies of all sizes. SMEs operate in the same economic and operational environments and are often a part of large companies’ value chains (Allgeier & Feldmann, 2023) by operating as suppliers or customers to complying, large companies. Consequently, initiatives such as the CSRD impact SMEs directly and indirectly and should therefore be discussed in the SME context also. While the SME specific regulations have not been set yet, this existing legal framework may help to

foresee the direction of the SME specific regulations and may influence the development of these regulations.

2.1.3 Impact of reporting directives on SMEs

Large companies often have resources and capabilities to conduct obligatory compliance, while smaller companies, such as SMEs, lack the resources and expertise (Chowdhury & Shumon, 2020; Hahn & Kühnen, 2013; Wickert et al., 2016). SMEs are nonetheless impacted by the requirements of the CSRD and are therefore forced to disclose sustainability information to a varying degree (Allgeier & Feldmann, 2023; European Union, 2023). The CSRD's implications to SMEs are twofold: they belong to the large, complying companies' supply chains, and are highly dependent on complying credit institutions' financing (Allgeier & Feldmann, 2023). The large companies in value chains are obliged to report on double materiality basis for their value chains, and the expectation therefore is that impromptu requests for SMEs to provide information for large companies will substantially increase (Allgeier & Feldmann, 2023). Likewise, credit institutions are obliged to disclose information on the sustainability of their credit portfolios and are therefore dependent on obtaining certain information from SMEs as part of their portfolios (Niskala & Palmuaro, 2023, pp.13-15). The reality for SMEs who do not provide the requested information may be that they receive bank loans at less favorable conditions (Allgeier & Feldmann, 2023). Essentially, SMEs need to understand what they are required to report under the CSRD and ESRS, and identify the practical repercussions on their employees, processes, and systems.

Due to application of the double materiality concept, reporting companies need to assess the material impacts, risks, and opportunities in their value chains (Niskala & Palmuaro, 2023, pp.47-49). As SMEs often operate as part of large companies' value chains (Allgeier & Feldmann, 2023) they are thus being assessed from the materiality perspective. According to OP Ryhmä's (2024) market research on large corporations, over 80% of respondents feel the need to re-evaluate cooperation and renew policies

with current suppliers and subcontractors as a result of sustainability commitments. Nearly 56% of respondents have already replaced suppliers or subcontractors, and the number has increased by 13 percentage points from last year. The replacements have mainly been directed towards suppliers of raw materials, logistics partners, distributors, and other service contractors, such as software providers (OP Ryhmä, 2024). The implication is that a growing number of SMEs within the large corporations' value chains are under the threat of losing business collaboration (Allgeier & Feldmann, 2023).

As compliance with the CSRD has been structured as phase-ins, the impact of the directive on SMEs is gradual. During the first 1-3 years, companies may omit reporting on their value chains given that they cannot obtain the required information (European Commission, 2023b, Niskala & Palmuaro, 2023, p.33). From the 4th reporting year onwards, all companies are obliged to disclose material impacts regarding their value chain (European Commission, 2023b).

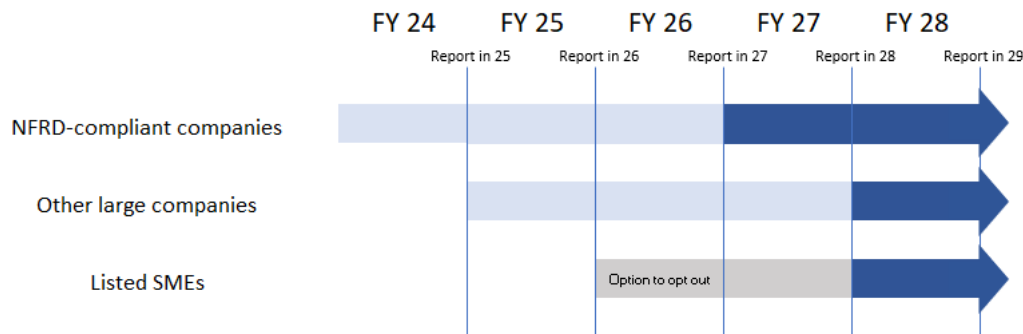


Figure 6. The CSRD reporting timeline from the SME perspective (Author's own elaboration based on EFRAG, 2023).

The ESRS provides standards tailored for SMEs, which are obligatory for listed SMEs and voluntary for non-listed SMEs (Allgeier & Feldmann, 2023). The standards for SMEs are lighter and simpler than for large entities (EFRAG, 2023). These standards are, however, specifically designed for listed SMEs to suit the requirements of capital markets (Allgeier & Feldmann, 2023) by simultaneously serving the requirements of the SFDR and the Taxonomy regulation (European Union, 2023). For non-listed SMEs, the SME standards

provide an over extensive set of standards in comparison to their actual reporting needs, as non-listed SMEs have significantly less stakeholders than listed SMEs (Allgeier & Feldmann, 2023). Currently there are no separate standards for non-listed SMEs in effect. Allgeier and Feldmann (2023) criticize the SME standards for disregarding the company's resources and capabilities as well as the stakeholder structure as a determining factor of the extent and comprehensiveness of reporting. They suggest that instead, the determinant of applicable reporting standards should be the shareholder structure, i.e., whether the company is listed or not.

In connection to such criticism, EFRAG is developing two separate reporting standards for SMEs: "ESRS for Listed SMEs" (LSME ESRS) and "Voluntary Sustainability Reporting Standards for non-listed SMEs" (VSME ESRS) (EFRAG, 2023). The legally enforceable LSME ESRS will then only serve the needs of the listed SMEs (Allgeier & Feldmann, 2023), while the VSME provides guidelines for non-listed SMEs and micro entities to gather and disclose sustainability information requested by the partners in the value chains or the credit institutions (EFRAG, 2023). Consequently, the prediction is that the VSME will reduce and standardize the multitude of ad-hoc ESG data inquiries imposed upon SMEs (EFRAG, 2023). Furthermore, the VSME is not planned to adhere to the Taxonomy Regulation or hold sector-specific requisites (EFRAG, 2024). Based on Directive 2013/34/EU, for a company to qualify as a micro, small or medium undertaking, two of the attributes presented in Table 2 must be fulfilled.

Table 2. Medium, small, and micro enterprise characteristics based on Article 3 of Directive 2013/34/EU (Author's own elaboration based on European Union, 2013).

Category	Employees	Net turnover	Balance sheet
Medium	< 250	≤ € 40 million	≤ € 20 million
Small	< 50	≤ € 8 million	≤ € 4 million
Micro	< 10	≤ € 700.000	≤ € 350.000

EFRAG held public consultations for the Exposure Drafts of the LSME and VSME ESRS in the spring 2024 (EFRAG, 2023). The consultations periods included questionnaires for all stakeholders, and field testing for selected SMEs (EFRAG, 2023). The LSME ESRS will be adopted as delegated acts effective 1 January 2026 with the option to opt out the first two years (EFRAG, 2023), while the VSME ESRS are assumed to be published as voluntary recommendations (EFRAG, 2023).

The draft version of the VSME has been published by EFRAG (2024), and the guidelines include general instructions and examples for disclosing on material environmental, social, and governance matters, with extensive guidance on materiality assessment. The standards are further divided into three modules: the Basic Module, the Narrative-Policies, Actions, and Targets (PAT) Module, and the Business Partners (BP) Module. The Basic Module provides a target framework for micro enterprises and a minimal requirement for medium and large enterprises. The PAT Module requires materiality assessment of the ESRS 2 topics, as listed in Figure 4, and provides guidance for their disclosure. Similarly, the BP Module requires materiality assessment of the ESRS 2 topics and provides datapoints which may be expected to be requested by monetary lenders, investors, and business clients for their sustainability disclosures (EFRAG, 2024). The VSME states that while compliance to the standards is voluntary, once a company has opted to concede with a module, reporting must be completed in the entirety of the module, where deemed material (EFRAG, 2024). The social aspects covered by the guidelines are in line with the actual ESRS S1-5 topics, sub-topics, and sub-sub-topics, and thus the content of ESRS S1 and ESRS S2 remain as illustrated in Figure 4.

Fiechter et al. (2022) propose that NFRD-compliant companies may have undertaken preparations for disclosure, such as data collection, building internal reporting systems, analysis of existing sustainability policies, or developing sustainability governance, prior to the application of the NFRD. To prepare for the effects of the CSRD, it may be worthwhile for SMEs to equally conduct such activities. However, Fiechter et al.'s (2022) propositions are based on mere assumptions, and thus further empirical evidence of

company activities leading to the on-take of a reporting mandate would be needed to draw definitive conclusions.

To conclude the insights from this section, the indications for SMEs underscore the comprehension of the CSRD's impacts on them and their supply chains. Specifically, SMEs need to understand the timelines and scope of reporting, which affects them indirectly. Likewise, SMEs need to understand the ESRS requirements in order to identify ways in which they are able to collect data that may be necessary for large companies within their value chains. Furthermore, SMEs need to assess the materiality of their activities in relation to large companies in their value chains (EFRAG, 2024; European Commission, 2023b). As part of this assessment, SMEs need to understand the extent of their value chains and identify the complying companies within them (European Commission, 2023b; Niskala & Palmuaro, 2023, pp.76-79).

2.2 Corporate sustainability in SMEs

The European Union (2013) defines SMEs as enterprises with less than 250 employees, and either an annual turnover below EUR 40 million or a balance sheet total below EUR 20 million. Micro enterprises employ less than 10 people, small enterprises employ 10-49 people, and medium enterprises employ 50-249 people (European Commission et al., 2023). In 2022, within the European Union, about 99% of companies were micro and small enterprises and 0,8-0,9% were medium enterprises (Eurostat, 2023), totaling 24,3 million SMEs and employing 84,9 million people (European Commission et al., 2023). In contrast, in 2020 SMEs employed about 64,2% of the workforce in the EU and held 52,2% of the total value added for non-financial business economies (Eurostat, 2023). Based on the Joint Research Center's calculations, the majority share of SMEs operate in wholesale and retail trade, which in unison with the professional, scientific, technical, and construction industry covers 58,6% of all SME operations (European Commission et al., 2023). Furthermore, SMEs cover 99% of all enterprises across all industries (European Commission et al., 2023). As SMEs constitute such a significant part of the European

economy, in order to achieve the political will and objectives, it is essential to incorporate SMEs into the ESG initiatives and regulatory frameworks.

SMEs operating within the boundaries of the EU have faced multiple economic challenges over the past years. First, as a result of the Covid-19 pandemic, SMEs have struggled with economic uncertainty (European Commission et al., 2023). Then due to post-pandemic economic uplift, SMEs confronted obstacles in acquiring new employees and accessing financing with the increasing interest rates (European Commission et al., 2023). Additionally, the increased energy and raw material costs and the termination of governmental financial pandemic-initiated aid further eroded the resilience of SMEs (European Commission et al., 2023). Furthermore, Russia's war in Ukraine impacts SMEs directly and indirectly in numerous ways (European Commission et al., 2023). In addition to all the economic turmoil, SMEs now need to take action on sustainability and digital transitions (European Commission et al., 2023). According to OP Ryhmä's (2024) white paper market research on large corporations, almost 80% of leaders in large corporations presume the responsibility of solving significant societal issues, such as social and environmental challenges. Based on similar market research surveys conducted over the past six years, such attitudes have increased to an all-time high due to societal and economic instabilities and uncertainties, such as the Covid-19 pandemic and the Ukrainian war (OP Ryhmä, 2024). This insinuates the exhort for SME leaders to participate in addressing societal concerns. OP Ryhmä's (2024) market research further implies that large enterprises' investments into sustainability are expected to increase by 2,7% on average in 2024. Over 90% of large enterprises evaluate that social sustainability has gained importance in corporate strategies, and currently a fourth of sustainability efforts target social sustainability (OP Ryhmä, 2024). The implication is that investments into sustainability will also increase in SMEs in the future.

Social sustainability in SMEs has not been thoroughly researched, and the existing literature calls for further studies on the subject (Chowdhury & Shumon, 2020). The results of each study have been analyzed to identify linkages between firm size and DEI-

related actions. Furthermore, as prior literature on sustainability reporting and actions mainly focuses on large multinational corporations (MNCs), this literature review attempts to find correspondences and build bridges between the MNCs and SMEs, and also shed light on the issues concerning sustainability specific to SMEs.

2.2.1 Sustainability in SMEs

As SMEs form a significant part of the European economy (European Commission et al., 2023; Eurostat, 2023) the complete potential of corporate sustainability cannot be achieved before SMEs successfully implement sustainability actions (Chowdhury & Shumon, 2020; Stoian & Gilman, 2017). However, the implementation of SME sustainability actions is restrained by their scarce resources and capabilities (Stoian & Gilman, 2017).

While SMEs are typically resource-constrained, they may look at sustainability not only from the perspective of costs, but also as an opportunity. Studies have concluded that pursuing sustainability frequently leads to favorable outcomes. For example, Lopez-Torres (2023) finds that corporate sustainability has a significant positive correlation with SME competitiveness. Nonetheless, the study sample is limited to Mexican SMEs, potentially imposing cultural disparities compared to European SMEs. Additionally, Lopez-Torres (2023) identifies that potential bias on survey respondents cannot be eliminated. With greater specificity and evidence from Europe, Stoian and Gilman's (2017) research on UK SMEs suggests that despite differences in corporate strategies, efforts in sustainability activities within the local communities creates statistically higher business growth for companies. In alignment with this, Masocha (2019) concludes that social sustainability efforts lead to higher financial performance and improved employee and customer satisfaction. Contrarily, SME environmental sustainability efforts seem to provide no growth opportunities for companies. Stoian and Gilman (2017) hypothesize that community practices raise visibility among the customer base and potential workforce, thus serving as a form of marketing for SMEs. Environmental sustainability

efforts, on the other hand, are evaluated to be expensive to implement, thus reducing the growth potential for SMEs (Stoian & Gilman, 2017). Furthermore, evidence suggests that the operating industry affects the interrelation between sustainability activities and company expansion such that companies within the services or manufacturing industry are more likely to experience rapid growth as opposed to declining or stagnating, potentially due to high stakeholder pressure (Stoian & Gilman, 2017).

Lopez-Torres (2023) further identifies that SMEs seem to struggle with business development, competition, and bargaining power of suppliers and buyers, thus depriving them of capacity to advance sustainability. The research results indicate that SMEs would benefit from support in developing their sustainability actions (Lopez-Torres, 2023).

In addition, Chowdhury and Shumon (2020) have identified the lack of financial resources (Karuppiyah et al., 2020), missing skills and expertise in sustainability (Clarke-Sather et al., 2011), lack of workforce, the lack of long-term orientation, the complexity of standards, and the lack of support from stakeholders as barriers to SME social sustainability. The lack of resources to facilitate the implementation of financial practices is highlighted by the cornerstones of financial and human resources. Karuppiyah et al. (2020) gather that one of the main setbacks for the adoption of sustainability strategies and actions in SMEs is the insufficiency of financing to support the development initiatives. Their study is based on Indian SMEs, and thus economic and cultural differences restrict the direct applicability of these findings with the EU SMEs. As prior research on SME sustainability has not examined the effect of financial resources on sustainability actions within the EU SMEs, these EU-external findings are considered as relevant for this thesis.

Clarke-Sather et al. (2011) propose that the specialist and managerial level employees in SMEs may hold inadequate skills to efficiently practice sustainability. However, as their study is based on a single case study, the findings cannot be generalized. Chowdhury and

Shumon (2020), on the other hand, support this by proposing that due to the limited number of employees, SMEs often lack human resources assigned to sustainability, especially related to social concerns. Moreover, the lack of long-term orientation holds that SMEs struggle with forming strategies for sustainability implementation (Chowdhury & Shumon, 2020). James (2015, pp. 87-89) further elaborates on this by providing that the implementation of sustainability strategies requires specialized skills and knowledge, which SMEs may lack. Furthermore, the perceived complexity of reporting standards and the lack of support from various stakeholders further complicates the implementation of sustainability actions in SMEs, specifically in the long-term (Chowdhury & Shumon, 2020).

To combat the barriers in addressing sustainability demands in the SME context, various frameworks and strategies have been developed. Chowdhury and Shumon (2020) propose a set of strategies that SMEs could follow to achieve sustainable actions. These strategies focus on building relationships, finance mechanisms, and unified standards, while also developing awareness, human capital, governance, and innovative implementation methods. James's (2015, pp. 87-89) Sustainable Strategic Growth Model proposes five similar practical steps to developing sustainability strategies and actions in SMEs, with empirical evidence to support the model. The steps are learning, developing, implementing, optimizing, and sustaining. These frameworks have been combined to present a potential solution for SMEs to implement sustainability actions.

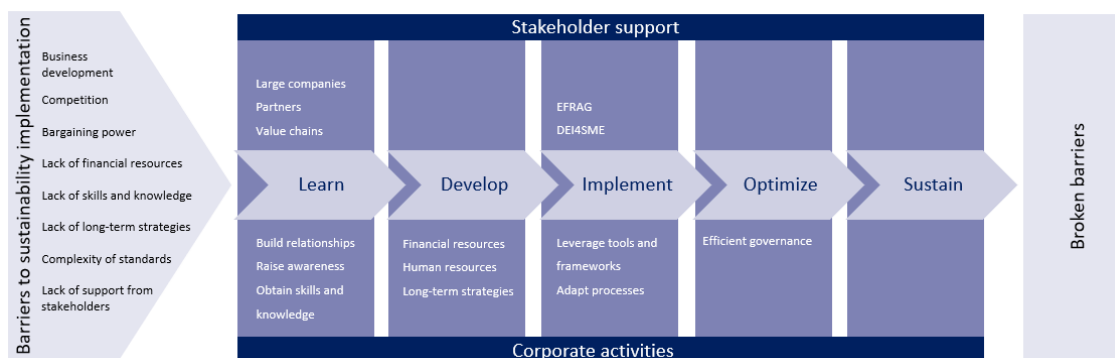


Figure 7. The process of developing sustainability actions in SMEs (Adapted from Chowdhury & Shumon, 2020, James, 2015, and Lopez-Torres, 2023).

Figure 7 presents an adaptation of James's (2015) Sustainable Strategic Growth Model supplemented by the barriers to sustainability derived from Chowdhury and Shumon (2020) and Lopez-Torres (2023), and the set of strategies formulated by Chowdhury and Shumon (2020). The adapted framework depicts stakeholder support activities and corporate activities required for effective SME sustainability implementation. As the prior frameworks neglect to provide concrete tools and steps for overcoming the challenges, the adapted framework has been supplemented with useful examples of concrete stakeholder support through tools for SME sustainability reporting to elevate the usability of the framework. For example, EFRAG is working on mitigating the complexity of reporting standards by formulating voluntary SME reporting standards, which are further explored in section 2.1.3 Impact of reporting directives on SMEs. The overall implication of prior literature and the adapted framework is that SMEs need to focus their efforts on obtaining the required skills and knowledge and developing long-term sustainability strategies in order to prepare for the upcoming reporting requirements. This includes, for example, the need to assess their ability and capabilities to produce information on request. In practice, companies need to evaluate their capability and resources for collecting data, since the assumption is that SMEs lack extensive resources to conduct data collection (Chowdhury & Shumon, 2020; Hahn & Kühnen, 2013; Wickert et al., 2016). Therefore, SMEs need to prepare for short-notice requests on data regarding their activities that may be material to the complying companies within their value chains (Allgeier & Feldmann, 2023; EFRAG, 2023). Moreover, SMEs need to evaluate the levels of their sustainability activities and practices and enhance their operations accordingly to ensure the continued cooperations with their value chain operators.

2.2.2 Impact of SME size on social sustainability

Reported sustainability measures can be seen as a reflection of a company's actual corporate sustainability, where firms aim to transparently communicate their

sustainability strategies and actions to the stakeholders. However, since thus far sustainability reporting in the European Union has been mandatory only for large public entities and voluntary for SMEs and privately owned companies, and due to the lack of uniformity in guidelines and requirements, studies have found the reported content to be inconsistent and as a result, voluntary sustainability reporting has been criticized as being boilerplate (Breijer & Orij, 2022). Consequently, the reported sustainability measures may not perfectly mirror firms' sustainability, and thus there is a research gap in the realized corporate social sustainability actions, specifically that of SMEs, as prior studies have placed emphasis on large corporations and lack investigations into the SME context.

Studies regarding large corporations find that various firm characteristics, such as size, industry, profitability, public visibility, and shareholder structure affect the disclosure of ESG factors (Gamerschlag et al., 2011). Particularly firm size has been identified as a factor in the quality and quantity of sustainability reporting content in numerous studies (e.g., Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Prashar, 2021). In prior studies investigating the relationship between company size and sustainability reporting, company size has been measured in multiple ways, such as total assets (Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Prashar, 2021) number of employees (Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Wickert et al., 2016), revenue (Cho et al., 2015; Hahn & Kühnen, 2013), turnover, or market capitalization (Hahn & Kühnen, 2013). Hahn and Kühnen (2013) and Gamerschlag et al. (2011) have incorporated various size measures in their studies, and following their example, this literature review will encompass and accept multiple measures of company size. As a result, the findings are not directly comparable, however, each measure provides an indication of the company's operational size.

A strong correlation has been found between firm size and the extent of sustainability reporting (Gamerschlag et al., 2011; Hahn & Kühnen, 2013), with large companies demonstrating higher inclination towards qualitative sustainability reporting than

smaller companies (Prashar, 2021), such as SMEs. Hahn & Kühnen (2013) support these findings by providing that size impacts the quantity and quality of environmental and social reporting, in particular. However, their sample consists of studies between 1999-2011, and thus their research findings may have become outdated due to changes in the reporting environment over the past decade. Prashar's (2021) study offers a more recent view into the sustainability reporting environment. The findings advocate that size positively affects sustainability reporting with a further positive impact on profitability. Cho et al. (2015) support these findings by proposing that company size determines the quantity of environmental and social disclosures. As the on-take of the CSRD approaches, sustainability reporting practices are topical for companies of all sizes through direct reporting mandates or indirect reporting within value chains. The ESRS places emphasis on DEI in social sustainability through reporting mandates regarding, for example, disclosure of measures on diversity or employment and inclusion of persons with disabilities, as presented earlier on in Table 1. The indication from prior literature is that larger companies would find social sustainability actions, including DEI-related actions, and the upcoming reporting requirements easier to manage than smaller companies.

As a potential explanation for this phenomenon, Wickert et al. (2016) suggest that smaller companies find it more beneficial to perform activities to enhance their environmental and social performance without practicing sustainability reporting, while large companies tend to practice more quantitative reporting with proportionately lower levels of sustainability processes. This might result from the comparably low cost of reporting practices and the availability of resources in large corporations (Hahn & Kühnen, 2013; Wickert et al., 2016). Additionally, explanations can be found from the ample public assessment of large corporations (Gamerschlag et al., 2011; Prashar, 2021). Companies confront varying degrees of social and political pressure from a wide range of stakeholders (Gamerschlag et al., 2011), and the stakeholder pressure has been found to correlate with the firm size such that larger companies experience stronger stakeholder pressure (Hahn & Kühnen, 2013), potentially as an attempt to satisfy the stakeholder expectations (Gamerschlag et al., 2011; Hahn & Kühnen, 2013). Chowdhury

and Shumon (2020) counter that despite size, SMEs too experience stakeholder pressure. Due to the lack of resources and capabilities, this pressure may lead to discrepancies between stakeholder expectations and SMEs' capabilities to meet the expectations (Chowdhury & Shumon, 2020). Sustainability reporting may positively contribute to this gap in expectations and implementations by providing a means for SMEs to transparently communicate their methods of achieving competitive advantage (Cheng et al., 2015) via various sustainability actions (Buallay, 2019), given that they have resources to implement actions that support sustainability. Those SMEs that lack the necessary resources potentially face an increasing competitive struggle, as their incapability to adopt sustainable actions is exposed. Moreover, as studies have found SMEs to profit particularly from social sustainability actions (Masocha, 2019; Stoian & Gilman, 2017), the realization of these benefits has been found to require diversity management (O'Donovan, 2017, pp.76-83), which emphasizes the importance of DEI in the SME context.

Prior literature focuses mainly on general sustainability actions and sustainability reporting or compares the reported outcomes of the environmental, social, and governance matters (Cho et al., 2015; Gamerschlag et al., 2011). Social sustainability is under-researched in all aspects, and specifically DEI-related matters lack empirical evidence. The literature review identifies a strong association between firm size and disclosed sustainability actions, while the lack of studies on the connection between firm size and realized DEI actions, specifically within the SME context, provides a substantial research gap. To answer this call, the hypotheses posit that:

H₁: As SME size increases, the diversity-related actions in SMEs are more widely adopted.

H₂: As SME size increases, the equity-related actions in SMEs are more widely adopted.

H₃: As SME size increases, the inclusion-related actions in SMEs are more widely adopted.

The lack of resources for performing sustainability actions has been identified as a potential limitation to the comprehensiveness of sustainability (Hahn & Kühnen, 2013; Wickert et al., 2016), and thus all hypotheses contend that company size is measured by the number of employees. The results are expected to provide a foundation for SMEs to evaluate their DEI-related processes and policies with respect to other SMEs, specifically with similar employee resources.

3 Research methodology

This study has been conducted as quantitative research by utilizing a survey for data collection. The aim is to explain the relationship between company size and the depth of adoption of DEI actions. The first part of this chapter delves into the data collection methodology. Next, data quality is assessed. The third part of this chapter introduces and discusses the variables, and lastly the data analysis methodology is presented.

3.1 Data collection

Data for this study has been collected in cooperation with the DEI4SME project. The project aims to create a digital open access tool for SMEs to help them plan, implement, and monitor their sustainability activities, as well as for higher education graduates to promote diversity, equity, and inclusion within SMEs (University of Vaasa, 2023). The project is executed by partners from Finland, Lithuania, Germany, and Austria, namely University of Vaasa, Kaunas University of Technology, Merinova, IHK-Projektgesellschaft MbH, Wirtschaftskammer Steiermark, and E.N.T.E.R, and is being co-funded by the European Union (University of Vaasa, 2023). The DEI4SME project group has produced two surveys – the first one targeting SMEs and the second one targeting underrepresented groups as respondents. The survey responses have been collected anonymously. This study utilizes questions from the survey for SMEs, which consisted of 39 questions in total. 11 questions are utilized for this study, and some of them partially, to limit the amount of data and to focus on relevant data points for the research question and hypotheses. The omitted questions fell out of scope of the research questions. The relevance of the included question was determined by the questions' aim to capture the current DEI actions and attitudes of the SMEs. Each relevant question supports a variable by evaluating the current SME efforts in diversity, equity, and inclusion-related matters, or by collecting data on firm characteristics which may impact the outcome. For the DEI-related questions, two Likert scale questions have been chosen for each attribute for the

sake of comparability. The relevant questions have been disclosed in Appendix 2 while the entire survey is available in Appendix 1.

The survey aims to uncover the gaps between the current and desired state of DEI management in SMEs through inspecting the attitudes, existing practices, and interests towards improvement. The survey has been designed to cover much of the ESRS1 and ESRS2 in order to build a profound picture of the SME views on social sustainability with focus on DEI. To limit the number of questions and to focus on the relevant issues, some parts of the ESRS 1 and ESRS 2 have not been included in the survey. As an example, wages (ESRS S1-14) are not covered since they are directly related to Directive 2006/54/EC (European Union, 2006). The questionnaire has been designed based on Likert-style ratings such that respondents evaluate how strongly they agree or disagree with the given statements. The scale items provide response options for *Strongly disagree, Disagree, Neutral, Agree, Strongly agree, and Don't know*.

The population is SMEs in Finland, Lithuania, Germany, and Austria, i.e., the countries of the DEI4SME project partners that are culturally diverse countries from different European regions, and therefore allows capturing at least three different regional perspectives across Europe. As DEI4SME aims to create an open access tool in alignment with the ESRS requirements, the population of this study could be extended to cover all SMEs with head offices within the EU. However, the sample size is not large enough to reliably cover all EU member states' SMEs, and therefore only SMEs in Finland, Lithuania, Germany, and Austria are considered as the population. The survey received 120 responses, of which 12 were excluded from this study due to being classified as large enterprises, and 18 were excluded due to item nonresponses. Hence, the final sample size is 90 SMEs. The sampling method is convenience sampling, where the survey has been openly distributed online in various channels, such as LinkedIn and Facebook, for the period of 23.5.2024-15.8.2024. After 15.8.2024 the survey has been left open until 10.9.2024 to obtain a higher response rate.

3.2 Assessment of data quality

According to Saunders et al. (2023, pp.215-217), data quality can be assessed through measures of validity and reliability. Validity refers to how well the research measures the intended aspects, while reliability refers to the accuracy and imitability of the research (Saunders et al., 2023, pp.215-216).

To achieve validity, it is necessary that the respondents understand the survey questions and response options as intended (Saunders et al., 2023, p.216-217). Therefore, the survey has been provided in multiple languages to allow the respondent to view the question and response options in different languages if they experience ubiquity or incomprehensiveness in their selected language. Moreover, internal validity, i.e., capturing the intended data (Saunders et al., 2023, p.216-217), is likewise controlled by translation options, control variables, pilot testing, and multiple commentary rounds from the DEI4SME partners. Pilot testing and commentary rounds have also been utilized to ensure content validity, as suggested by Saunders et al. (2023, p.216-217). Construct validity is ensured by utilizing Likert scale questions with terminology leading the respondent to answer based on their subjective feelings, such as through the words “I feel”, “Agree”, or “Disagree”. The purpose of obtaining such subjective opinions is to avoid incorrect responses based on lack of knowledge, misunderstandings, or false assumptions. However, the anonymity of the survey allows for the risk of non-reliable responses since there is no guarantee of the respondent’s truthfulness. The validity of the research is further supported by the exact data values gathered from the survey, where the respondents have provided answers on a Likert scale with values between 1-6, and where selections of option 6 have been excluded from the data analysis, thus resulting in a five-step Likert scale analysis.

To ensure reliability of the survey, internal consistency is measured by Cronbach’s alpha, as suggested by Saunders et al. (2023, p.523). Especially with Likert scale responses, Cronbach’s alpha is often utilized for measuring response consistency for scale-items

which have been combined as scales (Saunders et al., 2023, p.529). The alpha coefficient value is between 0 and 1, where 0,7 and above implies that the combined scales are internally consistent (Saunders et al., 2023, p.523). The alpha coefficient for the Likert scale questions utilized in this study is 0,795, indicating that the collected data is internally relatively consistent.

3.3 Variables

3.3.1 Independent variable

Following prior literature, company size is measured as the number of employees (Gamerschlag et al., 2011, Hahn & Kühnen, 2013; Wickert et al., 2016). The number of employees is asked in question 3: *How many people work in your company?*, and the answers are as reported by respondents. The response options are listed in Table 4.

Table 3. Company size as indicated by number of employees considered as an independent variable.

Answer option	Company size	Included	Category
Less than 10	Micro	Yes	1
10-49	Small	Yes	1
50-100	Medium	Yes	2
101-250	Medium	Yes	2
Over 250	Large	No	
I don't know		No	

As illustrated in Table 3, responses indicating an employee amount below 10 are considered micro enterprises. Companies reported having 10-49 employees are considered small enterprises. Companies with 50-250 employees reported are considered medium enterprises. Those companies that are reported having over 250 employees and are therefore beyond the classification of an SME, or the respondent does not know how many employees the company has, are excluded from the data

analysis. Altogether 12 responses fall into these categories and are therefore excluded from the analysis. Moreover, as the sample size is small, the included responses are divided into two categories to increase statistical significance.

3.3.2 Dependent variables

Drawing on the literature review and the ESRS, the dependent variables have been chosen to affirm diversity, equity, and inclusion related actions. These variables are composite variables which have been formed from sets of questions and response options by calculating the means of the variables. The composite variable DIVERSITY consists of the second and third sub-question of survey questions number 29. Composite variable EQUITY consists of the survey questions 30. Composite variable INCLUSION consists of questions 32. Moreover, to reach higher statistical significance, the variables have been recoded to fewer categories in a way that Likert scale responses 1 and 2 form category 1, response 3 forms category 2, and responses 4 and 5 form category 3.

3.3.3 Control variables

Due to the anonymity of the survey, all data regarding the companies is collected from the survey responses. Therefore, the control variables are company characteristics inquired in the survey which may provide alternative explanations for or linkages with the responding companies' DEI-activities. Table 4 lists the survey questions related to the control variables.

Table 4. Survey questions related to control variables.

Control variable	Survey question
RESP	Q1. What is your level of responsibility within the company?
LENGTH	Q2. How long have you been in your current position?
OFFICE	Q4. Where is your company's head office located?
TURNOVER	Q5. What is the approximate annual turnover of the company for the previous fiscal year?
INDUSTRY	Q6. What is the company's industry of operation?
OPERATION	Q7. How long has your company been operating?
INT_ACT	Q8. What is the scope of your company's international activities?

Question 1 asks about the respondent's level of responsibility within the company. It could be assumed that a respondent in a top level managerial position is likely to know more about the company's DEI actions and policies than an employee not directly involved in DEI-related issues. Moreover, to increase statistical significance, the responses have been grouped so that responses to *Top level management, core business* and *Top level management, supporting functions* form category 1 and the others from category 2. Likewise, question 2 inquires the length of the respondent's employment in the current position, as the respondent's knowledge of the company's DEI-related matters may be dependent on how long the respondent has worked in the current position. If the respondent has been employed at the company for less than a year, their knowledge may be significantly different to a respondent's who has worked in their current position for several years. Similarly, if the person has shifted from another position within the same company to their current position recently, their knowledge of matters relevant to the survey may be insufficient. The responses have been categorized so that answers to *Less than 1 year* and *1-5 years* form category 1 and answers to *6-10 years* and *Over 10 years* form category 2.

The approximate annual turnover of the company, as asked in question 5, may impact the availability of resources needed for the adoption of DEI actions and preparations for sustainability reporting. As discussed in section 2.2.1 Sustainability in SMEs, Karupiah et al. (2020) suggest that the lack of financial resources potentially limits the possibilities

that SMEs have for adopting sustainability activities. For increased statistical significance, the responses have been grouped so that responses to *Under 2 million EUR* form category 1, responses to *Under 10 million EUR* form category 2, and responses to *Under 50 million EUR* and *50 million EUR and more* have been categorized as 3. In relation to the availability of resources, question 7 inquires how long the company has been operating, as the length may impact the attitudes and readiness towards social sustainability directly, or indirectly through factors such as the number of employees or availability of financial resources, which may be lower for startups than more established companies (Cohan, 2012). For the sake of statistical significance, the data is categorized so that response to *Less than 1 year* through *16-20 years* form category 1, and responses to *More than 20 years* form category 2.

Question 4 asks for the location of the respondent's employing company's head office, since the company's nationality could be a driver of sustainability through, for example, national legislation, sustainability initiatives, and culture. As indicated by Sachs et al. (2024), Finland ranks as number one on the UN Member States' SDG index, while Germany is number four, Austria number six, and Lithuania number thirty-one. Therefore, arguably the location of the company's head office might impact attitudes and activities related to social sustainability and is therefore controlled in this study. Following this, the scope of the company's international activities, as asked in question 8, may impact the company's DEI actions through, for example, wider stakeholder pressure (Buallay, 2019) exerted by the international value chain (Allgeier & Feldmann, 2023). Responses to answer option *Has no international operations or presence* form category 2 and responses to any other answer option form category 1, so that those companies with any international connection or activity form one group and those without any international affiliations form another group.

Similarly to stakeholder pressure arising from international business activities, studies indicate that the strength and forcefulness of stakeholders arising from industry-related operations acts as a driver of disclosure quantity and quality (Christensen et al., 2021;

Fiechter et al., 2022; Gamerschlag et al., 2011; Prashar, 2021). Therefore, the operating industry, as asked in survey question 6, is controlled. The response options are based on NACE Rev. 2. The acronym NACE refers to the European Community's statistical classification system for economic activities, where NACE is the framework for data collection in economic statistics within the EU, providing comparability on European and global level (Eurostat, 2008). NACE Rev. 2 is the latest applicable version of the classification system. NACE categorizes industries by sections, divisions, groups, and classes (Eurostat, 2008). DEI4SME has decided to collect data on division level. However, as the classification system consists of 88 divisions, which is deemed to be too many data points for this study, statistical significance is sought by aggregating the industries based on the Three-sector theory, which divides industries into three sectors: primary, secondary, and tertiary. The theory, originally grounded by Fisher (1939) and others, has been criticized for not providing an adequate division for the developed economies' economic sectors (Quickonomics, 2023). Specifically in the developed economies, primary production such as agriculture and mining and manufacturing-related activities are diminishing, while the economies lean heavily on service-related activities Quickonomics, 2023. Therefore, this study does not advocate for the utilization of the Three-sector theory at a wider level, but merely seeks statistical significance through combining the NACE Rev. 2 divisions with a meaningful and commonly recognized system. Appendix 3 maps the NACE Rev. 2 divisions and the survey data codes against the Three-sector theory's economic sectors. As no responses have been received for NACE Rev. 2 divisions 1-9, based on the Three-sector theory responses occur only for the secondary and tertiary industry. Therefore, recoding has been conducted so that NACE Rev. 2 divisions 10-43 form category 1 which represents the secondary industry, and divisions 46-99 form category 2 which represents the tertiary industry.

3.4 Data analysis methodology

The collected data was treated as categorical. According to Saunders et al. (2023, p.576), nominal, descriptive data counts the occurrences in a discrete category, such a Likert-

style ratings. Data analysis was initiated in Excel by removing all unnecessary data and excluding 12 responses which state that the companies have over 250 employees, leaving a dataset of 108 responses. Responses to variable EMPL were converted to categories 1 and 2, as specified in Table 4. Responses to the other questions were converted based on the categories identified in section 3.3.2 Dependent variables and 3.3.3 Control variables.

Data analysis was conducted by IBM SPSS Statistics version 29.0. First, a missing data analysis was conducted. Since all survey questions were mandatory, the results did not contain any actual item responses. However, the *Don't know* responses to questions 12-32 were examined and treated as item nonresponse, since the responses could not be utilized as such for testing the hypotheses. Altogether 15 respondents had answered *Don't know* to a question, of which 5 had more than one *Don't know* answer, i.e., item nonresponse. These 5 respondents were excluded from the data, leaving 103 respondents. The frequencies for the item nonresponses were further analyzed, and the results revealed that all dependent variables had missing data points.

First, the data was analyzed by interpreting the key statistical indicators of all variables. No anomalies were found by the analysis of frequencies and graphics. Next, data distribution, i.e., skewness and kurtosis, was analyzed both numerically and graphically, and the results indicate that the data is not normally distributed. Some of the control variables exceeded the thresholds by having skewness less than -1 or above 1, and all control variables had kurtosis below or over the threshold values -1 and 1. Likewise, the independent variable and all dependent variables showcased either skewness or kurtosis below -1 or above 1, indicating asymmetry, deviation and outliers. Due to the nonnormal distribution and small sample size, further analysis was conducted by the ordinal logistic regression model.

Ordinal logistic regression is used for analyzing ordinal response variables, i.e., Likert scale responses (Liu, 2015). Liu (2015) states that ordinal logistic regression is an

umbrella term for various logistic regression models aimed at analyzing ordinal variables, and most commonly the term *ordinal regression model* refers to the proportional odds model, which is one of the most frequently utilized regression models for ordinal categorical data. The proportional odds model calculates estimates for the likelihood, i.e., odds, of belonging to or below a specific response level category. To utilize the proportional odds models, the data must meet an assumption of proportional odds. This is measured in SPSS by the Test of Parallel Lines, where the p-value of $\geq 0,05$ asserts that the assumption is met. The results indicate that this assumption is met at every level of the ordinal logistic regression analysis. Furthermore, for ordinal logistic regressions, and specifically the proportional odds model, the data must not exhibit multicollinearity. Multicollinearity has been tested in SPSS. The results show collinearity tolerance between 0,768 and 0,927 (threshold value $> 0,2$) and the Variance Inflation Factor between 1,079 and 1,302 (threshold value < 10), indicating that no multicollinearity has been recognized.

The data analysis began by analyzing the independent variable (EMPL) against the composite dependent variables (DIVERSITY, EQUITY, INCLUSION). Four sets of analysis were conducted for each independent variable to allow controlling for the effect of other characteristics, i.e., control variables. First, EMPL was analyzed against DIVERSITY, EQUITY, and INCLUSION without control variables. Next, the control variables RESP and LENGTH were added to control for the respondent's professional capability to answer the given questions. Then, TURNOVER and OPERATION were added to the analysis to control for the availability of corporate resources and competences (Hahn & Kühnen, 2013; Wickert et al., 2016). Last, OFFICE, INT_ACT and INDUSTRY were added to control for cultural deviation (Sachs et al., 2024) and potential shareholder or stakeholder pressure (Gamerschlag et al., 2011; Hahn & Kühnen, 2013). The aim of the analysis was to distinguish any statistically significant differences in company size in relation to the dependent variables.

4 Results

4.1 Description of statistics

Table 5 presents the descriptive statistics for the data. Means for the DEI-related questions are even, ranging from 2,37 to 2,76. Equity, however, has received the lowest means. Median and mode are 3 for all DEI-related questions. In terms of the number of employees, 43,3% of respondents classify as micro and another 43,3% as small companies. Most respondents (56,7%) are employed in a top level management position and a majority (68,9) of the respondents have worked in their current position for over 6 years. Therefore, it could be assumed that the respondents have enough knowledge of the DEI-related activities to answer the survey reliably on behalf of the company.

86,7% of the respondents' companies have an annual turnover of under 10 million EUR, which are micro and small enterprise characteristics (European Union, 2003). These frequencies are in alignment with the company size as measured by the number of employees. The respondents' companies have operated relatively evenly for under and over 20 years (52,2% and 47,8% respectively).

66,7% of the responding SMEs' operating industry is the tertiary sector based on the Three-sector theory. The tertiary sector consists of a variety of service-related activities. Based on the NACE Rev. 2, the tertiary industry translated to divisions 46-99. A vast majority (70,0%) of the respondents report having some international affiliations, which may bear some impact on the sustainability activities. The responses are relatively evenly distributed based to the location of head office. Responses for countries participating in the DEI4SME project, i.e., Austria, Germany, Finland, and Lithuania, each have between 20,0% and 28,9% of the responses. In the sample there are, however, also 2 responses from companies with head offices in some other country. Due to a small sample size, each category has received less than 30 responses, while for statistical significance, each category should contain at least 30 responses.

Table 5. Descriptive statistics.

	Frequency (%)	Mean	Median	Mode
Number of employees (EMPL)				
1-49	53 (58,9)			
50-250	37 (41,1)			
Level of responsibility (RESP)				
Top level management	51 (56,7)			
Other	39 (43,3)			
Length of employment in current position (LENGTH)				
0-5 years	28 (31,1)			
6 years and more	62 (68,9)			
Location of head office (OFFICE)				
Austria	23 (25,6)			
Germany	28 (20,0)			
Finland	21 (23,3)			
Lithuania	26 (28,9)			
Other	2 (2,2)			
Annual turnover (TURNOVER)				
Under 2 million EUR	39 (43,3)			
Under 10 million EUR	39 (43,3)			
Under 50 million EUR	12 (13,3)			
Industry of operation (INDUSTRY)				
Secondary	30 (33,3)			
Tertiary	60 (66,7)			
Length of operation (OPERATION)				
Under 20 years	47 (52,2)			
Over 20 years	43 (47,8)			
Scope of international activities (INT_ACT)				
Has international operations	63 (70,0)			
Does not have international operations	27 (30,0)			
Diversity-related practices (DIVERSITY)				
		2,62	3,0	3
Q29_1		2,59	3,0	3
Q29_2		2,64	3,0	3
Equity-related practices (EQUITY)				
		2,43	3,0	3
Q30_1		2,48	3,0	3
Q30_2		2,37	3,0	3
Inclusion-related practices (INCLUSION)				
		2,67	3,0	3
Q32_1		2,76	3,0	3
Q32_2		2,58	3,0	3

4.2 Relationships between SME size and diversity-related actions

Table 6 presents the results for the ordinal logistic regression analysis in which the company size, as measured by the number of employees, and the control variables have been assessed against the diversity-related actions in SMEs. Each model has been tested for model fitting information (column MFI in Tables 6, 7 and 8) and the deviance for goodness-of-fit (column GOF dev. in Tables 6, 7, and 8). The model fitting information measures how well the model fits the data by analyzing how well the fitted model can predict the observed data in comparison to a null model's predictiveness (Saunders et al., 2023). Goodness-of-fit compares the likelihood of the fitted model to a model with a perfect fit, and the deviance measures the difference between these likelihoods (Saunders et al., 2023).

As the results presented in Table 6 illustrate, the $>0,05$ p-values for the model fitting information proposes that only model 4 adequately describes the data with a p-value of 0,002. All models, however, showcase higher than 0,05 p-values for goodness-of-fit, indicating that there is no significant difference between the predicted and observed results, and the models fit the data. The test of parallel lines for all models exceeds the threshold of $\geq 0,05$, and thus the assumption of proportional odds is met.

For model 1, the coefficient (β) -0,090 proposes a negative relationship between SME size and diversity-related actions, while the p-value 0,832 exceeds the threshold value for significance and therefore indicates that the relationship is not significant. Model 2 supports these findings and indicates that RESP and LENGTH do not have a statistically significant relationship with DIVERSITY either. When turnover and length of company operation is added to model 3 for control, the relationship between SME size and diversity-related actions shifts to positive (0,271). However, the p-value 0,580 remains above the threshold, and thus the findings are not statistically significant for any of the variables.

The location of head office, level of international activities, and operating industry are added for control in model 4. The relationship between SME size and diversity actions has shifted to negative -0,591, while the result is not statistically significant. However, the positive relationship (1,419) between RESP category 1 and DIVERSITY is significant with a p-value 0,017, while OFFICE category 1 has a negative relationship of -3,122 that is significant with a p-value of 0,048. All other variables and variable categories are statistically non-significant. In general, the coefficients have a relatively high amount of variability and are therefore expected to show variance from the real population coefficient. As a result, hypothesis 1 is rejected.

Moreover, to check if the non-significance of the results is caused by the inclusion of irrelevant control variables, some of the control variables were excluded one at a time. RESP and LENGTH were excluded due to not accounting for firm characteristics, and OPERATION and INT_ACT were excluded due to the lack of theoretical evidence of their interaction with DEI actions. Reduction of control variables did not impact the statistical significance of the results, which supports the assumption that non-significance of the results is mainly caused by the small sample size.

Table 6. Results for impact of SME size on diversity-related actions.

	Coefficient (β)	SE	Wald	p	MFI (p)	GOF dev. (p)
Model 1					0,833	0,533
EMPL	-0,090	0,427	0,045	0,832		
Model 2					0,550	0,426
EMPL	-0,061	0,429	0,020	0,886		
LENGTH	0,010	0,462	0,000	0,983		
RESP cat1	0,517	0,432	1,430	0,232		
RESP cat2	0 ^a					
Model 3					0,672	0,994
EMPL	0,271	0,490	0,307	0,580		
LENGTH	-0,017	0,479	0,001	0,972		
RESP cat1	0,404	0,448	0,814	0,367		
RESP cat2	0 ^a					
TURNOVER cat1	0,493	0,747	0,436	0,509		
TURNOVER cat2	0,041	0,671	0,004	0,952		
TURNOVER cat3	0 ^a					
OPERATION	-0,520	0,446	1,361	0,243		
Model 4					0,002	1,000
EMPL	-0,367	0,597	0,379	0,538		
LENGTH	0,562	0,545	1,062	0,303		
RESP cat1	1,297	0,603	4,628	0,310		
RESP cat2	0 ^a					
TURNOVER cat1	0,512	0,838	0,374	0,541		
TURNOVER cat2	0,003	0,734	0,000	0,996		
TURNOVER cat3	0 ^a					
OPERATION	0,250	0,497	0,253	0,615		
OFFICE cat1	-3,237	1,583	4,181	0,041		
OFFICE cat2	0,331	1,578	0,044	0,834		
OFFICE cat3	-1,023	1,522	0,452	0,501		
OFFICE cat4	-0,893	1,544	0,335	0,563		
OFFICE cat5	0 ^a					
INT_ACT cat1	-0,506	0,566	0,800	0,371		
INT_ACT cat2	0 ^a					
INDUSTRY cat1	-1,001	0,521	3,685	0,055		
INDUSTRY cat2	0 ^a					

0^a is the reference category for the respective variable

4.3 Relationships between SME size and equity-related actions

The results for the ordinal logistic regression analysis of SME size in relation to equity-related actions are presented in Table 7. The model fitting information ranges between 0,088 and 0,644 for all models and is therefore beyond the threshold of $<0,05$, indicating that the null model predicts the data better than the fitted models. Goodness-of-fit p-values are all above the threshold value, giving that the data fits all the models.

Model 1 indicates a positive (0,181) relationship between SME size and equity-related actions that is, however, not statistically significant with a p-value of 0,646. Model 2 adds length of respondent's employment and respondent's level of responsibility to the regression model. Length of employment has a significant positive relationship of 0,996 with the equity-related actions, while other variables remain statistically insignificant. Model 3 adds TURNOVER and OPERATION to the regression model, and the results support those of model 2.

Model 4 showcases a negative relationship of -0,166 between EMPL and EQUITY, yet the p-value is 0,756, and therefore the results are not significant. Similarly, the control variables are not statistically significantly related to the equity-related actions except for LENGTH, which has a positive relationship (1,253) with a p-value of 0,007. As the results of each model, and particularly model 4, indicate statistical non-significance, hypothesis 2 is rejected.

Table 7. Results for impact of SME size on equity-related actions.

	Coefficient (β)	SE	Wald	p	MFI (p)	GOF dev. (p)
Model 1					0,644	0,801
EMPL	0,181	0,395	0,211	0,646		
Model 2					0,088	0,672
EMPL	0,277	0,401	0,479	0,489		
LENGTH	0,996	0,430	5,381	0,020		
RESP cat1	0,214	0,402	0,283	0,595		
RESP cat2	0 ^a					
Model 3					0,244	0,818
EMPL	0,291	0,456	0,406	0,524		
LENGTH	0,899	0,438	4,213	0,040		
RESP cat1	0,270	0,417	0,419	0,518		
RESP cat2	0 ^a					
TURNOVER cat1	0,068	0,695	0,010	0,922		
TURNOVER cat2	0,383	0,639	0,359	0,549		
TURNOVER cat3	0 ^a					
OPERATION	-0,357	0,412	0,752	0,386		
Model 4					0,152	1,000
EMPL	-0,166	0,535	0,097	0,756		
LENGTH	1,253	0,462	7,351	0,007		
RESP cat1	0,757	0,511	2,194	0,139		
RESP cat2	0 ^a					
TURNOVER cat1	0,077	0,744	0,011	0,918		
TURNOVER cat2	0,567	0,681	0,693	0,405		
TURNOVER cat3	0 ^a					
OPERATION	-0,032	0,435	0,005	0,799		
OFFICE cat1	-1,494	1,526	0,958	0,328		
OFFICE cat2	0,449	1,522	0,087	0,768		
OFFICE cat3	-0,372	1,502	0,061	0,804		
OFFICE cat4	-1,040	1,517	0,470	0,493		
OFFICE cat5	0 ^a					
INT_ACT cat1	-0,080	0,474	0,028	0,866		
INT_ACT cat2	0 ^a					
INDUSTRY cat1	0,269	0,459	0,342	0,559		
INDUSTRY cat2	0 ^a					

0^a is the reference category for the respective variable

4.4 Relationships between SME size and inclusion-related actions

Table 8 presents the results of the ordinal logistic regression for SME size and inclusion-related actions. The p-value for the model fitting information exceeds the threshold in all four models, indicating that the models do not provide a better estimate of the data than the null model. However, the deviance p-value for goodness-of-fit is significant for all models, providing that the data fits the models well. Through the test of parallel lines, the assumption of proportional odds has been confirmed, as the p-values are $\geq 0,05$ for all models.

All models showcase negative relationships (-0,513, -0,516, -0,114, and -0,059 respectively) between SME size and inclusion-related actions. However, Wald and the p-value indicate that the results are not statistically significant. After adding the control variables to the models 1-3, none of the results are statistically significant as the p-values range between 0,061 and 0,842.

Model 4 adds control for OFFICE, INT_ACT, and INDUSTRY, maintaining a negative relationship of -0,059 between SME size and inclusion-related actions. The coefficients for RESP (-0,759), OPERATION (-0,981), INT_ACT (-0,493), and INDUSTRY (-0,144) have negative yet non-significant relationships with inclusion-related actions. Contrarily, TURNOVER category 2 with a coefficient (β) of 1,477 and p-value of 0,038, and OFFICE category 3 with a coefficient (β) of 3,231 and a p-value of 0,030 show statistically significant positive relationships with inclusion-related actions in this model.

Considering the results for all models, and specifically model 4, the conclusion is that hypothesis 3 is rejected.

Table 8. Results for impact of SME size on inclusion-related actions.

	Coefficient (β)	SE	Wald	p	MFI (p)	GOF dev. (p)
Model 1					0,242	0,523
EMPL	-0,513	0,436	1,381	0,240		
Model 2					0,399	0,681
EMPL	-0,516	0,439	1,385	0,239		
LENGTH	0,537	0,467	1,320	0,251		
RESP cat1	-0,344	0,452	0,580	0,446		
RESP cat2	0 ^a					
Model 3					0,179	0,981
EMPL	-0,114	0,512	0,050	0,824		
LENGTH	0,469	0,484	0,939	0,332		
RESP cat1	-0,395	0,475	0,691	0,406		
RESP cat2	0 ^a					
TURNOVER cat1	1,098	0,733	2,244	0,134		
TURNOVER cat2	1,240	0,663	3,504	0,061		
TURNOVER cat3	0 ^a					
OPERATION	-0,689	0,467	2,180	0,140		
Model 4					0,076	1,000
EMPL	-0,059	0,542	0,012	0,913		
LENGTH	0,673	0,519	1,683	0,194		
RESP cat1	-0,759	0,537	2,001	0,157		
RESP cat2	0 ^a					
TURNOVER cat1	1,078	0,781	1,904	0,168		
TURNOVER cat2	1,477	0,713	4,286	0,038		
TURNOVER cat3	0 ^a					
OPERATION	-0,981	0,505	3,766	0,052		
OFFICE cat1	1,995	1,422	1,969	0,161		
OFFICE cat2	1,363	1,431	0,907	0,341		
OFFICE cat3	3,231	1,491	4,697	0,030		
OFFICE cat4	2,522	1,446	3,041	0,081		
OFFICE cat5	0 ^a					
INT_ACT cat1	-0,493	0,559	0,778	0,378		
INT_ACT cat2	0 ^a					
INDUSTRY cat1	-0,144	0,515	0,078	0,780		
INDUSTRY cat2	0 ^a					

0^a is the reference category for the respective variable

5 Discussion

As the European Union advances sustainable development through various sustainability initiatives, the European economic market is under significant demands on corporate sustainability practices. As SMEs form the majority of European companies, legislative initiatives such as the CSRD indirectly impact these companies with varying consequences (Allgeier & Feldmann, 2023; European Union, 2023). The CSRD is expected to impose greater preparation efforts on companies without prior sustainability reporting experience (Fiechter et al., 2022), such as SMEs. Prior studies identify firm characteristics such as size (Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Wickert et al., 2016) to be determinants of the quality and quantity of sustainability reporting. Due to SMEs' limited number of employees, these companies may lack human resources assigned to sustainability, and specifically those related to social concerns (Chowdhury & Shumon, 2020). Therefore, this study explored the state of social sustainability in SMEs and the mediating role of firm size on the realization of DEI practices.

The purpose of this study was to answer the research question *How do SME characteristics affect their sustainability actions in relation to diversity, equity, and inclusion*. The approach was to ascertain the assumed positive impact of SME size, as measured by the number of employees, on European SMEs' adoption of actions related to diversity, equity, and inclusion. No significant correlation was found when examining the association between SME size and the adoption of diversity-related actions, and the non-significant correlation is negative. No significant correlation was found when adding length of respondent's employment and level of respondent's responsibility to the model, nor when adding the firm's turnover and length of operations to the model. However, the non-significant correlation shifted to positive after controlling for turnover and length of the company's operation. Furthermore, no significant correlation was found after including the country of the company's head office, the level of its international activities, or its industry of operation to the model, and the non-significant association was negative. The implication is that SME size may negatively impact the

adoption of diversity-related actions, however, as the results are not significant, they are highly inconclusive.

When testing for the effect of SME size on the adoption of equity-related actions, no significant correlation was found, while the association was positive. When controlling for length of the respondent's employment in the current position and the respondent's level of responsibility in model 2 and turnover and length of the company's operations in model 3, the results supported those of model 1. However, when adding the company's locations of head office, level of international activities, and industry of operation to the model, the non-significant correlation shifted to negative, weakly indicating that as firm size decreases, SMEs are more likely to adopt equity-related actions.

The results for the regression of SME size with inclusion-related actions reveal negative yet non-significant results. The association remained negative yet non-significant as length of the respondent's employment in the current position and level of responsibility were added to the model. As turnover and length of the company's operation were added to the model, the results followed those of the previous models. Lastly, the results remained negative yet non-significant when location of head office, level of international activities, and industry of operation were added to complete the model. The observations within this dataset therefore suggest that as size decreases, SMEs may be more likely to adopt inclusion-related actions.

To conclude, contrary to the hypotheses, the findings demonstrate a non-significant negative relationship between SME size and DEI-related actions. As the results are not statistically significant in any model utilized for the analysis, the findings cannot be treated as reliable indicators of the actual impact SME size has on DEI-related actions. Moreover, given that the model fitting information indicates a poor fit between the models and the data, the results may lack robustness and reliability and should therefore be interpreted with caution.

5.1 Theoretical and managerial implications

Figure 9 illustrates the exponentiated coefficients, i.e., odds ratios, for the adoption of diversity, equity, and inclusion-related actions. The odds ratio describes the relationship between the independent variable and the likelihood of being in a higher versus lower category within the independent variable. For statistically non-significant results, the odds ratio is typically not calculated, and therefore this illustration is a mere visualization rather than an interpretation of the results.

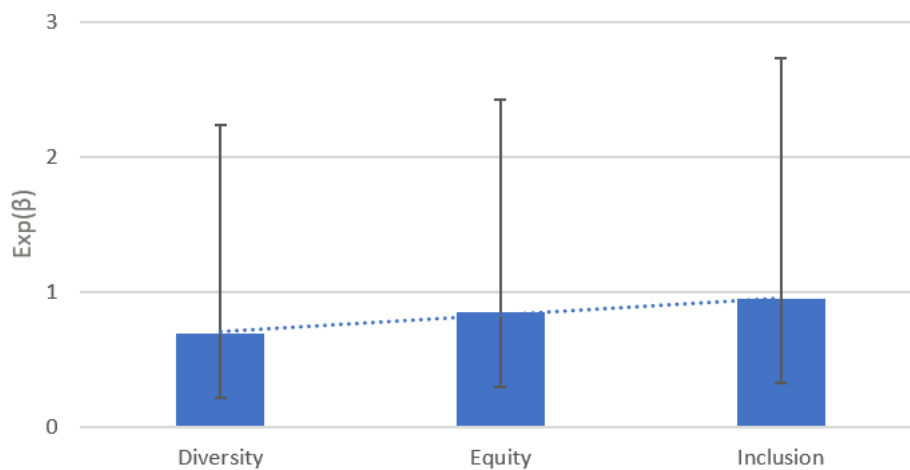


Figure 8. Odds ratios for the association between firm size and the adoption of diversity, equity, and inclusion-related actions.

An odds ratio less than 1 indicates a negative association between the predictor and outcome. Therefore, it can be drawn that there is a slightly negative association between SME size and each dependent event. In practice, as SME size increases, the likelihood of a response in DIVERSITY, EQUITY, or INCLUSION category 2 or 3 is lower, i.e., the respondents are less likely to rate their employer's DEI actions in a higher category versus a lower category. Since there are only 2 categories in EMPL, an increase of one unit, i.e., increase from category 1 (micro and small companies) to category 2 (medium companies) leads to 30,70% chances that the company's diversity-related actions are rated lower, i.e., in category 1 (Strongly disagree, Disagree) or in category 2 (Neutral). The chances of

equity-related actions being rated lower are 15,30%, and the chances of inclusion-related actions being rated lower are 5,70%.

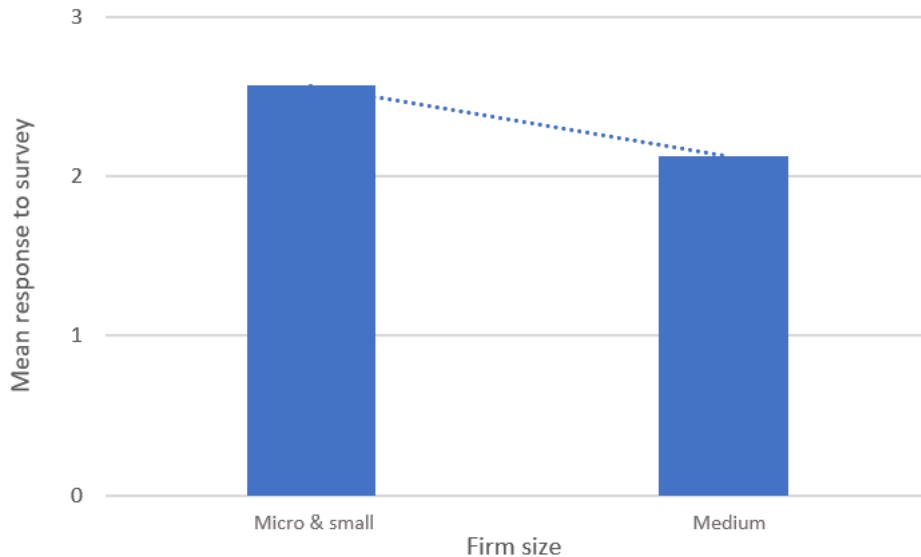


Figure 9. Illustration of the relationship between SME size and DEI-related actions.

From the results it can be drawn that, contrary to the hypotheses and contrary to prior studies (Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Prashar, 2021), micro and small firms succeed in their DEI-related actions better than medium firms. Figure 10 visually presents the results for the association between firm size and the adoption of DEI-related actions. The implication is that either respondents have a higher subjective satisfaction towards micro firms' DEI-actions or micro firms have stronger realized DEI-actions. Higher subjective satisfaction could be explained by micro and small firms' capability of treating individuals more personally and adapting better to individuals' needs due to a smaller number of employees and a higher dependency towards each individual employee, than in medium firms.

Boros and Gorbatai (2024) argue that the implementation of DEI strategies is particularly challenging for middle management due to organizational resistance and emotional dynamics. This could help explain why smaller firms, which have lower organizational hierarchies and potentially less middle managers, outperform medium-sized companies

in the implementation of DEI. Moreover, it could be assumed that medium firms are more rigid towards adapting to individuals' needs and individuals may experience a lack of personal valuation due to higher hierarchical structures within the organization. Likewise, micro and small firms may experience stronger realized DEI-efforts due to, for example, higher dependency on each individual, or a stronger need to build a well-functioning organization, where each individual is able to comfortably collaborate with the rest of the small organization.

Moreover, the respondents may impact the association between the predictor and outcome such that respondents from micro and small firms may have held little expectations towards their employer's DEI actions in accordance with the common assumption that small firms lack resources to adopt DEI-related activities (Chowdhury & Shumon, 2020) and may therefore react positively to any organizational DEI efforts. Meanwhile, respondents from medium firms may have had higher expectations of their employer's DEI actions due to potential higher resources (Chowdhury & Shumon, 2020) or stronger stakeholder pressure (Gamerschlag et al., 2011; Hahn & Kühnen, 2013) and could experience disappointment towards the realized DEI actions.

As illustrated in Figure 9, when firm size increases, respondents are more likely to rate inclusion-related actions higher than diversity-related actions. It could be drawn that medium firms have adopted wider inclusion-related actions in comparison to diversity-related activities. A potential explanation could be that smaller firms leverage diversity in building a well-functioning organization while their scarce resource limit efforts in wider DEI actions. As firm size grows, direct efforts into enhancing diversity-related actions are needed less, and resources can be allocated to equity and inclusion instead. However, as the results of the ordinal logistic regression analysis were statistically non-significant, these interpretations must be considered with caution.

The results indicate that only the location of head office has partial statistical significance as an explanatory factor for the adoption of inclusion-related actions. OFFICE category

3, response option Finland, is statistically significant with a coefficient (β) of 3,231. As described in section 2.5.3 Control variables, Finland ranks as number one on the UN Member States' SDG index (Sachs et al., 2024), which may explain the significance of the head office located in Finland.

Drawing on the results, in general SMEs perform well in their DEI-related actions. By a measure of mean, the total rating for DEI-related actions is 2,57 which gives that on a 5-point Likert scale, the average is between 4 and 5, i.e., *Agree* and *Strongly agree*. When inspecting the DEI actions separately, inclusion-related actions are rated the highest while equity-related actions are rated the lowest. The implication to managers is that equity-related actions require more effort through, for example, evaluation of the needs of individuals and the assessment of the firm's capabilities to meet those needs. Moreover, as micro and small firms seem to outperform medium-sized firms in the adoption of DEI-related activities, particularly those related to diversity and equity, managers specifically in medium-sized firms need to emphasize DEI actions by focusing on building more personalized and adaptable work environments. Additionally, managers should note that SMEs may benefit from external support to their sustainability actions (Lopez-Torres, 2023), as specifically relation to DEI, managers find it difficult to proactively create solutions instead of complying reactively (O'Donovan, 2017, pp.83-88). However, since the empirical research in this study does not account for the causes of the relationship between firm size and DEI actions, no definite implications can be drawn regarding the reasons behind the negative correlations or the differences between the adoption of diversity, equity, and inclusion-related actions.

Contrary to the findings of this study, prior studies regarding sustainability actions in large corporations find that firm size affects the quality and quantity of sustainability reporting content (e.g., Cho et al., 2015; Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Prashar, 2021), which serves as an indication of the sustainability actions within those companies. The reasoning strongly leans on corporate resources (Stoian & Gilman, 2017). Also, stakeholder pressure has been found to have a correlation with firm size, indicating

that larger companies experience stronger stakeholder pressure (Hahn & Kühnen, 2013) than smaller companies, potentially as an attempt to satisfy stakeholder expectations (Gamerschlag et al., 2011; Hahn & Kühnen, 2013) regarding, for example, sustainability actions. Countering this argument, Chowdhury and Shumon (2020) provide that SMEs also experience stakeholder pressure regarding their sustainable activities. The findings of this thesis potentially support those of Chowdhury and Shumon (2020), indicating that within SMEs, larger companies are less adept at exercising various DEI-related actions.

In conclusion, as described in section 1 Introduction, this study contributes to the scarce literature regarding SME sustainability by addressing the identified research gap in SMEs' social sustainability in three ways. Firstly, this study contributes to the literature regarding social sustainability issues (Fiechter et al., 2022) by examining the DEI-related actions that European SMEs have voluntarily adopted. Secondly, this study provides further understanding of the background elements (Gamerschlag et al., 2011; Hahn & Kühnen, 2013; Prashar, 2021) affecting the depth of DEI efforts by analyzing the correlation between firm size and DEI-related activities. Thirdly, this study extends the theoretical framework on how SMEs with varying firm sizes should reallocate their resources to balance their DEI efforts (Allgeier & Feldmann, 2023; Fiechter et al., 2022).

5.2 Limitations and further research directions

The findings of this study are limited specifically due to the small sample size. The target sample size has been determined by DEI4SME. The exact population size, i.e., SMEs in Finland, Lithuania, Germany, and Austria, is not known for the fiscal year of 2024 since the year is ongoing. The latest statistics by Eurostat on European SMEs are for the year 2021, according to which there were in total 4.578.930 SMEs in Finland, Lithuania, Germany, and Austria, as measured by the number of employees (Eurostat, 2024). As a result, the realized sample size of 120 could be argued to be a statistically unviable representation of the population, which impacts the validity of the study. Consequently, due to the sample size, several groups of categorical variables contain less than 30 data

points, which leads to non-significant results and therefore, any implications must be drawn cautiously. This provides avenues for further research with significantly larger sample sizes to provide a more rigorous understanding of the state of DEI-related actions within the EU SMEs.

According to Zondervan-Zwijnenburg and Rijshouwer (2020), any research findings which rely on small sample sizes may be misleading due to, for example, distortions arising from the researcher's active decisions to convert measures, exclude scores, or merge categories. Consequently, the conversion of the NACE Rev. 2 industries to the Three-sector theory or the merging of the 5-point Likert scale to a 3-point Likert scale may have distorted the results. Future research should avoid such measures to increase statistical significance of the results by obtaining a large enough sample size to lead to statistical significance in each response category.

In addition to an initially small sample size, the missing data analysis revealed that a large share of the data points included *Don't know* responses, which were treated as item nonresponses due to their incompatibility with this study. A more robust pilot survey could have been conducted to more thoroughly identify questions which should be reformulated to yield more meaningful responses and thus decrease item nonresponse rate. Moreover, potentially the entire option to respond *Don't know* to the survey questions could have been removed to acquire more statistically usable information. However, the *Don't know* responses have been considered valuable for the DEI4SME project and its outcome and have therefore been included in the survey. Therefore, in addition to the aforementioned further study path with larger sample size, it is advisable to run pilot a survey without a response option *Don't know* to increase the usability of the responses.

Another potential explanation for the non-significant values could be that the control variables either dilute the effects of the independent variable, or the control variables may not have a significant association with the studied relationship at all. Since the

correlation between SME size and DEI actions is not significant for any of the dependent variables when conducting the analysis by model 1, the implication is that the control variables do not substantially dilute the results. As described in section 4.2 Relationships between SME size and diversity-related actions, this was further supported by testing model 4 without the level of the respondent's responsibility, length of the respondent's employment in their current position, length of the company's operations, and level of the company's international activities, which were deemed potentially irrelevant for the study. The results indicate that the exclusion of these control variables does not significantly impact the outcome. This could, however, be further explored through a similar study with a larger sample size.

The convenience sampling method may also have distorted the responses, as SMEs with specific interests towards DEI may have been more prone to respond to the survey than SMEs with more negligent attitudes towards DEI considerations. Likewise, as the survey did not provide alterations to suit the needs of, for example, disabled respondents, some responses may have been missed due to physical difficulties or challenges in understanding the survey questions and response options. The sampling method and reachability of the survey should therefore be considered in future research to obtain responses from a viable representation of the various SME attitudes and interests towards DEI.

The accuracy and theoretical contributions of this study could have been increased by including more questions in each dependent composite variable. Moreover, a mixed methods approach could have revealed the core reasons behind the findings from the ordinal logistic regression and could have provided valuable insights into SMEs' DEI-related attitudes, strategies, policies, and processes, and is therefore suggested for a future research subject.

Due to the topical nature of social sustainability and sustainability reporting, there is potential to expand the findings of this study through a variety of unexplored or

underexplored topics. From the findings of this study, it could be drawn that SME characteristics such as the country of head office may impact DEI-related actions, and thus a similar study with a larger sample size could be conducted to investigate the potential association. To shed further light on SMEs' social sustainability activities, qualitative studies are needed to underpin the reasons behind variations in DEI-related attitudes and activities.

Furthermore, as CSRD has entered into force and the first companies will report for the fiscal year 2024 according to the new directive, the effects of the directive on SMEs are completely unknown, and there are numerous possible research avenues to explore the ways in which the on-take of the new directive affects the sustainability in SMEs. This also provides a potential avenue for a longitudinal study on the evolvement of reported SME social sustainability measures and attitudes.

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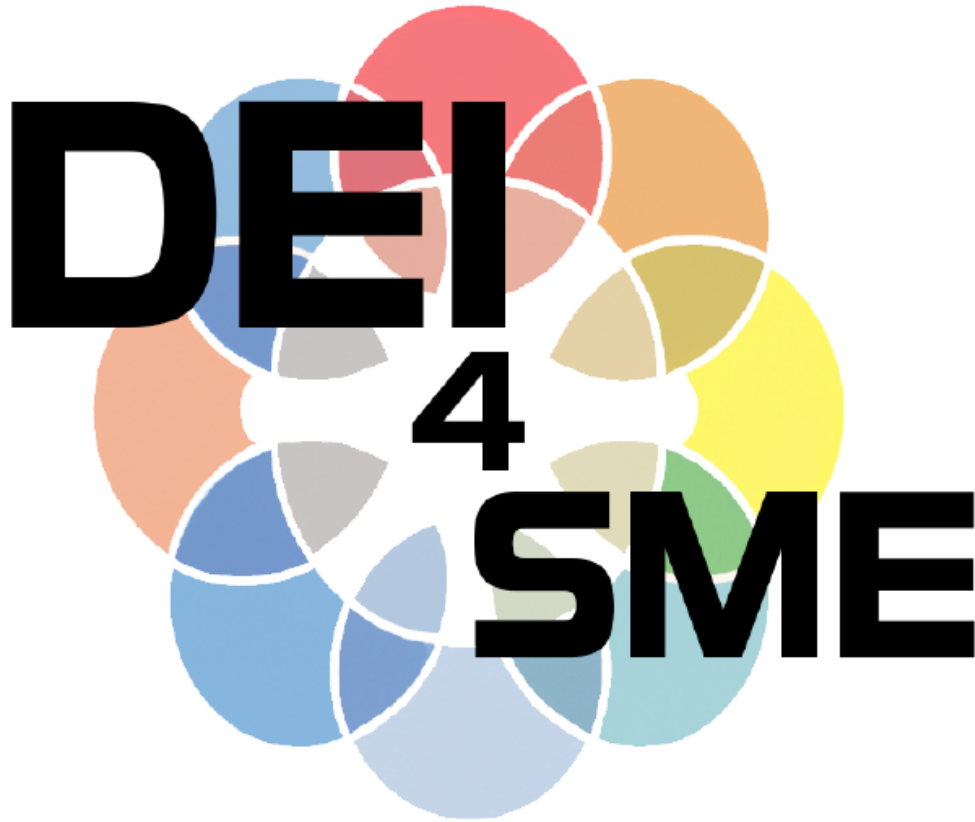
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Appendices

Appendix 1. DEI4SME survey questions targeted for SMEs



Diversity **E**quity **I**nclusion

Diversity, Equity, and Inclusion (DEI) Questionnaire for Small and Medium Enterprise's (SME's) representatives

Thank you for your interest to participate in this survey!

This survey is a part of **DEI4SME** project targeted at identifying areas for improvement and developing strategies to promote a more diverse and inclusive work environment.

Diversity, equity, and inclusion (DEI) is a conceptual framework that promotes the fair treatment and full participation of all people, especially populations that have historically been underrepresented or subject to discrimination because of their background, identity, disability, etc.

- **Equity** involves providing resources according to the need to help diverse populations achieve their highest state of health and other functioning.

- **Diversity** refers to the representation or composition of various social identity groups in a work group, organization, or community.

- **Inclusion** strives for an environment that offers affirmation, celebration, and appreciation of different approaches, styles, perspectives, and experiences.

Filling the questionnaire will take approximately 20 min. Your responses are valuable in helping us understand the current state of Diversity, Equity, and Inclusion (DEI) within small and medium-sized enterprises (SMEs). Your responses will help us develop a functional, effective, open access DEI digital management tool for SMEs that you will be able to use in your company.

Project coordinator: UNIVERSITY OF VAASA, Finland.

Project partners: KAUNAS UNIVERSITY OF TECHNOLOGY, Lithuania, OY MERINOVA AB, Finland, IHK – PROJEKTGESELLSCHAFT MBH, Germany, WIRTSCHAFTSKAMMER STEIERMARK, Austria, E.N.T.E.R. GMBH, Austria.

Please answer the following questions honestly and to the best of your ability. Depending on your answers, some questions might not show, this is normal. **There are no right or wrong answers, and all responses will be kept anonymous.** Your responses will be kept confidential and will only be used for research purposes.

If you would have any inquiries regarding the questionnaire or the research, please contact us at joana.ramanauskaite@ktu.lt.

I. BASIC INFORMATION

1. What is your level of responsibility within the company? *

- Top level management, core business (e.g., CEO/ President/Director)
- Middle level management, core business (e.g., executive, project manager, team leader)
- Top level management, supporting functions (e.g., human resource manager, IT manager)
- Middle level management, supporting functions (e.g., human resource coordinator, IT project leader)
- Employee representative, non-management position (e.g., steward, DEI advocate)
- Employee, non-management position
- Other, please specify _____

2. How long have you been in your current position? *

- Less than 1 year
- 1-5 years
- 6-10 years
- Over 10 years

3. How many people work in your company? *

- Less than 10
- 10-49
- 50-100
- 101-250
- Over 250
- I don't know

4. Where is your company's head office located? *

- Austria
 - Germany
 - Finland
 - Lithuania
 - Other, please specify
-

5. What is the approximate annual turnover of the company for the previous fiscal year? *

- under 2 million EUR
- under 10 million EUR
- under 50 million EUR
- 50 million EUR and more

6. What is the company's industry of operation? *

- 01 Crop and animal production, hunting and related service activities
- 02 Forestry and logging
- 03 Fishing and aquaculture
- 05 Mining of coal and lignite
- 06 Extraction of crude petroleum and natural gas
- 07 Mining of metal ores
- 08 Other mining and quarrying

- 09 Mining support service activities
- 10 Manufacture of food products
- 11 Manufacture of beverages
- 12 Manufacture of tobacco products
- 13 Manufacture of textiles
- 14 Manufacture of wearing apparel
- 15 Manufacture of leather and related products of other materials
- 16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 17 Manufacture of paper and paper products
- 18 Printing and reproduction of recorded media
- 19 Manufacture of coke and refined petroleum products
- 20 Manufacture of chemicals and chemical products
- 21 Manufacture of basic pharmaceutical products and pharmaceutical preparations
- 22 Manufacture of rubber and plastic products
- 23 Manufacture of other non-metallic mineral products
- 24 Manufacture of basic metals
- 25 Manufacture of fabricated metal products, except machinery and equipment
- 26 Manufacture of computer, electronic and optical products
- 27 Manufacture of electrical equipment
- 28 Manufacture of machinery and equipment n.e.c.
- 29 Manufacture of motor vehicles, trailers and semi-trailers
- 30 Manufacture of other transport equipment
- 31 Manufacture of furniture
- 32 Other manufacturing
- 33 Repair, maintenance and installation of machinery and equipment
- 35 Electricity, gas, steam and air conditioning supply
- 36 Water collection, treatment and supply
- 37 Sewerage
- 38 Waste collection, recovery and disposal activities
- 39 Remediation activities and other waste management service activities
- 41 Construction of residential and non-residential buildings
- 42 Civil engineering
- 43 Specialised construction activities
- 46 Wholesale trade

- 47 Retail trade
- 49 Land transport and transport via pipelines
- 50 Water transport
- 51 Air transport
- 52 Warehousing, storage and support activities for transportation
- 53 Postal and courier activities
- 55 Accommodation
- 56 Food and beverage service activities
- 58 Publishing activities
- 59 Motion picture, video and television programme production, sound recording and music publishing activities
- 60 Programming, broadcasting, news agency and other content distribution activities
- 61 Telecommunication
- 62 Computer programming, consultancy and related activities
- 63 Computing infrastructure, data processing, hosting and other information service activities
- 64 Financial service activities, except insurance and pension funding
- 65 Insurance, reinsurance and pension funding, except compulsory social security
- 66 Activities auxiliary to financial services and insurance activities
- 68 Real estate activities
- 69 Legal and accounting activities
- 70 Activities of head offices and management consultancy
- 71 Architectural and engineering activities; technical testing and analysis
- 72 Scientific research and development
- 73 Activities of advertising, market research and public relations
- 74 Other professional, scientific and technical activities
- 75 Veterinary activities
- 77 Rental and leasing activities
- 78 Employment activities
- 79 Travel agency, tour operator and other reservation service and related activities
- 80 Investigation and security activities
- 81 Services to buildings and landscape activities
- 82 Office administrative, office support and other business support activities
- 84 Public administration and defence; compulsory social security
- 85 Education
- 86 Human health activities
- 87 Residential care activities

- 88 Social work activities without accommodation
- 90 Arts creation and performing arts activities
- 91 Libraries, archives, museums and other cultural activities
- 92 Gambling and betting activities
- 93 Sports activities and amusement and recreation activities
- 94 Activities of membership organisations
- 95 Repair and maintenance of computers, personal and household goods, and motor vehicles and motorcycles
- 96 Personal service activities
- 97 Activities of households as employers of domestic personnel
- 98 Undifferentiated goods- and service-producing activities of private households for own use
- 99 Activities of extraterritorial organisations and bodies

7. How long has your company been operating? *

- Less than 1 year
- 1-2 years
- 3-5 years
- 6-9 years
- 10-15 years
- 16-20 years
- More than 20 years

8. What is the scope of your company's international activities? The company (choose one option that applies): *

- has **extensive** operations abroad (e.g., exports and has own foreign units)
- has **some** operations abroad (e.g., does direct exporting or online sales abroad, but no foreign units)
- has **minimal** international operations (e.g. imports from abroad, but does not export or sell online abroad)
- has **no** international operations or presence
- is a **unit of a foreign firm** with headquarters in (please specify):

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
Diverse age groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Users of diverse languages & accents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People who are giving care (e.g., parenting, caring for an ill person or person with disability)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diverse educational backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diverse beliefs & religion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with disability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student or those with little previous work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diverse ethnic backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. In our company, for the recruitment process (choose what best describes your company's situation): *

- We have policies and/or processes to manage recruitment considering these diversity dimensions: *Gender & gender identity; LGBTQ+; Age; Languages & Accents; Care giving; Education; Religion; Disabilities, and/or other*
- We have policies and/or processes to manage biases and prejudice without indicating specific diversity dimensions
- We do not have a process and/or policy to manage biases or prejudice, but we handle them on case-by-case bases
- We do not have a process and/or policy to manage biases or prejudice and we do not handle them in any specific way
- We find the question of biases and prejudice in recruitment to be irrelevant to our company

13. Please specify which diversity dimensions *

- Gender & gender identity
- LGBTQIA+
- Age
- Languages & Accents
- Care giving
- Education
- Religion
- Disabilities

Other, please specify

14. In our company, for monitoring inclusion at work (choose what best describes your company's situation) *

- We have **policies** and/or processes to **manage inclusion** at work considering these diversity dimensions: *Gender & gender identity; LGBTQIA+; Age; Languages & Accents; Care giving; Education; Religion; Disabilities, and/or other*
- We have **policies** and/or processes to **manage inclusion** at work **without indicating specific** diversity dimensions
- We do not have a process and/or policy to manage **inclusion** at work, but we **handle them on case-by-case** bases
- We do not have a process and/or policy to manage inclusion at work and we do not handle them in any specific way
- We think that **inclusion at work** is **irrelevant** to our company

15. Please specify which diversity dimensions *

- Gender & gender identity
- LGBTQIA+
- Age
- Languages & Accents
- Care giving
- Education
- Religion
- Disabilities
- Other, please specify
-

16. In our company, for the career advancement/promotion (choose what best describes your company's situation) *

- We have **policies** and/or processes for **career advancement/promotion** considering these diversity dimensions: *Gender & gender identity; LGBTQIA+; Age; Languages & Accents; Care giving; Education; Religion; Disabilities, and/or other*
- We have **policies** and/or processes to **manage biases and prejudice in career advancement/promotion** **without indicating specific** diversity dimensions
- We do not have a process and/or policy to **manage biases and prejudice in career**

- advancement/promotion process, but we handle them on case-by-case bases
- We do not have a process and/or policy to manage biases and prejudice in career advancement/promotion process and we do not handle them in any specific way
- We think that biases and prejudice in career advancement/promotion process are irrelevant to our company

17. Please specify which diversity dimensions *

- Gender & gender identity
- LGBTQIA+
- Age
- Languages & Accents
- Care giving
- Education
- Religion
- Disabilities
- Other, please specify
-

18. In our company, regarding the opportunities to receive training or development for all employees (choose what best describes your company's situation): *

- We have policies and/or processes to ensure equal opportunities for training and development considering these diversity dimensions: *Gender & gender identity; LGBTQIA+; Age; Languages & Accents; Care giving; Education; Religion; Disabilities, and/or other*
- We have policies and/or processes to ensure equal opportunities for training and development without indicating specific diversity dimensions
- We do not have a process and/or policy to manage equal opportunities for training and development, but we handle them on case-by-case bases
- We do not have a process and/or policy to manage equal opportunities for training and development and we do not handle them in any specific way
- We think that considering equality or biases is irrelevant when designing or providing training and development in our company

19. Please specify which diversity dimensions *

- Gender & gender identity
- LGBTQIA+

- Age
 - Languages & Accents
 - Care giving
 - Education
 - Religion
 - Disabilities
 - Other, please specify
-

20. To my knowledge, in our company we have these diversity dimensions represented among management: (please evaluate the statements)

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
Diverse gender identity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People from LGBTQIA+ community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diverse age groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Users of diverse languages & accents	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People who are giving care (e.g., parenting, caring for an ill person or person with disability)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diverse educational backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diverse beliefs & religion	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People with disability	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Student or those with little previous work experience	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Diverse ethnic backgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

21. In our company, to handle discrimination or harassment cases of any kind (choose what best describes your company's situation): *

- We have **policies** and/or processes to **handle discrimination or harassment** considering these diversity dimensions: *Gender & gender identity; LGBTQIA+; Age; Languages & Accents; Care giving; Education; Religion; Disabilities; and/or other*
- We have **policies** and/or processes to **handle discrimination or harassment** without indicating specific diversity dimensions
- We do not have a process and/or policy to handle discrimination or harassment, but we **handle them** on case-by-case bases

- We do not have a process and/or policy to handle discrimination or harassment and we do not handle them
- We think that discrimination and harassment are irrelevant to our company

22. Please specify which diversity dimensions *

- Gender & gender identity
- LGBTQIA+
- Age
- Languages & Accents
- Care giving
- Education
- Religion
- Disabilities
- Other, please specify
-

23. Based on your opinion, please evaluate these statements, about your company *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
Employees are familiarised with how to report any acts of exclusion, discrimination, or harassment happening at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We have a mentorship program to support the development of underrepresented employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We have a clear understanding of what it means to be successful in managing diversity, equity, and inclusion at work	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We know what information/data is required to be collected to track DEI aspects in the company according to the EU CSRD (Corporate Social Responsibility Directive)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We have processes to monitor diversity, equity, and inclusion related requests	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

24. How many DEI requests have you received in the last year? (approximately)

- 0

- > 5
- 5 – 10
- < 10

25. Our company uses software for planning, implementing, and monitoring diversity, equity, and inclusion-related issues *

- Yes, please specify _____
- No, we do not need such digital tool
- No, but we would need such digital tool
- I don't know

26. Our company is using software to report compliance with various laws and guidelines such as CSRD (Corporate Sustainability Reporting EU Directive). *

- Yes, please specify _____
- No, we do not need such digital
- No, but we would need such digital tool
- I don't know

27. Diversity and inclusion in the workplace to me: *

- Does not matter
- Matters to some extent
- Matters
- Matters a lot
- I don't know

III. DEI IN YOUR FIRM'S STRATEGIC MANAGEMENT

As a reminder, diversity, equity, and inclusion (DEI) is a conceptual framework that promotes the fair treatment and full participation of all people, especially populations that have historically been underrepresented or subject to discrimination because of their background, identity, disability, etc.

- Diversity refers to the representation or composition of various social identity groups in a work group,

B. EQUITY

30. Based on your opinion, please evaluate these statements, about your company *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
We have fostered positive attitudes towards equitable treatment and tools, such as quotas or providing specific work equipment to those in need, to ensure equity in the workplace	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We have implemented necessary supporting mechanisms so that every employee has equitable access to resources and opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

31. Regarding equity management, our company (choose what best describes your company's situation, multiple selection possible): *

- We do not manage equity at work
- We do not manage equity at work and we think it is irrelevant to our company
- We have quotas for under-represented groups (e.g., females, people with disability)
- We do blind resume reviews in the recruitment process
- We perform regular pay audits to identify pay gaps between demographic groups
- We provide benefits to cater different needs (i.e. childcare, flexible work hours)
- We provide resources for career development according to individual or specific group's needs
- We provide resources and support in daily work according to individual or specific group's needs
- Other, please specify _____

C. INCLUSION

32. Based on your opinion, please evaluate these statements about your company *

	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
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	Strongly disagree	Disagree	Neutral	Agree	Strongly agree	Don't know
We actively engage with value chain workers or their legitimate representatives directly, or with credible proxies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We utilize collective bargaining agreements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We design initiatives or processes for DEI with the aim to also support the achievement of one or more of United Nations' Sustainable Development Goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
We request our partners in value or supply chain to prepare reporting information on their DEI activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

35. In my opinion, existing priorities, processes, policies and ways of working are revised to address the most critical issues related to DEI in our company *

- Yes, frequently revised
- Yes, occasionally revised
- No, never revised

36. I would like to suggest specific changes or improvements to the diversity, equity, and inclusion practices in our company *

- No
- Yes, please specify, what kind of improvements.

37. Our company has received penalties or warnings from the authorities regarding our company's lack of adherence to the legal requirements concerning diversity, equity, and inclusion *

- No
- Yes, please specify, what kind of penalties or warnings.
- I don't know

**38. Has your company benefited from engaging with diversity, equity, and inclusion?
(select as many as applies to your company) ***

- Yes, we are seen as an attractive employer because of our engagement with DEI
- Yes, we have been able to serve diverse customers better
- Yes, absenteeism and/or turnover has reduced in our firm after engaging with DEI
- Yes, we have higher levels of innovation and creativity at work
- Yes, our leadership and management became more effective because of the engagement with DEI
- Yes, we have experienced business growth enabled by DEI
- Yes, employee job satisfaction has increased
- Other, please specify _____

- No
- I don't know

39. Is there anything else you would like to say that is important, but has not been covered in the questions above. Also, you are welcome to reflect or explain some of your answers that you feel may need additional elaboration.

Appendix 2. DEI4SME survey questions utilized in this study

1. What is your level of responsibility within the company? *

- Top level management, core business (e.g., CEO/ President/Director)
- Middle level management, core business (e.g., executive, project manager, team leader)
- Top level management, supporting functions (e.g., human resource manager, IT manager)
- Middle level management, supporting functions (e.g., human resource coordinator, IT project leader)
- Employee representative, non-management position (e.g., steward, DEI advocate)
- Employee, non-management position
- Other, please specify _____

2. How long have you been in your current position? *

- Less than 1 year
- 1-5 years
- 6-10 years
- Over 10 years

3. How many people work in your company? *

- Less than 10
- 10-49
- 50-100
- 101-250
- Over 250
- I don't know

4. Where is your company's head office located? *

- Austria
- Germany
- Finland
- Lithuania
- Other, please specify _____

5. What is the approximate annual turnover of the company for the previous fiscal year? *

- under 2 million EUR
- under 10 million EUR
- under 50 million EUR
- 50 million EUR and more

6. What is the company's industry of operation? *

- 01 Crop and animal production, hunting and related service activities
- 02 Forestry and logging
- 03 Fishing and aquaculture
- 05 Mining of coal and lignite
- 06 Extraction of crude petroleum and natural gas
- 07 Mining of metal ores
- 08 Other mining and quarrying
- 09 Mining support service activities
- 10 Manufacture of food products
- 11 Manufacture of beverages
- 12 Manufacture of tobacco products
- 13 Manufacture of textiles
- 14 Manufacture of wearing apparel
- 15 Manufacture of leather and related products of other materials
- 16 Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials
- 17 Manufacture of paper and paper products
- 18 Printing and reproduction of recorded media
- 19 Manufacture of coke and refined petroleum products
- 20 Manufacture of chemicals and chemical products
- 21 Manufacture of basic pharmaceutical products and pharmaceutical preparations
- 22 Manufacture of rubber and plastic products
- 23 Manufacture of other non-metallic mineral products
- 24 Manufacture of basic metals
- 25 Manufacture of fabricated metal products, except machinery and equipment
- 26 Manufacture of computer, electronic and optical products
- 27 Manufacture of electrical equipment
- 28 Manufacture of machinery and equipment n.e.c.
- 29 Manufacture of motor vehicles, trailers and semi-trailers
- 30 Manufacture of other transport equipment
- 31 Manufacture of furniture
- 32 Other manufacturing
- 33 Repair, maintenance and installation of machinery and equipment
- 35 Electricity, gas, steam and air conditioning supply
- 36 Water collection, treatment and supply
- 37 Sewerage
- 38 Waste collection, recovery and disposal activities
- 39 Remediation activities and other waste management service activities
- 41 Construction of residential and non-residential buildings
- 42 Civil engineering
- 43 Specialised construction activities
- 46 Wholesale trade

- 47 Retail trade
- 49 Land transport and transport via pipelines
- 50 Water transport
- 51 Air transport
- 52 Warehousing, storage and support activities for transportation
- 53 Postal and courier activities
- 55 Accommodation
- 56 Food and beverage service activities
- 58 Publishing activities
- 59 Motion picture, video and television programme production, sound recording and music publishing activities
- 60 Programming, broadcasting, news agency and other content distribution activities
- 61 Telecommunication
- 62 Computer programming, consultancy and related activities
- 63 Computing infrastructure, data processing, hosting and other information service activities
- 64 Financial service activities, except insurance and pension funding
- 65 Insurance, reinsurance and pension funding, except compulsory social security
- 66 Activities auxiliary to financial services and insurance activities
- 68 Real estate activities
- 69 Legal and accounting activities
- 70 Activities of head offices and management consultancy
- 71 Architectural and engineering activities; technical testing and analysis
- 72 Scientific research and development
- 73 Activities of advertising, market research and public relations
- 74 Other professional, scientific and technical activities
- 75 Veterinary activities
- 77 Rental and leasing activities
- 78 Employment activities
- 79 Travel agency, tour operator and other reservation service and related activities
- 80 Investigation and security activities
- 81 Services to buildings and landscape activities
- 82 Office administrative, office support and other business support activities
- 84 Public administration and defence; compulsory social security
- 85 Education
- 86 Human health activities
- 87 Residential care activities
- 88 Social work activities without accommodation
- 90 Arts creation and performing arts activities
- 91 Libraries, archives, museums and other cultural activities
- 92 Gambling and betting activities
- 93 Sports activities and amusement and recreation activities
- 94 Activities of membership organisations
- 95 Repair and maintenance of computers, personal and household goods, and motor vehicles and motorcycles
- 96 Personal service activities
- 97 Activities of households as employers of domestic personnel
- 98 Undifferentiated goods- and service-producing activities of private households for own use
- 99 Activities of extraterritorial organisations and bodies

Appendix 3. Three-sector theory vs. NACE Rev. 2 classification system

Sector	Division	Division title (classification used in survey)	Data code
Primary	01	Crop and animal production, hunting and related service activities	01
	02	Forestry and logging	02
	03	Fishing and aquaculture	03
	05	Mining of coal and lignite	04
	06	Extraction of crude petroleum and natural gas	05
	07	Mining of metal ores	06
	08	Other mining and quarrying	07
	09	Mining support service activities	08
	Secondary	10	Manufacture of food products
11		Manufacture of beverages	10
12		Manufacture of tobacco products	11
13		Manufacture of textiles	12
14		Manufacture of wearing apparel	13
15		Manufacture of leather and related products of other materials	14
16		Manufacture of wood and of products of wood and cork, except furniture; manufacture of articles of straw and plaiting materials	15
17		Manufacture of paper and paper products	16
18		Printing and reproduction of recorded media	17
19		Manufacture of coke and refined petroleum products	18
20		Manufacture of chemicals and chemical products	19
21		Manufacture of basic pharmaceutical products and pharmaceutical preparations	20
22		Manufacture of rubber and plastic products	21
23		Manufacture of other non-metallic mineral products	22
24		Manufacture of basic metals	23
25		Manufacture of fabricated metal products, except machinery and equipment	24
26		Manufacture of computer, electronic and optical products	25
27		Manufacture of electrical equipment	26
28		Manufacture of machinery and equipment n.e.c.	27
29		Manufacture of motor vehicles, trailers and semi-trailers	28
30		Manufacture of other transport equipment	29
31		Manufacture of furniture	30
32		Other manufacturing	31
33		Repair, maintenance and installation of machinery and equipment	32
35		Electricity, gas, steam and air conditioning supply	33
36		Water collection, treatment and supply	34
37		Sewerage	35
38		Waste collection, recovery and disposal activities	36
39		Remediation activities and other waste management service activities	37
41		Construction of residential and non-residential buildings	38
42		Civil engineering	39
43		Specialised construction activities	40

Tertiary	46	Wholesale trade	41
	47	Retail trade	42
	49	Land transport and transport via pipelines	43
	50	Water transport	44
	51	Air transport	45
	52	Warehousing, storage and support activities for transportation	46
	53	Postal and courier activities	47
	55	Accommodation	48
	56	Food and beverage service activities	49
	58	Publishing activities	50
	59	Motion picture, video and television programme production, sound recording and music publishing activities	51
	60	Programming, broadcasting, news agency and other content distribution activities	52
	61	Telecommunication	53
	62	Computer programming, consultancy and related activities	54
	63	Computing infrastructure, data processing, hosting and other information service activities	55
	64	Financial service activities, except insurance and pension funding	56
	65	Insurance, reinsurance and pension funding, except compulsory social security	57
	66	Activities auxiliary to financial services and insurance activities	58
	68	Real estate activities	59
	69	Legal and accounting activities	60
	70	Activities of head offices and management consultancy	61
	71	Architectural and engineering activities; technical testing and analysis	62
	72	Scientific research and development	63
	73	Activities of advertising, market research and public relations	64
	74	Other professional, scientific and technical activities	65
	75	Veterinary activities	66
	77	Rental and leasing activities	67
	78	Employment activities	68
	79	Travel agency, tour operator and other reservation service and related activities	69
	80	Investigation and security activities	70
	81	Services to buildings and landscape activities	71
82	Office administrative, office support and other business support activities	72	
84	Public administration and defence; compulsory social security	73	
85	Education	74	
86	Human health activities	75	
87	Residential care activities	76	
88	Social work activities without accommodation	77	
90	Arts creation and performing arts activities	78	
91	Libraries, archives, museums and other cultural activities	79	

	92	Gambling and betting activities	80
	93	Sports activities and amusement and recreation activities	81
	94	Activities of membership organisations	82
	95	Repair and maintenance of computers, personal and household goods, and motor vehicles and motorcycles	83
	96	Personal service activities	84
	97	Activities of households as employers of domestic personnel	85
	98	Undifferentiated goods- and service-producing activities of private households for own use	86
	99	Activities of extraterritorial organisations and bodies	87