

ESG Methods and Tools as Support for Organizational Capabilities: A Structured Literature Review

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Abstract

This paper presents a structured literature review of works involving Environmental-Social-Governance (ESG) methods and tools, with a focus on their role in organizational capabilities. With this work we aim to highlight the potential to systematically integrate ESG concerns and factors as first-class constructs into enterprise architectures, business processes and in relation to enterprise capabilities.

The systematic search was conducted across Google Scholar and publisher repositories, complemented by some trusted industry sources. This resulted in the identification of several categories: direct reporting approaches such as LCA (Life Cycle Assessment) and ESG ratings; reporting and accountability standard frameworks; and IT platforms that become part of enterprise architectures. Findings show that most ESG tools are data-focused, relying on data extraction from enterprise systems in order to enable reporting, quantitative scoring and performance tracking. While such tools serve a direct need of quantitative assessment, ESG accounting is commonly treated as an on-demand data delivery function answering external requests, and less as a built-in knowledge capability. Conversely, academic contributions approach ESG from a managerial or recommendation-based perspective, outlining methods that can be treated through a capability lens. Even then, only few works invoke enterprise modeling methods or conceptual modeling as a means of expressing explicit ESG concerns or ESG knowledge capabilities. This gap points to an opportunity of enhancing ESG methods and tools beyond their dominant data ingestion and aggregation use cases, to converge with traditional enterprise modeling use cases. Design-oriented research is thus called to reconcile or bridge Business Process or Enterprise Architecture Management with ESG accounting.

Keywords

Literature review, ESG accounting, enterprise capabilities, knowledge management, enterprise modeling, domain-specific modeling

1. Introduction

Environmental, Social and Governance (ESG) accounting has become a core concern of corporate strategy and organizational transformation. Increasing regulatory pressure, stakeholders' expectations, and investor demands are turning ESG from a voluntary reporting activity into a strategic capability that organizations must build and sustain [1, 2]. At the same time, the tools and methods supporting ESG management remain fragmented, ranging from established approaches such as Life Cycle Assessment (LCA) and Scope 3 carbon accounting to ESG rating [3], and bibliometric or text-mining analyses of ESG reports [4], as well as emerging digital platforms including SAP Sustainability Control Tower [5] and LeanIX ESG Capability Mapping [6]. This fragmentation constrains organizations' ability to integrate ESG systematically - as capabilities, or into capabilities - associated to pre-existing Enterprise Architecting (EA) and Business Process Management (BPM) practices. ESG should be treated not only as a set of data-driven indicators or reporting requirements, but in association with, or as an enabler for, an organizational capability [7, 8]. Capabilities, as combinations of ability and capacity, can capture how methods and tools are purposefully (i.e. goal-oriented) and contextually (i.e. context-dependent) embedded into work routines, decision-making structures, and enterprise systems, ensuring that ESG concerns are not addressed in isolation but as an integral part of the design and operation of the

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organization [9, 10]. Conceptual modeling-based approaches – such as Enterprise Architecture (EA), Business Process Management (BPM), or domain-specific modeling languages can deliver solutions to reconcile or bridge ESG accounting systems and legacy enterprise information systems [11, 12, 13].

The ESG landscape is dominated by quantitative reporting frameworks such as Global Reporting Initiative (GRI), Sustainability Accounting Standards Board (SASB) or Corporate Sustainability Reporting Directive (CSRD). Qualitative, architectural, or process-centric perspectives remain underexplored [14] [15] and connections to capability management through enterprise modeling [16] are obscured, despite conceptual modeling's potential to strengthen semantic traceability and model-based knowledge management [17, 18]. Although Green BPM has emerged as a subfield [9, 19], its integration into mainstream ESG management practices remains marginal.

Recent enterprise conceptualizations brought forth the construct of capability, defined as what an enterprise is able to do by aligning processes, resources, and technologies to achieve goals under context-dependent conditions [16, 20, 21, 22]. When examined through this lens, ESG methods and tools can be turned into assets or methodological support for specific capabilities.

- On one level, enterprises must have the ability and capacity to sustain ESG activities, which are typically contextual (varying between regions, authorities, sectors, supply chains). Such activities are no longer an afterthought - i.e. of getting some additional data from current accounting systems - but require dedicated work systems, with roles, work procedures, documents and even software tools that become an integral part of the enterprise architecture. The goal pursued by such an ESG capability may be pro-active (to build an ESG public profile for competitive advantage, access to new markets etc.) or reactive (to comply with contextual impositions, authorities, business ecosystems etc.);
- On another level, a Knowledge Management capability can emerge with the purpose of managing ESG-specific knowledge [11], to enable knowledge transfers pertaining to ESG activities – e.g. onboarding new ESG-oriented employees, maintaining knowledge bases on ESG activities etc.

Both interpretations of "ESG capabilities" can be served by the practice of enterprise modeling – in the first interpretation, ESG capabilities can be mapped together with other capabilities in an enterprise architecture; in the second interpretation, an ESG Knowledge Management capability can be served by enterprise modeling methods as a means of knowledge capture and storage – an incipient BPMN-derived proposition was made in [11], and earlier research agendas proposed the embedding conceptual modeling into Nonaka's knowledge conversion spiral [23].

Considering this potential, the work reported in this paper aimed to assess the presence of conceptual modeling in association with current ESG tools and methods as reported by recent academic and industry literature sources. The following research questions guide our study:

- **RQ1. How are** ESG methods and tools currently used across organizations, and how do they align with core ESG pillars and reporting frameworks?
- **RQ2. How can** ESG methods and tools be understood not only as instruments for reporting or regulatory alignment, but as building blocks for organizational capabilities?
- **RQ3. How can** conceptual modeling approaches contribute to embedding ESG concerns into enterprise capabilities, ensuring traceability, accountability, and strategic alignment?
- **RQ4. What gaps remain** in connecting ESG methods and tools with enterprise modeling, and how can they be bridged towards enabling an ESG knowledge management capability?

2. Background

2.1. ESG Overview and Pillars

ESG pillars represent environmental responsibility (e.g. carbon emissions, waste), social impact (e.g. labor practices, community engagement), and governance (e.g. enforcing transparency, accountability,

ethical behavior). While these pillars are well recognized, they are often addressed through fragmented reporting efforts rather than as part of an integrated conceptualization, let alone a machine-readable one that could be leveraged by knowledge management systems. Viewed through a capability lens, ESG is not only a collection of metrics but a consistent organizational ability to achieve results. Following [21], a capability is more than resources or processes, representing what an enterprise is able to do in a sustained and systematic manner. In [22] it is emphasized that capabilities link strategy to operations, while [20] frames them as anchors for capability-based management within enterprise architecture. In our work, we aim to frame ESG accounting as an organizational capability, embedded within processes, decision-making, and knowledge management. ESG requirements are fundamentally contextually dependent and evolving, requiring granular mapping on business processes or architectural elements.

2.2. ESG Methods and Tools

ESG methods and tools can be grouped into two categories. First, **classical reporting frameworks**: LCA, Scope3 carbon accounting, and ESG rating and scoring systems (e.g. Sustainalytics, Morningstar, Refinitiv) [11, 24] provide standardized ways to measure and compare sustainability performance. However, these methods remain data-driven, generating metrics but not being able to ensure that organizations can embed them into internal work systems, enterprise architectures and dedicated capabilities. Second, **IT tools and platforms**, such as SAP Sustainability Control Tower [5] and LeanIX ESG Capability Maps [6] point to some degree of conceptual integration by linking ESG data with enterprise systems. These are, however, tool-centric and do not reveal reusable knowledge structures for enterprise modeling and/or knowledge management. This calls for further development of conceptual/semantic bridges, otherwise ESG remains divided between data-driven pragmatic reporting and vendor-specific tool deployments. We advocate for explicit conceptual coherence for embedding ESG within enterprise architectures, business processes and knowledge management practices.

3. Literature Review Methodology

This section describes how we conducted our literature review to investigate the treatment of ESG methods and tools in academic and industry sources, and possible links to enterprise capabilities and modeling. Resources related to this project, including the literature survey and subsequent refinements of it, are maintained in a GitHub repository link¹. The review process followed three **phases**: (1) identification of sources, (2) screening and refinement, and (3) final selection.

3.1. Identification of Sources and Search Strings

Searches were performed using Google Scholar and open access repositories or publisher repositories available to our university (CEUR-WS, Springer, IEEE, Elsevier, MDPI). These were complemented with grey literature such as white papers, tool documentation (SAP, LeanIX), and sustainability frameworks (e.g. PwC reports [25], B Corp). AI-assisted discovery was also employed complementary to using search engines, with prompts asking for recommendations of papers on the same subjects as those represented by the keyword searches. The initial search collected 116 sources, consisting of 94 academic works and 22 grey literature contributions – the set included journal articles, conference proceedings, books/book chapters, technical reports, and practitioner documents. For an initial thematic clustering, AI was employed for an initial summarization step, cross-checked and corrected by the authors to ensure that final filtering and interpretation decisions remain researcher-driven.

The next step was to organize the collected corpus into **five thematic clusters** correlated with the employed search strings as follows:

(1) ESG Methods and Tools- including “ESG methods”, “ESG tools”, “ESG ratings”, “ESG scores”, “dashboards”, “LCA”.

¹<https://github.com/carmenterec/Towards-an-ESG-oriented-Enterprise-Modeling-Method>

(2) **Reporting and Accountability**-covering “ESG accounting”, “ESG accountability”, “sustainability reporting”, “GRI”, “SASB”, “CSRD”.

(3) **Enterprise Modeling and BPMN**-comprising “conceptual modeling for ESG”, “domain-specific modeling in ESG”, “enterprise modeling for ESG”, “BPMN extensions for ESG”, “Business Process Management for ESG”, “Green BPM”.

(4) **Enterprise Architecture and Capability**-covering “Enterprise Architecture for ESG”, “capability mapping”, “capability-based EA”.

(5) **Knowledge Management and Semantic Tools**-search strings included “knowledge management for ESG”, “ESG capability”, “knowledge graph integration”, “ESG traceability”, “cross-stakeholder alignment”.

The search strings were formulated to capture the intersection between ESG concerns and certain enterprise modeling perspectives – business process, enterprise architecture and knowledge management.

3.2. Inclusion and Exclusion Criteria

Studies were included if they directly addressed ESG methods, tools, or frameworks; if they explored conceptual modeling, enterprise architecture, or business process management in connection with sustainability; or if they contributed to understanding ESG as an organizational capability. Grey literature from industry sources was considered when it introduced concrete ESG tools, platforms, or practices. Exclusion criteria applied to works that mentioned ESG only at a surface level, without methodological or conceptual contribution, as well as papers focused exclusively on financial perspectives or on general sustainability discourse without linking to methods, tools, or capabilities. Our search covered publications from 2009 to 2025, capturing both early discussions of ESG-related methods and recent developments linking them to enterprise modeling and capability management.

3.3. Screening and Selection Process

Screening was performed by the authors in three stages to ensure both breadth and depth of coverage. All sources were catalogued in a tabular dataset that recorded bibliographic information, their classification as directly or indirectly relevant, and a brief note on each work’s contribution to the research subject.

- **Stage 1 – Initial identification**, which focused on titles and abstracts, relevant to ESG methods, tools, and organizational perspectives. At this stage, 116 works were considered, including 94 academic publications and 22 grey literature sources. This stage provided an extensive overview of the field, covering a wide spectrum of ESG-related topics;
- **Stage 2 – Intermediate subset**, where the number of works decreased to 47, consisting of studies that presented concrete methods and tools relevant to ESG, even if not explicitly linked to enterprise modeling. This subset is important because it underscores a significant body of research concerned with method and tool engineering: evaluation methods, reporting architectures, and technology-enabled ESG systems. Although many of these works do not explicitly adopt modeling approaches, they reveal ongoing efforts to translate ESG requirements into methods and tools;
- **Stage 3 – Final selection**, where we targeted works that explicitly connect ESG to enterprise modeling, BPM, EA, or domain-specific extensions, or that directly conceptualize ESG in terms of capabilities. This stage produced a set of 15 core contributions, showing how conceptual modeling can contribute to ESG methods, tools and organizational capabilities.

4. Results

4.1. Initial Sources Identification – a Quantitative Overview

As mentioned before, the initial set of works comprised 116 contributions, consisting of 94 academic publications and 22 grey literature contributions. When classified by type (Figure 1, left), the largest share corresponded to methods and tools (42%), followed by frameworks and reporting standards

(28%), modeling approaches (20%), and a smaller group of conceptual or strategic papers (10%). This distribution shows that the majority of research and practice is still focused on reporting-oriented outputs, while modeling and capability-based approaches remain insufficiently represented. In terms of ESG **pillar representation** (Figure 1, right), the environmental dimension is predominant (57%), with many works addressing carbon accounting, LCA, or green process management. The social pillar is less consistently covered (22%), often linked to workforce, diversity, or community engagement. The governance pillar appears either in combination with the other two, or in the form of general accountability frameworks (21%).

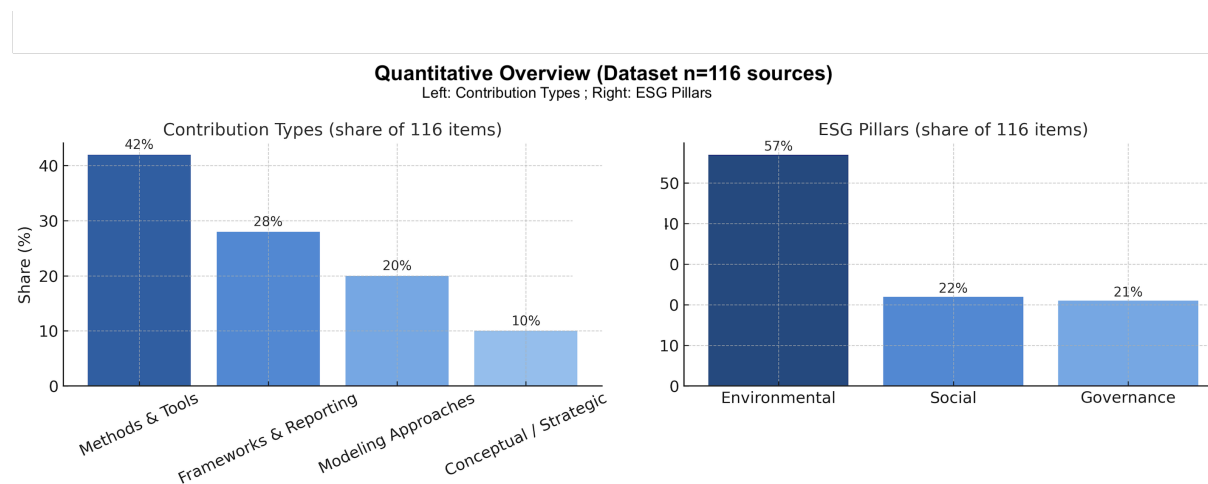


Figure 1: Distribution of the initial set of sources (n = 116) by contribution type and by ESG pillars.

The classification by source type (Figure 2) also shows a strong tendency: reporting standards and regulatory frameworks are extensively referenced across both academic and grey literature, while IT-driven platforms and conceptual modeling efforts remain in the minority. Considered collectively, the quantitative overview highlights three main points: first, ESG research and practice remain dominated by methods, tools, and reporting frameworks, rather than integrated modeling approaches; second, the environmental pillar is disproportionately emphasized, while social and governance aspects are underdeveloped; third, capability-based framings appear in both academic and industry contributions, but remain marginal.

4.2. Intermediate Set of Contributions

After the first screening round, a number of 47 works remained as an intermediate subset. These works provided concrete insights into ESG methods, tools, and frameworks, even if they did not explicitly connect to enterprise modeling. Their relevance lies in the fact that, taken together, they point to a growing body of research and practice on method engineering in the ESG domain, though still characterized by fragmentation. To structure the analysis, the works were clustered into five thematic groups. Figure 3 shows the distribution of the research clusters against contribution types, illustrating how reporting- and accounting- related works dominate, while modeling- and capability-oriented contributions remain comparatively limited.

ESG Methods and Tools – several contributions address classical and innovative methods, including LCA, Scope 3 carbon accounting, ESG ratings and scoring systems, and extensions toward valuation models and performance evaluation frameworks [24, 26, 27, 28]. These approaches standardize measurement but remain predominantly tool-driven;

Accounting and Reporting – a significant part of the set examines ESG reporting frameworks and guidelines, including GRI [29], SASB [30], CSRD [31], and ESRS (European Sustainability Reporting Standards) [14], as well as adaptations such as the K-ESG guideline [24]. Some contributions employ bibliometric or text mining approaches to map the evolution of reporting standards such as [4] and

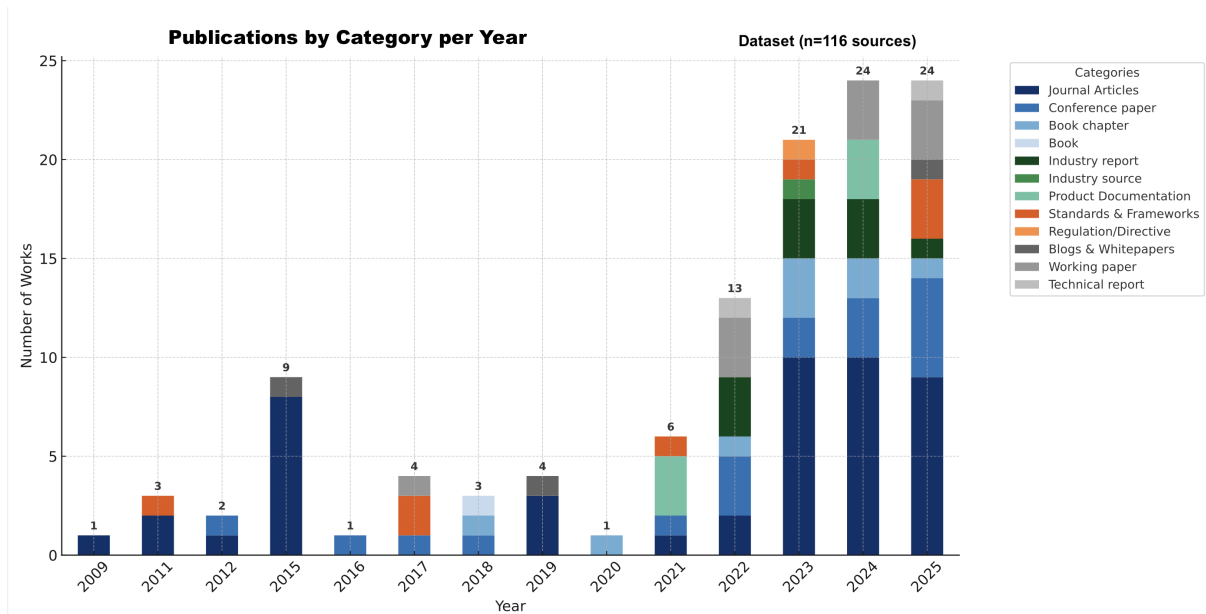


Figure 2: Distribution of the initial set of 116 contributions by type and publication year.

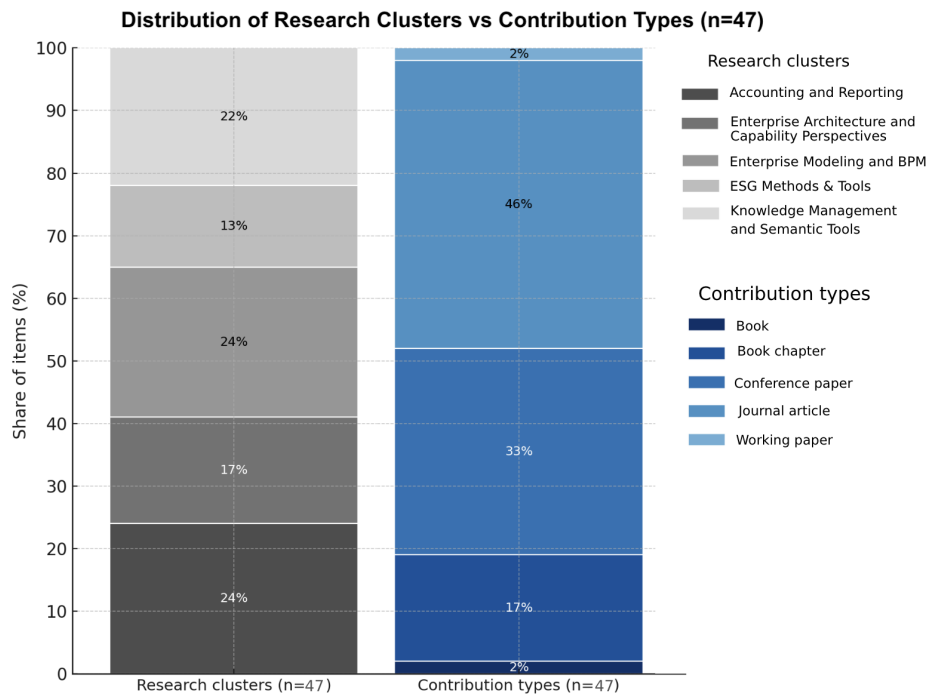


Figure 3: Distribution of research clusters versus contribution types (n=47).

[32]. These works reinforce the dominance of reporting over modeling;

Enterprise Modeling and BPM – a smaller group explores how Business Process Management (BPM) and enterprise modeling can support sustainability [9, 10, 19]. Other works focus on extending modeling techniques [13], or embedding ESG into processes [33]. Method engineering approaches are also visible in [15, 34], which illustrate conceptual integration;

Enterprise Architecture and Capability Perspectives – several works explicitly connect Enterprise Architecture (EA) and capability-based management to ESG [35, 36, 37, 38]. On the capability side, contributions such as [20, 21, 22] highlight conceptual foundations and frameworks for capability-driven ESG integration. While often conceptual, they show how EA development and capability frameworks

can act as strategic enablers of ESG integration;

Knowledge Management and Semantic Tools – a final group that introduces semantic approaches for ESG assessment [11, 39, 40]. Other works propose semantic supply chain modeling [41] or semantic ESG scoring [42, 43].

Taken together, this subset of 47 works shows the diversity of ESG-related method engineering efforts. While many contributions remain within the domains of reporting, performance measurement, or digital tools, they collectively point to a gradual transition from isolated methods to more systematic approaches. However, most contributions do not extend their approaches to enterprise modeling or to capability-based perspectives.

This strengthens the choice justification for the final selection of 15 core works, which explicitly conceptualize ESG as an organizational capability and explore how enterprise modeling (BPM, EA and domain-specific extensions) can serve as the integration layer.

4.3. Final Selection of Sources

The final set of 15 works constitutes the strongest conceptual grounding for understanding how ESG methods and tools can be transformed into organizational capabilities when connected to enterprise modeling approaches. We further organized them into five thematic clusters.

The first cluster, **ESG Methods and Tools**, highlights how practical mechanisms are being developed to integrate ESG into organizational decision-making and evaluation. One work [26] demonstrates how valuation adjustments can operationalize ESG factors within financial assessments, translating abstract sustainability concerns into measurable business metrics. Another contribution [28] advances this line by proposing digital rating techniques that use AI and NLP to consolidate indicators, thereby improving both comparability and automation of ESG evaluation. A third study [33] grounds these ideas in practice, embedding ESG indicators into a decision support system tailored for complex industries such as oil and gas. Taken together, these works indicate that while ESG tooling has progressed, it remains largely anchored in data-driven evaluation rather than in integrative, model-based approaches.

The second cluster, **Accounting and Reporting**, captures the move from ESG disclosure toward managerial use of accountability frameworks. A case-driven modeling approach such as [34], shows how ethical, social and environmental accounting mechanisms can evolve into managerial instruments, while conceptual discussions of inconsistent reporting with proposals for stricter approaches [1] reveal ongoing tensions. These works highlight the need to embed ESG constructs into enterprise models so that reported metrics reflect granular organizational practice.

The third cluster, **Business Process Management and sustainability extensions**, shows how processes can operationalize ESG. Green BPM reduces environmental impact [9], domain-specific tools support ESG accounting [19], and BPM development enables broader organizational adoption [33]. These works position processes as anchors for ESG implementation. Another contribution extends BPMN with environmental indicators [13], emphasizing BPM adaptability to sustainability goals.

Another cluster emphasizes the role of **EA and capability-based perspectives** in enabling ESG. [8] frames capability development as a pathway for better reporting. [7] connects IT capability with environmental outcomes. [35, 37] underline EA's strategic role in aligning organizational structures, technology, and processes with ESG goals. Taken together, this cluster highlights how capabilities, rather than isolated tools, form the foundation for scaling ESG adoption.

Finally, the **Semantic Integration and Knowledge Management** cluster highlights the role of semantics in advancing ESG. Enterprise Modeling combined with semantic web techniques enables traceability [11], a knowledge-based framework supports sustainable supply chains [41], and methodological approaches ensure that conceptual models align with knowledge graphs [39]. Together, they show how semantic methods elevate ESG reporting into structured, model-aware management practices.

Altogether, these works outline a trajectory from ESG tools and reporting, through process-oriented modeling, toward EA-based capability integration and semantic traceability. They support the argument that conceptual modeling is a missing bridge for transforming ESG methods and tools into knowledge capabilities. The distribution across research clusters is presented in Figure 4.

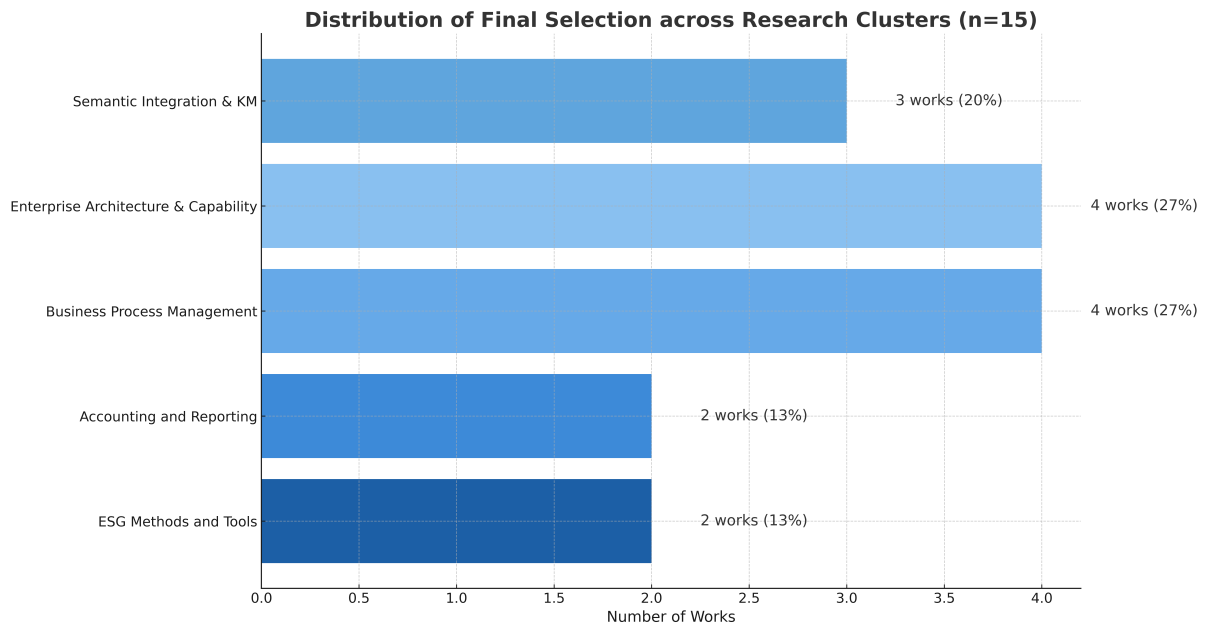


Figure 4: Distribution of final works selection across research clusters.

5. Discussion

5.1. ESG Accounting and Accountability

ESG accounting refers to the integration of non-financial performance indicators into corporate reporting practices, providing measurable evidence across its three pillars. Traditional frameworks such as GRI [29, 44], SASB [30], CSRD [31], IFRS ISSB [45] offer indicators that enable comparability among organizations. These standards embed ESG reporting as part of financial and governance processes, ensuring alignment with regulatory and investor expectations in comparable quantitative terms. At the same time, accountability emphasizes the use of ESG information in supporting decision-making, enabling organizational change, and ensuring that the reported indicators influence prescriptive knowledge and managerial practices [1]. This establishes a direct link between WHAT is reported and HOW the reporting is achieved, further extrapolating to the other 6W dimensions of Zachman’s enterprise architecting vision – WHO, WHY, WHEN, WHERE [46]. The distinction between accounting and accountability is essential for understanding why many ESG efforts remain at a surface level when metrics are detached from enterprise building blocks and processes.

The potential of conceptual modeling to bridge this gap is occasionally highlighted in academic works – e.g. [12] applies enterprise modeling to investigate the links between ethical, social, and environmental accounting and strategic management practices. Their case studies demonstrate that ESG accounting data become effective only when modeled in connection with enterprise structures, ensuring transparency between reported indicators and managerial decisions. Similarly, the OpenESEA modeling method [34] introduces a domain-specific approach. OpenESEA illustrates how modeling support can shift ESG accounting away from pragmatic but fragmented reporting. Grey literature further reinforces this perspective. Tools such as PwC’s ESG dashboards and SAP Sustainability Control Tower emphasize regulatory alignment and aggregation of ESG indicators, yet they remain data-driven and reporting-focused [5, 24]. Without modeling support, they lack the ability to embed ESG into enterprise routines. By contrast, conceptual modeling approaches demonstrate how accounting indicators can be mapped to processes, capabilities, and strategies, moving ESG beyond compliance toward accountability and transformation.

ESG accounting provides the measurement basis, and accountability determines its organizational manifestations and dependencies. However, without modeling approaches that connect standards,

indicators, and enterprise concerns, ESG accounting remains limited to data-proven compliance, missing semantically-rich dependencies that need to be governed by ESG activities.

5.2. A Capability Management Lens

Within enterprise modeling research, capability is understood as the ability of an organization to strategically manage resources, processes, and knowledge in pursuit of goals and under some contextual dependency [20, 21, 22]. This construct moves beyond resources or competences by emphasizing how organizations operate in a context-dependent, goal-oriented way [16]. Viewing ESG through this perspective suggests that methods and tools should contribute to ESG-specific capabilities, or to Knowledge Management capabilities that tackle ESG-specific knowledge. Recent research advocates this transition by framing ESG reporting as a capability maturity problem [8] or linking IT capabilities with ESG outcomes [7]. Industry practice also suggests this orientation, with tools such as SAP Sustainability Control Tower and LeanIX ESG Capability Maps explicitly applying capability-based framings. Yet, they remain tool-centric, offering dashboards for their users and not really exposing knowledge structures that can inform and enrich EA or BPM management practices. Conceptual modeling approaches, as seen in [12, 34], have the potential to provide the missing integration, transforming fragmented ESG methods into organizational capabilities that align with strategy and operations.

5.3. Conceptual Modeling and ESG

A key insight from the literature is that ESG methods and tools remain fragmented unless they are connected to enterprise modeling approaches. Conceptual modeling provides the languages, the knowledge structuring patterns, and the traceability mechanisms required to embed ESG concerns into enterprise architectures or organizational capabilities. Previous work in enterprise modeling has shown how modeling methods can be extended to reflect domain-specific requirements [18, 39]. With ESG, such extensions are starting to be explored - examples include BPMN extensions with environmental indicators [13], Green BPM capabilities and lifecycles [9, 10], and knowledge graph integration for contextual BPMN/EA models [11, 40, 47]. These works demonstrate that conceptual modeling can move ESG practice from being data-driven toward being capability-driven or knowledge-driven. By formalizing how ESG attributes map onto business processes, resources, and governance structures, conceptual modeling offers the capability anchor required to embed ESG in enterprise practice.

6. Conclusions and Future Work

This literature survey concludes that ESG research and practice remains focused on data reporting frameworks, quantitative evaluation methods, and managerial guidelines, while conceptual modeling and knowledge capabilities are only marginally represented. The review shows that most ESG methods and tools align with reporting frameworks and are data-driven, with limited considerations for modeling or traceability, thus providing an answer to RQ1. In response to RQ2, only a subset of works approaches ESG methods as capability enablers; however, these remain fragmented and lack integration into mainstream enterprise practices. Addressing RQ3, conceptual modeling approaches-particularly BPM extensions, EA frameworks, and domain-specific modeling languages, demonstrate the potential to embed ESG concerns into organizational layers, although evidence is still limited. Concerning RQ4, the main gap lies in the absence of knowledge structure-based methods and tools that combine ESG reporting with enterprise knowledge-based systems, leaving open the research opportunity of developing an ESG Knowledge Management Capability, or Capability Maps that consider the specificity of ESG concerns.

Several research directions can be outlined. Firstly, there is a need for modeling languages that explicitly integrate ESG dimensions into established enterprise modelings methods. A second direction involves the development of ESG ontologies and semantic integration frameworks - potentially enabling the tracing of ESG data across enterprise models and automatic generation of granular reports or AI-based recommendations. This, in turn, inspires ESG design tool prototyping, as we aim to use

metamodeling toolkits adopted in the OMILAB community of practice for domain-specific language and method engineering [48]. Prototypes could show how ESG constructs can be mapped on enterprise models and expose such mappings to model-driven environments. Finally, there is a pressing need to explore ESG capability management, to clarify how sustainability concerns can inform novel enterprise capabilities.

For future work this project will develop along two parallel paths - on one hand, the Design Science-driven development of a hybrid ESG enterprise modeling tool to demonstrate a model-driven knowledge capability; in parallel, further refinement of the literature surveying effort is required, with better quality of the selected sources and additional techniques (e.g. snowballing) to expand coverage.

Declaration on Generative AI

During the preparation of this work, the authors used ChatGPT to assist with the literature review process - specifically with paper discovery (complementary to using search engines) and initial summarizations during paper screening, followed by human verification and correction on all outcomes. The same tool was also used to improve conciseness of phrasing in the camera-ready version. After using this tool, the authors reviewed all Generative AI outcomes - both regarding the literature review and the phrasing improvements -, and take full responsibility for the publication's content.

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