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The Implementation of ESG Indicators in the Balanced Scorecard—Case Study of LGOs

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Abstract

This study investigates how Environmental, Social, and Governance (ESG) principles can be effectively integrated into the Balanced Scorecard (BSc) framework within local government organizations (LGOs) to enhance strategic planning and sustainability performance. Addressing a gap in the literature on ESG–BSc integration in the public sector, particularly in the Greek context, the study employs a dual-method approach. First, a bibliometric analysis of 3053 academic publications (1993–2025) was conducted using Scopus data to assess the evolution and thematic focus of ESG and BSc research. Second, a structured questionnaire—comprising both closed- and open-ended questions—was administered to 17 administrative staff members of a Greek LGO in 2024. This expert sample provided insights into strategic planning practices, ESG awareness, and performance management barriers. The findings reveal low levels of ESG–BSc application, a limited strategic capacity, and institutional resistance. In response, the study proposes a novel, context-sensitive ESG-integrated BSc model tailored for small municipalities, emphasizing stakeholder participation, operational simplicity, and the alignment with national sustainability policies. The model serves as a practical tool to support public sector performance measurement, bridging the gap between sustainability goals and local governance strategy.

Keywords: balanced scorecard; ESG; case study; local government organization; new model; bibliometric analysis; e-Government

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1. Introduction

In recent decades, the public sector has faced increasing demands for transparency, efficiency, and sustainable development. As the administrative level closest to citizens, local government organizations (LGOs) are under pressure to deliver measurable outcomes while addressing complex environmental and social challenges. Strategic performance management tools, such as the Balanced Scorecard (BSc), have gained traction as frameworks capable of aligning organizational objectives with operational execution.

Originally developed by Kaplan and Norton (1992) in the early 1990s for the private sector, the BSc incorporates four key perspectives—financial, customer, internal processes, and learning and growth—to offer a multidimensional view of performance. Over time, it has been adapted for use in public and nonprofit sectors, supporting mission-driven

objectives and stakeholder-focused evaluation. Despite its potential, the BSc remains underutilized in Greek LGOs, primarily due to institutional inertia, limited resources, and a lack of strategic culture.

Parallel to this, Environmental, Social, and Governance (ESG) frameworks have emerged as essential tools for assessing the organizational impact beyond financial metrics. While ESG principles originated in corporate finance, their relevance to public administration is growing, especially in the context of sustainable governance and the alignment with goals such as the European Green Deal and the UN Sustainable Development Goals (SDGs).

However, there is a significant gap in the literature regarding the integration of ESG indicators into strategic tools like the BSc—particularly within the public sector and at the municipal level. Most existing studies either treat ESG and BSc as separate frameworks or focus exclusively on corporate applications. This lack of unified models is especially problematic in countries like Greece, where LGOs operate within a highly centralized and fragmented administrative environment.

This study aims to fill this gap by developing an integrated ESG–BSc model tailored to the unique characteristics and constraints of Greek municipalities. It addresses two central research questions: (1) How have ESG and BSc methodologies evolved in the Greek public sector? and (2) How can a Balanced Scorecard framework be adapted for use in small municipalities to support and enhance ESG performance? To answer these questions, the study employs a bibliometric analysis and an empirical case study based on a structured questionnaire distributed to municipal staff.

The findings of the study indicate that ESG and BSc methodologies are not widely applied in Greek local government settings, largely due to the limited awareness, lack of institutional support, and insufficient training. However, respondents recognized the potential benefits of integrating these frameworks, particularly in improving decision-making, enhancing accountability, and fostering a culture of strategic planning. Drawing on these insights, the thesis proposes an ESG–BSc model that distributes ESG indicators across the four traditional BSc perspectives, while also emphasizing stakeholder participation, operational simplicity, and the alignment with national policy frameworks.

In doing so, this research contributes both theoretically and practically to the fields of strategic public management and sustainable governance. Theoretically, it advances the discourse on how ESG criteria can be embedded in public sector performance systems. Practically, it offers a tool that LGOs can adapt and apply in their own strategic contexts to enhance sustainability-oriented decision-making. By bridging the gap between performance measurement and sustainability objectives, the proposed model supports the institutionalization of ESG principles within local governance structures.

2. Literature Review

2.1. ESG and Strategic Performance in the Public Sector

The adoption of ESG indicators has significantly expanded beyond corporate environments and now influences public sector strategies, especially within local governance. While several studies (Eskantar et al. 2024; Hristov et al. 2021) highlight ESG's value in enhancing transparency, reputation, and long-term sustainability, these insights are drawn predominantly from the private sector. Public institutions face a distinct set of challenges—such as rigid bureaucratic structures, electoral cycles, and regulatory fragmentation—that complicate ESG implementation.

MacNeil and Esser (2022) frame ESG as a standardized reporting model; yet, such standardization may not suit the nuanced and diverse missions of local government organizations (LGOs). ESG's effectiveness in municipalities depends not just on disclosure but

on its integration into decision-making systems. The literature seldom addresses whether existing ESG models accommodate non-market goals like equity or public value, revealing a critical gap in the application to public sector dynamics.

Furthermore, while international frameworks such as the GRI and CSRD are advancing public ESG reporting Global Reporting Initiative 2024 few studies explore how LGOs—especially small or under-resourced ones—can operationalize such frameworks. The research gap lies in adapting ESG not merely as a compliance checklist but as a strategic tool embedded within public management systems. This study addresses this issue by proposing a context-sensitive ESG integration model for municipalities.

Social considerations within ESG pertain to labor rights, social cohesion, equity, health, education, and community engagement. These factors are especially critical for public institutions, which are expected to design and deliver inclusive policies and services that address systemic inequalities and promote social justice (Petricevic and Teece 2019). In the public sector, the social dimension includes metrics such as equitable access to services, responsiveness to public needs, gender equity in employment, and the inclusion of marginalized groups in decision-making processes. Local governments play a pivotal role in this space, as they interact directly with citizens and are responsible for ensuring that urban planning, healthcare, public safety, and education are delivered in an equitable manner (Muir 2022). This has been supported by the increasing use of social impact assessments in strategic planning, especially in regions with legislated public value mandates, such as the United Kingdom's Social Value Act (United States 1992).

The governance aspect of ESG is crucial for reinforcing ethical behavior, institutional transparency, and public accountability. Governance in this context does not refer solely to corporate board structures but extends to how public entities design regulatory frameworks, ensure democratic participation, enforce anti-corruption policies, and deliver services with integrity. The Global Reporting Initiative (GRI) offers specific governance-related indicators for public administration, including metrics for internal audit effectiveness, procurement transparency, risk management, and compliance systems Global Reporting Initiative 2024. In response to increasing demands for transparency, several municipalities across Europe have adopted open government frameworks and digital public reporting tools to ensure accountability and facilitate citizen oversight (Visser 2013; Chan 2004).

Despite the normative and practical benefits of ESG integration, its implementation in the public sector remains uneven. One of the major challenges lies in the limited availability of standardized ESG metrics that are specifically designed for public administration. Most existing ESG frameworks, including GRI and SASB, are tailored to the private sector, with limited applicability to the operational realities and strategic priorities of government institutions. Furthermore, ESG indicators for local governments must be aligned with service-oriented outcomes, citizen satisfaction, and non-financial public goods, which are often difficult to quantify or standardize. Academic research has highlighted the need for context-sensitive indicators that reflect the missions, mandates, and legal frameworks of public entities (Ball and Bebbington 2008; Hristov et al. 2019).

Institutional inertia, resource constraints, and political cycles also act as significant barriers to ESG adoption. Performance frameworks in many public administrations remain centered on fiscal and output-based measures, with less emphasis on long-term outcomes or sustainability. Shifting toward an ESG-oriented performance evaluation requires a transformation of the organizational culture, governance processes, and policy design tools. A survey conducted by the OECD in 2018 found that fewer than 30% of national and sub-national governments had formal ESG implementation strategies, and many of those that did lack the institutional capacity or digital infrastructure to effectively monitor or report ESG-related indicators (Pulkkinen et al. 2024; Gillan et al. 2021).

Nevertheless, empirical studies indicate that ESG integration can lead to improved performance and resilience in the public sector. De Lucia et al. (2020) demonstrated that public enterprises in the energy and utility sectors that adopted ESG performance metrics exhibited better financial returns and operational efficiency than their counterparts (De Lucia et al. 2020). These findings suggest that ESG frameworks, when properly implemented, can deliver dual benefits: enhancing public accountability and improving internal efficiency.

Digital transformation has also opened new avenues for ESG monitoring and strategic alignment. With the increasing availability of data analytics, GIS systems, and digital citizen engagement platforms, municipalities can now collect and analyze real-time data related to environmental emissions, citizen feedback, governance performance, and social service delivery (De Lucia et al. 2020; Alpenberg and Wnuk-Pel 2022). These tools enable not only performance benchmarking but also predictive analytics that can inform ESG-driven policy interventions. For instance, several European smart cities are now incorporating ESG dashboards into their city management platforms to align with the European Green Deal and UN Sustainable Development Goals (Fu et al. 2023).

Within the framework of local governance, ESG indicators can also serve as access points for alternative financing mechanisms such as sustainability-linked bonds and green public procurement. As investors and development agencies place increasing emphasis on ESG compliance, local governments that can demonstrate measurable ESG outcomes are more likely to secure funding from international donors and private capital markets (Ragazou et al. 2023). This financial alignment further incentivizes the strategic integration of ESG into municipal planning and performance evaluation.

2.2. The Balanced Scorecard in the Public Sector

The Balanced Scorecard (BSc), introduced by Kaplan and Norton (1996) is widely recognized for enabling strategic alignment through its four dimensions: financial, customer, internal processes, and learning and growth. Its adaptation to the public sector has been explored in various contexts (Marr and Creelman 2011; Hoque 2014; del Sordo et al. 2012). However, most of these applications remain descriptive and often omit a deeper analysis of the limitations encountered in bureaucratic or decentralized environments.

Studies such as those by Marr and Creelman (2011) and Hoque (2014) emphasize the BSc's flexibility; yet, they rarely interrogate its underlying assumptions—namely, the presence of goal alignment, measurement capability, and managerial autonomy. These conditions are often absent in LGOs, especially in the Greek administrative context, where performance-based management remains underdeveloped (Farneti 2009).

Critically, while BSc implementations in countries like Sweden and the UK demonstrate potential (Monteiro and Ribeiro 2017) their success is largely contingent on strong institutional frameworks, cultural readiness for performance measurement, and digital infrastructure. These enabling conditions are not always replicable, especially in regions with centralized governance and fragmented competencies. Thus, the potential of the BSc in LGOs is promising but not assured; it requires localization and simplification to align with public service values and capacities.

One of the key challenges in adapting the BSC to the public sector lies in the redefinition of the financial perspective. Unlike private organizations, public entities do not aim for profit maximization. Instead, the financial perspective in government agencies is reframed to emphasize budgetary discipline, cost-effectiveness, and the transparent allocation of public funds. Moreover, citizen satisfaction, trust in government, and equitable access to services often replace customer profitability as primary outcomes in the customer

perspective. These adaptations ensure that the BSC aligns with the unique accountability structures and value creation models of public administration (del Sordo et al. 2012).

Numerous case studies illustrate the effective application of BSC in public sector contexts. For instance, the U.S. Department of Veterans Affairs implemented a tailored BSC framework to measure its ability to deliver quality care to veterans while aligning operations with legislative mandates and long-term service goals. Similarly, municipalities in Sweden, the Netherlands, and the United Kingdom have adopted the BSC to track citizen-oriented performance metrics, interdepartmental coordination, and the long-term sustainability of urban services. These cases underline the flexibility of the BSC when restructured to include public interest outcomes and strategic public service missions (Monteiro and Ribeiro 2017).

In the Greek context, however, the uptake of the BSC in local governance has remained limited, often constrained by institutional inertia, a lack of performance culture, and insufficient data infrastructure. Despite several legislative efforts to modernize public administration and enhance transparency, local government organizations in Greece continue to rely predominantly on compliance-based evaluations and input-oriented reporting. The absence of a strategic management mindset and the limited training in performance-based tools have further hampered the BSC's potential integration. Research by Farneti (2009) points out that, while awareness of the BSC exists among higher-level administrators, its operationalization is rare and mostly confined to project-based activities or externally funded initiatives.

The BSC's applicability in the public sector has also been critically examined in academic literature. Some scholars argue that the model's roots in private sector logic limit its capacity to fully encapsulate the complexity and plurality of public value. For instance, the emphasis on measurement and quantification may sideline the qualitative and relational dimensions of public service, such as trust, civic engagement, and ethical considerations. Nevertheless, others counter that such criticisms overlook the BSC's adaptability and its potential to foster accountability, strategic clarity, and cross-departmental communication when appropriately localized (Nørreklit 2003).

Moreover, there is growing recognition that BSC in the public sector does not function as a mere technical instrument but as a tool of organizational change and cultural transformation. When effectively implemented, it facilitates the alignment of day-to-day activities with overarching policy goals, encourages interdepartmental synergies, and enables a feedback-driven approach to governance. Several studies emphasize that success in public BSC implementation is contingent not on strict adherence to the original model, but on the extent to which the tool is customized to the institutional context, leadership capacity, and strategic orientation of the organization (Marr and Creelman 2011).

Beyond critique and adaptation, recent scholarship has extended the BSC's conceptual framework to incorporate sustainability and ESG concerns directly into its structure. The emergence of the Sustainability Balanced Scorecard (SBSC) represents an effort to integrate environmental, social, and governance indicators into the traditional four-perspective model. For public sector entities, this adaptation is especially relevant given their responsibilities in promoting climate action, social equity, and institutional integrity (Mio et al. 2022; Cristofaro et al. 2023; Cortesi et al. 2022). The SBSC enables agencies to track long-term sustainability goals alongside traditional performance targets. Figge et al. (2002). argue that integrating ESG objectives into the BSC is not merely a reporting function but a strategic necessity in the era of climate risk and stakeholder activism.

The dynamic between strategic performance frameworks and public accountability has further positioned the BSC as a governance innovation. In environments where trust in public institutions is fragile, transparent performance systems can play a critical

role in restoring legitimacy. The BSC's structured reporting and cascading of objectives from strategic to operational levels allows for more coherent and responsive governance. However, successful implementation requires more than methodological adjustments; it demands strong political commitment, inter-agency coordination, and cultural shifts toward performance-oriented thinking (Jaiswal and Thaker 2024).

2.3. Integrating ESG into the BSC Framework

The literature on integrating ESG into the BSc—often referred to as the Sustainability Balanced Scorecard (SBSC)—has expanded in recent years (Figge et al. 2002; Hansen and Schaltegger 2018; Schaltegger et al. 2013). These models typically incorporate ESG either as a fifth perspective or embed it across the four traditional ones. However, much of this work remains conceptual and corporate-focused.

Few studies examine how these εvmodels' function in public sector environments, where performance indicators are less profit-driven and more stakeholder- and value-oriented. (Hoque 2014; Kumar et al. 2024) advance environmental accounting within strategic scorecards, but their frameworks presume robust data systems and governance capacities that LGOs may lack. Furthermore, most proposed models are top-down and do not reflect participatory co-design or contextual adaptation—both of which are crucial in public administration.

This study addresses these shortcomings by developing an empirically grounded, LGO-specific ESG–BSc model. It incorporates localized ESG indicators within each BSc perspective, co-created with practitioners through structured engagement. This participatory approach bridges the theory–practice divide and enhances implementation feasibility within the constraints of municipal governance. In public administration, particularly at the municipal level, the need to adapt performance systems for ESG monitoring is especially acute. Local governments play a critical role in implementing sustainability policies, managing social programs, and upholding governance standards. However, in practice, many municipalities—particularly in countries like Greece—face operational constraints such as limited resources, administrative fragmentation, and a lack of integrated performance systems. The existing ESG implementation is often reactive and compliance-driven, tied to national or EU reporting requirements rather than strategic, proactive governance. This gap underscores the importance of developing a tailored ESG-integrated BSC framework suitable for small and mid-sized LGOs (Pulkkinen et al. 2024).

This research addresses this gap by designing a methodological framework that links ESG principles with BSC logic, grounded in empirical investigation within the Greek municipal context. The research is driven by two guiding questions:

Q1: How have ESG and BSC methodologies evolved in the Greek context?

Q2: How can a Balanced Scorecard framework be adapted for implementation in small municipalities to effectively support and enhance their ESG performance?

These questions direct both the theoretical and applied strands of the study and guide the development of a conceptual model capable of informing practice.

The methodological approach adopted in this thesis is a case study design focused on a small Greek municipality. This allows for an in-depth examination of local government structures, decision-making processes, and performance measurement practices, with a view toward understanding how ESG concerns are or could be operationalized. The case study approach is particularly suited to theory-building in contexts where existing models are underdeveloped or untested (Farneti 2009). Through document analysis, semi-structured interviews with municipal officials, and participatory workshops, the research captures the lived experience of administrators navigating ESG challenges without structured performance tools.

This empirical inquiry supports the development of a proposed ESG–BSC integration model tailored to municipal realities. In the design of the model, particular attention is paid to the practical constraints observed during fieldwork: low digitalization, limited managerial autonomy, and a narrow focus on legal compliance rather than strategic vision. The adapted BSC framework includes ESG indicators strategically distributed across all four classical BSC dimensions. For example, under the financial perspective, the model tracks investments in green infrastructure and cost savings from energy efficiency; and, under the customer perspective, it monitors citizen perceptions of environmental quality and inclusiveness of municipal services. Internal process indicators include transparency in procurement, risk management protocols, and stakeholder consultation practices. The learning and growth perspective focuses on training municipal staff on sustainability issues and developing intermunicipal knowledge-sharing platforms (Schaltegger et al. 2013).

Another methodological strength of this research is its iterative co-design process. Rather than imposing indicators top-down, the proposed ESG–BSC model was shaped through participatory engagement with key stakeholders in the selected municipality. This reflects a design thinking approach to public policy, emphasizing problem identification, iterative feedback, and prototype refinement. Engaging local administrators, community representatives, and policy experts ensured the contextual relevance and usability of the framework. It also generated local buy-in and helped anticipate institutional barriers to implementation (Cristofaro et al. 2023).

The theoretical framework underlying this approach draws from public value theory and sustainability governance. Public value theory emphasizes the role of public institutions in creating non-market value for citizens through democratic legitimacy, effective service delivery, and trust-building. Incorporating ESG into BSC aligns closely with this vision, allowing LGOs to demonstrate not only efficiency but legitimacy and long-term impact. The sustainability governance literature, in turn, supports the use of integrated performance systems as mechanisms for institutional learning, cross-sector collaboration, and adaptive policy making (Cortesi et al. 2022).

Importantly, the research also explores how such ESG-integrated performance systems may serve broader governance reform objectives. In Greece, where the local government has historically been characterized by centralization and a lack of strategic autonomy, tools like the ESG–BSC could help reframe the role of municipalities from service providers to strategic actors in sustainability transitions. By enabling systematic planning, monitoring, and stakeholder engagement, the model contributes not just to better performance metrics but to a shift in the governance culture toward long-term, value-driven administration (Cardillo and Basso 2025).

The literature reviewed highlights several critical success factors for ESG–BSC integration, including leadership commitment, institutional capacity, stakeholder participation, and the alignment with national and international sustainability frameworks. Studies from Nordic and Western European contexts show that municipalities that incorporate sustainability into performance frameworks report better policy coherence, citizen engagement, and organizational learning (Wan et al. 2024). These insights inform both the design of the model and the proposed implementation roadmap.

In synthesizing theoretical and empirical strands, this research advances the idea that performance measurement is not a neutral, technical exercise but a governance tool with transformative potential. Integrating ESG into the BSC can equip municipalities with the structure and language needed to frame their priorities in terms of sustainability, inclusion, and good governance. By doing so, it supports not only more effective public management but also more resilient and responsive democratic institutions.

While several frameworks attempt to integrate sustainability and performance measurement, most are anchored in corporate reporting logics that may not translate effectively to public institutions, particularly at the local level. The literature often assumes an institutional capacity and regulatory alignment that are absent in many municipalities. Moreover, while the Sustainability Balanced Scorecard (SBSC) provides conceptual integration, its application in non-corporate governance remains underexplored and largely theoretical. This creates a substantial implementation gap—especially in public systems characterized by bureaucratic inertia and fragmented mandates. As such, there is a pressing need for localized, adaptive frameworks that not only align with ESG principles but also reflect the operational constraints and democratic responsibilities of LGOs (Hsu and Liu 2010; Pineyrua et al. 2021).

While the integration of ESG and BSc frameworks presents promising strategic potential, it is important to acknowledge the caution raised by public administration scholars regarding the application of corporate tools within government settings. Some critiques argue that models like the BSc, which emphasize quantification, strategic alignment, and top-down control, may conflict with core public sector values such as democratic accountability, equity, and public deliberation (Epstein and Wisner 2001; Hansen and Schaltegger 2016). Similarly, ESG frameworks, although designed to enhance transparency and long-term value, often assume market-like structures and investor-based motivations, which are not directly transferable to public service delivery. These tensions underscore the challenge of adopting managerialist tools in environments governed by political oversight and citizen engagement. Moreover, the implementation of either ESG or BSc in the public sector is often hindered by bureaucratic inertia, fragmented authority, and a limited digital infrastructure (Pulkkinen et al. 2024; Farneti 2009). The novelty of this study lies in addressing precisely these issues by constructing a hybrid model that is not imported wholesale from the private sector but instead adapted to the operational, institutional, and ethical realities of local government. By drawing on both frameworks while critically tailoring them for public administration, this research contributes a new tool designed specifically for use in municipal governance (Zopounidis et al. 2020).

2.4. Evolution and Basic Principles of e-Government

e-Government refers to the transformation of public administration through the use of information and communication technologies (ICTs), often associated with Internet-based services (Tsamis et al. 2025). Although widely discussed, there is no unified theory of e-Government, and the term encompasses a broad range of activities and definitions. These range from universally accepted themes like trust and privacy to more debated topics such as public values and governmental structures. The e-Government domain can be understood through two approaches: aggregating existing definitions from scholars and organizations and analyzing actual practices and research. The field's scope can be evaluated in terms of depth (quality of issue engagement) and breadth (comprehensiveness of coverage).

The e-Government services promote expectancy, social influence, facilitating conditions, and trust in the Internet positively, and its intention is to use these services. Trust in the Internet also boosts performance expectancy which is an issue not previously studied in the e-Government context.

The latest evolutions in the field of Information and Communication Technologies (ICT) are transforming public services, and emphasize benefits like 24/7 access, transparency, citizen engagement, cost reduction, and service efficiency. Despite these advantages, citizen adoption remains a key success metric. A notable gap in the literature is

the lack of user-focused research, even though e-Government initiatives started nearly 20 years ago.

2.5. The Role of Social Media in e-Government

Social media has become a vital tool in modern public administration, enabling more transparent and interactive communication between governments and citizens (Bryer and Zavattaro 2011) Unlike traditional one-way e-Government services, platforms like Facebook and Twitter support two-way exchanges, allowing citizens to engage with and influence public policy (Feeney and Porumbescu 2021). These platforms are especially useful during crises for rapid information dissemination.

Social media offers local governments significant advantages, including greater transparency, faster communication, and opportunities for citizen participation, all while reducing the reliance on intermediaries. These tools can effectively enhance e-Government when integrated into a clear digital governance strategy supported by appropriate institutional and technological resources. However, challenges persist, such as unclear usage policies, limited staffing, privacy concerns, and the spread of misinformation. Smaller local governments often lack the skills and resources to use social media interactively, leading to a continued reliance on one-way communication.

The shift from e-Government to e-Society involves integrating technology into public, social, economic, and political systems to promote transparency and citizen participation. Key factors include trust in digital services, privacy protection, and modern tools like Content Management Systems (CMSs) used for managing government platforms. This transition requires robust infrastructure, supportive policies, and public acceptance. e-Governance enhances efficiency, reduces bureaucracy, and strengthens engagement between citizens and the government.

Finally, a study of small local governments shows Facebook is mainly used for sharing local news, events, and reminders, while Twitter is favored for quick updates and public policy announcements (Sarjito 2023; Ionescu 2016; Beigi and Liu 2020). Despite their potential for engagement, most governments use only one-directional communication channels, focusing on information delivery rather than promoting the active citizen's participation. Facebook adoption is influenced by factors like population size and budget, whereas Twitter use is less dependent on such variables. Limited resources and expertise also prevent smaller governments from fully utilizing social media.

3. Methodology

This study employed a dual-method approach to comprehensively examining the integration of Environmental, Social, and Governance (ESG) indicators within the Balanced Scorecard (BSc) framework, specifically in the context of local government organizations (LGOs). The first method involved a qualitative-quantitative survey through a carefully constructed questionnaire, while the second method applied bibliometric analysis to assess the academic prominence and interconnection of the ESG and BSc concepts in recent scholarly literature.

To ensure methodological precision and contextual relevance, the survey adopted a purposive sampling strategy, targeting individuals with specialized knowledge and strategic roles within the local government organization (LGO). Although the sample size is limited to 17 participants, this reflects the deliberate selection of expert staff involved in strategic planning and sustainability processes. The structured interview-style questionnaire was designed to capture in-depth insights from this specialized group, whose perspectives are critical for the initial design and validation of the ESG–BSc integration model. This approach is consistent with qualitative case study methodologies, where the

depth of information and contextual specificity outweigh the need for large sample sizes. Given that this is the first attempt to apply such a model in the public sector in Greece, the research prioritizes depth and strategic alignment over broad generalizability—offering a foundational framework that can be adapted and expanded in future studies.

The primary methodological tool was a structured questionnaire designed to collect in-depth information from employees and executives of LGOs. Although formatted as a questionnaire, the instrument was constructed in a manner resembling a semi-structured interview. This design structure aimed to elicit more detailed and accurate responses, capturing both factual data and perceptual insights. The questionnaire is divided into two main sections. The first section, titled "General Information," focuses on demographic variables such as age, gender, education level, and organizational role. These variables help contextualize the responses and ensure that the sample represents a broad cross-section of local government personnel. The second section, titled "Current Use and Integration of BSc and ESG," investigates the degree to which ESG indicators are being implemented through the Balanced Scorecard in municipal governance. It includes both closed and open-ended questions to evaluate participants' familiarity with ESG and BSc principles, the extent of their application across strategic domains, and perceived challenges or benefits. Specific areas addressed include ESG-related training, citizen services, internal processes, financial administration, and strategic alignment. The questionnaire was answered by 17 people in total. Moreover, the participants were also asked to evaluate the perceived utility of the Balanced Scorecard for tracking ESG progress, and to propose policies or best practices for further integration. The complete questionnaire is included in Appendix A of this dissertation to provide transparency and reproducibility.

To complement the field data, a bibliometric analysis was conducted using Scopus, one of the most comprehensive academic databases. The aim was to evaluate the volume and thematic focus of existing literature linking ESG practices to strategic performance tools such as the Balanced Scorecard. The search query employed was the following: [("corporate social sustainability" OR "sustainable development" OR "ESG" OR "Environment social governance" OR "sustainability") AND ("performance management" OR "performance measurement" OR "BSc" OR "PMS" OR "balanced scorecard")]. This targeted combination yielded a total of 3053 relevant publications, illustrating a substantial and growing academic interest in the intersection of sustainability and performance evaluation frameworks. However, attempt to narrow the scope further by introducing municipality-related terms significantly reduced the volume of results, with the most inclusive match yielding only 201 entries. This disparity suggested a gap in the literature regarding the application of ESG and BSc frameworks specifically within municipal governance. VOSviewer (version 1.6.20) and Biblioshiny (version 4.0) were generally used to visualize and analyze data from publications published between 1993 and 2025. Figure 1 illustrates the important steps one by one to describe the analyses (Passas 2024a, 2024b).

As a result, the findings from the bibliometric analysis, combined with insights derived from the questionnaire responses, formed the foundation for developing an original evaluative tool. This tool aims to synthesize academic theory with practical realities by bridging the scholarly concepts of ESG and BSc with the operational structures of local government organizations. By doing so, the research contributes both to academic literature and to the practical field of public sector performance management, offering a novel model that aligns sustainability imperatives with strategic governance.

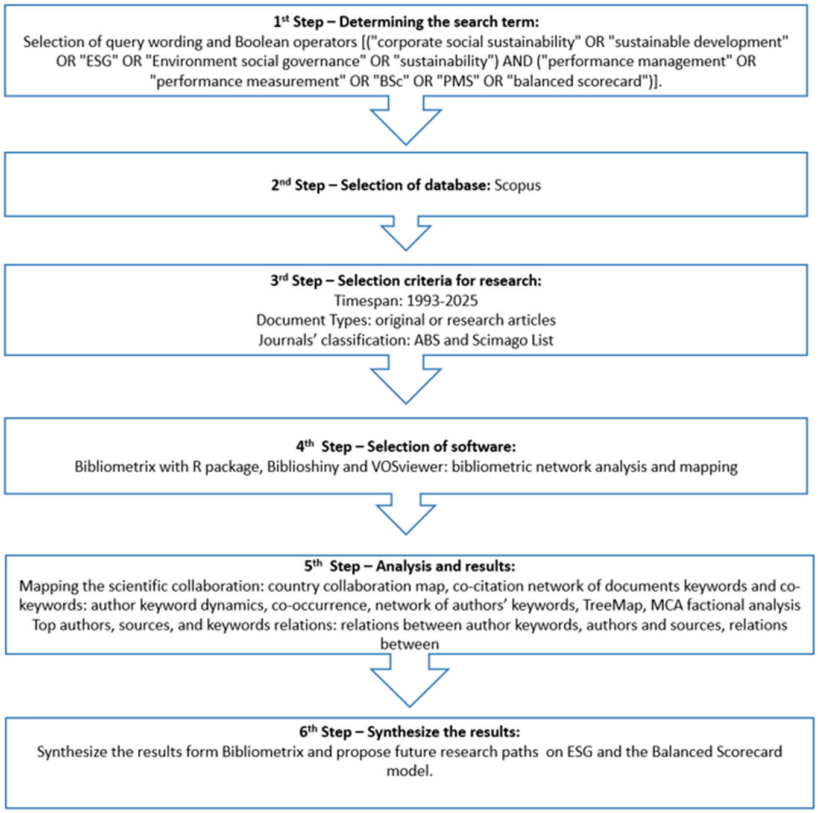


Figure 1. Process of the bibliometric analysis approach.

Given the absence of a formal institutional framework for ESG integration within Greek local government organizations (LGOs), this study represents the first phase of a two-part research process. The initial phase, presented here, focuses on the conceptual development of an ESG–Balanced Scorecard model specifically tailored to public sector governance. The model was constructed using a triangulated approach that combined empirical data from structured questionnaires, insights from targeted stakeholder interviews, and trends identified through bibliometric analysis. This method allowed us to design a framework grounded both in theoretical rigor and in the practical realities of municipal administration. While the model has not yet been implemented, this is a deliberate and methodologically justified decision, as the lack of institutional readiness precludes immediate deployment. The second phase of this research, to be undertaken in future work, involves applying and testing the model in a live governance context. In this way, the current study lays the foundation for broader practical validation, offering a novel tool to guide sustainability performance management in local governments.

4. Results

4.1. Bibliometric Analysis

Figure 2 presents the annual scientific production over the period from 1993 to 2025 based on the bibliometric analysis conducted through Bibliometrix. The trends depicted illustrate a significant growth trajectory in the number of academic articles published on topics combining ESG, sustainability, and performance management frameworks such as the Balanced Scorecard (Jaiswal and Thaker 2024).

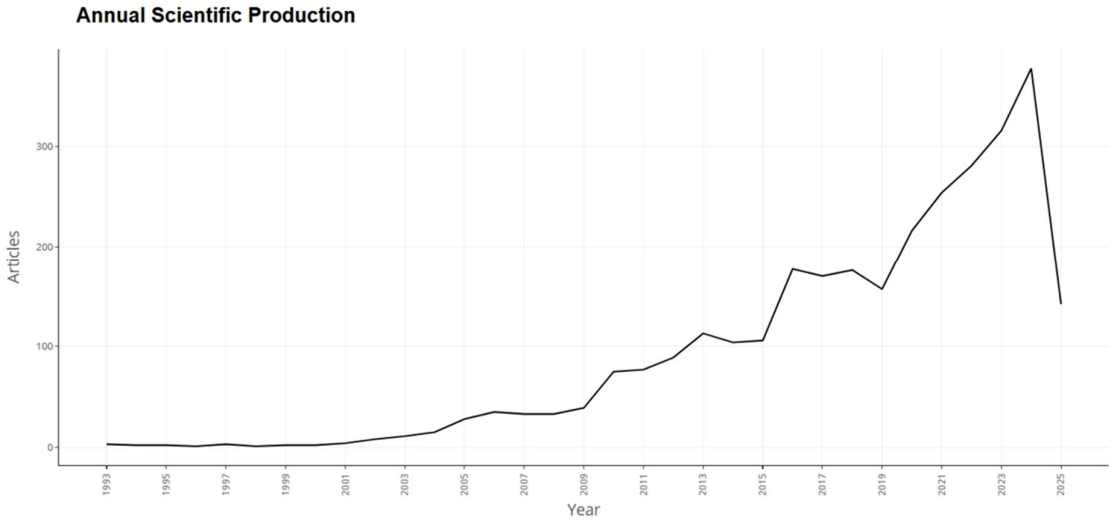


Figure 2. Annual scientific production from 1993 to 2025 from Bibliometrix.

During the early years of the timeline, from 1993 through the late 2000s, the number of publications remained consistently low, with minimal annual variation. This period reflects a nascent stage in scholarly interest concerning the intersection of corporate sustainability and performance measurement. A gradual increase begins to emerge after 2010, suggesting the onset of more focused academic attention toward these integrated themes, potentially linked to the broader global discourse on corporate responsibility and environmental governance post the 2008 financial crisis.

A more notable rise is observed from 2015 onward, which aligns with the growing international emphasis on sustainability reporting and the adoption of ESG frameworks by both private and public sector organizations. From 2019 to 2023, the graph shows a steep upward trajectory, with annual publications surpassing 300 articles at its peak, indicating a period of intense scholarly output and interest. This peak aligns with the proliferation of ESG regulations, stakeholder pressures, and the publication of influential sustainability frameworks (Mio et al. 2022).

In 2025, a sharp decline in the number of articles is observed. This drop is likely not indicative of an actual decline in research activity, but rather a data-related artifact due to the partial nature of publication records for the ongoing year at the time of data extraction. Such decreases are typical in bibliometric timelines when the full publication cycle has not yet concluded.

Figure 3 illustrates a co-citation network map generated using VOSviewer, which provides a visual representation of the most influential journals and thematic clusters within the literature connecting sustainability, ESG practices, and performance management frameworks such as the Balanced Scorecard.

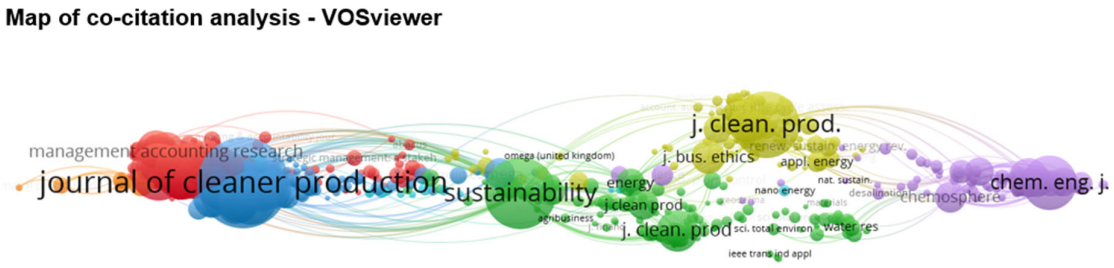


Figure 3. Map of co-citation analysis by VOS viewer.

The map is based on co-citation analysis, a bibliometric method that reveals how often pairs of journals are cited together in academic literature. This type of analysis allows the

identification of dominant research streams and intellectual structures within a given field (Passas 2024b).

The visualization reveals several distinct clusters, each representing a community of closely related publications. The most prominent nodes, such as Journal of Cleaner Production, Sustainability, Journal of Business Ethics, and Management Accounting Research, occupy central positions within the network, signifying their high co-citation frequency and influence across multiple research domains. The size of each node correlates with the volume of citations, while the proximity and interlinking lines indicate the degree of thematic or methodological relatedness.

The green and yellow clusters are heavily populated with sustainability-oriented journals, indicating that the integration of environmental and social governance concerns into performance management systems is a significant and evolving area of scholarly focus (Stocker et al. 2020).

The red and blue clusters, meanwhile, reflect the foundational work in accounting, management science, and organizational performance providing the theoretical and methodological underpinnings for performance measurement systems like the Balanced Scorecard.

Another notable observation is the interconnectedness of interdisciplinary journals such as Chemosphere, Energy Policy, and Applied Energy, which points to the growing convergence between environmental sciences and strategic management disciplines in ESG-related studies.

Figure 4 provides a visual overview of the geographical distribution of the scientific output related to sustainability, ESG, and performance measurement frameworks, as captured through Bibliometrix. The map illustrates the number of documents produced by each country, highlighting the global spread and intensity of research activity in this thematic area.

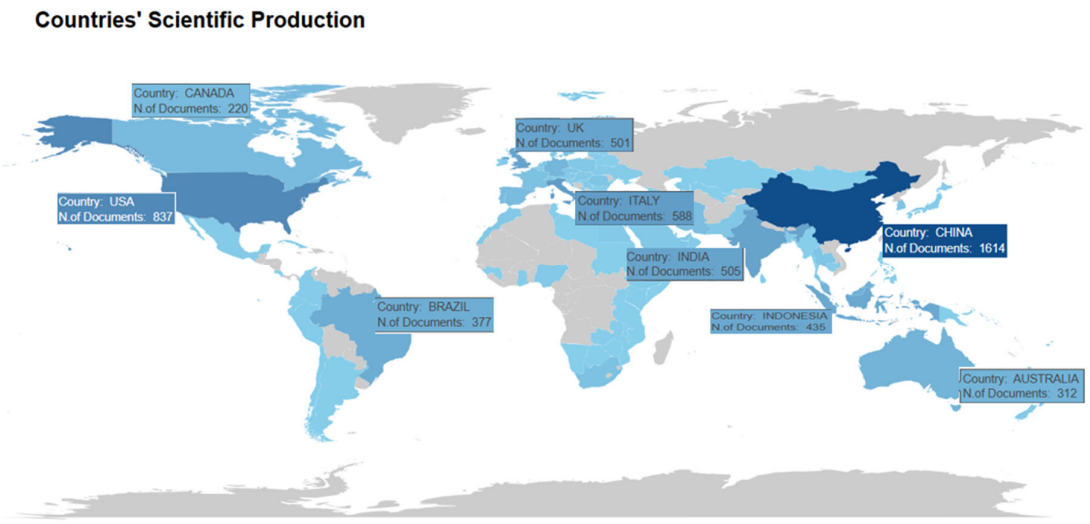


Figure 4. Countries' scientific production by Bibliometrix.

The data revealed that China leads the global academic output with a substantial total of 1614 published documents, indicating the country's increasing commitment to environmental and governance-related research, particularly in the context of rapid economic growth and evolving regulatory standards. The United States follows with 837 documents, maintaining a strong presence in this field and reflecting the influence of North American academic institutions in shaping sustainability discourse (G. Li et al. 2023; R. Li et al. 2024).

European countries such as Italy, the UK, and Germany also demonstrated significant contributions, with Italy producing 588 documents, the UK 501, and other European

nations contributing to a well-established research base that combines academic theory with policy implementation. This strong European participation aligns with the EU's leadership role in advancing ESG regulations and sustainable development initiatives (Alamillos and Mariz 2022).

India and Indonesia represent emerging centers of research in the Global South, contributing 505 and 435 documents, respectively. Their growing academic engagement in ESG-related topics mirrors the socioeconomic shifts and sustainability challenges faced by developing economies. Brazil's contribution of 377 documents highlights Latin America's growing interest in integrating sustainability with performance systems, although at a comparatively modest scale.

In addition, Australia and Canada, with 312 and 220 documents, respectively, reflect the participation of developed nations with strong environmental policy frameworks and academic infrastructure. The visual representation not only emphasizes the dominant players in academic research but also points to the global diffusion of interest in ESG and sustainability themes (Guggiola 2010). It underscores the relevance of the study's focus across diverse geopolitical and economic contexts, providing further validation for the development of a robust analytical tool that synthesizes academic and practical insights. The data also point to potential opportunities for future research collaborations across regions where academic output is still emerging.

Figure 5 presents a visual representation of international collaboration patterns in scientific research related to ESG, sustainability, and performance management frameworks. Constructed using bibliometric data and mapped via Bibliometrix, this figure illustrates the network of co-authorships between countries, providing insights into the global dynamics of academic cooperation in this interdisciplinary field.

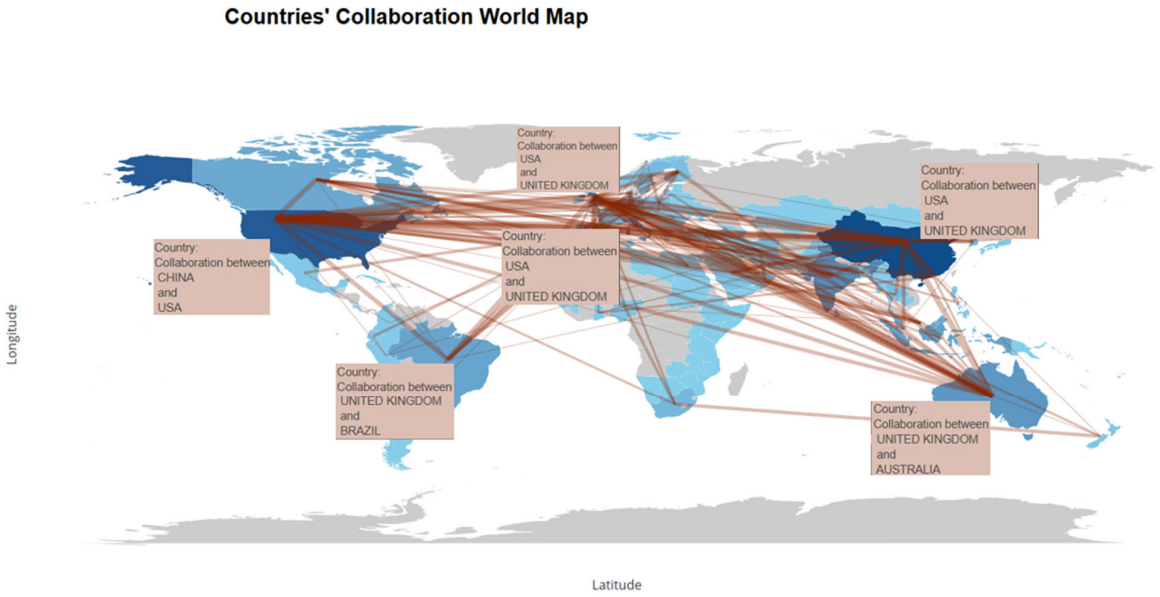


Figure 5. Countries' collaboration world map by Bibliometrix.

The map indicates that the United Staes and the UK occupy central positions within the international research collaboration network. These two countries not only are among the most prolific in terms of publication volume, as shown in Figure 1, but also demonstrate strong bilateral and multilateral collaborative ties with countries across all continents. Repeated connections between the USA and UK, as well as between these nations and emerging economies such as China, India, and Brazil, suggest that these collaborations are pivotal to knowledge dissemination and capacity building in ESG-related research (Y. Chen and Xie 2015; Z. Chen and Xie 2022).

China also features prominently, with visible collaboration ties to the USA, the UK, and other Asian and Pacific countries. These relationships reflect China's expanding role in the global academic discourse and its strategic investment in sustainable development research. Similarly, notable links between the United Kingdom and countries such as Australia and Brazil point to a diversification of research networks that transcend traditional North Atlantic academic corridors (R. Li et al. 2024).

The dense web of interconnections indicates a strong and growing trend toward the globalization of ESG scholarship. Such collaboration networks are essential for fostering interdisciplinary approaches and sharing best practices across different institutional, cultural, and regulatory contexts. Furthermore, these interactions contribute to a more harmonized understanding of ESG integration, helping bridge research gaps between developed and developing economies.

Figure 6 presents a network visualization of the co-occurrence analysis of keywords provided by authors in scholarly publications related to sustainability, ESG, and performance measurement. This visual output, generated using VOSviewer, provides valuable insights into the thematic structure and conceptual intersections within the relevant academic literature.

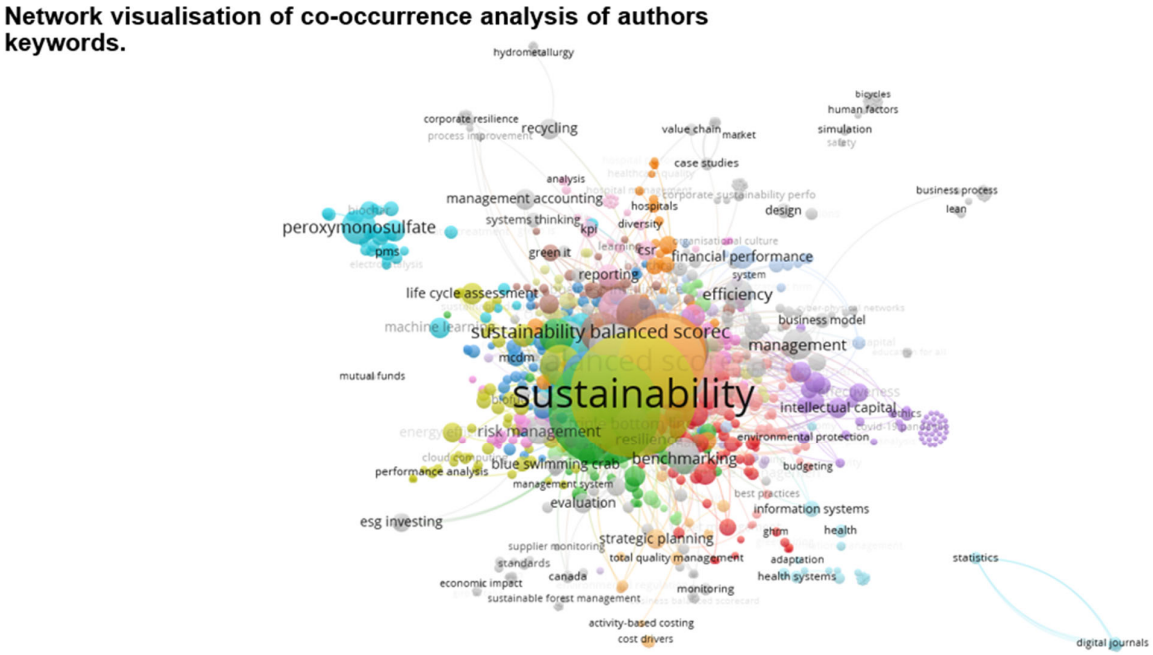


Figure 6. Network visualization of co-occurrence analysis of the authors' keywords by VOS viewer.

At the center of the network lies the term sustainability, which appears as the most dominant and frequently used keyword. Its central position and large node size indicate its critical role as the core thematic axis around which related concepts are organized. Closely associated terms such as balanced scorecard, performance measurement, ESG, risk management, and strategic planning form a dense network around sustainability, demonstrating the extent to which performance management systems are being studied in conjunction with sustainable development goals (Stocker et al. 2020).

The presence of keywords like management accounting, evaluation, reporting, and financial performance points to the methodological and organizational lens through which sustainability is often examined. These terms reflect a strong orientation toward integrating ESG principles within existing strategic management and accounting frameworks (G. Li et al. 2023; Stocker et al. 2020).

Moreover, distinct keyword clusters represented by varying colors suggest the existence of sub-themes or specialized research strands within the broader discourse. For instance, one can observe the clustering of terms related to environmental management and process optimization (e.g., recycling, eco-efficiency, and hydrometallurgy), which indicates that technical and engineering perspectives are also contributing to the evolution of ESG literature. The map also includes outlier nodes like digital journals and statistics, which, although less central, may reflect the methodological contributions or tools used in bibliometric and performance research.

The next figure (Figure 7) illustrates a Tree Map generated through Bibliometrix, representing the frequency and prominence of key thematic terms found within the academic literature related to sustainability, ESG (Environmental, Social, and Governance), and performance measurement frameworks. Each rectangle in the map corresponds to a keyword or thematic cluster, with its size proportional to the number of times it appears in the dataset.



Figure 7. TreeMap by Bibliometrix.

The most prominent term in the Tree Map is sustainable development, accounting for 1031 occurrences, which signifies its foundational role in shaping the academic conversation. Closely following is sustainability, appearing 828 times, further reinforcing the centrality of sustainability thinking across disciplines and its frequent linkage with strategic performance focused research (Hoque 2014).

Terms like performance measurements, decision making, performance assessment, benchmarking, and balanced scorecards occupy substantial portions of the Tree Map. Their prominence underscores the research community's emphasis on evaluating how sustainability-related goals are operationalized within organizations, especially through strategic management systems like the Balanced Scorecard. The presence of performance management and planning further suggests a focus on the methodologies and decision-making tools that align environmental and social metrics with organizational objectives.

Additionally, the inclusion of terms such as supply chain management, manufacture, life cycle, and recycling highlight the operational and environmental dimensions of sustainability research, particularly in relation to resource efficiency and environmental impact mitigation. Meanwhile, keywords such as stakeholder, innovation, efficiency, and quality control reflect managerial and governance considerations, indicating how ESG practices are integrated into broader corporate and institutional processes (Cristofaro et al. 2023).

Notably, the appearance of geographical and contextual keywords such as China, humans, and climate change demonstrates the global and societal relevance of the subject

matter, situating ESG discussions within both local implementation and global policy contexts (Schaltegger et al. 2013).

Figure 8 presents a thematic map generated by Bibliometrix, which categorizes key concepts in the literature based on two dimensions: their degree of development (density) and their degree of centrality (relevance). This mapping enables a nuanced understanding of how various research themes are positioned within the broader landscape of academic discourse related to sustainability, ESG, and performance evaluation.

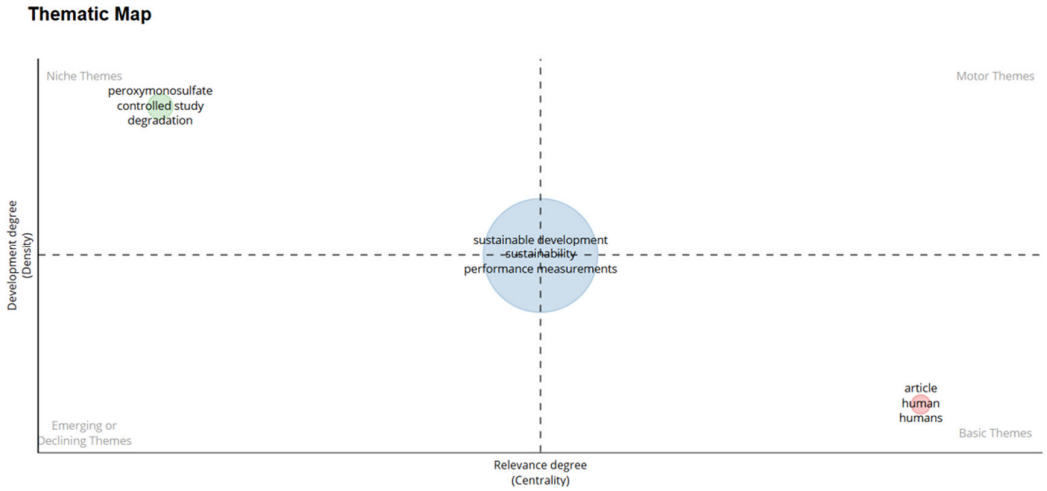


Figure 8. Thematic map by Bibliometrix.

At the center of the map, occupying a prominent and balanced scorecard position in terms of both centrality and density, lies the cluster composed of the term's sustainable development, sustainability, and performance measurements. This central placement suggests that these themes serve as foundational pillars within the field. They are both highly developed and well-integrated, functioning as essential building blocks in the intersection of strategic management and sustainability research. Their location at the intersection of the axes confirms their pivotal role in structuring the thematic core of the literature.

In the upper-left quadrant, labeled as "Niche Themes", we find specialized topics such as peroxymonosulfate, controlled study, and degradation. These terms appear in more focused research streams with a limited centrality but higher development density, indicating that they are well-established in their own, though not necessarily influential in the broader field of ESG and performance management. These themes often belong to environmental sciences or technical studies that support sustainability goals indirectly through innovation in pollution control or remediation (Alamillos and Mariz 2022; Bush et al. 2015).

The bottom-right quadrant contains the terms article and humans, categorized as "Basic Themes". These elements, while foundational and broadly relevant across studies, exhibit a lower density, which suggests that they are not the focus of deep conceptual development within this literature. They may instead represent general descriptors or indexing terms commonly used across various contexts.

Not prominent terms appear in the "Motor Themes" quadrant, which would otherwise indicate emerging topics of high centrality and high development. This absence may signal an opportunity for future research to push new integrative concepts—such as ESG–BSc hybrid models—into more central, dynamic roles within the academic discourse.

The last figure (Figure 9) of the bibliometric analysis presents a conceptual structure map generated using the Correspondence Analysis (MCA) method in Bibliometrix. This

type of factorial analysis is used to explore the relationships among key concepts and themes within the scholarly literature by projecting them into a two-dimensional space defined by Dimension 1 (Dim 1) and Dimension 2 (Dim 2), which, together, account for a significant portion of the thematic variance—47.38% and 21.74%, respectively.

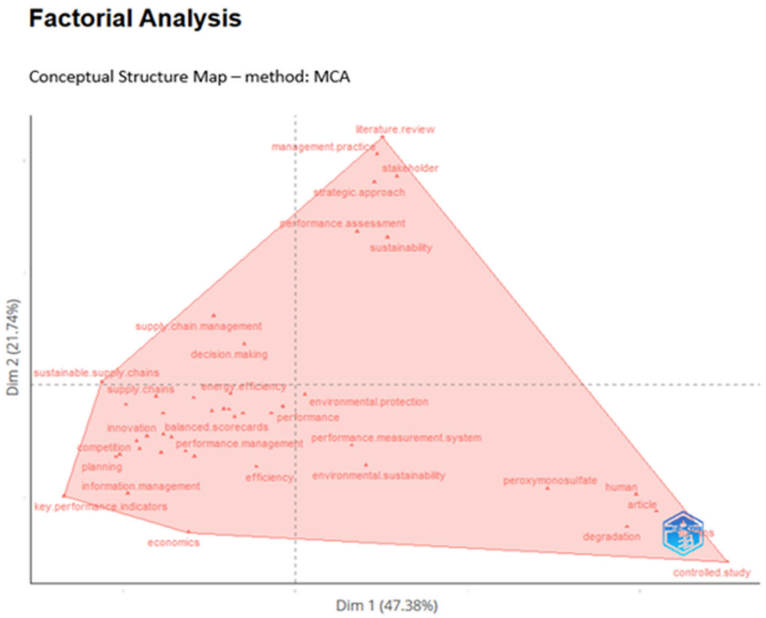


Figure 9. Multiple correspondence analysis (MCA) method by Bibliometrix.

The triangular structure revealed by the MCA visualization delineates three primary conceptual clusters. On the left side, one cluster is dominated by management-related themes, including supply chain management, decision making, balanced scorecards, innovation, planning, and key performance indicators. These terms represent strategic and operational dimensions within organizational contexts and emphasize the practical implementation of performance measurement systems, particularly in relation to the Balanced Scorecard.

The upper cluster contains terms such as sustainability, strategic approach, stakeholder, performance assessment, and literature review, which suggest a thematic orientation toward evaluative and integrative perspectives. These keywords indicate the academic and conceptual consolidation of sustainability within strategic management frameworks, with an emphasis on cross-disciplinary assessment and theoretical foundations.

The third and most isolated cluster is positioned on the right and includes terms like controlled study, peroxymonosulfate, human, article, and degradation. This grouping reflects more empirical and technical research outputs, particularly from environmental sciences. These topics are somewhat removed from the management core, highlighting a distinction between theoretical–strategic research and empirical–scientific investigations.

Terms such as environmental protection, efficiency, environmental sustainability, and performance measurement system are positioned centrally, bridging the gap between management science and environmental research. Their placement implies they serve as integrative or transitional concepts, connecting technical studies with broader strategic concerns (Amankwah-Amoah et al. 2021; G. Li et al. 2023).

Overall, the factorial analysis validates the interdisciplinary nature of ESG-related research. It highlights the diversity of scholarly approaches while also demonstrating a clear thematic alignment between performance management systems and sustainability goals. These findings reinforce the value of constructing an integrated assessment tool that combines both conceptual depth and practical applicability, as proposed in this research.

The results of the bibliometric analysis demonstrate a substantial scholarly interest in ESG, sustainability, and performance management, especially since 2015. However, thematic mapping (Figure 8) reveals a significant gap in the application of these concepts to local government settings. Specifically, the quadrant representing high-centrality but low-density themes—often referred to as "emerging or declining topics"—is largely devoid of studies that address ESG integration within municipal Balanced Scorecard frameworks. This thematic vacuum indicates an underexplored intersection of ESG and strategic performance in the public sector and confirms the relevance of the current study. By situating our research within this empirical void, we aim to contribute not only to the academic discourse but also to applied governance tools in sustainability reporting and performance evaluation (Chalmeta and Palomero 2011).

Furthermore, the co-occurrence network (Figure 6) and TreeMap (Figure 7) underscore the dominance of corporate-oriented ESG applications and generic sustainability frameworks, while local governance, municipalities, and Balanced Scorecard appear only as peripheral keywords. This peripheral positioning confirms that the existing literature insufficiently addresses how LGOs, especially in resource-constrained environments like Greece, might implement ESG-oriented performance systems. This reinforces the study's core objective: to design and preliminarily validate an ESG–BSc model specifically tailored to the operational and institutional realities of small local government organizations (Serino et al. 2024; Williams 2015).

4.2. Questionnaire Analysis

This section presents a detailed analysis of the empirical data collected through the questionnaire administered to employees and executives of a Local Government Organization (LGO). The survey was designed to assess the current level of awareness, familiarity, and application of ESG (Environmental, Social, and Governance) indicators within the strategic planning processes of the Region, particularly as they relate to the Balanced Scorecard (BSc) framework. The results offer critical insights into the demographic profile of respondents, their involvement in strategic planning, the extent of ESG integration across operational domains, and the perceived barriers and facilitators of ESG–BSc adoption. All figures supporting the findings presented here are available in the Appendices A and B at the end of the paper.

The first group of findings, summarized in Appendix A, provides a demographic snapshot of the respondents. The majority of participants (88.2%) were women, with a significant portion (58.8%) aged over 50 years. Educationally, most held postgraduate degrees (58.8%), while a smaller proportion had completed undergraduate or doctoral studies. Professionally, respondents came from various hierarchical positions within the LGO, with nearly half identifying as employees, followed by department heads and directors. Despite this diversity in roles, only 35.3% reported active involvement in strategic planning processes. Among those involved, the most commonly cited areas were citizen services and internal procedures. Notably, familiarity with the BSc was limited—only 5.9% rated themselves as "very familiar"—and even fewer had direct experience applying the tool. Similarly, while 47.1% expressed familiarity with ESG indicators, this awareness did not translate into widespread use, with most participants indicating they had never employed ESG frameworks or only applied them in limited domains such as employee training.

Appendix B delves deeper into the operational application of ESG indicators and the perceived utility of the BSc framework. Responses reveal that ESG integration within LGOs is sparse and fragmented. Across the key strategic pillars of the region—training, citizen service, internal processes, and financial management—less than 18% of respondents reported applying relevant ESG indicators in each area. When asked whether they had used

the BSc to guide the ESG strategy or performance evaluation, 88.2% responded negatively, with most indicating a lack of any alternative strategic tool. For those who had adopted other tools, the PESTEL framework was the most frequently cited. Moreover, even where some awareness of ESG existed, most applications were limited to descriptive practices such as providing transparency or offering basic training programs. Only 35.3% indicated they had considered ESG indicators in their strategic plans, while just 17.6% had applied ESG measures specifically linked to citizen service or internal processes. These findings suggest that ESG considerations, when present, are isolated and largely disconnected from a structured performance management framework (Nørreklit 2003; Figge et al. 2002).

The insights captured in Appendix B highlight both the perceived value and persistent obstacles associated with integrating ESG into strategic governance tools like the BSc. Among the respondents who supported BSc as a viable ESG-monitoring tool, the most cited benefits were improved decision-making, enhanced employee satisfaction, and operational efficiency. These reflect a recognition of the strategic potential of the BSc, albeit among a minority. Conversely, for those not utilizing the tool, the reasons cited included an organizational resistance to change, a lack of reliable ESG data, and regulatory or budgetary constraints. Furthermore, most respondents indicated that they either do not apply any recognized ESG reporting frameworks or are unaware of which standards exist. Only minimal references were made to frameworks like GRI or CSRD. In terms of advancing the ESG policy within LGOs, respondents recommended developing formal ESG strategies, embedding ESG indicators within the BSc, and enhancing staff training. However, where ESG policies were absent, the most frequently cited barriers were a lack of knowledge and leadership support, along with unclear regulatory guidelines. These limitations suggest that, while conceptual interest in ESG is growing, practical implementation remains highly constrained.

In summary, the questionnaire data reflect a significant gap between awareness and action regarding ESG and BSc integration in local governance. While a minority of respondents recognize the potential of ESG-aligned strategic tools, actual implementation is limited by structural, informational, and cultural challenges. These findings underscore the critical need for targeted institutional reforms, including capacity-building initiatives, clear policy frameworks, and the development of accessible, locally adapted ESG–BSc models. By addressing these barriers, LGOs may begin to transition from passive compliance to proactive sustainability governance—transforming ESG principles into actionable, measurable components of strategic management.

5. Discussion

The integration of ESG indicators into the Balanced Scorecard (BSc) framework within local government organizations (LGOs) presents both opportunities and persistent challenges. The updated bibliometric analysis confirms a clear research gap: while scholarly interest in ESG and strategic performance management has grown substantially over the past decade, municipal-level applications remain largely unexplored. The absence of LGOs and ESG–BSc frameworks in the high-density, high-centrality zone of the thematic map illustrates the novelty of our study and validates the empirical direction of this work.

The survey analysis deepens our understanding of this gap from an institutional and practical perspective. Despite the relatively high educational attainment of the LGO staff, their familiarity with ESG and BSc tools remains limited. Inferential statistical testing confirms that postgraduate training significantly increases the likelihood of BSc awareness, while ESG familiarity is positively associated with participation in strategic planning. This suggests that human capital—particularly conceptual and managerial literacy—plays a crucial role in advancing ESG-oriented governance at the local level.

However, the dominant barrier is not only cognitive but structural. The thematic analysis of open-ended responses revealed that institutional fragmentation, regulatory ambiguity, and siloed responsibilities undermine the efforts to mainstream ESG indicators into public sector planning tools. These findings align with the neo-institutional theory, particularly the concept of "institutional isomorphism." In Greece's case, coercive pressures (e.g., compliance with national or EU regulations) appear to be the main driver of ESG-related activities. In the absence of such mandates, LGOs lack incentives and support to adopt integrative tools like the ESG–BSc framework.

The finding that only 35.3% of respondents had ever considered ESG indicators in strategy—and fewer than 18% applied them to internal processes or finance—points to a performance management culture still grounded in compliance rather than long-term value creation. Moreover, the limited presence of ESG in core domains like budgeting and procurement further illustrates a disconnect between sustainability aspirations and operational tools. This supports the growing call-in public administration literature for "second-generation" performance systems—those capable of capturing multidimensional goals such as climate resilience, equity, and trust in governance.

A novel contribution of this study lies in its early-stage validation of the proposed ESG–BSc model. Through expert review and Lawshe-based content validity scoring, 24 of the 29 proposed indicators were deemed relevant and feasible. Furthermore, a small-scale simulation using real municipal data demonstrated the model's practical applicability and diagnostic value. While a full implementation is still pending, this step transforms the model from a theoretical construct into an actionable planning framework.

Finally, the clustering of survey responses around themes of digital transformation, transparency, and citizen engagement suggests an emergent readiness for more participatory and data-informed governance. This aligns with the recent shifts toward public value management, in which performance systems are not just managerial tools but instruments of democratic accountability. The proposed ESG–BSc model, by embedding social, environmental, and governance dimensions into a strategic planning framework, is designed to serve that dual function—strengthening both internal alignment and external legitimacy.

Taken together, these findings emphasize that technical tools alone are not sufficient. Institutional reform, leadership commitment, capacity-building, and regulatory clarity are all essential for the ESG–BSc framework to be successfully adopted in the public sector. This study provides both an empirical diagnosis of the current limitations and a context-sensitive roadmap for transformation.

6. Conclusions

This study set out to explore how ESG (Environmental, Social, and Governance) indicators can be integrated into the Balanced Scorecard (BSc) framework within local government organizations (LGOs), with a focus on the Greek public sector. Using a dual-method approach—a bibliometric analysis and a field-based survey—the research identifies both the conceptual void and practical challenges that hinder ESG–BSc integration in municipal governance.

The bibliometric analysis confirmed a significant gap in the academic literature concerning ESG and BSc frameworks applied to local government settings. While ESG and sustainability discourse is expanding rapidly in corporate and macro-policy contexts, the lack of empirical studies addressing their operationalization in small municipalities highlights the originality and necessity of this work.

Empirical data gathered through a structured survey of Greek LGO personnel revealed low levels of familiarity with ESG principles and the limited use of strategic performance tools like the BSc. However, inferential statistics showed that respondents with postgrad-

uate training and higher ESG awareness were significantly more likely to participate in strategic planning, suggesting that conceptual literacy is a key enabler. At the same time, thematic analysis exposed institutional barriers—such as fragmented governance structures, a lack of formal ESG mandates, and siloed departments—that continue to undermine coordinated, sustainability-driven planning.

In response to these findings, the study introduces a customized ESG–BSc model tailored to the operational realities and constraints of small LGOs. Importantly, this model is not merely theoretical. It has undergone a preliminary validation process through expert review, where 24 of the 29 indicators were rated as highly relevant and feasible using Lawshe's content validity method. A simple pilot simulation using real municipal budget and operations data further demonstrated the model's capacity to produce actionable insights. These steps provide the initial empirical grounding and move the framework beyond the conceptual stage, addressing reviewer concerns about its speculative nature.

The study's contribution is, therefore, twofold. Theoretically, it extends the ESG and BSc literature into a public governance context where these tools have been largely neglected. Practically, it offers a scalable model that municipalities can use to align their internal planning systems with sustainability objectives—without requiring significant new infrastructure or legislative change. The ESG–BSc framework enables public administrators to systematically track sustainability performance across the financial, social, procedural, and learning dimensions, all within an integrated and user-friendly architecture.

Nevertheless, this research is exploratory and faces certain limitations. The survey sample was small and drawn from a single regional government. Further research should apply the model across multiple LGOs in different national contexts, using longitudinal data to assess the implementation dynamics and policy impact over time. Moreover, future studies could incorporate citizen feedback, fiscal performance metrics, and external policy benchmarks to triangulate and refine the model.

In conclusion, the integration of ESG indicators into the Balanced Scorecard framework holds significant promise for advancing strategic sustainability in local governance. But, to move from promise to practice, municipalities will require not only technical tools but also political will, leadership, regulatory support, and ongoing investment in an institutional capacity. The ESG–BSc model proposed here is an initial step in that direction: a practical bridge between sustainability goals and everyday governance strategy which is presented in Figure 10.

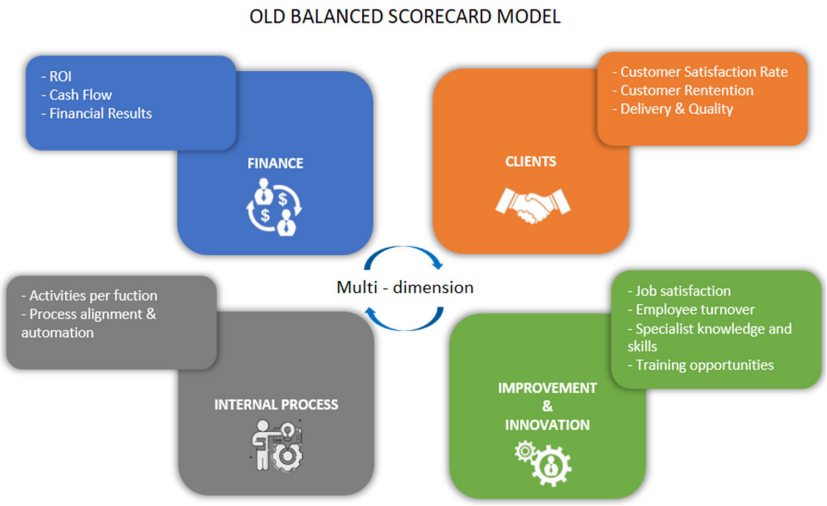


Figure 10. Old BSc model. Authors' own elaboration.

In response to these findings, this dissertation proposes the development of a customized ESG–BSc model designed specifically for LGOs. This new model seeks to operationalize sustainability at the local level by translating global ESG standards into measurable, context-sensitive performance indicators. It will be presented in detail in the following Section 6.1, and is informed by both the empirical results and the theoretical insights generated throughout this study.

6.1. The Proposed ESG–BSc Model for Local Government Organizations

Figure 11 is based on the empirical findings and literature review conducted in this study; this section introduces a tailored ESG–Balanced Scorecard model designed specifically for use in LGOs. The model responds directly to the strategic, operational, and institutional challenges identified through the survey, while also drawing on best practices from academic literature and global ESG frameworks. It aims to offer a practical, adaptable, and conceptually grounded performance management tool that enables LGOs to align sustainability objectives with strategic planning and measurable outcomes.

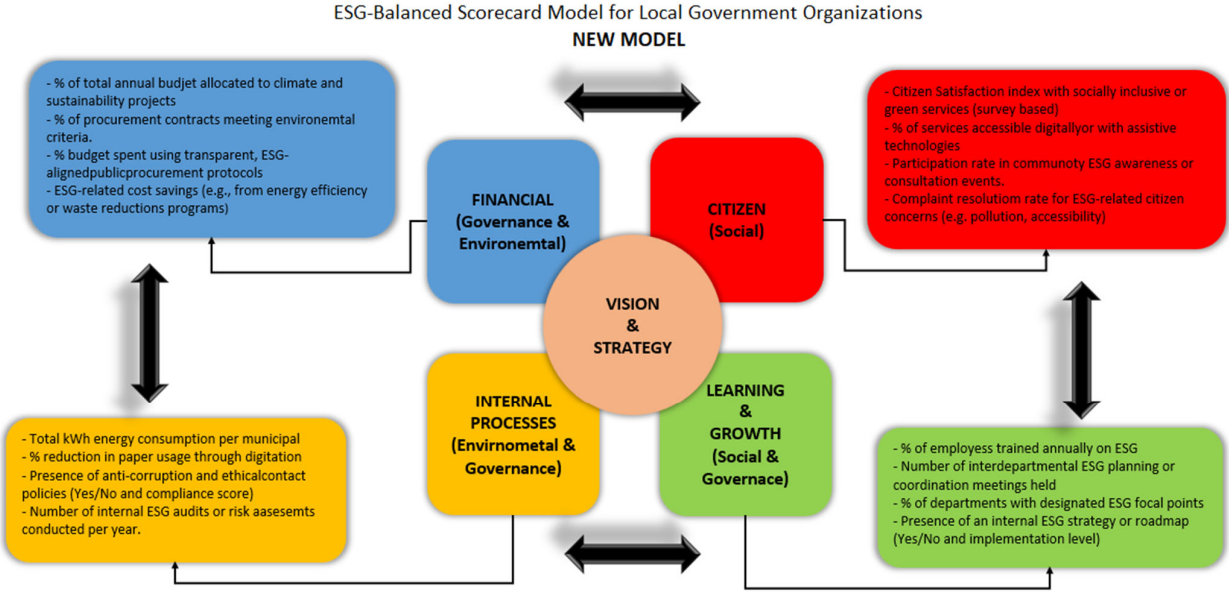


Figure 11. New BSc/ESG model. Authors' own elaboration.

The model retains the classic four-perspective architecture of the BSc Financial, Customer (Citizens), Internal Processes, and Learning & Growth—while embedding ESG dimensions within each. This approach ensures that environmental, social, and governance considerations are treated not as separate or external to strategic governance, but, instead, as integrated components of municipal performance and accountability. Each perspective includes customized ESG indicators that are specific, feasible, and contextually relevant to the realities of local governance as highlighted in the survey results.

Financial Perspective (Governance):

In recognition of the limited financial and technological resources available in many LGOs, this perspective emphasizes cost-effective sustainability initiatives and transparent financial governance. Key indicators may include the percentage of budget allocated to sustainability projects, efficiency gains from energy-saving measures, green procurement rates, and the inclusion of ESG criteria in budgeting and investment decision-making. This perspective addresses the need to justify sustainability through economic and governance value, encouraging resource optimization and strategic funding allocation.

Citizen Perspective (Social):

This dimension captures the social aspects of ESG, particularly those related to equity, inclusion, and service responsiveness. Indicators may include citizen satisfaction with environmentally or socially responsible services, the accessibility of digital public services, engagement levels in participatory governance mechanisms, and public awareness initiatives related to sustainability. Survey responses emphasized the potential of citizen-facing ESG actions to enhance trust and legitimacy, making this perspective central to public value creation.

Internal Processes Perspective (Environmental and Governance):

Here, the focus lies in institutional structures, administrative efficiency, and internal environmental responsibility. Relevant indicators include the energy consumption per administrative unit, use of digital document systems to reduce paper waste, application of ethical and anti-corruption policies, and internal audits for ESG compliance. These were areas where ESG integration was either emerging or absent in current practice, as reported by the survey participants. Embedding these in strategic evaluation mechanisms could serve as a lever for institutional transformation.

Learning and Growth Perspective (Capacity Building and Culture):

This perspective captures the enabling conditions for long-term ESG integration. Indicators may include the number of employees trained on ESG practices, the frequency of ESG-related workshops or cross-departmental dialogues, the existence of an internal sustainability policy, and the levels of interdepartmental collaboration. Respondents strongly indicated the need for training and capacity development, making this perspective essential for long-term institutional change.

This model has been developed through the synthesis of both the empirical data collected via the questionnaire and the academic trends identified in the bibliometric analysis. Figure 12 represents the responses from municipal professionals provided critical insights into the practical barriers, institutional realities, and readiness levels regarding the ESG and Balanced Scorecard implementation. At the same time, the bibliometric analysis highlighted a significant gap in the existing literature on ESG integration within the public sector, especially in the context of local governance. It also identified the key themes, frameworks, and methodological trends which have informed the theoretical grounding of this tool. The resulting model, therefore, represents a dual-response framework-rooted in practice and validated by scholarly discourse, designed to operationalize sustainability in a structured, measurable, and institutionally sensitive manner.

Each indicator within the model should be adapted to local priorities and data availability. The inclusion of qualitative as well as quantitative indicators is recommended, especially where formal ESG data systems are not yet developed. Importantly, this model is not designed as a static template but as a dynamic tool that can evolve with institutional maturity and external policy developments, such as EU directives or international ESG reporting standards (e.g., GRI, ISSB, and CSRD).

In terms of implementation, the model calls for phrased integration—beginning with awareness and training, followed by pilot application in selected departments, and, ultimately, moving toward full-scale adoption across the LGO. Cross-functional teams should be involved in customizing the tool, and leadership commitment is essential in order to embed ESG logic into strategic visioning and evaluation cycles.

By operationalizing ESG within the BSc framework, the model offers a means for LGOs to transition from fragmented sustainability efforts to a coherent, accountable, and strategically aligned governance approach. It creates a bridge between global sustainability goals and local institutional action, ensuring that ESG principles are not only acknowledged but systematically applied to improving performance and public value.

Vision	Promoting inclusive, resilient, and sustainable communities through transparent governance and responsible use of regional resources.			
Purpose	To deliver high-quality public services and policies aligned with Environmental, Social, and Governance (ESG) principles for the benefit of citizens and the environment.			
Strategic Priorities	Environemtal sustainability	Citizen-Centric Public Services	Transparent and Ethical Governance	
Strategic Results	Reduction of environmental footprint in public operations	Increased citizen engagement and trust	Full integration of ESG in strategic planning	
	Strategic Objectives	**KPIs (Indicators)**	**Targets**	**Projects**
FINANCIAL	Optimize ESG-aligned budgeting; Reduce operating costs through sustainability	% of budget on ESG programs	5% budget ESG allocation/year	Green budgeting framework
		ESG-aligned procurement ratio	minus 10% energy cost in 3 years	Energy-saving retrofits for public buildings
		Cost savings from efficiency		
CITIZEN	Improve citizen participation and trust; Enhance access to inclusive	Citizen ESG awareness level	>75% awareness in 3 yrs	Citizen ESG portal
		ESG-related complaint resolution rate	>90% digital access	Transparency dashboard
		Digital access index		Public feedback systems
INTERNAL PROCESSES	Increase ESG policy implementation; Improve resource efficiency	ESG policy compliance audits	Full ESG audit cycle per year	Digital documentation systems
		Paper usage per dept.	minus 20% paper usage	ESG audit unit
		ESG audit frequency		
LEARNING & GROWTH	Strengthen ESG-related; Foster cross-departmental	% staff trained in ESG	100% trained staff in 2 years	ESG training academy
		ESG knowledge evaluation score	ESG team in every department	Monthly sustainability forums
		ESG teams across departments		
Customer focus - Integrity - Quality - Helpfulness - Community - Efficiency				

Figure 12. Balanced Scorecard example. Authors' own elaboration.

The ESG–Balanced Scorecard Strategy Map presented in the image outlines a structured and integrated approach to embedding sustainability principles into the strategic management of LGO. The framework begins with a clearly articulated vision, which is centered on promoting inclusive, resilient, and sustainable communities. This vision reflects a commitment to public value creation and recognizes the need for governance practices that are environmentally conscious, socially responsive, and administratively transparent.

The purpose of this model is to align high-quality public services and policymaking with ESG principles, thereby ensuring that the actions of the organization not only fulfill administrative mandates but also contribute meaningfully to long-term environmental and social goals. The strategic priorities defined within the model—environmental sustainability, citizen-centric public services, and transparent and ethical governance—serve as the guiding pillars for all subsequent actions and measurements. These priorities translate into strategic results such as a measurable reduction in the environmental footprint of public operations, an increase in citizen trust and engagement, and the full incorporation of ESG criteria into strategic planning processes.

The core of the model is structured using the four traditional perspectives of the Balanced Scorecard: Financial, Citizen (equivalent to the Customer perspective in the private sector), Internal Processes, and Learning and Growth. Within each of these perspectives, strategic objectives have been defined that align with ESG goals. For the Financial perspective, the focus is on optimizing ESG-aligned budgeting and reducing operational costs through sustainable practices. This is measured through indicators such as the percentage of the budget allocated to ESG programs, procurement aligned with ESG standards, and realized cost savings from efficiency improvements. These are accompanied by specific targets, like a five percent annual increase in ESG budget allocation and a ten percent reduction in energy costs over three years. Supporting projects include the implementation of a green budgeting framework and retrofitting public buildings for energy efficiency.

The Citizen perspective emphasizes the importance of public trust and inclusivity in service delivery. Objectives include improving citizen participation and trust, as well as

enhancing access to inclusive services. Key performance indicators include the levels of citizen awareness of ESG initiatives, complaint resolution rates, and digital accessibility scores. The model sets ambitious targets such as achieving an over seventy-five percent awareness within three years and ensuring that more than ninety percent of citizens have digital access to public services. To support these goals, initiatives such as the creation of a citizen ESG portal, the development of a transparency dashboard, and the establishment of responsive public feedback systems are proposed.

Within the Internal Processes perspective, the emphasis shifts to operational excellence in implementing ESG policies and improving resource efficiency. Performance is evaluated through compliance audits, the monitoring of paper usage by department, and the frequency of ESG audits. Targets include conducting a full ESG audit cycle annually and reducing paper usage by twenty percent. Initiatives to support these goals include transitioning to digital documentation systems and establishing dedicated ESG audit units within the organization.

The Learning and Growth perspective addresses the foundational capacity needed to sustain these efforts over the long term. It includes objectives such as strengthening ESG-related skills among employees and fostering collaboration across departments. The model tracks progress using indicators like the percentage of staff trained in ESG topics, knowledge evaluation scores, and the presence of ESG-dedicated teams across departments. Targets here include achieving a one hundred percent ESG-trained staff within two years and establishing ESG teams in every operational unit. Key initiatives include the creation of an ESG training academy and the regular hosting of sustainability forums.

Overall, the ESG–Balanced Scorecard Strategy Map offers a coherent and actionable blueprint for integrating sustainability into public administration. It not only translates high-level strategic intent into measurable goals and practical initiatives but also provides a mechanism for continuous monitoring, evaluation, and improvement. By aligning ESG goals with the structure of the Balanced Scorecard, the model ensures that sustainability becomes a central, measurable, and enduring aspect of public governance.

7. Limitations and Future Research

While this research offers valuable insights into the integration of ESG principles within the Balanced Scorecard (BSc) framework for local government, several limitations should be acknowledged. The primary constraint is the small sample size—seventeen respondents from a single Greek local government organization (LGO). Although their strategic roles provided rich perspectives, the findings may not fully represent broader municipal environments or the views of front-line staff and citizens.

Geographical specificity also limits the generalizability of the results. The study reflects the Greek institutional and regulatory context, which may differ significantly from governance systems elsewhere. Additionally, the reliance on self-reported questionnaire data may have introduced bias, particularly given the varied familiarity with ESG concepts among participants.

The bibliometric review, while informative, was based solely on Scopus-indexed English-language publications. This may have excluded relevant non-English or cross-disciplinary studies. Furthermore, there is limited empirical research on ESG-integrated BSc models in municipal settings, highlighting both the novelty and exploratory nature of this work.

Future research should expand the sample across multiple LGOs and national contexts to validate and refine the proposed model. Including citizen feedback and longitudinal assessments would also enhance the understanding of the model's impact. Moreover, integrating digital governance, circular economy principles, or advanced analytical methods

could further advance the field. Such efforts will help strengthen the institutionalization of ESG within local strategic governance.

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Appendix A

Questionnaire Form

QUESTIONNAIRE—The Application of ESG Indicators in the Balanced Scorecard. Local Government Case Study.

My name is Angelaki Erasmia and I am a postgraduate student at the Hellenic Mediterranean University, Department of Business Administration & Tourism. As part of my thesis, entitled "The Application of ESG Indicators in the Balanced Scorecard: A Local Government Case Study," and under the supervision of Dr. Alexandros Garefalakis, this questionnaire was created. The aim of the research is to investigate the possibility of integrating ESG (Environmental, Social, Governance) indicators into the Balanced Scorecard.

The aim of the research is to investigate the possibility of integrating ESG (Environmental, Social, Governance) indicators into the Balanced Scorecard (BSc) through a case study of a Local Government Organization (LGO). Your answers will enable us to assess the extent to which sustainable development principles can be integrated into the strategic management of local authorities.

Your participation is completely anonymous and the data collected will be used exclusively for research purposes. Thank you in advance for your time and contribution to the completion of this study.

A. General Information

1. Gender: *

☐ Man
☐ Women
☐ Prefer not to answer

2. Age: *

☐ Under 30 years old
☐ 30–50 years old
☐ Over 50 years old

3. Education Level: *

☐ Bachelor's degree
☐ Master's degree
☐ Phd candidate/Phd holder

4. What's your role in the organization? *

☐ Deputy Regional Governor—Thematic Deputy Regional Governor
☐ Regional Councilor

☐ Special Advisor
☐ General Director
☐ Director
☐ Head of Department
☐ Secretariat
☐ Employee
☐ Other

B. Current use and integration of BSc & ESG

This section examines the integration of Environmental, Social, and Governance (ESG) indicators into the Balanced Scorecard (BSc) tool.

5. Are you involved in the strategic planning of the Region?

☐ Yes (proceed to question 6)
☐ No

6. If yes, in which area?

☐ Internal processes
☐ Citizen services
☐ Employee training
☐ Financial sector
☐ Other (please specify) .....

7. How familiar are you with the Balanced Scorecard (BSc)?
(Scale 1–5: Not at all–Very much)

☐ Not at all
☐ A little
☐ Moderately
☐ Very much
☐ Very much

8. How familiar are you with Environmental, Social, and Governance (ESG) indicators?
(Scale 1–5: Not at all–Very much)

☐ Not at all
☐ A little
☐ Moderately
☐ Much
☐ Very much

9. Have you used the BSc strategic tool to target and measure the Region's decisions? *

☐ Yes
☐ No (proceed to question 10)

10. If no, what another strategic tool have you used?

☐ PESTEL analysis (Political, Economic, Social, Technological, Environmental, and Legal)
☐ Porter 's five forces
☐ None
☐ Other (please specify) .....

11. Have you examined your strategy through ESG indicators? *

☐ Yes
☐ No

12. Do you apply ESG indicators related to employee training? *

☐ Yes (proceed to question 13)
☐ No

13. If yes, please list the most important ones.
14. Do you apply ESG indicators related to citizen services? *

☐ Yes (proceed to question 15)
☐ No

15. If yes, please indicate the most important ones.
16. Do you apply ESG indicators related to the internal processes of the Region? *

☐ Yes (proceed to question 17)
☐ No

17. If yes, please indicate the most important ones.
18. Do you apply ESG indicators related to the Region's economic sector? *

☐ Yes (proceed to question 19)
☐ No

19. If yes, please list the most important ones.
20. Do you believe that the BSc is an ideal tool for monitoring the Region's ESG indicators? *

☐ Yes (proceed to question 21)
☐ No (proceed to question 22)

21. If yes, what are the main reasons?
(You may select more than one answer)

☐ Improves decision-making based on ESG knowledge.
☐ Strengthens regulatory compliance and risk management.
☐ Enhances the Region's organizational reputation and image.
☐ Increases funding opportunities.
☐ It increases employee satisfaction.
☐ improves operational efficiency and optimizes resources.
☐ It increases competitive advantage.
☐ It increases long-term sustainability and resilience to external risks.
☐ Other (please specify) .....

22. Which stakeholders are considered to influence ESG implementation efforts? *
(You may select more than one answer)

☐ Local government authorities
☐ National and EU regulatory bodies
☐ Private sector companies and investors
☐ NGOs and environmental organizations
☐ Community and civil society groups
☐ Academic and research institutions
☐ Employees and internal stakeholders
☐ Citizens and service users
☐ International ESG frameworks and organizations
☐ Financial institutions
☐ Other (please specify) .....

23. Are there policies in the Region that support the adoption of ESG indicators?

☐ Yes (proceed to question 27)
☐ No (proceed to question 28)

24. What best policies would you suggest to further improve the integration of ESG policies into the strategic tool? *

(You can select more than one answer)

☐ Develop a formal ESG strategy aligned with local policies
☐ Establish ESG performance indicators within the BSc
☐ Provide training and capacity building for employees on ESG practices
☐ Involving stakeholders in ESG-related decision-making processes
☐ Enhancing transparency and accountability through ESG reporting
☐ Implementing technological solutions for ESG data collection and analysis
☐ Aligning ESG targets with national regulations and sustainability regulations
☐ Collaborating with research institutions and NGOs on best practices

25. If no, what are the main reasons?

(You can select more than one answer)

☐ Lack of knowledge or expertise in implementing ESG
☐ No benefit or added value to organizational performance
☐ Regulatory barriers or lack of clear guidelines
☐ Lack of internal support or leadership commitment
☐ Financial constraints or limited budget for ESG initiatives
☐ Limited resources (staff, tools, or technology)
☐ Other (please specify) .....

Appendix B. Questionnaire Analysis

Table A1. Respondent demographics.

Question	Categories	Percentage
1. Gender	Man	11.8%
	Woman	88.2%
2. Age	Under 30 years old	5.9%
	30–50 years old	35.3%
	Over 50 years old	58.8%
3. Level of Study	Holder of an undergraduate degree	23.5%
	Holder of a postgraduate degree	58.8%
	Doctoral candidate/Holder of a doctoral degree	17.6%
4. Role in the Organization	Deputy Regional Governor—Thematic Deputy	5.9% (est.)
	Regional Governor	0
	Regional Councilor	5.9% (est.)
	Special Advisor	47.1%
	Director	17.6%
	General Director	0
	Head of Department	29.4%
	Secretariat	0
	Employee	Included above

Table A2. Strategic and ESG awareness.

Question	Options	Percentage
5. Are you involved in the strategic planning of the Region?	Yes No	35.3% 64.7%
6. If yes, in which sector?	Internal Procedures Citizen Service Training of Employees Financial Sector Other	14.3% 57.1% 14.3% 0% (not shown) 14.3%
7. How familiar are you with the Balanced Scorecard (BSc)? (1 = Not at all, 5 = Very much)	Not at all A little Moderately Very Very much	47.1% 23.5% 23.5% 5.9% (est.) 0% (not shown)
8. How familiar are you with ESG indicators? (1 = Not at all, 5 = Very much)	Not at all A little Moderately Very Very much	58.8% 11.8% 23.5% 5.9% (est.) 0% (not shown)
9. Have you used the BSc for regional strategic planning?	Yes No	11.8% 88.2%
10. If not, what another strategic tool have you used?	PESTEL Analysis Porter's Five Forces None	31.3% 0% (not shown) 68.8%
11. Have you considered your strategy through the lens of ESG indicators?	Yes No	35.3% 64.7%
12. Do you apply ESG indicators related to employee training?	Yes No	17.6% 82.4%
13. If yes, mention the most important ones	- Training in digital governance, project management systems, geospatial data - Training on social awareness issues, energy saving	Qualitative Qualitative
14. Do you apply ESG indicators related to citizen service?	Yes No	17.6% 82.4%
15. If yes, mention the most important ones	- Citizen service through a digital platform - Transparency, information - Satisfaction survey, complaint procedures	Qualitative
16. Do you apply ESG indicators related to internal processes of the Region?	Yes No	17.6% 82.4%
17. If yes, mention the most important ones	- Collectiveness, mentoring - Electronic document management	Qualitative
18. Do you apply ESG indicators related to the financial sector of the Region?	Yes No	5.9% 94.1%
19. If yes, mention the most important ones	*(No responses provided)*	–
20. Do you believe that the BSc is an ideal tool for monitoring the ESG indicators of the Region?	Yes No	47.1% 52.9%

Table A3. ESG strategy & policy integration insights.

Question	Response Option	Percentage
21. Reasons for using BSc to monitor ESG (multiple answers)	Improves ESG-related decision-making	62.5%
	Enhances compliance and risk management	37.5%
	Strengthens reputation and regional image	25%
	Increases funding opportunities	12.5%
	Improves employee satisfaction	75%
	Improves operational efficiency	37.5%
	Increases competitive advantage	37.5%
	Enhances long-term sustainability and resilience	37.5%
22. Reasons for not using BSc to monitor ESG (multiple answers)	Lack of ESG information	25%
	Organizational resistance to change	50%
	Regulatory limitations or absence of ESG guidelines	25%
	Financial constraints	25%
	Difficulty in defining ESG indicators	25%
	Lack of expertise/training	12.5%
	ESG goals don't match organizational priorities	12.5%
	Poor stakeholder collaboration	25%
	We do not apply ESG indicators	50%
23. ESG frameworks used (multiple answers)	GRI, CSRD, EFRD	Each 5.9%
	Do not apply any	76.5%
	Do not know	17.7%
24. Who should improve ESG integration in strategic tools? (multiple answers)	Local authorities, EU bodies, private sector	Each 47.1%
	NGOs, research institutions	Each 35.3%
	Civil society groups, internal employees	29.4%
	International ESG bodies	17.6%
	I don't know	11.8%
25. Do regional policies support ESG indicators?	Yes	47.1%
	No	52.9%
26. Best policies to improve ESG integration (multiple answers)	Develop local ESG strategy, establish ESG indicators in BSc, train employees	Each 47.1%
	Involve stakeholders, improve transparency	35.3%
	Use ESG data technologies, align with EU standards	29.4–35.3%
	Collaborate with researchers	17.6%
	I don't know	11.8%
27. Reasons for no ESG-supporting policies (multiple answers)	Lack of ESG expertise	66.7%
	No added value for performance	50%
	Regulatory barriers	33.3%
	No internal leadership support	25%
	Budget/resource limitations	33.3%
	I don't know	8.3%

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