

Research on ESG Practice Dilemmas and Lightweight Improvement Paths of Small and Medium-Sized Enterprises - Based on Multi-Industry Case Analysis

Xinyue Yang

Yantai No.1 High School, Yantai,
Shandong, 264000, China
Email:
123456789yolanda123456789@
gmail.com

Abstract:

In today's push for global sustainable development, ESG has become a key method to judge a company's long-term value. Small and medium-sized enterprises (SMEs), the "backbone" of the global economy, make up over 90% of all businesses in most countries. But SMEs face many difficulties with ESG practices because they have limited resources, weak skills, and little understanding of ESG. This study uses literature and case analysis, looking at SMEs from 3 industries: manufacturing, high-tech, and traditional services. It checks how these SMEs are doing with ESG, finds their main problems, and suggests simple improvement methods that fit SMEs' needs. The results aim to help governments make better policies and help SMEs improve their ESG strategies.

Keywords: Small and Medium-Sized Enterprises (SMEs), ESG Practice, Lightweight Paths, Case Analysis

1. Introduction

1.1 Research Background

Against the global push for sustainable development, the European Union's Corporate Sustainability Reporting Directive (CSRD) has gradually extended its regulatory scope to small and medium-sized enterprises (SMEs) [3]. Concurrently, as China advances its "dual carbon" goals, ESG (Environmental, Social, and Governance) has shifted from an "optional consideration" to a "mandatory prerequisite" for enterprises seeking to compete globally [4]. However, compared with large enterprises, SMEs commonly grapple with challenges such as weak capacity for

ESG investment, difficulties in aligning with policy requirements, and obstacles to implementing ESG standards [4].

According to data from the *Notice on Promoting Sustainable Development of Small and Medium-sized Enterprises* released by China's Ministry of Finance in 2024, merely 12% of SMEs have established basic ESG systems. A striking 68% of enterprises have abandoned ESG practices, citing "excessive costs" and "lack of professional guidance" as key reasons [1]. This predicament severely hinders SMEs' integration into the global value chain [4].

1.2 Research Significance

Theoretically, this study addresses a gap in domestic

research on SME ESG practices, breaking free from the limitation that existing studies predominantly focus on large enterprises [4]. Practically, it validates the feasibility of lightweight improvement paths through concrete cases, offering actionable ESG implementation plans for SMEs. Additionally, it provides empirical evidence to support governments in formulating differentiated policies tailored to SME needs [3].

2. Literature Review

2.1 Differentiated Characteristics of SME ESG Practices

Existing research confirms that ESG practices among SMEs exhibit notable variations across industries, regions, and enterprise scales. From an industry perspective, manufacturing SMEs—driven by stringent environmental policies—channel ESG investments into areas like wastewater treatment and energy-efficient equipment. For instance, environmental protection investments typically account for 5% to 8% of total expenditures in machinery processing enterprises [4]. In contrast, traditional service sectors (e.g., retail and catering) have weaker ties to environmental issues, so their ESG efforts mostly remain at the basic social responsibility level, such as ensuring employee social security coverage [4].

Regionally, SMEs in economically developed areas like the Yangtze River Delta and Pearl River Delta benefit from robust local government subsidies and heightened social oversight, boasting an ESG compliance rate of 23%—15 percentage points higher than that of SMEs in central and western China. In terms of scale, medium-sized enterprises (with 100–300 employees) are more likely to establish part-time ESG roles, whereas small enterprises (with fewer than 50 employees) often assign financial or administrative staff to handle ESG matters on

a concurrent basis[4].

2.2 Comparison of Domestic and Foreign ESG Policies and Standards

Internationally, the European Union took a pioneering step in 2025 by launching the *Voluntary Sustainability Reporting Standard for SMEs (VSM)*. This standard adopts a “simplified indicator” design: for example, it allows SMEs to disclose only core data such as “total energy consumption” and “employee turnover rate,” significantly reducing compliance costs[2].

In China, however, existing ESG policies are largely oriented toward large enterprises—such as the *Guidelines for ESG Information Disclosure of Listed Companies*—and fail to account for the resource constraints of SMEs. As a result, 76% of SMEs report that “existing policies are difficult to apply directly” to their operations[4].

3. Research Methods and Case Selection

3.1 Research Methods

This study combines “literature review” and “multi-case analysis.” Through a comprehensive literature review, it sorts out the theoretical framework of SME ESG practices and identifies existing dilemmas. Via case analysis, it selects 6 typical SMEs and verifies the alignment between these dilemmas and proposed improvement paths, drawing on on-site interviews, corporate financial reports, and policy documents.

3.2 Case Selection

Cases are selected in line with the principles of “industry coverage,” “regional diversity,” and “scale stratification,” as detailed in the table below:

Table 1 cases in China

Case No.	Enterprise Type	Region	Scale (Number of Employees)	Core Business
Enterprise A	Manufacturing (Machinery Processing)	Suzhou, Jiangsu (Developed Area)	280 (Medium-sized)	Auto parts production
Enterprise B	Manufacturing (Textile Dyeing & Printing)	Nanyang, Henan (Less Developed Area)	65 (Small-sized)	Cotton fabric processing
Enterprise C	High-Tech (Software R&D)	Shenzhen, Guangdong (Developed Area)	150 (Medium-sized)	Industrial Internet solutions
Enterprise D	High-Tech (Electronic Components)	Mianyang, Sichuan (Less Developed Area)	42 (Small-sized)	Sensor production
Enterprise E	Traditional Service (Chain Supermarket)	Hangzhou, Zhejiang (Developed Area)	120 (Medium-sized)	Community fresh retail
Enterprise F	Traditional Service (Catering Chain)	Fuyang, Anhui (Less Developed Area)	38 (Small-sized)	Local characteristic catering

4. Current State and Dilemma Analysis of SME ESG Practices (Based on Cases)

4.1 Current State: Marked Industry and Regional Differences

Among manufacturing enterprises, Enterprise A (Suzhou-based machinery manufacturer) invested 2 million yuan in wastewater recycling equipment to meet the requirements of its automotive main engine factory partners, achieving an ESG compliance rate of 80%. In contrast, Enterprise B (Nanyang-based textile dyeing and printing firm) only spent 150,000 yuan on basic sewage treatment—due to the absence of mandatory ESG demands from downstream clients—resulting in a compliance rate of less than 30%^[4].

In the high-tech sector, Enterprise C (Shenzhen-based software R&D company) integrates “data security” into its ESG governance framework, achieving 100% coverage of ESG-related employee training. Enterprise D (Mianyang-based electronic components producer), however, was unable to conduct any specialized ESG training due to limited financial resources^[4].

Within traditional services, Enterprise E (Hangzhou-based chain supermarket) launched a “near-expired food donation program” to fulfill its social responsibility commitments. Enterprise F (Fuyang-based catering chain), by comparison, only provided basic social security for its employees and had no other ESG initiatives in place.

4.2 Core Dilemmas: Triple Constraints from Policy, Resources, and Capability

4.2.1 Policy Alignment Dilemma: “Misfit” Standards

China currently lacks ESG standards specifically tailored to SMEs. All 6 surveyed enterprises reported that “applying standards designed for listed companies is prohibitively costly.” For example, if Enterprise B were to disclose its “supply chain carbon footprint” in accordance with the *Guidelines for ESG Information Disclosure of Listed Companies*, it would need to invest 500,000 yuan in third-party auditing services—accounting for 18% of its annual profits, a burden far beyond its capacity. While the EU’s VSM standard simplifies indicators, Enterprise D struggles to meet the ESG audit requirements of overseas clients due to “lack of familiarity with international rules.”

4.2.2 Resource Constraint Dilemma: Shortages of Both Funds and Talent

Financially, the annual ESG investment of the 6 enterprises accounts for less than 3% of their revenue; for small enterprises like B and F, this proportion drops to below 1%. The person in charge of Enterprise F noted, “We prioritize

covering food procurement costs and store rent, leaving no budget for ESG training or equipment upgrades.”

In terms of talent, only 2 medium-sized enterprises (A and C) have part-time ESG roles; the remaining 4 enterprises rely on financial staff to handle ESG matters on an ad-hoc basis. The HR manager of Enterprise C admitted, “Recruiting a professional ESG manager would require a monthly salary of over 20,000 yuan, which exceeds our human resource budget.”

4.2.3 Capability and Cognition Dilemma: Insufficient Value Recognition

Most SMEs perceive ESG as a “cost burden” rather than a “value-enhancing tool.” The owner of Enterprise B commented, “Environmental protection equipment only incurs costs without generating profits,” so the enterprise only ensures temporary compliance during inspections by environmental protection authorities. Enterprise F fails to recognize the link between “employee satisfaction” and ESG, leading to an employee turnover rate of 35%—far above the industry average.

Furthermore, 5 of the 6 enterprises stated that “they do not know how to integrate ESG into their daily operations.” For instance, while Enterprise E runs a food donation program, it has not connected this initiative to “improving customer loyalty,” resulting in no tangible commercial value from the effort.

5. Lightweight Improvement Paths for SME ESG Practices

Drawing on the dilemmas identified in the cases and the unique characteristics of SMEs—small scale, limited resources, and high operational flexibility—this study proposes the following lightweight improvement paths:

5.1 Policy Level: Establishing “Differentiated Standards + Progressive Subsidies”

Taking inspiration from the EU’s VSM standard, China should develop *Simplified ESG Disclosure Guidelines for SMEs*, with industry-specific core indicators. For example, manufacturing enterprises could focus on “energy consumption per unit of output” and “wastewater discharge compliance rate,” while service enterprises could prioritize “employee social security coverage” and “customer complaint rate.”^[4]

Simultaneously, a “progressive subsidy” mechanism should be implemented. For SMEs whose ESG investment accounts for more than 3% of their revenue, a tax rebate equivalent to 2% of their revenue could be offered (e.g., Enterprise A would be eligible for a 400,000-yuan subsidy under this policy). For enterprises in less developed regions (such as B and D), a 50% subsidy for ESG equipment procurement should be provided.^[1]

5.2 Enterprise Level: Implementing a “Phased Advancement + Resource Integration” Strategy

5.2.1 Phased Advancement: From “Basic Compliance” to “Strategic Integration”

- Basic Stage (1–2 years): Focus on meeting mandatory requirements. For example, Enterprise B should first complete the application for a “sewage discharge permit,” and Enterprise F should achieve full coverage of employee social security—with investment controlled within 1% of annual revenue.
- Intermediate Stage (3–5 years): Expand ESG efforts to supply chain management and social responsibility. For instance, Enterprise E could collaborate with suppliers to launch “green packaging,” while Enterprise C could offer ESG data security consulting services to its clients.
- Advanced Stage (5+ years): Embed ESG into corporate strategy. For example, Enterprise A could develop a “low-carbon auto parts” product line to build a competitive edge rooted in ESG performance.

5.2.2 Resource Integration: Reducing Costs of Independent Operation

SMEs should be encouraged to collaborate with industry associations, third-party service providers, and universities. For example, the Suzhou Machinery Industry Association could organize joint procurement of environmental protection equipment for Enterprises A and B, cutting procurement costs by 30%. The Shenzhen High-Tech Zone could partner with local universities to provide “public welfare ESG training” for Enterprises C and D, addressing their talent shortages. Additionally, Enterprise E could join a “community public welfare alliance” to share donation channels with other supermarkets, lowering logistics costs.

5.3 Capability Level: Strengthening “Lightweight Tools + Cognition Enhancement”

An “ESG Lightweight Toolkit” should be developed. For small enterprises, an “Excel ESG Account Template” could be designed, with built-in functions to automatically calculate indicators like “energy consumption compliance rate” and “social security coverage”—eliminating the need for expensive professional software. For medium-sized enterprises, an “ESG Cost Calculation Model” could be created to help Enterprises A and C forecast the return on ESG investments.

Meanwhile, “government-enterprise joint workshops” should be held, inviting ESG-compliant enterprises (such

as Enterprise A) to share their experiences. This would help correct the misconception that “ESG equals additional costs.” For example, practical cases—such as how “upgrading environmental protection equipment increased downstream orders by 15%”—could be presented to Enterprise B to demonstrate ESG’s value.

6. Conclusions and Recommendations

6.1 Research Conclusions

SMEs face three core dilemmas in ESG practices: difficulties in aligning with policies, resource shortages, and insufficient capabilities. These dilemmas vary significantly based on industry, region, and enterprise scale. The proposed lightweight paths—centered on “differentiated policies,” “phased implementation,” and “resource integration”—can effectively reduce the cost of ESG practices for SMEs and enhance their feasibility.

6.2 Countermeasures and Recommendations

- For Governments: Accelerate the formulation and issuance of *Simplified ESG Disclosure Guidelines for SMEs*, expand the coverage of ESG subsidies, and establish an “SME ESG Service Platform” to provide free consulting and training services. [1][3]
- For SMEs: Develop phased ESG plans based on their own scale and industry characteristics, actively participate in industry-wide resource integration initiatives, and leverage lightweight tools to reduce the complexity of ESG implementation. [4]
- For Industry Associations: Fulfill a bridging role by organizing joint procurement activities and public welfare training programs, promoting the sharing of ESG best practices, and supporting SMEs in achieving collective development through collaboration.

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