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Voluntary Sustainability Reporting Standard for non-listed SMEs in the Real Estate and Construction Industry in Germany: Drivers, Barriers, and Coping Mechanisms

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Resumo

Esta investigação examina a adoção da nova Norma de Relatórios Voluntários de Sustentabilidade (VSME) por parte de pequenas e médias empresas (PMEs) alemãs nos setores de construção e imobiliário. O estudo identifica os fatores específicos, barreiras e mecanismos de adaptação que influenciam a implementação. Foi utilizado um desenho de pesquisa exploratória qualitativa, baseado em entrevistas semiestruturadas com 11 líderes seniores, gerentes e representantes de sustentabilidade de PMEs. Aplicando a análise temática através dos pilares regulativos, normativos e culturais-cognitivos da teoria institucional, os resultados mostram que a adoção é influenciada principalmente por fatores regulativos (por exemplo, acesso a financiamento) e normativos (por exemplo, pressão da cadeia de abastecimento). As barreiras identificadas durante as entrevistas incluem elevados custos de implementação, complexidade regulatória e perceção de diferença de valor. As diferenças de valor percebidas e identificadas podem ser atribuídas ao foco do VSME em métricas ao nível da empresa, enquanto os intervenientes do mercado frequentemente exigem dados de sustentabilidade ao nível do projeto. As empresas estão a lidar com isto recorrendo à contratação de consultores externos, ao uso do design modular do VSME para uma implementação gradual e à reformulação estratégica da norma como uma ferramenta interna para melhoria de processos. O estudo conclui que estas PME veem pragmaticamente o VSME menos como um fardo de relatórios e mais como uma ferramenta organizacional para construir capacidade interna e preparar-se para a futura divulgação obrigatória.

Sistema de Classificação JEL:

Q56: Ambiente e Desenvolvimento; Ambiente e Comércio; Sustentabilidade; Contas e Contabilidade Ambiental; Equidade Ambiental; Crescimento Populacional

L25: Desempenho da Empresa: Tamanho, Diversificação e Âmbito

Palavra-chave

Relatórios de Sustentabilidade, Norma Voluntária de Relatórios de Sustentabilidade para PMEs não cotadas em bolsa (VSME), Indústria da Construção e Imobiliária

Abstract

This research examines the adoption of the new Voluntary Sustainability Reporting Standard (VSME) by German small and medium-sized enterprises (SMEs) in the construction and real estate industries. The study identifies the specific drivers, barriers, and coping mechanisms influencing the implementation. A qualitative exploratory research design was employed, grounded in semi-structured interviews with 11 senior leaders, managers and sustainability representatives from SMEs. Applying thematic analysis through the regulative, normative, and cultural-cognitive pillars of institutional theory, the findings show that adoption is primarily influenced by regulative (e.g., access to finance) and normative (e.g., supply chain pressure) drivers. Identified barriers during the interviews include high implementation costs, regulatory complexity, and a perceived value gap. The identified perceived value gaps stem from the VSME's focus on company-level metrics, whereas market stakeholders frequently demand project-level sustainability data. Firms are coping by engaging external consultants, using the VSME's modular design for a stepwise implementation, and strategically reframing the standard as an internal tool for process improvement. The study concludes that these SMEs pragmatically view the VSME less as a reporting burden and more as an organisational coping tool to build internal capacity and prepare for future mandatory disclosure.

JEL Classification System:

Q56: Environment and Development; Environment and Trade; Sustainability; Environmental Accounts and Accounting; Environmental Equity; Population Growth

L25: Firm Performance: Size, Diversification, and Scope

Keywords

Sustainability Reporting, Voluntary Sustainability Reporting Standard for non-listed SMEs (VSME), Construction and Real Estate Industry

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Glossary of Acronyms

A4S:	Accounting for Sustainability
BGBN:	Deutsche Gesellschaft für Nachhaltiges Bauen e.V. (German Society for Sustainable Building)
BIM:	Building information modelling
BREEAM:	Building Research Establishment Environmental Assessment Method
CEO:	Chief Executive Officer
CSR:	Corporate Social Responsibility
CSRD:	Corporate Sustainability Reporting Directive
CSR-RUG:	CSR-Richtlinie-Umsetzungsgesetz (CSR Directive Implementation Act)
DGNB:	Deutsche Gesellschaft für Nachhaltiges Bauen (German Society for Sustainable Building)
DNK:	Deutscher Nachhaltigkeitskodex (German Sustainability Code)
EPBD	Energy Performance of Buildings Directive
EFRAG:	European Financial Reporting Advisory Group
ESG:	Environmental Social Governance
EU:	European Union
EGD:	European Green Deal
KPI:	Key Performance Indicator
LCA:	life-cycle assessment
LEED:	Leadership in Energy and Environmental Design
NFRD:	Non-Financial Reporting Directive
RBV:	Resource-Based View
SFRD:	Sustainable Finance Disclosure Regulation
SGD:	Sustainable Development Goal
SME:	Small and Medium-sized Enterprises
TBL:	Triple Bottom Line
UN:	United Nations
VSME:	Voluntary Sustainability Reporting Standard for non-listed SMEs

1. Introduction

This dissertation aims to determine the implications of the Voluntary Sustainability Reporting Standard for SMEs (VSME) for small and medium-sized enterprises (SMEs) in the construction and real estate industry in Germany. It aims to identify the drivers and barriers to the implementation of VSME, as well as pinpoint the coping mechanisms SMEs in the industry use to address the challenges of VSME implementation. Grounded in institutional theory, the study integrates concepts of regulative, normative, and cultural-cognitive pressures with coping theory. It examines the challenges and opportunities SMEs face, especially the impact of financial, human, and technical resources on the implementation process. The goal is to identify specific challenges and develop solutions to support long-term sustainability commitments. The VSME was developed by the European Financial Reporting Advisory Group (EFRAG) on behalf of the European Commission to address the growing need for simplified, credible environmental, social, and governance (ESG) reporting tools that match the realities of SMEs in the European Union, Norway, Iceland and Liechtenstein in December 2024. The Corporate Sustainability Reporting Directive (CSRD) is a directive by the European Commission and EFRAG that introduces standardized corporate sustainability reporting to increase accountability and transparency in 2023. As a consequence, many SMEs face increasing requests for sustainability-related information from banks, investors, and large companies within their value chains (Deutscher Nachhaltigkeits Kodex, n.d.). Consequently, the EFRAG was commissioned by the European Commission to develop a voluntary reporting framework to meet this demand. The result was the VSME, a streamlined standard explicitly designed for SMEs that fall outside CSRD's legal scope. VSME has been derived from the European Sustainability Reporting Standards (ESRS) through a 'Building Block Approach', with a basic and a comprehensive module depending on the scope of information SMEs wish to report (Bevilacqua & Del Prete, n.d.). In February 2025, the Commission confirmed the adoption of the VSME through a delegated act. Providing a balanced reporting solution and reducing the obligations of larger companies regarding their CSRD responsibilities on smaller businesses. As part of the "simplification package", the VSME was introduced which aims to help SMEs to be more open regarding their sustainability efforts without regulatory overreach (European Commission, 2025a).

1.1. Contextualization

The introduction of the Commission's “Omnibus Package” or “Omnibus Package” in February 2025 represents a significant attempt to simplify the regulatory landscape for sustainability, especially targeting the CSRD, Corporate Due Diligence Directive (CSDDD), and the EU Taxonomy. Specifically, the Omnibus Initiative involves a restriction of the CSRD Scope, extension of reporting deadlines, adjustments to the Due Diligence Directive, and reduction of reporting requirements for SMEs. Recent research suggests that that while this simplification is welcomed by many SMEs and regulators for reducing compliance costs (Van Beest & Orij, 2025) there are concerns about its potential to weaken the scope and effectiveness of sustainability monitoring. In exploratory research, the VSME framework is noted as both a promising and underdeveloped alternative solution, still lacking sectoral guidance and tailored support (Himanen, 2025). As of February 2025, the CSRD will only be relevant to Companies with more than 1000 employees and either a turnover above 50 million euros or a balance sheet above 25 million euros. For SMEs, that were initially obligated to report under the CSRD 2026, there is an extension of this deadline. Before the simplification package, SMEs whose securities are listed on EU-regulated markets and SMEs that meet two of the three following criteria, 50 million euros, a balance sheet above 25 million euros, and 250 employees, were obligated to report under CSRD. SMEs that fulfil these criteria are now obligated to report under CSRD on January 1st, 2028. As an alternative, SME can report under the VSME. SMEs that wish to disclose ESG information voluntarily to stakeholder such as banks, large business partners, or investors, may use the VSME as a simplified, proportionate tool (European Commission, 2025a).

The VSME draft offers two modules: the Basic Module and the Comprehensive Module. If requested by large companies or banks, the VSME report should be prepared annually. If the SME prepares annual financial statements, the VSME report should be available at the same time as the annual financial statements or financial reporting. The company may omit certain sensitive information but must indicate if this option is utilised. From the second year onwards, comparative figures for the previous year should be included in the report. Both the basic and comprehensive modules require some information from the company and place other data points under the "if applicable" approach. In this case, an SME using the VSME only must provide the information if it is relevant to the SME. According to the VSME Draft, the basic module is designed for micro-entities and contains the least demanding requirements. The content of the basic module is divided into sections B1 to B11, supplemented by a guide that

provides explanations. The text in B1 provides the necessary information about the company, including the module used, level of usage, subsidiary details with addresses, and any omitted sensitive information. It also requires disclosure of legal status, sector code, financial figures, employee count, main country of activity, asset locations, and property geolocation. If applicable, sustainability certifications should be included. Additionally, specific sustainable practices, guidelines, future initiatives, and goals should be outlined. Sections B3 to B7 focus on environmental data, including energy consumption from renewable and non-renewable sources, greenhouse gas emissions, and pollutant emissions if mandated by environmental regulations or management requirements. Moreover, social aspects are disclosed in sections B8 to B10, disclosures include the number of employees broken down by contract type, gender, country, and remuneration, among other details. Finally, the last disclosure in the basic module is B11 which covers convictions and fines for corruption and bribery. The comprehensive module builds on the basic module. In addition to the basic module, in the comprehensive C1 module, the company provides information on the key elements of its business model and corporate strategy. C2 contains a description of the practices, guidelines, and future initiatives for transforming the economy into a more sustainable one. Sections C3 and C4 include further environmental disclosures, C5 to C7 social data, and information. C8 and C9 require information on income from specific sectors and on the gender diversity ratio in the management and supervisory body (EFRAG, 2024).

1.2. Research Aim

This dissertation aims to gain insights into the drivers and barriers to VSME implementation for SMEs in the construction and real estate industry in Germany, and to identify coping mechanisms to increase understanding. The barriers, drivers and coping mechanisms for SMEs in the construction and real estate industry for sustainability reporting are a field that has not been researched intensively. Exploratory research with participants in leadership or employees responsible for sustainability and sustainability reporting in SMEs has been conducted to gain insights into the research field. In 2022, 99.3% of all German companies were SMEs, totalling 3,185,294 companies (Statistisches Bundesamt, 2025). When looking at the distribution. Across all economic sectors, the construction industry is the third-largest sector, with 388,229 SMEs (Institut für Mittelstandsforschung (IfM) Bonn, n.d.).

Since SMEs constitute the backbone of the German economy, understanding their approach to the increasingly important topic of sustainability reporting is interesting and crucial for

regulators as well as the research should provide understanding for the drivers and barriers to policy makers, regulators and corporate practitioners and how they can support SMEs in aligning with Europe's broader sustainability transition.

1.3. Research Questions

This dissertation aims to explore the following three research questions:

RQ1: What are the drivers for implementing VSME for SMEs in the Construction and Real Estate Industry in Germany?

RQ2: What are the barriers to implementing VSME for SMEs in the Construction and Real Estate Industry in Germany?

RQ3: How do SMEs in the Construction and Real Estate Industry in Germany cope with the challenges of VSME implementation?

An exploratory research design was employed to answer the research questions. Through semi-structured interviews data was collected. Interview participants are either in a leadership position or employees responsible for sustainability and sustainability reporting in the SMEs in the construction and real estate industry in Germany, allowing for an in-depth understanding of their experiences and perceptions regarding the VSME. The analysis follows Braun and Clarke's (2006) thematic framework**,** enabling the identification of patterns and relationships among the drivers, barriers, and coping mechanisms of VSME implementation in SMEs.

2. Literature Review

2.1. Corporate Sustainability: Reporting and Theoretical Frameworks

2.1.1. Understanding Corporate Sustainability and Corporate Sustainability Reporting

Transitioning from niche topics to core elements of corporate strategy, Corporate Sustainability is a concept that has gained awareness and significant importance in recent years. Corporate Sustainability can be defined as "focuses on managing and balancing an enterprise's embeddedness in interrelated ecological, social, and economic systems so that positive impact is created in the form of long-term ecological balance, societal welfare, and stakeholder value." (Rasche et al., 2023, p. 3). The relevance of Corporate Sustainability and ESG topics has been driven by societal expectations, investor demand, and regulatory pressure. A landmark moment in this development occurred in 2004, when Kofi Annan, the former UN Secretary-General, sent a letter to more than 50 CEOs urging them to participate in a UN Global Compact effort. The same initiative published the "Who Cares Wins" Report one year later, which created a vital connection between financial performance and ESG initiatives (The United Nations Global Compact, 2025). The first structured sustainability reports appeared in the 1990s, leading to increased ESG disclosures to demonstrate their dedication (Hazen, 2020). Today, not only is sustainability performance crucial, but also the reporting of the application in core operations is expected from companies. Turning sustainability into a vital part of corporate strategy that focuses on social, environmental, and economic dimensions rather than philanthropy. Moreover, it is a strategy for companies to stay future-proof and competitive. In business practice, ESG criteria evaluate potential risks and growth opportunities arising from a company's sustainability performance (Halbritter & Dorfleitner, 2015). These ESG criteria are crucial for investors, companies, and other stakeholders who want to integrate sustainability into their decision-making processes (Helmold et al., 2024). Amid growing concerns, the Sustainable Development Goals (SDGs) were established in 2015. The 17 SDGs were established in 2015 with 169 targets to be fulfilled by 2030. The SDGs address environmental, social, and economic sustainability (United Nations, 2015) and serve as a guide for governments, businesses, and civil society to align their strategies and actions with sustainable

development outcomes. While the SDGs guide companies, sustainability reporting informs stakeholders -including investors, regulators, and the public -about how companies manage ESG risks and opportunities and contribute to sustainable development. This transformation is underpinned by binding European regulation. Corporate sustainability reporting is grounded in several interrelated theoretical frameworks that explain why companies, particularly SMEs, choose to disclose non-financial information.

2.1.2. Theoretical Frameworks for VSME Implementation

2.1.2.1. Institutional Theory

Table 1. Three Pillars of Institutions (Scott, 2013)

	Pillars		
	Regulative	**Normative**	**Cultural-Cognitive**
Basis of compliance	Expedience	Social obligation	Taken-for-grantedness Shared understanding
Basis of order	Regulative rules	Binding expectations	Constitutive schema
Mechanisms	Coercive	Normative	Mimetic
Logic	Instrumentality	Appropriateness	Orthodoxy
Indicators	Rules Laws Sanctions	Certification Accreditation	Common beliefs Shared logics of action Isomorphism
Affect	Fear/ Guilt/ Innocence	Shame/Honour	Certainty/ Confusion
Basis of legitimacy	Legally sanctioned	Morally governed	Comprehensible Recognisable Culturally supported

The institutional theory outlines how institutions, comprising rules, norms, and shared beliefs, shape the structure, behaviour, and practices of organisations. Furthermore, it highlights the heavy impact of social, cultural, and legal context, in addition to efficiency and profitability, on organisational decisions. Scott (2013) refined the notion and formalised it with the idea of the Three Pillars of Institutions, the regulative, normative and cultural-cognitive pillars. The regulative pillar contains rules, laws and sanctions that shape compliance through expedience. The normative pillar reflects binding expectations and guilt, shame and honour that define the basis of compliance as social obligations. The cultural-cognitive pillar emphasises that taken-for-grandness through common beliefs, shared logics of action, and isomorphism influence how

the organisation interprets their environment and acts accordingly. In conclusion, the three pillars of institutions explain how organisations respond to external pressures and align their behaviour and practices to gain legitimacy and ensure survival (Scott, 2013).

2.1.2.2. Coping Mechanisms in Organisational Contexts

The concept of coping mechanisms originates in psychology, with the work of Lazarus and Folkman (1984) providing the most widely cited definition. They conceptualised coping as "(..) constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person." (Lazarus & Folkman, 1984). The distinction they make between problem-focused coping, which aims to change the situation, and emotion-focused coping has been highly influential in research on health and stress. This model which is rooted in individual psychology is not entirely transferable to organisations. Organisations do not have a psychological sense, and their coping mechanisms involve strategic, structural, and processual responses shaped by multiple actors and external systems.

In the organisational context, companies are not passive recipients of institutions but instead use a range of strategic responses when confronted with them. Oliver (1991, p.151) clustered these strategies in "Acquiesce, compromise, avoidance, defiance, and manipulation", providing a spectrum of coping behaviours based on strategic intent and power dynamics. Moreover, author argues that in contexts of high institutional complexity, a company is more likely to adopt a compromise strategy. A different perspective from institutional theory, which primarily investigates how external factors shape organisations, is found in the concept of organisational resilience. This different approach, which has gained awareness, concentrates on a firm's ability to adjust strategy and recover from external challenges. Resilience models emphasise capabilities such as absorptive capacity, learning, and flexibility as forms of coping with external shocks, including regulatory changes or sustainability demands (Duchek, 2020).

Considering the institutional theory as well as coping mechanisms in organisational context, the different perspectives demonstrate that coping mechanisms are not only ad-hoc reactions, but strategic responses embedded in an organisation's institutional environment. Institutional theory explains the sources and structure of external pressures (Scott, 2013), while coping theory provides the behavioural vocabulary to describe how organisations respond to pressures (Lazarus & Folkman, 1984; Oliver, 1991).

2.2. Sustainability Reporting in SME in the Construction and Real Estate Industry

2.2.1. European Regulatory Frameworks on Corporate Sustainability for SMEs

The European Union has made a long-term effort to embed sustainability aspects into the European economy. In 2014, the EU adopted the Non-Financial Reporting Directive (NFRD) (Directive 2014/95/EU), marking its first mandatory step toward sustainability reporting. It required large public-interest entities, mainly listed companies, banks, and insurers, to disclose environmental, social, employee, human rights, and anti-corruption information and ultimately intended to increase the transparency and accountability on social and environmental issues for large, listed companies, banks, and insurance companies (public interest entities).

The CSR Directing Implementation Act (CSR-RUG) in 2017 led to the implementation of the NFRD in 2014 in Germany, introducing national non-financial reporting standards for companies with over 500 employees. However, this was soon criticised for a lack of specificity and comparability in reporting (Hahnkamper-Vandenbulcke, 2021).

In name of an EU-wide goal, the president of the European Commission announced the European Green Deal (EGD) in December 2019 to work towards a climate-friendly and carbon-neutral economy. The EGD pledges to become carbon neutral by 2050 and signalled intensified emphasis on sustainability across economic sectors (European Commission, n.d.-b).

Furthermore, in July 2020, the EU adopted the Taxonomy Regulation (EU 2020/852) to set standards for which economic activities can be considered environmentally sustainable. It set six environmental goals: climate change mitigation, adaptation, a circular economy, pollution control, and biodiversity protection. It also required companies under NFRD (and later CSRD) to report the percentage of revenue, capital expenditure (CAPEX), and open-linked activities that align with the taxonomy. The NFRD was a step in the right direction for considering non-financial information. Nevertheless, stakeholders, especially investors and civil society groups, argue that the directive did not provide sufficient guidance (Hahnkamper-Vandenbulcke, 2021).

Moreover, the SFDR came into effect in March 2021. This regulation is reinforcing the link between corporate sustainability and financial markets by requiring financial market participants to disclose how they integrate sustainability risks and impacts into their investment decisions (European Union, n.d.).

Independent of the European Commission, the EFRAG set European Sustainability Reporting standards ESRS to cover the full range of ESG issues, including climate change, biodiversity, and human rights. ESRS is the foundation under which companies must report the CSRD. Companies following the ESRS must follow the double materiality concept, ensuring that both the effect on society (social aspects) and the environment, as well as the external impact on them from environmental issues that create financial risks or opportunities, are reported (EFRAG, 2022). Even though the CSRD directly targets only large corporations and listed SMEs, other companies are also impacted. For instance, large companies are required to gather ESG data from their entire value chain, which includes many smaller business partners. This pushes smaller firms to adapt their sustainability strategies and reporting even if they are not legally required to (European Commission, 2025a).

The adoption of the CSDDD in 2024 further expanded the EU's regulatory framework. This directive mandates that large companies identify, mitigate, and account for the social and environmental risks inherent in their operations and global value chains (KPMG, 2024). Consequently, the CSDDD has intensified the demand for traceable ESG data from suppliers, indirectly extending compliance pressures to SMEs (European Commission, n.d.).

The EU introduced the Omnibus Simplification Package in February 2025 to reduce the impact of these reporting requirements on SMEs. The package changes the lower employee limit for mandatory CSRD reporting, thereby moving the start date of mandatory reporting for SMEs to 2028. It also limits the reporting obligations of large companies (European Commission, 2025a). Furthermore, it aims to lower the EU Taxonomy requirements, making them only mandatory for very large companies whilst providing SMEs simplified reporting standards (EFRAG, 2024). EFRAG developed the VSME in December 2024 to bridge the gap between regulatory ambition and reality, enabling SMEs to participate in sustainable transformation while reducing administrative burdens and costs. The VSME aims to provide a simplified and standardised framework that enables SMEs to respond to ESG data requests from banks, investors, and supply chain partners without being legally bound by the CSRD. The Commission plans to formalise the VSME with a delegated act and has already committed to issuing a recommendation based on it (Bevilacqua & Del Prete, n.d.). This proves that the EU can shift towards a more harmonised sustainability disclosure system that accommodates the diverse European industries and businesses. Even though it is not mandatory to report under VSME, it aims to reduce administrative burden while maintaining the goals of the EDG (European Commission, 2025a).

In summary, altering norms, expectations and incentives shape corporate sustainability as much as regulatory frameworks. These evolving frameworks, technological advancements and the increasing ESG expectations from stakeholders will drive corporate sustainability reporting in the future (Onu et al., 2025).

2.2.2. SMEs in the Construction and Real Estate Industry

SMEs are the backbone of the European economy. The European Union defines SMEs as companies with less than 250 employees and an annual turnover of up to 50 million Euros or a balance sheet total of up to 43 million Euros (European Union, 2003). In comparison to larger companies, micro and small firms are more likely to face challenges in financing (European Investment Bank., 2024). Moreover, larger companies benefit from economies of scale, which allow them to produce at lower cost, while SMEs face higher relative costs (OECD, 2017). Furthermore, the European Commission states that compliance with regulatory requirements is a significant challenge for SMEs due to the lack of financial capital and skilled labour (European Commission, n.d.-a). Additionally, to the challenges that SMEs face, the construction and real estate industry is defined by a combination of inherent structural characteristics such as “a project-based construction nature, high capital in- tensity, complex supply chains, diverse stakeholder interest, and dynamic economic conditions like interest rates and regulations.” (Shahid et al., 2024, p.1).

2.2.3. Sustainability in SMEs in the Real Estate and Construction Industry

SMEs contribute significantly to employment and economic activity. The construction industry is the third-largest economic sector, with 388,229 SMEs in the industry in Germany (Institut für Mittelstandsforschung (IfM) Bonn, n.d.). Yadav et al.'s (2018) systematic literature review found external and internal drivers for sustainability practices in SMEs. External drivers for SMEs to adopt sustainability practices include the government, customers, networks and alliances, suppliers, surrounding communities, competitors, and the sector's tangibility— the greater the sector's tangibility, the more SMEs will adopt environmental practices in their systems. Sustainability in SMEs is also driven internally by employees, organisational culture, brand image and reputation, competitive advantage, strategic intent, environmental management capability, and firm size (Yadav et al., 2018). Moreover, SMEs often implement

sustainability in an isolated or operational way rather than integrating it into their core strategy (Baumgartner & Ebner, 2010).

The real estate and construction industry in Germany is increasingly influenced by sustainability trends that reflect both regulatory shifts and evolving market demands. According to the European Commission, buildings account for approximately 40 % of total energy consumption and 36 % of greenhouse gas emissions in the EU, with around 75 % of the building stock deemed energy inefficient. to combat the problems caused by the construction and real estate industry, EU directives such as the Energy Performance of Buildings Directive (EPBD) and the Renovation Wave under the EGD have introduced measures including minimum energy performance standards, nearly zero-energy buildings, and long-term renovation strategies aimed at improving environmental performance across the sector (*In Focus*, n.d.).

SMEs, which form the backbone of the real estate and construction industry, play a key role in this transition. However, they often face challenges in implementing structured sustainability strategies with measurable KPIs (Yadav et al., 2018). Companies in industry are increasingly influenced by external drivers, such as regulatory pressure, client demand, and competitive dynamics, but also internally by internal motivations, including organisational culture and reputational concerns (Yadav et al., 2018). Meanwhile, Marinova et al. (2019) emphasise the significance of understanding material flows and embodied emissions in residential construction, providing a data foundation for lifecycle-based sustainability strategies. A systematic review by Lima et al. (2021) further underlines that industry-wide progress is being made through the adoption of life-cycle assessment (LCA), eco-certifications (e.g., LEED, BREEAM), and digital tools such as building information modelling (BIM). However, innovations and new practices are easier to implement for larger companies than for SMEs.

The German Society for Sustainable Building (DGNB) certification system has emerged as a leading standard for sustainable building, incorporating environmental, economic, and social dimensions into life-cycle-based assessments. SMEs increasingly utilize the DGNB enhance the market value and credibility of their projects (DGNB Gmbh, 2023). At the financial level, government-supported mechanisms have played a crucial role in enabling SMEs to invest in sustainable construction practices. For example, the German development bank KfW funds several projects relating to sustainable building practices and energy-efficient buildings (Kfw, n.d.). Specific loan lines within the Federal Funding for Efficient Buildings program provide SMEs with low-interest financing for insulation, renewable heat systems, and energy consulting (Handelskammer Wiesbaden, n.d.).

Furthermore, empirical research shows that many German SMEs pursue proactive and even offensive sustainability strategies, voluntarily integrating biodiversity protection, resource efficiency, and climate resilience into their operations (Galeitzke et al., 2019). This trend is reinforced by increasing digitalisation: sensor-based energy management, BIM-integrated lifecycle assessments, and data-driven material optimisation are gradually being adopted by SMEs seeking to align operational efficiency with environmental goals (Bella et al., 2024). However, barriers remain, especially a lack of dedicated personnel, limited in-house expertise, and complex access to information and financing, which continue to slow down widespread sustainability implementation among smaller firms. Although these findings are based on SMEs in the manufacturing sector, they provide important knowledge into typical challenges that are likely transferable to the construction and real estate context as well (Steinhöfel et al., 2019).

2.3. VSME in SMEs in the Construction and Real Estate Industry

The construction and real estate industry holds a central role in sustainability transitions due to its significant material intensity, long-lived assets, and substantial contribution to global CO_2 emissions (*In Focus*, n.d.). SMEs dominate the European industry, although, research suggests that SMEs are more flexible and can adapt faster, sustainability is not integrated into the business (Yadav et al., 2018). VSME represents a proactive approach among SMEs to enhance environmental and social performance, respond to evolving stakeholder expectations, and anticipate future regulatory frameworks (EFRAG, 2024). Recent literature emphasises the variability in SME sustainability reporting, highlighting diverse practices and inconsistent depth across reports within the real estate and construction industry (Shahid et al., 2024). Steinhöfel et al. (2019) analysed 15 sustainability reports according to the GRI guidelines for German SMEs in the Manufacturing industry. They found that "Sustainability Reporting is at best an emerging topic for small and medium-sized enterprises" (Steinhöfel et al., 2019, p. 616). Furthermore, they concluded that a "feasible and meaningful" sustainability reporting guideline is missing for SME (Steinhöfel et al., 2019, p. 616). Generally, SMEs focus primarily on environmental topics, particularly energy efficiency, greenhouse gas emissions, and resource efficiency (Steinhöfel et al., 2019), which can be linked to operational improvements in construction processes. Conversely, social and governance issues receive less attention, with limited disclosures regarding workforce conditions, occupational safety, diversity, and governance structures (Institut für ökologische Wirtschaftsforschung (IÖW) GmbH,

gemeinnützig, 2022). This pattern aligns with broader SME sustainability reporting trends, prioritising environmental aspects over social and governance dimensions.

Key barriers to VSME adoption include financial constraints, limited sustainability awareness among SME leaders, knowledge gaps, technological limitations, and insufficient organisational resources (Setyaningsih et al., 2024). Limited access to finance has been a significant barrier for SMEs identified in literature, while external drivers, such as emerging regulations and stakeholder pressures, are increasingly shaping SME sustainability behaviour (OECD, 2022).

Although the CSRD is not legally binding for SMEs, it indirectly influences SMEs because larger supply chain partners and financial institutions that have to disclose ESG matters now have increased sustainability expectations, which is referred to as the "trickle down" effect (EFRAG, 2024). Research found that less than half SMEs are able to supply sustainability metrics upon request, underlining the significant readiness gap between SMEs and larger enterprises (Gerstenberger & Grewenig, 2024). To overcome these barriers, voluntary frameworks such as the German Sustainability Code (DNK) provide structured, simplified reporting guidelines explicitly tailored for SMEs(Deutscher Nachhaltigkeits Kodex, n.d.). Additionally, the recently developed VSME aims to standardise voluntary reporting, reducing complexity and encourage greater consistency (EFRAG, 2024). Internal organisational culture and leadership is a crucial element in driving sustainability practices in SMEs (Kasiri et al., 2020). Organizational culture significantly drives the adoption of sustainability in SMEs (Isensee et al., 2020). Hence, proactive management drive the future of structured sustainability reporting. Clear, simplified reporting frameworks and targeted capacity-building are recommended to increase SMEs participation in sustainability reporting, promoting improved transparency within the sector (Setyaningsih et al., 2024).

2.3.1. Drivers to Implementing VSME for SMEs in the Construction and Real Estate Industry

Regulatory preparedness

Regulatory preparedness could present a significant driver for VSME implementation. Generally, the voluntary standard helps SMEs proactively address anticipated mandatory sustainability regulations such as CSRD. By adopting VSME early, SMEs minimise future compliance risks and costs, enabling smoother transitions when regulations become obligatory

(Bevilacqua & Del Prete, n.d.). Specifically in the construction and real estate sectors, this preparedness translates into aligning sustainability reporting with existing sustainable building certifications and construction permits (Lima et al., 2021). SMEs in these industries thus leverage VSME as a tool. Regulations drive SMEs to adopt sustainability reporting (OECD, 2022).

Consumer protection and transparency

Consumer protection and transparency act as additional regulatory drivers. On a general level, VSME enhances corporate transparency. It can be used to address the growing public demand for ESG disclosures (Walker, 2008). VSME enables companies to demonstrate their responsible use of materials and safety measures clearly. Furthermore, companies in the real estate and construction industry in Germany are confronted with increasing awareness of the environmental and social impacts of the industry (Bundesministerium für Bildung, Familie, Senioren, Frauen und Jugend (BMBFSFJ), 2024). Hence, voluntary standards are an opportunity for SMEs in construction and real estate to increase trust and legitimacy with clients and regulatory bodies by increasing transparency.

Access to finance

Access to finance is another key driver, where voluntary sustainability reporting via VSME significantly improves transparency and trustworthiness for investors and financial institutions. VSME compliance enhances ESG ratings, which are increasingly emphasised by financiers and investors for risk assessment and funding decisions. For SMEs specifically, adopting VSME is advantageous, as it increases their likelihood of obtaining green loans or sustainability-linked financing, thereby strengthening their financial resilience and capacity for sustainable growth (EFRAG, 2024).

Market fifferentiation

Market differentiation constitutes a powerful normative driver. Generally, sustainability reporting for SMEs is associated with increased visibility and strengthened brand reputation in competitive markets (Castilla-Polo & Guerrero-Baena, 2023). Particularly in the real estate sector, SMEs utilise sustainability reporting to clearly communicate their sustainability commitments to tenants and property buyers, who now routinely expect detailed ESG disclosures. For companies in the real estate and construction industry, trust and reputation drive the adoption of sustainability reporting (Shahid et al., 2024).

Supply chain requirements

Supply chain demands further stimulate the adoption of VSMEs. Larger project owners and contractors are increasingly requiring transparency in ESG practices from their suppliers, thereby accelerating the adoption of voluntary sustainability standards, such as the VSME. In commercial real estate and construction, the demand for contractors to provide ESG data is growing because their activities are part of the client's value chain and must be included in the client's own ESG disclosures (Palys & Gallagher, 2023). These demands are explicitly formulated by the European Commission, which the VSME aims to fulfil (European Commission, 2025b). In other words, larger contractors themselves feel pressure from reporting obligations, thereby pushing SMEs to adopt VSME. However, this can also be seen as an opportunity: with VSME adoption, SMEs can participate in ESG-conscious supply chains, which, in the long term, improve financial stability, sales growth, and survival rates (Ortiz-de-Mandojana & Bansal, 2016).

Certifications & industry standards

Certifications and industry standards represent another significant normative driver. The voluntary nature of VSME enables SMEs to prepare and align themselves with established industry certifications, such as DGNB, LEED, or BREEAM. In fact, the official VSME guidance even references leading rating systems as valuable resources for measuring sustainability metrics (EFRAG, 2024). For construction and real estate firms, implementing VSME can act as a preliminary step towards formal sustainability certifications, facilitating smoother certification audits and demonstrating compliance with industry best practices.

Leadership commitment

Leadership commitment is a vital cultural-cognitive driver of VSME implementation. Generally, the voluntary nature of VSME appeals strongly to SME owners. Managers who personally value sustainability and proactively embed ESG practices into their corporate culture, which can be explained by sustainability leadership (Kasiri et al., 2020).

Internal learning process improvement

Internal learning and process improvement also serve as a cultural-cognitive driver. Generally, companies that engage with VSME gain enhanced insights into resource use, environmental impacts, and business risks, which allows continuous improvement and operational

optimisation (Bevilacqua & Del Prete, n.d.). Construction SMEs specifically benefit from VSME by strategically monitoring operational sustainability KPIs such as energy use, waste management, and resource efficiency, in the long leading to operational improvements.

Reputation & social responsibility

Lastly, reputation and social responsibility represent significant drivers of voluntary sustainability reporting. Literature suggests that sustainability reporting positively affects corporate reputation (Zimon et al., 2022). For SMEs, voluntary sustainability reporting creates trust by enhancing transparency (Guerrero-Baena et al., 2024).

2.3.2. Barriers to Implementing VSME for SMEs in the Construction and Real Estate Industry

Regulatory complexity

Regulatory complexity presents a significant barrier to VSME implementation. In general, VSME introduces an additional reporting layer, which, although it is voluntary, adds to the perceived regulatory burden on SMEs. SMEs struggle navigating the sustainability reporting ecosystems also because of the increasing numbers "of actors, including public and private financial institutions, policy makers, regulators, Fintech companies, ESG rating providers, consulting service providers, auditors, accounts and others". (OECD, 2022, p. 7). Without dedicated sustainability staff, small firms find it challenging to interpret and reconcile these overlapping guidelines, heightening the regulatory complexity barrier to VSME adoption (OECD, 2022).

High initial costs

The financial entry barrier associated with VSME is significant. Generally, adopting sustainability is associated with upfront costs (OECD, 2022). The costs associated with VSME implementation include preparing the report, handling ESG requests and providing information, and regulatory administration costs (EFRAG, 2024).

These costs are amplified in the construction and real estate sectors, where tracking environmental performance often requires project-specific equipment and IT systems—for instance, to monitor energy use, waste generation, or embodied carbon (OECD, 2022). SMEs face distinct financial challenges, as they typically operate with limited capital and narrower

profit margins (Okeke et al., 2024). Moreover, if companies in the construction and real estate industry operate more sustainably, they are confronted with "higher costs of sustainable building processes and materials; construction process technicalities; long bureaucratic processes; unfamiliarity with sustainable technology; inadequate awareness; and lack of sustainable product information." (Ayarkwa et al., 2022, p. 3).

Fragmented regulations

Another central challenge is the fragmentation of existing sustainability frameworks. In the construction and real estate industry in Germany, companies must comply with numerous regulations on the national and European levels. This complex system causes difficulties in the application in practice for companies in the industry (Deutsche Energie-Agentur GmbH (dena), 2023). This is especially difficult to handle for SMEs that face these challenges with limited resources (OECD, 2022).

Lack of industry standards

While the framework provides general ESG indicators, it does not provide sector-specific guidance (EFRAG, 2024).

Scepticism towards sustainability

Widespread scepticism regarding the added value of voluntary ESG reporting further slows adoption in Germany. German SMEs perceive sustainability reporting as an administrative burden with limited strategic payoff unless mandated by regulators or clients (DIHK, 2023).

Market short-term focus

A persistent short-term orientation in SME markets impedes voluntary sustainability efforts. In general, SMEs tend to focus on immediate profitability, especially in highly competitive and project-based environments (OECD, 2022). In construction and real estate, tight schedules and budget constraints often override strategic ESG considerations, even when leadership is aware of long-term benefits.

Resistance to change

Research shows that SMEs have organisational learning barriers that create resistance to innovation and organisational changes, with a preference for traditional methods (Scipioni et al., 2021). Read and Sanderson (2021) conducted interviews with real estate practitioners in the

United States, which found evidence of organisational inertia where around a quarter of all participants suggested that they are resistant to change. The organisational inertia presents a barrier to VSME implementation. As a voluntary initiative, VSME often requires internal commitment and structural adjustments, typically without direct legal incentives (EFRAG, 2025).

Lack of knowledge and training

Another key barrier is the lack of knowledge and technical capacity. SMEs lack the knowledge and skills needed to implement sustainability reporting (Castilla-Polo & Guerrero-Baena, 2023). In the construction industry, specific knowledge is required to quantify indicators such as energy use, waste, and emissions, as well as technical knowledge of the necessary tools (Lima et al., 2021).

Limited awareness and engagement

Finally, limited internal engagement often undermines implementation efforts. Voluntary ESG frameworks, such as the EU's VSME standard, require broad organisational awareness and cross-departmental support to be effective. Barriers such as a lack of awareness of sustainability's benefits can further hinder SMEs' adoption of sustainable practices. Moreover, the construction industry is characterised by a weak sustainability culture (Bezerra et al., 2024).

2.3.3. Coping Mechanisms of SMEs in the Construction and Real Estate Industry with the Challenges of VSME Implementation

Use of external consultants

External support is a common coping mechanism, especially under regulative pressure. Since SMEs often lack knowledge and face financial and human capital constraints, Accounting for Sustainability (A4S), a network of accounting bodies, advises SMEs to consult professional accountants and experts (A4S, n.d.). Since SMEs often lack the sustainability expertise needed to report under VSME (Castilla-Polo & Guerrero-Baena, 2023) and given their existing financial resources, hiring an external consultant can be a good coping mechanism to overcome implementation barriers. Consultants can assist SMEs in understanding the process of transforming their sustainability operations (OECD, 2022).

Stepwise implementation

A phased adoption strategy is another regulative coping mechanism employed to reduce the reporting burden. The VSME framework was designed to reduce the reporting burden for SMEs, recognising that they may not be fully equipped to meet the extensive requirements of the CSRD (European Commission, 2025). At the same time, it enables SMEs to prepare for future mandatory sustainability reporting gradually. Its two-tier structure, comprising a Basic Module and a Comprehensive Module, supports a stepwise implementation approach, allowing companies to begin with essential disclosures before progressing to more advanced reporting requirements (Baumüller, 2025).

Cross-company cooperation

From a normative perspective, inter-organisational cooperation may support SMEs in adapting to VSME. Collaborations can reduce the barrier of information limitations and increase the company's resource base (Guimarães et al., 2021).

Client and stakeholder dialogue

Similar to collaboration, stakeholder engagement also plays a normative role in VSME coping strategies. Active dialogue with stakeholders serves as a critical coping mechanism in implementing sustainability reporting because it helps to determine which ESG topics are most material to their operations (Manetti, 2011). Fostering dialogue helps SMEs in the green transition (OECD, 2022).

Internal training and capacity building

On the cultural-cognitive level, capability development enables SMEs to implement VSME more effectively. Training can be a primary factor in increasing sustainable values and, if implemented correctly, can enhance other factors, such as stakeholders' connectivity and collaboration (De Micco et al., 2021). Training in SMEs highly influences the VSME uptake (EFRAG, 2024).

Digital tools for simplification

Finally, digital solutions support cognitive coping by reducing the operational burden of VSME. Digital tools for capturing ESG information are a valuable approach to data collection and thus facilitate sustainability reporting, if implemented and correctly used (Bezerra et al., 2024).

ESG-related tools support SMEs in sustainability reporting (OECD, 2022), and VSME online tools are an option to facilitate the reporting for SMEs (EFRAG, 2024).

3. Methodology

3.1. Research Framework and Method

This research adopts a qualitative, exploratory case study design, grounded in the interpretivist research philosophy, to answer research questions about the impact of VSME on German SMEs in the construction and real estate industry, as well as the coping mechanisms that the SMEs employ.

According to Maxwell (2013), qualitative research is especially useful when the goal is to understand process, meaning, and context, which are all core to this study. Rather than testing variables or predicting outcomes, this research focuses on exploring the perspectives and interpretations of SME actors and how these are shaped by their institutional environments (Maxwell, 2013). Interpretivist studies create an understanding of organisational realities by considering the complexity by collecting what is meaningful for the research participants. The interpretivist perspective is argued to be highly appropriate for business and management research, as these fields are often complex and unique (Saunders et al., 2023). The drivers, barriers, and coping mechanisms related to VSME implementation in SMEs in the real estate and construction industry remain under-researched. Hence, exploratory research is conducted (Saka et al., 2025). Exploratory research was conducted through open interviews, which helped understand the topic and answer the research question. The purpose of the research is to provide a deep understanding of the drivers and barriers to implementing CSRD for German SMEs. For better comparability and meaningful results, the SMEs interviewed operate in the real estate and construction industry.

Semi-structured interview, which is also referred to as qualitative interviewing due to the open-ended question, is a form of interview “conducted conversationally with one respondent at a time, the SSI employs a blend of closed- and open-ended questions, often accompanied by follow-up why or how questions” (Adams, 2015, p. 493). This format ensures that all relevant research topics, such as drivers, barriers, and coping mechanisms, are systematically examined across interviews, while allowing participants to convey personal experiences and elaborate on subjects most significant to their particular context.

3.2. Sample and Data Collection

The final sample of the study comprises 11 representatives from SMEs in the German construction and real estate industry. Participants were carefully and meaningfully sampled to ensure they have direct knowledge and strategic oversight of the company. The sample size was not predetermined; instead, it was decided by the principle of data saturation. The process of conducting interviews ended when it became evident that the interviews were no longer yielding significant and new ideas or themes, and that the data being collected was becoming redundant. This shows that the study's exploratory goals were met with sufficient depth of information. The primary inclusion criterion is that participants must hold senior leadership, key managerial roles, or roles with direct responsibility for sustainability, operations, or strategic decision-making. The companies that took part in the study are all types of SMEs as defined by the European Union. These included micro enterprises (with fewer than 10 employees), small enterprises (with fewer than 50 employees), and medium-sized enterprises (with fewer than 250 employees). To ensure consistent, recognised classification of their activities, participants were asked to identify their company's subsector using the Global Industry Classification Standard (GICS). Table 2 shows that the collected sample included companies from substantial sub-sectors, such as Construction Materials, Real Estate Development, Construction and Engineering, and Real Estate Services. This variety in company size and sub-sector was intended to reflect the industry. The participants are experienced, with two to 26 years of expertise in the industry. This mix ensured the dataset was robust and included perspectives from both long-time industry veterans and newer leaders. Five of the 11 participants were top-level executives, such as Founders, CEOs, and Managing Directors. It was also essential to have managers and specialists (such as Senior Manager, Project Manager, and Architect) who, while not leaders, oversee sustainability efforts, relevant operational tasks, and manage reporting. This dual focus on both strategic leadership and operational implementation was essential for acquiring a comprehensive understanding of the facilitators and obstacles associated with VSME implementation in the enterprises. To ensure confidentiality, all participants and the enterprises have alphanumeric codes in all research papers and the final thesis. Table 2 below has a complete, anonymous profile of each participant.

Table 2. Participant Information

	Enterprise Information			Participant information		
Interview	**Company**	**Size range**	**Subsector**	**Position in the enterprise**	**Tenure in the enterprise (in years)**	**Tenure in the industry (in years)**
1	A	Micro	Construction Materials	Managing Director/ founder	1	2
2	B	Mirco	Real Estate Development	Founder	4	22
3	C	Small	Real Estate Development, Real Estate Services	Senior Manager for Commercial Properties	12	4
4	D	Small	Real Estate Development	Project Manager	3	3
5	E	Small	Real Estate Development	Project Manager	8	15
6	F	Small	Real Estate Services	Project Manager	3	3
7	G	Small	Construction and Engineering	Architect	4	4
8	H	Small	Real Estate Services	Founder/ CEO	26	26
9	I	Medium	Real Estate Development	Commercial Managing Director	21	25
10	J	Small	Real Estate Development	Project Manager	5	5
11	K	Small	Real Estate Services	Founder/ CEO	18	22

Interviews were conducted via Microsoft Teams. Before recording and transcribing the interview, all participants were asked for their consent to record the interview. The interview guide has been developed in English but translated into German in case language barriers arise. In total, 4 out of 11 interviews have been conducted in German. Transcripts were subsequently translated, where necessary, and prepared for analysis.

3.3. Data Analysis and Quality Assurance

The transcribed interview data underwent thematic analysis, selected for its adaptability in uncovering intricate patterns within the dataset, consistent with the study's interpretivist and exploratory framework. The research adhered to the structured six-phase framework established by (Braun & Clarke, 2006), utilising the qualitative data analysis software MAXQDA to code and theme the data.

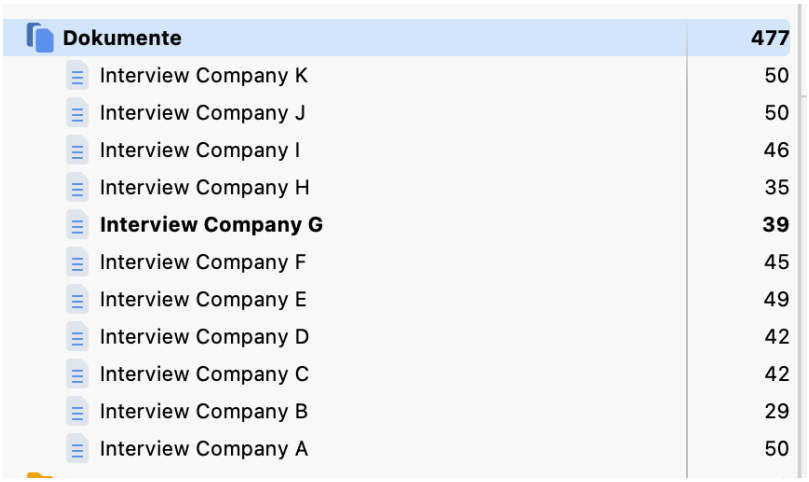

Figure 1. Screenshot MAXQDA with all interviews and the number of codes

A hybrid coding methodology combining a deductive and an inductive approach was employed. The process commenced with the creation of deductive a priori codes derived from the research questions and literature review, focusing on drivers, barriers, and coping mechanisms. Afterwards, during the inductive approach, new ideas were derived straight from what the participants said. The analytical process progressed through the six phases by Braun and Clarke (REF): the first step, familiarisation, involved reading the transcripts thoroughly to become familiar with the data. Initial thoughts for analysis were recorded in MAXQDA notes. The second step, generating initial codes, involved a thorough, line-by-line coding of the whole dataset. During the third phase, searching for themes, the MAXQDA software was used to combine all codes into larger candidate themes derived from recurring patterns of meaning. In the fourth phase, reviewing themes, these initial themes underwent rigorous evaluation. Themes were improved, combined, or discarded to ensure they accurately reflected the dataset. The fifth phase, defining and naming themes, was defining final themes and subthemes to ensure a clear and meaningful analysis. The last step, writing the report, was to put this narrative in the findings chapter, supported by quotations from participants. Throughout this process, research

integrity and quality were paramount. Trustworthiness was ensured by maintaining a clear audit trail of analytical decisions in MAXQDA, thereby enhancing the reliability of the findings. The validity of the study was strengthened by grounding the interview guide in established academic literature and by member checking, in which participants reviewed summaries of their interviews to confirm the accuracy of the interpretations. All ethical protocols were strictly observed: participants provided informed written consent (see Annex E) before their interviews, and their anonymity and confidentiality were protected using pseudonyms and the secure handling of all data.

4. Findings

This chapter will address the research question about the drivers, barriers, and coping mechanisms of VSME implementation in SMEs in the real estate and construction industry in Germany. The findings are organised into the 4.1.) Results and 4.2.) Discussion of the broader implications of the results. The results are composed of identified themes, subthemes, and codes within each subtheme. Table 3 shows the broader overview of themes and subthemes. The complete table, including all codes, is available in the Annex D.

Table 3. Findings: Identified themes and subthemes

Themes	Subthemes 1	Subthemes 2
Drivers	Regulative Drivers	Access to finance Consumer protection and transparency Regulative preparedness
	Normative Drivers	Long-term strategy and resilience Certifications and industry standards Supply chain requirements Market differentiation
	Cultural- Cognitive Drivers	Reputation and social responsibility Internal learning and process improvement Leadership commitment
Barriers	Regulative Barriers	Regulative complexity High costs Practicality issues
	Normative Barriers	Market short-term orientation Limited perceived value Lack of industry standards

	Cultural- Cognitive Barriers	Awareness and engagement Dependence on external resources Knowledge and training gaps Resistance to change Leadership attitudes
Coping Mechanisms	Regulative Coping Mechanisms	Stepwise implementation Use of external consultants
	Normative Coping Mechanisms	Client and stakeholder dialogue Cross-company cooperation
	Cultural- Cognitive Coping Mechanisms	Strategic framing of VSME Tools for simplification Internal training and capacity building

4.1. Results

Figure 2 shows all codes that appeared during the 12 interviews, where blue is the general information, green the drivers, red the barriers, and yellow the identified coping mechanisms. The following results will be explained in detail.

Figure 2. Code cloud created with MAXQDA

4.1.1. Drivers

4.1.1.1. Regulative Drivers

Access to finance

Access to finance was identified as an important regulative driver of the adoption of the VSME in the interviews. Numerous respondents expressly highlighted that access to finance was the primary driver encouraging SMEs in the construction and real estate industry to implement the standard. The VSME was intricately linked to improved financing circumstances and the opportunity to secure green or subsidised loans for sustainable initiatives. One participant stated: *"I think that would actually make financing easier for us and probably even improve the conditions."* (Interview, Participant D). Numerous interviewees highlighted that governmental funding initiatives foster sustainability adoption and that the benefits, such as access to financing, are often overlooked when thinking about VSME adoption. Moreover, investors seek sustainability reporting and certification, and banks require detailed ESG information. Better financing terms and access to financing can be found as the most important regulative driver, as Participant I puts it: *"But we can see a direct connection between reporting and making money. Better financing terms, a higher chance of winning contracts, and making assets that are more valuable and will last longer all help our bottom line."* (Interview, Participant I).

Consumer protection and transparency

Participants underscored that the standard enhances trust by allowing enterprises to showcase their sustainability performance in a credible, comparable way. One participant stated: *"The report is a way for us to show that we are serious about this duty. It's a way to build trust, which is the most important thing in our business."* (Interview, Participant I). Moreover, participants view VSME as an external tool to increase transparency, as Participant A mentioned: *"The reporting has a different point: It's much more about transparency with the customers to and to get the financing."* (Interview, Participant A).

Regulative preparedness

Regulative preparedness was identified as the primary driver for VSME adoption. Many of the respondents regarded VSME as an instrument for preliminary readiness for forthcoming reporting obligations. *"If we do adopt the VSME, we will be better ready when it becomes necessary for us to report."* (Interview, Participant K). This proactive strategy is characterised

as a tactical advantage due to its organisation of processes, data flows, and responsibilities. *"With the VSME, we could start building the structures we need and getting experience right away, at our own pace."* (Interview, Participant G). VSME is regarded as a measure that facilitates the shift from voluntary practices to forthcoming mandatory obligations. *"If we do adopt the VSME, we will be better ready when it becomes necessary for us to report."* (Interview, Participant K).

4.1.1.2. Normative Drivers

Long-term strategy and resilience

Several participants highlighted that VSME enhances strategic resilience and ensures future preparedness. *"It's also a chance to make your business better and more ready for the future."* (Interview, Participant F). Companies regarded the standard as an investment for the future and a method for ensuring long-term success and resilience*: "But I believe in the long run, if you create this foundation with VSME once and then report year after year."* (Interview, Participant D)

Certifications and industry standards

Moreover, VSME was regarded as a framework that provides the necessary structure for ESG data, and the general guidelines of the VSME reduce the complexity of reporting: *"There isn't a central system for this. This is exactly why the VSME has piqued my interest. It might give us the structure we need right now."* (Interview, Participant F). Participants perceived it as a chance to harmonise VSME with other certifications, and standards, as well as increasing transparency within the company. *"It could also help us find areas where we need to get better."* (Interview, Participant F).

Supply chain requirements

One important element mentioned by many participants was supply chain requirements. Companies reported that clients and partners are increasingly requesting sustainability data, especially those already reporting under the CSRD. Moreover, investors reach out to the companies for specific ESG data as Participant J reports, *"We will be a better partner for them if we have a VSME report ready."* (Interview, Participant J).

Market differentiation

Ultimately, market differentiation was repeatedly identified as a normative driver for VSME implementation. Sustainability reporting functions as a mechanism for competitive differentiation and enhances market position. Participant F stated, *"We believe that showing a strong commitment to sustainability, supported by a credible report like one based on the VSME, could set you apart from the rest."* Moreover, in the recent economic climate in Germany, where especially companies in Real Estate Development face instability and uncertainty, *"The market is difficult at the moment, so price is often the only factor. But we are noticing that sustainability concepts are becoming a decisive criterion, especially in municipal land allocation or concept procedures."* (Interview, Participant E). One participant stated that the company is thinking about VSME adoption even if it is just about *"we don't stand out in a negative way"* by not adopting VSME (Interview, Participant C).

4.1.1.3. Cultural-cognitive Drivers

Reputation and social responsibility

The interviews indicate that reputation and social responsibility are a crucial driver in the implementation of VSME: *"So reputation of the company is a factor for doing the VSME."* (Interview, Participant A). Social approval is regarded as crucial in building initiatives: *"It is very important for us to have a good reputation with the local government, our neighbours, and the community as a whole"* (Interview, Participant I). Overall, reputation was scored as the second-highest cultural-cognitive driver for implementing VSME across all interviews.

Internal learning and process improvement

Many participants emphasised the internal learning and structuring effect of VSME. The standard makes it possible to digitise processes, better understand resources and systematically collect data, because as participant E states, *"We realise that the requirements are not going to decrease."* (…) Moreover, companies gain deeper insights into company data *"The VSME could help us make this process the same for all of our buildings, even those that aren't certified."* (Interview, Participant K) and that the companies view it as an essential improvement *"It's not just a way to talk to people; it's also a management tool."* (Interview, Participant F). Some highlighted that stepwise implementation is beneficial for gradually establishing reporting processes. "*Building knowledge on VSME inside the company is essential."* (Interview, Participant G).

Leadership commitment

A persistent factor in VSME implementation is leadership commitment. Sustainability is progressively influenced by value-driven leadership. Several participants noted that the VSME implementation is highly driven by leadership, with C-level managers promoting sustainability and recognising its necessity. *"There's a real top-down principle that sustainability should be promoted."* (Interview, Participant D).

4.1.2. Barriers

4.1.2.1. Regulative Barriers

Regulative complexity

Respondents indicated that regulative complexity is the most named regulative barrier. *"The complexity is in itself a huge barrier."* (Interview, Participant H). Complex and fragmented guidelines make it hard for participants to navigate through the overabundance of reporting standards. *"There are a lot of rules in the landscape, and they don't always fit together perfectly."* (Interview, Participant J).

High costs

A commonly referenced barrier is the increasing expenses. The interviewees underscored that establishing IT infrastructure, data collecting, training, and hiring employees or consultants are substantial for the beginning of VSME implementation *"That's one of the biggest hurdles. We quickly realised that we couldn't handle this internally. So, we hired external consultants. They're good, but also very expensive"* (Interview, Participant E) and *"You first have to create the entire data foundation, and there are initial costs involved."* (Interview, Participant C). These initial investments especially pose challenges for small enterprises. As participants stated in the interview: *"Every additional requirement, every new documentation obligation costs time and money."* (Interview, Participant E).

Practicality issues

Moreover, several participants regarded the standard as overly intricate and challenging to incorporate into current systems*: "Client A wants data that fits with GRESB, Client B has a template based on the EU Taxonomy, and Client C has their own system that they own."* (Interview, Participant K). SMEs have limited capacities, which makes obtaining data along the supply chain very difficult: *"Tracing the chain back to its source is almost impossible for us as*

an SME. This shows that the standard was not written with us in mind." (Interview, Participant E). Setting up structures to be able to report VSME and collecting the data is more complex and time-intensive, as anticipated according to Participant C: *"And you think, 'Oh, a student assistant can just upload that quickly'." But you actually need to go much deeper. So, it's an ongoing project."*

4.1.2.2. Normative Barriers

Market short-term orientation

Numerous respondents identified time constraints and insufficient support for sustainable companies and projects in the real estate and construction industry as a barrier to VSME implementation.

> *"I have payroll to meet this month and client emergencies to handle today. Investing significant time and money now against a potential future law that may or may not affect us in its proposed form is a luxury we cannot afford. It's a simple matter of resource allocation. We will adapt when the law requires us to, not before."* (Interview, Participant H).

Also, participant J identified this barrier *"The only thing that matters in project development is the deadline."* Time constraints and resource scarcity hinder long-term engagement in sustainability reporting.

Limited perceived value

A significant restricting factor is the perceived limited usefulness of VSME. Many participants saw no immediate added value for operational activities in the standard since the sustainability information that is requested by partners and clients is often project-level information. *"Everything is focused on the project level right now. It's about looking at the whole life cycle of a building, the carbon footprint of the materials used, how much energy it will use, and the principles of a circular economy."* (Interview, Participant G). The VSME, on the other hand, focuses on company-level sustainability. Furthermore, Participant H reports that partners and investors do not require ESG data at all, *"We haven't felt that pressure yet. Our clients are mostly private owners, family offices, or smaller real estate funds. They aren't the huge corporations that fall under this CSRD."* And that VSME does not help the company identify any operational or strategic risks. As noted in one interview, *"The existing financial and*

operational controlling tells me everything I need to know about our resource use." (Interview, Participant H).

Scepticism toward sustainability

Moreover, some respondents expressed profound scepticism about sustainability in general. This included the unnecessary information that provides no added value, as Germany already has very high building standards in terms of sustainability. There was no need for added paperwork: *"Many also say that we already build to the highest standards in Europe, so why all this additional reporting madness?"* (Interview, Participant E). Participants were sceptical that VSME may be perceived as greenwashing. *"People think that it's just 'greenwashing' and that the time and money spent won't really help the business"* (Interview, Participant F). Participant C argued the scepticism that competitors may gain critical insights from the VSME report: *"Then there's the question of transparency. How much do you want to reveal about your company's strategies and plans? (...) I don't really want to lay out my business strategy in a public report for all my competitors to see."*. There was identified scepticism about consequences if you do not achieve promoted sustainability goals, namely *"what happens if you write down a goal and then don't achieve it because market conditions change. Will you be penalised?"* (Interview, Participant C). Or the fear of being accused of greenwashing after not meeting targets published in the VSME: *"If you publish targets and don't achieve them, you fear accusations of greenwashing."* (Interview, Participant E).

Lack of industry standards

A deficiency of industry-specific clarity was identified as a barrier. Numerous participants noted during the interview that the VSME recommendations are generic and not tailored to the real estate and construction industry. *"It's way too general. It looks like it was written for a business that makes things or has a simple operational footprint."* (Interview, Participant K) which makes it challenging to understand which factors do apply for the real estate and construction industry *"You often have to think long and hard about how to apply a question to our industry."* (Interview, Participant E).

4.1.2.3. Cultural-cognitive Barriers

Awareness and engagement

Participants identified insufficient employee awareness and limited capacity as barriers. Even if leadership is in favour of the VSME, employees may lack the capability for the VSME. *"They*

are engaged in the sense that they will do what needs to be done, but they don't have the time or mental energy to think strategically about it or start new projects." (Interview, Participant K). Participants stated that it is very difficult for an employee to engage in sustainability reporting as well as other tasks, *"think you need structure in the company and a dedicated position for that"* (Interview, Participant D).

Dependence on external resources

A further impediment was reliance on external resources. Smaller enterprises reported being unable to hire internal expertise and instead depend on external consultants. *"You either have to hire people or pay for consultants."* (Interview, Participant C). For companies, this is scarcely attainable from a financial or organisational perspective.

Knowledge and Training Gaps

Participants also identified a considerable lack of knowledge and training. There is a lack of information, guidelines, and examples provided by the regulators. *"One of the first searches was trying to find examples, and I didn't find any."* (Interview, Participant A). Moreover, participants reported that the company does not invest in internal training for employees who are working on sustainability reporting. *"We would need to develop this skill from scratch or get it from somewhere else. It's a classic chicken-and-egg problem: management doesn't want to spend money on training, and without the knowledge, the will doesn't grow."* (Interview, Participant G).

Resistance to change

A notably recurrent theme was the resistance to change, both in the company and industry wide. VSME is sometimes seen as an additional encumbrance. Individuals are fatigued by new mandates and favour maintaining the status quo. Several times, participants used the phrase *"We have always done it this way"* (Interview, Participant D, E, G, F) to express this resistance to change within their company or the industry.

Leadership attitudes

Leadership can foster VSME adoption but also hinder it. *"It affects everything 100 per cent"* (Interview, Participant G). Several participants reported that leadership, or parts of it, is opposed to adopting VSME, and that this poses the main barrier to implementation: *"Because the owner isn't personally committed"* (Interview, Participant G).

4.1.3. Coping Mechanisms

4.1.3.1. Regulative Coping Mechanisms

Stepwise implementation

Participants defined the gradual implementation of the VSME (basic and advanced modules) as an essential adaptive strategy. Participant J commented on this stepwise implementation as *"It's the only way that makes sense."* (Interview, Participant J). This approach reduces entrance barriers and facilitates gradual incorporation into current operations. *"We began with the basic module, concentrating on what we could feasibly quantify. This year, we're adding a few more pieces of information."* (Interview, Participant I). The modular design of the VSME was emphasised as a beneficial aspect, as *"the standard is modular, which is a great thing."* (Interview, Participant F).

Use of external consultants

The employment of external consultants emerged as a crucial coping mechanism. External expertise is considered crucial, particularly during the first stages. External advisors are essential for the initial configuration. *"A good consultant could help us understand the standard, figure out what's important for our business, set up a useful way to collect data, and help us write the first report."* (Interview, Participant F). Participants identified assistance with reporting, data gathering, and structural development as critical elements. Consultants provide needed skills and expertise: *"The main reason we plan to rely heavily on outside help is that we don't have the right skills in-house."* (Interview, Participant K).

4.1.3.2. Normative Coping Mechanisms

Client and stakeholder dialogue

Engagement with consumers, partners, and other stakeholders was recognised as a coping mechanism. Certain companies said they provide ESG data only upon request: *"We would provide what is contractually required."* (Interview, Participant H). Conversely, others adopt a more proactive stance by engaging with stakeholders to understand expectations and foster transparency around sustainability data.

> *"We talked to our main banking partners before we even started the report and asked them, 'What information would be useful for you?' This conversation makes sure that*

our report is not just for us but also for them. We are now having similar talks with the towns and cities we work with." (Interview, Participant I).

Participants also view this dialogue as an option to learn and exchange knowledge, which also leans into another coping mechanism identified:

> *"When we work with joint venture partners who are sometimes larger than us, we of course notice that they have higher requirements, sometimes CSRD requirements. We try to learn from that, to absorb knowledge, to exchange ideas with them about which best practices they use, which might also be applicable to us."* (Interview, Participant D).

Cross-company cooperation

Participants also underscored the significance of collaboration within the business. They consider interactions with other organisations beneficial for adapting to new requirements and acquiring knowledge from one another. *"I think it's very important. I am active in a working group for sustainable construction within the Chamber of Architects. The exchange there is very useful"* (Interview, Participant G). Others, however, do not see a benefit in cooperating with other companies in the industry *"We exchange ideas at trade fairs and events, but it usually remains very superficial. No one really reveals their cards."* (Interview, Participant E). Associations and networks are also seen as critical since they do not provide new insights:

> *"We don't really exchange ideas with other companies or associations. You go to these ESG conferences, but everyone tells the same story, and everyone is the greatest. You get the classic buzzwords, but no one really goes into depth, at least not in those public discussions. It doesn't really help you much."* (Interview, Participant C).

4.1.3.3. Cultural-cognitive Coping Mechanism

Strategic framing of VSME

An essential approach to addressing this difficulty is to treat VSME as a strategic management instrument. Numerous participants stated that implementation is not seen as a bureaucratic need but as a strategic investment in the future. *"I want to stress that the view needs to change from seeing this as a heavy reporting duty to seeing it as a tool for strategic management."* (Interview, Participant I). The expenses for VSME are a strategic investment. *"But using the VSME framework could help us have that more strategic, proactive conversation with them."*

(Interview, Participant K). Moreover, Participant A was missing more incentives and better marketing from regulators for SMEs to adopt the VSME: *"You have to bring them some kind of treat. It's a bit like the game with the donkey and the carrot."* (Interview, Participant B).

Tools for simplification

Another coping mechanism is the use of digital systems to streamline data collection. The absence of IT frameworks frequently obstructs current implementation. *"A good piece of software would automate a lot of the gathering and combining of data, making the reporting process much faster"* (Interview, Participant J). The implementation of specialised systems is regarded as an essential measure for the long-term professionalisation of the process. *"We are beginning to look into specialised software options for managing sustainability data."* (Interview, Participant F).

Internal training and capacity building

Ultimately, it became evident that internal expertise and ongoing training are essential for addressing the supplementary demands of the VSME. Numerous companies have designated an individual to oversee implementation coordination. *"Our capacity is basically one person who is dedicated to the task and has the time and money to train himself. He has gone to seminars, joined working groups, and now he is the expert we turn to."* (Interview, Participant I). It was underscored that staff require time to acclimatise to new ESG responsibilities: *"Building internal competence is the only long-term goal that can be kept. But I think outside help is almost necessary to get things going."* (Interview, Participant G).

4.2. Discussion

The discussion of this study reflects on how the findings of the research align with existing research on sustainability reporting in SMEs in the real estate and construction industry in Germany, while especially addressing the topic of the drivers, barriers, and coping mechanisms of the implementation of VSME, for which, to our best knowledge, no prior academic work exists. The VSME is a newly introduced framework. While initial literature exists on the introduction of the VSME, there is currently no research addressing its practical implications or its impact on SMEs. Therefore, the study approached the topic by drawing on comparable research on sustainability reporting and small business behaviour, using institutional theory (Scott, 2013) as a guiding framework. This approach enabled the interpretation of the findings

through the three institutional pillars: regulative, normative, and cultural-cognitive, and to relate the barriers, drivers, and coping mechanisms to broader patterns of organisational response. Overall, the results are consistent with existing theories and make a meaningful contribution by empirically closing an initial research gap on the early perception and implementation of the VSME in the construction and real estate sector.

The results of the drivers predominantly confirm the previous discussions in sustainability reporting research. Regulative preparedness and access to finance, such as green loans, have emerged as the predominant drivers, suggesting that SMEs in the real estate and construction industry regard VSME mainly as a practical instrument for preparing for potential future obligatory reporting and securing improved financial positions for the company. Comparable dynamics have been recognised in prior research on sustainability disclosures, which associated transparency with accessibility to finance and competitive benefits (Ioannou & Serafeim, 2019). Simultaneously, normative factors, including supply chain mandates and market differences, underscore the significance of relational pressures and legitimacy-seeking as described in institutional theory. Cultural-cognitive factors, such as leadership commitment and internal learning, were evident, indicating that personal and leadership values, as well as internal awareness, affect the initiation of reporting procedures. The drivers identified in this study support existing literature while introducing a realistic perspective by demonstrating that financial and strategic advantages may outweigh normative incentives during initial adoption stages.

Furthermore, the identified barriers align with current research on SME sustainability practices, specifically regarding regulative complexity, financial constraints, and insufficient competence. Consistent with prior OECD (2022) findings, this research confirms that overlapping frameworks and fragmented regulations create confusion and limit SMEs' capacity to act. However, the interviews offer a more detailed perspective, indicating that the obstacles are not solely normative and cultural-cognitive. A significant number of respondents perceived sustainability reporting as unrealistic or of minimal utility for their operations, as clients and lenders sometimes need project-level sustainability data rather than company-level sustainability data, especially in a fast-paced industry where SMEs lack resources such as money and time. This perceived discrepancy between reporting effort and outcome illustrates a sector-specific constraint of the existing VSME framework. Moreover, scepticism regarding sustainability was pronounced in the industry connected to the resistance to change. These insights underline that the barriers to VSME adoption are as much normative and cultural-cognitive as they are regulative.

Coping mechanisms demonstrated how SMEs practically address these barriers. The identified regulative coping mechanisms, i.e.,employing external consultants and gradually implementing VSME, align with the concept of progressive adaptation in response to regulative pressure. These findings echo Oliver's (1991) framework of organisational responses, suggesting that SMEs balance compliance and avoidance through strategic compromise. Normative coping mechanisms, including collaboration within networks and communication with clients or investors, highlight the relational aspect of sustainability adoption. On a cultural-cognitive level, internal training and digital tools were regarded as crucial for mitigating complexity and fostering long-term capability, indicating that technology-enhanced learning processes are increasingly important for adapting to changing regulative frameworks. The findings suggest that SMEs in the real estate and construction industry in Germany perceive VSME itself as a coping tool for organisation, learning, and preparation rather than only for information disclosure.

The research supports the claim that institutional theory serves as an appropriate framework for understanding how SMEs respond to emerging sustainability frameworks. The results support the notion that external pressure and internal capabilities collaboratively influence organisational behaviour, while also enhancing current understanding by demonstrating these interactions within the framework of a newly implemented voluntary standard. The research indicates that policymakers and regulators should prioritise simplifying guidance, providing sector-specific metrics, and developing accessible digital tools to improve SME involvement. The findings indicate that incremental implementation and early internal learning are critical success factors for companies. This study integrates institutional and coping theory perspectives, offering one of the initial empirical insights into how SMEs interpret and implement the VSME, thereby contributing to academic and policy dialogues regarding the future of sustainable reporting for SMEs in the construction and real estate industry in Germany.

5. Conclusions and Recommendations

5.1. Conclusion

This thesis set out to explore the initial drivers, barriers, and coping mechanisms influencing the implementation of the new VSME among SME in the German construction and real estate industry. Grounded in institutional theory, this qualitative, exploratory study utilised semi-structured interviews with 11 senior leaders, managers and employees responsible for sustainability in the company to understand how SMEs are navigating this new reporting landscape. The research found that the drivers for VSME adoption are not primarily rooted in deep-seated cultural-cognitive values. Instead, SMEs in this sector are pragmatic, with motivation that is overwhelmingly instrumental. The most powerful driver identified is the regulative pressure associated with access to finance, as banks and investors increasingly require ESG data. This is followed by regulative preparedness or using the VSME as a "practice run" for future mandatory reporting, and the normative pressure of supply chain requirements from larger clients. Regarding barriers, the findings confirmed expected challenges, including high initial costs, regulatory complexity, and a significant lack of knowledge. However, another critical barrier identified is a "value gap" specific to this industry: the VSME is a company-level standard, whereas the construction and real estate market overwhelmingly demands project-level sustainability data. This fundamental mismatch leads many SMEs to perceive the standard as impractical and disconnected from their core business, thereby reinforcing cultural-cognitive barriers such as resistance to change and general scepticism. In response to these challenges, SMEs are not passive. The research revealed that their coping mechanisms are highly pragmatic. At the regulative level, firms engage external consultants to bridge the knowledge gap and leverage the VSME's stepwise implementation to manage the burden. Most revealingly, a key cultural-cognitive coping mechanism is the strategic framing of the VSME. Instead of viewing it as a public reporting burden, innovating firms are repurposing it as an internal management tool to structure their data, identify operational risks, and build internal capacity. In essence, they are adapting the standard's purpose to fit their own strategic needs. This study contributes one of the first empirical analyses of the new VSME standard in practice, providing a crucial insight into its initial reception in a high-impact industry. It highlights the complex relationship between regulative pressures and the practical realities of a project-based sector.

5.2. Recommendations

Based on the findings of this qualitative study on the drivers, barriers, and coping mechanisms associated with the VSME for German SMEs in the construction and real estate industry, the following recommendations are proposed for key stakeholders. A significant barrier identified was the "value gap" between the VSME's company-level metrics and the market's demand for project-level sustainability data. To increase adoption and perceived value in this industry, regulators should develop a supplemental, voluntary module for the construction and real estate sector that provides sector-specific, project-level guidance. This supplement should include KPIs for individual projects (e.g., embodied carbon, lifecycle analysis, resource efficiency per build) that align with existing standards, such as DGNB. SMEs are not primarily driven by a desire to report, they are driven by access to finance and internal process improvement. Policymakers should also reframe VSME and influence the external perception by marketing and incentivizing the VSME toward its benefits as a strategic management tool. As one coping mechanism was "strategic framing," this should be officially encouraged. Furthermore, direct financial incentives (e.g., subsidies for first-time implementation, free access to software) should be created to offset the high initial costs, which were a primary regulative barrier. To combat the barriers of high cost, complexity, and the need for external consultants, a centralised, user-friendly, and preferably government-subsidised digital platform should be developed. Centralised and digital tools could guide SMEs through the stepwise implementation, automate data collection where possible, and provide clear examples, addressing the "lack of guidelines" barrier.

Recommendations for SMEs and Industry Associations

SMEs should not view the VSME as an "all-or-nothing" reporting burden but rather adopt the stepwise approach it offers as a voluntary framework. The findings strongly support the use of the "stepwise implementation" coping mechanism. Firms should begin with the Basic Module, using it as an internal tool to first identify operational risks and process improvements. This builds capacity and demonstrates the value of the standard before significant resources are committed to external reporting. Given that leadership commitment is a key driver (and its absence a key barrier), industry associations must create targeted, practical workshops for C-level executives and owners. These workshops should focus on the primary drivers identified in this study: demonstrating how VSME adoption can directly improve access to finance and

build long-term resilience. To reduce reliance on expensive external consultants, industry associations should enhance knowledge sharing and create peer-to-peer mentoring networks. SMEs that are further along in the implementation process can share practical templates, data collection strategies, and "lessons learned" with firms just starting. This directly addresses the cultural-cognitive barrier of "lack of knowledge" and fosters a normative environment of cross-company cooperation.

Recommendations for Future Research

This study was qualitative and exploratory with a sample of 11 participants. A broad-based, quantitative survey should be conducted across the German construction and real estate sector to determine the statistical prevalence of the drivers, barriers, and coping mechanisms identified here and to enhance the research's validation. This research provides a "snapshot" of initial perceptions of the newly introduced VSME. A longitudinal study is needed to follow a cohort of SMEs over several years. This would track how their perceptions, barriers, and coping strategies evolve as they move from a basic to a comprehensive module or from VSME to CSRD. A future study should compare the financial and operational performance of SMEs that adopt the VSME against those that do not. This would provide concrete data on whether adoption measurably improves access to finance, enhances market differentiation, or leads to operational efficiencies, moving beyond the perceived drivers identified in this thesis.

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Annexes

Annex A

Drivers for VSME Implementation in SMEs in Real Estate and Construction Industry. Table adapted from Scott (2013)

Driver in Construction and Real Estate Industry	Driver in SMEs
Construction firms using VSME gain early alignment with sustainable building certification and permit expectations	Regulations drive the adoption of sustainability reporting for SMEs (OECD, 2022)
Companies in the real estate and construction industry are confronted with increasing awareness of environmental and social impacts of the industry (BNE, 2024)	SMEs can use VSME to boost trust among clients and regulators through disclosure
VSME adoption improves ESG ratings which are increasingly demanded by real estate financiers	SMEs using VSME are more likely to secure green loans and sustainability-linked financing (EFRAG, 2024)
For companies in the real estate and construction industry, trust and reputation serve as driver in the adoption of sustainability reporting (Shahid et al., 2024).	Sustainability reporting for SMEs is associated with increased visibility and strengthened brand reputation in competitive markets (Castilla-Polo & Guerrero-Baena, 2023)
Construction firms can retain clients by meeting ESG standards of general contractors	VSME adoption helps SMEs stay in ESG-conscious supply chains and ensures survival
SMEs in the construction and real estate industry can use VSME to demonstrate commitment to industry-aligned sustainability (EFRAG, 2024)	Leadership commitment plays a crucial role when implementing sustainability in SMEs (Kasiri et al., 2020)
Construction firms use VSME to monitor and optimize operational sustainability KPIs	VSME encourages SMEs to gather analyze data which leads to better management practices (EFRGAG, 2022)
	Voluntary sustainability reporting in SMEs increases transparency and trust (Guerrero-Baena et al.,2024)

Institutional Pillar	Driver	Driver in General
Regulative	Regulatory Preparedness	VSME helps SMEs prepare for future mandatory CSRD/ESRS regulation, reducing long-term compliance risk (ERFRAG, 2023)
	Consumer Protection & Transparency	VSME enhances corporate transparency, aligning with growing public demand for credible ESG data (Walker, 2008)
	Access to Finance	Sustainability reporting improves transparency and trust for financers and investors (EFRAG, 2024)
Normative	Market Differentiation	Voluntary reporting improves SME visibility and ESG brand in a competitive market (Castilla-Polo & Guerrero-Baena, 2023)
	Supply Chain Requirements	Large contractors increasingly demand ESG transparency from suppliers
	Certifications & Industry Standards	VSME fosters alignment with certifications like DGNB, LEED or BREEAM (EFRAG, 2024)
Cultural-Cognitive	Leadership Commitment	Leadership commitment drives VSME implementation (Kasiri et al., 2020)
	Internal Learning & Process	Reporting under VSME provides valuable data and insights on the SMEs operations (EFRAG, 2024)
	Reputation & Social Responsibility	Sustainability reporting positively affects the company's reputation (Zimon et al., 2022)

Annex B

Barriers for VSME Implementation in SMEs in Real Estate and Construction Industry. Table adapted from Scott (2013)

Barrier Construction and Real Estate Industry	Barrier SME
Firms must align these disclosures with building codes and certifications, increasing complexity	SMEs struggle to understand the optional yet structured requirements (OECD, 2022)
Companies in the real estate and construction industry face several financial challenges when adopting sustainable operations (Ayarkwa et al., 2022).	SMEs face financial challenges such as limited capital and smaller profit margins (Okeke et al., 2024)
Companies in the construction and real estate industry have difficulties implementing the numerous regulations (dena, 2023)	SMEs have to confront numerous regulations on EU and national level with limited resources (OECD, 2022)
	SME are sceptic toward and do not see the impact unless mandated by regulators or clients (DIHK, 2023)
In the industry, tight schedules and budget constraints outweigh ESG measures	SMEs tend to focus on immediate profitability (OECD, 2022)
Research indicates that companies in the real estate industry face organizational inertia (Read & Sanderson, 2021)	SMEs have an organizational learning barrier that creates resistance to change and innovation (Scipioni et al., 2021)
Construction firms need expertise in environmental indicators like energy use and waste tracking (Lima et al., 2021)	SMEs lack knowledge and skills for implementation needed to engage in sustainability reporting (Castilla-Polo & Guerrero-Baena, 2023).
	The construction industry is characterized by a weak sustainability culture (Bezerra et al., 2024)

Institutional Pillar	Name of Barrier	Barrier General
Regulative	Regulatory Complexity	VSME adds another reporting framework creating administrative burden and confusion (OECD, 2022)
	High Initial Costs	VSME implementation involves up-front costs (EFRAG, 2024)
	Fragmented Regulations	VSME adds to the abundance of regulations and frameworks for the real estate and construction industry
Normative	Lack of Industry Standards	VSME is generic; lacks tailored metrics for sector-specific issues like sustainable building materials (EFRAG, 2025)
	Scepticism Toward Sustainability	SMEs perceive VSME as an administrative burden (DIHK, 2023)
	Market Short-Term Focus	SMEs tend to focus on immediate profitability
Cultural-Cognitive	Resistance to Change	Voluntary frameworks face organizational inertia absent enforcement (EFRAG, 2025)
	Lack of Knowledge & Training	SMEs lack knowledge as well as skills for implementation (Castilla-Polo & Guerrero-Baena, 2023).
	Limited Awareness & Engagement	

Annex C

Coping Mechanisms of SMEs in the Construction and Real Estate Industry with VSME Implementation. Table adapted from Scott (2013)

Institutional Pillar	Name of coping mechanism	Coping mechanisms for challenges for business in general	Coping mechanism for businesses in the construction and real estate industry	Coping mechanisms for SME
Regulative	Regulatory Complexity	VSME adds another reporting framework creating administrative burden and confusion (OECD, 2022)	Firms must align these disclosures with building codes and certifications, increasing complexity	SMEs struggle to understand the optional yet structured requirements (OECD, 2022)
	High Initial Costs	VSME implementation involves up-front costs (EFRAG, 2024)	Companies in the real estate and construction industry face several financial challenges when adopting sustainable operations (Ayarkwa et al., 2022).	SMEs face financial challenges such as limited capital and smaller profit margins (Okeke et al., 2024)
Normative	Lack of Industry Standards	VSME is generic; lacks tailored metrics for sector-specific issues like sustainable building materials (EFRAG, 2023)		
	Scepticism Toward Sustainability	SMEs perceive VSME as an administrative burden (DIHK, 2023)		SME are sceptic toward and do not see the impact unless mandated by regulators or clients (DIHK, 2023)
Cultural-Cognitive	Resistance to Change	Voluntary frameworks face organizational inertia absent enforcement (EFRAG, 2025)	Research indicates that companies in the real estate industry face organizational inertia (Read & Sanderson, 2021)	SMEs have an organizational learning barrier that creates resistance to change and innovation (Scipioni et al., 2021)
	Lack of Knowledge & Training	SMEs lack knowledge as well as skills for implementation (Castilla-Polo & Guerrero-Baena, 2023).	Construction firms need expertise in environmental indicators like energy use and waste tracking (Lima et al., 2021)	SMEs lack knowledge and skills for implementation needed to engage in sustainability reporting (Castilla-Polo & Guerrero-Baena,

Annex D

Total themes and codes used for analysis

Themes	Subthemes 1	Subthemes 2	Code
Drivers	Regulative Drivers	Access to Finance	State funding incentivizes sustainability adoption
			Benefits like access to financing and reputation are often overlooked
			The greener the project, the easier the subsidized financing
			VSME could help secure investors and public grants that require sustainability information
			Major investors seek sustainability reporting and certifications
			VSME shows banks that you assess risks
			VSME can highly influence access to green loans
			VSME helps secure loans
			Banks require detailed ESG information
			Access to finance is the most important driver
			Better financing terms
		Consumer Protection and Transparency	Sustainability reporting helps to make consumption much more visible
			Talk about VSME in terms of risks
			Consumer behavior drives sustainability
			Reporting as an external tool (transparency)
			VSME creates trust
		Regulatory Preparedness	Regulatory complexity is low for SME compared to larger companies
			Avoid punishment
			Regulations an important driver for sustainability
			Regulatory preparedness
	Normative Drivers	Long-term Strategy and Resilience	Smaller companies facilitate change
			VSME strengthens resilience and futureproofing
			VSME integrated into a successful business strategy

			Employees in the planning team view ESG as a necessity
			Profit from VSME in the long run
			VSME as an investment for the future
			VSME could provide the needed structure for ESG data
			General guidelines reduce complexity
			KPIs of the VSME draw on existing certifications
			The two modules reduce the complexity of VSME
			VSME offers good guidelines to provide sustainability questions
		Certifications and Industry Standards	VSME could provide needed structure for ESG data
			General guidelines reduce complexity
			KPIs of the VSME draw to existing certifications
			The two modules reduce the complexity of VSME
			VSME offers good guidelines to provide sustainability questions
		Supply Chain Requirements	Partners required carbon data
			Client request for carbon data
			Supply chain entry and unlocking corporate partnerships
			Investors and tenants value sustainability
			Investors who report under CSRD request sustainability information
			Clients start asking about CO2, water and waste data
			Large clients request ESG data for their own sustainability report
			Partners and investors demand supply chain data
			Investors and partners require CO2 data
			Demands for detailed ESG data
			Important drivers are clients that report under CSRD

			Clients ask for energy and waste data
			Main driver is client request
		Market Differentiation	Sustainability reporting as a tool for competitive differentiation
			Do a sustainability report to not stay behind competitors
			Not being the only one who doesn't do sustainability reporting
			Clients value sustainability
			Reach clients that value sustainability
			VSME helps differentiate due to limited adoption
			Social acceptance is important in inner-city real estate projects
			Sustainability reporting to attract customers
			Pressure from the market
	Cultural- Cognitive Drivers	Reputation and Social Responsibility	Especially for inner-city real estate projects social acceptance is important
			Intrinsic motivation for VSME
			Reputation is a driver for VSME
			SMEs have more drive to be sustainable
		Internal Learning and Process Improvement	Building knowledge on VSME inside the company
			Stepwise implementation useful
			VSME can save time for due diligence when selling a project
			Digitalisation facilitates VSME
			VSME helps understand resource usage and operational risks
			Using VSME to set up data collection
			Open for change
		Leadership Commitment	Smaller enterprises are driven by leadership values
			Leadership-driven sustainability
			CTO promotes sustainability
			Leadership is pragmatic and drives sustainability because it is good economically
			Leadership sees necessity

			Sustainability reporting is becoming part of business culture
Barriers	Regulative Barriers	Regulatory Complexity	Complex guidelines
			Fragmented guidelines
			Not aligned with other frameworks
			Overabundance of reporting standards
		High Costs	Monetary constraints prevent VSME adoption
			High initial costs for setting up the data/ IT system
			Costs for consultants and IT systems are high
			Costs for training employees
		Practicality Issues	Sustainability data is provided short term
			Difficulties to implement software for ESG data because of different billing cycles and types of properties
			Supply chain information is hard to obtain
			Data points overlap but also contradict each other
			Phrasing sustainability seems intimidating
			VSME requires reporting irrelevant information
			VSME is perceived as impractical and overcomplicated
	Normative Barriers	Market short-term Orientation	Scarcity of time poses a barrier to VSME implementation
			Insufficient financial support for sustainable companies and projects
			Time constraints in the industry
		Limited perceived Value	Stakeholders request project-level, not company-level, data
			Reputation is based on long-term service
			VSME focuses on company-level, not project-level, sustainability
			Profit prioritization over sustainability
			VSME has no short-term benefits
			VSME does not help with identifying operational risks
			Contractors in construction do not accept necessity for ESG

			VSME does not help with other certifications
			Partners/ investors do not require ESG data
			Client relationships and price outweigh sustainability as differentiators
			VSME is a danger to ensuring long-term profitability
		Scepticism toward sustainability	VSME transparency on data and strategy -> competition may gain critical insights
			What happens if you do not achieve planned and published ESG goals
			We already build on very high standards, no need for extra paperwork
			Unnecessary information provides no added value
			VSME is perceived as greenwashing
			No long-term effects
			Theoretical and detached from practice
		Lack of Industry Standards	Lack of clarity of VSME in the industry
			Guidelines are general and not industry-specific
	Cultural- Cognitive Barriers	Awareness and Engagement	Staff are hesitant about ESG topics due to uncertainty
			Employees do not have capacity for VMSE
			Structure and dedicated staff is needed to do sustainability reporting
		Dependence on External Resources	You have to hire an external consultant or specialized staff
			Cannot afford to hire employees responsible for VSME
		Knowledge and Training Gaps	Lack of information, guidelines and examples
			No capacity to train new employees for sustainability reporting
			No internal training
		Resistance to Change	Resistance to change
		Leadership Attitudes	One part of leadership would prefer to avoid sustainability reporting
			Mixed opinion of leadership attitudes towards sustainability

			Leadership is against VSME
Coping Mechanisms	Regulative Coping Mechanisms	Stepwise Implementation	The company started with smaller ESG initiatives a long time ago
			Basic and comprehensive module lowers barriers to start VSME
			Stepwise implementation allows easy entrance
		Use of External Consultants	An external consultant indispensable for the initial setup
			Sustainability consulting (commercial properties)
			Creating the VSME report with consultants
			Choose long-term partners that are further ahead with ESG topics
			Would consider an external consultant over internal one
			Hiring external consultants for mandatory reporting
			Consultants provide specialised knowledge
			Consultants help to set up the structures needed to do VSME reporting
			External consultants may provide insufficient support
			Consultants instead of internal training for fast short-term success
			Consultants over the network and associations
	Normative Coping Mechanisms	Client And Stakeholder Dialogue	Only provide ESG data if requested
			Active dialogue with clients, but not about ESG information
			Actively seek dialogue with larger partners regarding ESG information needed
			Actively seek dialogue with larger partners regarding ESG information needed
		Cross-Company Cooperation	Industry networks do not provide insightful information
			Associations could provide more industry-specific advice
			Collaboration with other companies essential for adapting new standards
			More incentives to do VSME

	Cultural- Cognitive Coping Mechanisms	Strategic Framing of VSME	Importance of choosing contractors with the same values
			Costs for VSME are a strategic investment
			Management has to set the time spent on VSME
			VSME as a strategic management tool
		Tools for Simplification	No digital tools or software in place
			IT system necessary
		Internal Training and Capacity Building	Lack of internal discussion on VSME
			Took time to adapt all staff to the extra work of ESG topics
			One person in charge of VSME
			Considers inside training over hiring external consultants
			Internal training as long-term goal

Annex E

Written consent form for the interview participants

CONSENT FORM

I agree to participate in an interview conducted by Martha Peper for her Master's thesis at ISCTE Business School.

I understand that:

- Participation is voluntary and can be withdrawn at any time.
- The interview will be used for academic purposes only.
- My name and company will not appear anywhere; data will be anonymized.
- The recording (if I agree) will be stored securely and deleted after the thesis is completed.

☒ I agree to the interview being recorded.

☐ I do not agree to the interview being recorded.

Name: [redacted]

Signature: [redacted] Date: 01.09.2025

Annex F

Screenshot Example of the Codes identified in MAXQDA