

Green Accounting in Public Sectors: A Systematic Review

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Abstract. Green accounting (GA) has emerged as a crucial tool to improve accountability, sustainability, as well as transparency in government-affiliated organizations worldwide. However, research on this topic remains fragmented, lacking comprehensive synthesis of empirical data regarding the impacts of GA practices on public sector performance, sustainable development, and regulatory compliance. To bridge this gap, a systematic literature review (SLR) was carried out following the PRISMA methodology, resulting in the identification of 24 primary studies from databases like Web of Science (WoS) and Scopus. Thematic analysis, quality evaluation, and study selection were all included in the methodological appraisal. The most frequently studied theme, according to numerical results, was Environmental Accounting Disclosure and Corporate Performance (10 studies), followed by GA, Sustainability, and Sectoral Applications (8 studies), and Governance, Regulation, and Innovation in GA (6 studies). In the first theme, strong disclosure practices were consistently associated with improved managerial, financial, and environmental results in public sector organizations. Diverse sectoral applications that showed notable improvements in operational efficiency and resource conservation, including green budgeting, sustainability reporting frameworks, and environmental cost allocation, were emphasized in the second theme. The acceptance and development of GA practices have been fueled by technical advancements, policy tools, and regulatory frameworks, especially digital reporting platforms, as highlighted by the third theme. Overall, the empirical data presented in this analysis support the idea that integrated GA techniques can improve public sector accountability and advance environmental policy goals. Specifically, in emerging economies and understudied public service domains, the findings provide a unified basis for scholars and policymakers to create more efficient GA systems and pinpoint opportunities for further research.

Keywords: Green accounting, public sector, environmental accounting disclosure, sustainability reporting

INTRODUCTION

Recent studies have increasingly integrated environmental management accounting (EMA) into analyses of organizational performance, yet the focus predominantly remains within private sector contexts. Thanh Thuy Ngoc and Tran (2025) employed partial least squares structural equation modeling (PLS-SEM) to demonstrate that green process and product innovations act as mediators between EMA and environmental performance among manufacturing firms. Similarly, Martínez-Falcó, Sánchez-García, Marco-Lajara, and Zaragoza-Sáez (2025) revealed that EMA, combined with green entrepreneurship orientation, enhances sustainable competitive advantage in the wine sector through PLS-SEM techniques. Amir, Sanad, and Mostafa (2025) expanded this framework by emphasizing EMA's mediating role between environmental strategies, green intellectual capital, and performance in ISO 14001-certified firms. While these findings strengthen the understanding of EMA's relevance, the concentration on private sector case studies signals a notable void in public sector applications. Green accounting (GA) has gained global attention for its potential to enhance accountability, transparency, and sustainability, particularly in government-affiliated organizations. While findings in corporate settings provide

valuable insights, they cannot be fully generalized to public sector contexts due to differences in governance frameworks, fiscal policies, and public service priorities.

The methodological rigor characterizing current empirical work is evident, yet sectoral limitations persist. Khan and Gupta (2025) applied the generalized method of moments (GMM) to an extensive dataset across highGDP countries, uncovering that GA substantially supports firm performance, particularly when reinforced by artificial intelligence infrastructure. Similarly, Astuti and Ahmar (2025) employed Warp PLS to explore the mediating roles regarding green innovation as well as green intellectual capital concerning firm value, having return on assets serving as a key moderating factor. Difalla (2025) contributed large-sample insights from Saudi industrial firms using PLS-SEM, enhancing external validity. Although these studies offer robust methodologies, the concentration on corporate sectors and the predominant use of cross-sectional dataAstuti & Ahmar, 2025; Martínez-Falcó et al., 2025, restricts applicability to dynamic, longitudinal public-sector settings.

The lack of research in the public sector raises several critical questions. First, how do environmental accounting disclosure practices influence organizational performance in public administration? Second, to what extent do GA practices contribute to sustainability through sectoral approaches such as green budgeting, natural capital accounting, or sustainability reporting? Third, how do governance mechanisms, regulatory frameworks, and technological innovations drive the adoption of GA within public sector institutions? These questions remain underexplored, particularly in emerging economies and in under-researched areas of public services. Green technology innovation has been identified as a pivotal mediator translating EMA into tangible environmental and financial gains, as demonstrated by Thanh Thuy Ngoc and Tran (2025) and Martínez-Falcó et al. (2025), with Nguyen (2025) further revealing a non-linear U-shaped relationship that exists between green product innovation as well as financial performance. Nevertheless, the absence of validation within government-sector contexts indicates a critical gap in understanding how these innovation mechanisms operate in public entities. Accordingly, the main problem statement of this article is the existence of a significant knowledge gap regarding the effectiveness and operationalization of GA in the public sector. Current research remains fragmented and is mostly based on cross-sectional approaches, without longitudinal or comparative evidence that could provide deeper insights into the dynamics of public administration.

This gap limits the development of integrated, standardized, and practical GA systems capable of supporting sustainable development objectives. Coherent environmental strategies and robust national AI infrastructures have been shown to amplify the benefits of green innovation. In contrast, stringent accounting education standards and aggressive accounting policies can impede them, as found by Thanh Thuy Ngoc and Tran (2025), Khan and Gupta (2025), and Wang and Qiu (2025). Yet governance frameworks specific to public administration—such as fiscal policies or accountability standards—remain largely unexplored, leaving moderating influences in the public domain unexamined.

Therefore, the objective of this study is to conduct a systematic literature review (SLR) using the PRISMA method to consolidate existing empirical evidence related to GA in the public sector. Specifically, the study aims to evaluate three aspects: (i) the influence of environmental accounting disclosure on the performance of public organizations, (ii) the role of GA in promoting sustainability across sectors, and (iii) the contributions of governance mechanisms, regulations, and innovation in driving GA adoption. By doing so, this article intends to provide a solid conceptual foundation for scholars and policymakers to design more effective GA systems in the public sector.

RESEARCH QUESTIONS (RQ)

RQs are crucial in a systematic literature review (SLR) by shaping its foundation as well as guiding its overall direction. They help define the scope and focus of the review, influencing which studies are included or excluded to maintain relevance and specificity. Well-formulated RQs ensure that the literature search is both thorough and systematic, capturing all significant studies related to the topic's key aspects. This approach reduces potential bias and contributes to a comprehensive understanding of the available evidence. In addition, RQs assist in structuring as well as categorizing data derived from the chosen studies, offering a guideline for analyzing results and integrating findings into meaningful conclusions. They improve clarity and precision by eliminating ambiguity as well as ensuring the review remains focused on specific issues, thereby increasing the relevance and practical value of the outcomes. Well-developed RQs also support the transparency as well as reproducibility concerning the review process, enabling other researchers to replicate the study or build upon it in related fields.

Ultimately, RQs establish that the review remains aligned with the study's primary goals, whether those involve uncovering gaps in existing literature, assessing the influence with regard to specific interventions, or analyzing patterns within a given field. In doing so, they form the core structure of an SLR, helping to maintain its rigor, focus, and relevance.

Defining the RQs is the crucial task during the planning phase and the cornerstone of the entire SLR, as it shapes and drives the review methodology, Kitchenham (2007). Given that the primary objective of our SLR is to examine and assess the current state of the art in the field, formulating clear and structured RQs is essential. To achieve this, we applied the PICo framework, a mnemonic tool commonly used in qualitative research to develop focused RQs. PICo stands for Population, Interest, and Context, each representing a key element in shaping the scope and direction of the inquiry:

Population (P): The participants or group targeted in the research. It defines who the research is concerned with—this could be a specific demographic, patient population, or community significant to the research focus.

Interest (I): The central phenomenon or focus being examined in the research. This may include a specific intervention, behavior, experience, or issue that the study seeks to identify, understand, or analyze.

Context (Co): The environment or setting in which the population as well as the phenomenon of interest, are situated. This can include geographical location, cultural or social environments, or any other significant background that influences or frames the research.

The PICo framework assists in formulating RQs in a clear as well as structured manner by breaking the research into three key components. This method ensures a focused approach and well-defined questions, facilitating effective literature searches and study design. Referring to this framework, the present research established the following two RQs:

- a. How do environmental accounting disclosure practices influence corporate performance among public sector organizations?
- b. What is the role of green accounting practices in promoting sustainability across various sectors within public sector institutions?
- c. How do governance mechanisms, regulatory frameworks, and innovation drive the adoption of green accounting practices in the public sector?

METHODOLOGY

Material and Methods

To ensure transparency, consistency, and completeness in SLR, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework has emerged as the established standard. Adhering to PRISMA guidelines enables authors to improve the accuracy as well as the reliability of their review processes. These guidelines provide a structured approach to selecting, screening, and integrating studies, with particular emphasis on the importance of randomized trials in minimizing bias and strengthening the evidence base. In this research, Scopus as well as Web of Science (WoS) were selected as the main data sources owing to their thorough coverage and methodological rigor.

The PRISMA technique comprises four key phases: screening, identification, eligibility, as well as data abstraction. Regarding the identification phase, databases are assessed to locate all significant research. The screening phase follows, where studies are evaluated against predefined criteria to exclude low-quality or irrelevant research. Consequently, during the eligibility phase, the remaining studies undergo a thorough assessment to determine they satisfy the inclusion criteria. Lastly, the data abstraction phase involves extracting as well as synthesizing information from the selected studies, which is crucial for forming reliable and insightful conclusions. Note that this systematic approach ensures that the review is conducted thoroughly, yielding reliable findings that can inform future research and application. Adhering to PRISMA recommendations—providing a structured framework for the systematic identification, filtering, and incorporation of studies—may improve the precision as well as rigor of researchers' analyses. This approach highlights the significance concerning randomized trials, acknowledging their ability to minimize bias as well as offer robust support with regard to the review. Other than that, this study utilized two major databases—WoS and Scopus—owing to their wide reliability as well as coverage. The PRISMA technique comprises four primary phases: identification, screening, eligibility,

as well as data abstraction. During the identification phase, relevant studies are retrieved through database searches. The screening phase requires assessing these studies against established criteria to exclude low-quality or irrelevant research. The eligibility phase confirms that the remaining studies satisfy the inclusion criteria. Finally, the data abstraction phase entails extracting as well as synthesizing information from the chosen studies to produce reliable and meaningful conclusions. This comprehensive process ensures trustworthy findings that may update future research as well as practical applications.

Identification

To gather a substantial collection of significant literature concerning this study, key steps obtained from the systematic review methodology were followed. First, keywords were chosen, and related terms were identified using dictionaries, encyclopaedias, thesauri, as well as prior research. After compiling all relevant phrases, search strings were established for the WoS as well as Scopus databases (refer to Table 1). In this initial stage concerning the systematic review, a total of 1,073 publications related to the research topic were retrieved from both databases.

TABLE 1- The Search String

Scopus	TITLE-ABS-KEY (("green accounting" OR "environmental accounting" OR "sustainability accounting" OR "natural capital accounting")) AND ("public sector*" OR "government" OR "public administration") AND (LIMIT-TO (PUBYEAR, 2024) OR LIMIT-TO (PUBYEAR, 2025)) AND (LIMIT-TO (DOCTYPE, "ar")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (SRCTYPE, "j")) Date of Access: May 2025
WoS	("green accounting" OR "environmental accounting" OR "sustainability accounting" OR "natural capital accounting") AND ("public sector*" OR "government" OR "public administration") (Topic) and 2025 or 2024 (Publication Years) and Article (Document Types) and English (Languages) Date of Access: May 2025

Screening

In the screening phase, potentially relevant studies were evaluated to ensure their alignment with the predefined RQ. Research topics that were often centred on GA were carefully chosen at this stage. To preserve the quality of the dataset, duplicate documents were removed. First, a total of 1,037 records were found by searching Scopus for 864 records and WoS for 173 records. Following screening according to the inclusion as well as exclusion criteria, 136 papers—118 Scopus records and 18 WoS records—were left for additional examination (see Table 2). 901 records were excluded as a result of the exclusion criteria, which included excluding non-English articles, publications published before 2023, and document kinds such as conference papers, book chapters, and reviews, including those with the status "in press." Three duplicate records were also eliminated. The main source of analysis was the literature, which included empirical journal articles but excluded meta-syntheses, book series, book reviews, and out-of-date chapters. For this review, only publications published in English between 2023 and 2024 were deemed suitable.

TABLE 2- The Selection Criterion Is Searching

Criterion	Inclusion	Exclusion
Language	English	Non-English
Time line	2024 – 2025	< 2023
Literature type	Journal (Article)	Review, Conference, Book
Publication Stage	Final	In Press

Country

All Country

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Eligibility

During the eligibility phase—the third step of the process—a total of 133 articles were selected for review. At this stage, the titles as well as main components of each article were thoroughly assessed to confirm they satisfy the inclusion criteria and aligned with the study's objectives. Correspondingly, 109 papers were omitted due to reasons such as being outside the relevant field or having abstracts that did not correspond to the study's goals, irrelevant titles, or lack of full-text availability. Consequently, 24 articles remained for further review.

Data Abstraction and Analysis

An integrative analysis approach was employed within the assessment strategy to assess and synthesize diverse quantitative research designs. The main aim of this research was to evaluate key topics as well as subtopics relevant to the research. The process began with data gathering, which formed the basis for establishing themes. As depicted in Figure 2, the authors carefully reviewed 25 selected publications, extracting statements and information pertinent to the study's focus. They also assessed significant existing research on GA, paying particular attention to the methodologies employed and the research findings obtained. Following this, the lead author worked closely with the co-authors to formulate themes grounded in the collected evidence. During the data analysis, a logbook was kept to record insights, questions, reflections, and interpretations that emerged. To guarantee the reliability of the findings, the authors cross-checked their results to detect and resolve inconsistencies in the theme development process. In cases of disagreement, they engaged in comprehensive discussions until a consensus was achieved.

Quality of Appraisal

Following the framework by Kitchenham and Charters (Kitchenham, 2007), after selecting the primary studies, it is necessary to assess the research quality as well as conduct a quantitative comparison. Hence, this research employs the quality assessment (QA) framework developed by Anas Abouzahra et al., which includes six QA criteria concerning the SLR. Note that each criterion is evaluated utilizing a scoring system with three possible ratings: 'Yes' (Y), scoring 1 point if the criterion is fully satisfied. Meanwhile, 'Partly' (P), scoring 0.5 points if the criterion is partially met but contains some gaps or weaknesses, and 'No' (N), scoring 0 points if the criterion is not met at all.

- QA1. Is the purpose of the study clearly stated?
- QA2. Is the interest and the usefulness of the work clearly presented?
- QA3. Is the study methodology clearly established?
- QA4. Are the concepts of the approach clearly defined?
- QA5. Is the work compared and measured with other similar work?
- QA6. Are the limitations of the work clearly mentioned?

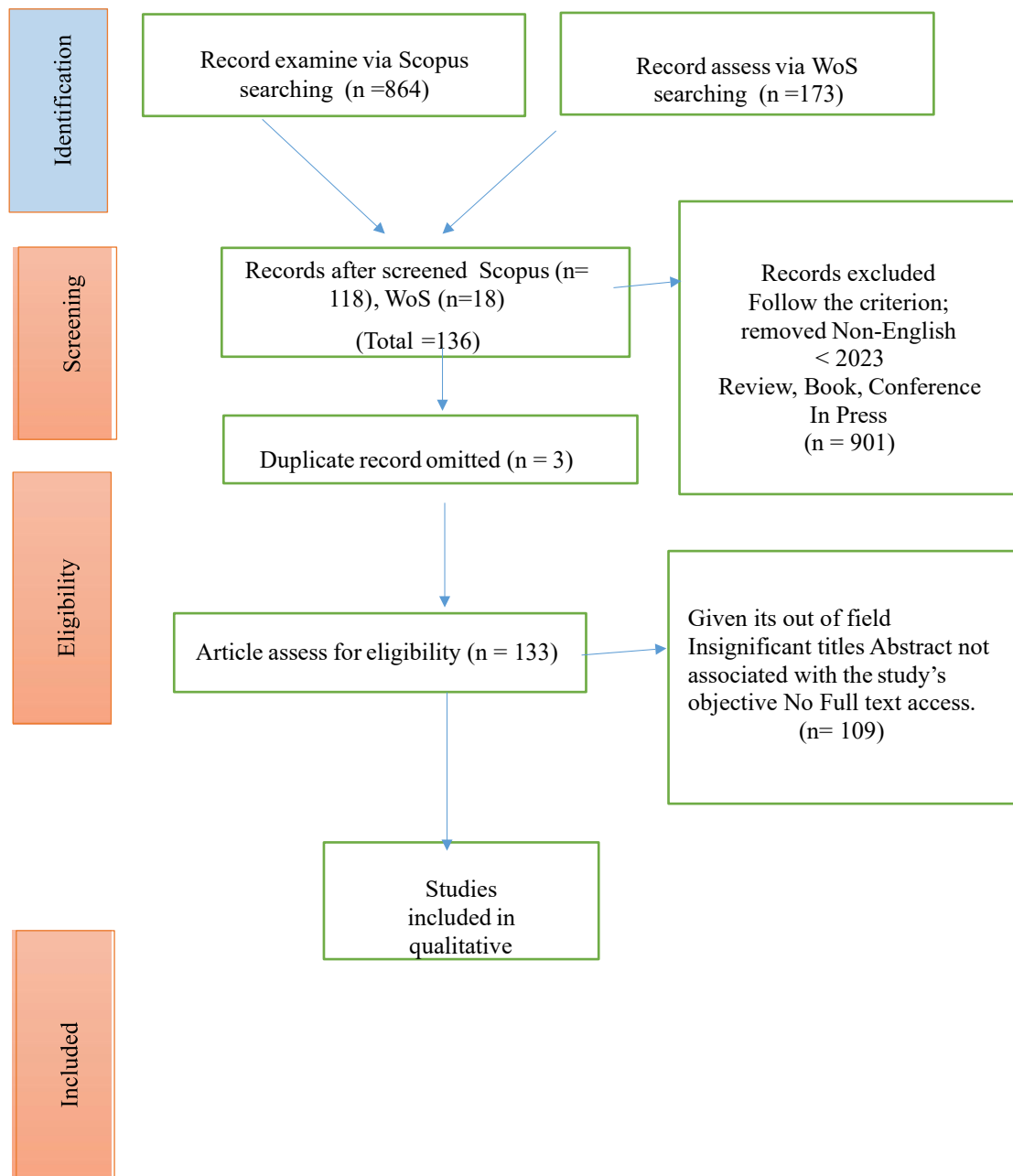


FIGURE 2- Flow Diagram Concerning the Proposed Searching Study (Leal Filho et al., 2024)

RESULTS

Background regarding selected studies: Referring to the QA, Table 2 presents the performance results with regard to the chosen primary research. The QA results for the 24 reviewed primary studies reveal that the majority of the articles clearly articulated their research objectives (QA1) and effectively communicated their usefulness and practical relevance (QA2). Methodological clarity (QA3) and definitions of concepts (QA4) were generally strong; however, some minor shortcomings were observed in a few instances, including studies by Zhao et al. (2025), Eccles et al. (2024), Agyemang (2024), and Korabayev et al. (2024). The comparative analysis (QA5) indicated opportunities for improvement, as several studies did not adequately benchmark their findings against existing research. A common area that requires more attention is the explicit acknowledgment of study limitations (QA6), with many authors either only partially or inadequately addressing this aspect. Notably, studies by Huong (2024), Fleming et al. (2024), García-Piña Rosete & Hernandez Barros (2024), and Khan, Gupta & Gupta (2024)

achieved the highest quality scores (91.67%), reflecting robust overall quality across the assessed criteria. In contrast, studies such as Zhao et al. (2025), Bala et al. (2024), Adow (2024), Korabayev et al. (2024), and Alassuli (2024) received the lowest scores (ranging from 58.33% to 66.67%), highlighting significant areas for improvement, particularly regarding comparative discussions and acknowledgment of limitations. Presented below is the QA table with regard to the selected papers:

Summary:

- **Highest Score:** The paper by Huong, 2024, Fleming et al., 2024, García-Piña Rosete & Hernandez Barros, 2024, Khan, Gupta & Gupta, 2024. received the highest score of 91.67 %, owing to its clear articulation of methodology, relevance, purpose, defined concepts, comparison with existing work, as well as limitations acknowledgment.
- **Lowest Score:** The research by Zhao et al., 2025 obtained the lowest score of 58.33%, as it only partially met the criteria related to the conceptual approach as well as comparison with other work, and did not address the study's limitations.

TABLE 2-The Assessment Performance's Result Concerning Selected Primary Studies.

Primary Study	QA1	QA2	QA3	QA4	QA5	QA6	Total Mark	Percentage (%)
PS1 (Soetan et al., 2024)	Y	Y	Y	Y	P	P	5	83.33%
PS2 (Sholehah et al., 2024)	Y	Y	Y	Y	N	Y	5	83.33%
PS3 (Zhao et al., 2025)	Y	Y	P	Y	N	N	3.5	58.33%
PS4 (Kurniawan & Basuki, 2024)	Y	Y	Y	Y	P	N	4.5	75.00%
PS5 (Huong, 2024)	Y	Y	Y	Y	Y	P	5.5	91.67%
PS6 (Fleming et al., 2024)	Y	Y	Y	Y	P	Y	5.5	91.67%
PS7 (Bala et al., 2024)	Y	Y	Y	Y	N	N	4	66.67%
PS8 (Eccles et al., 2024)	Y	Y	P	Y	P	N	4.5	75.00%
PS9 (Lestari et al., 2024)	Y	Y	Y	Y	P	N	4.5	75.00%
PS10 (Adow, 2024)	Y	Y	Y	Y	N	N	4.0	66.67%
PS11 (Rahaman et al., 2024)	Y	Y	Y	Y	P	N	4.5	75.00%
PS12 (Lien & Duong, 2024)	Y	Y	Y	Y	P	N	4.5	75.00%
PS13 (García-Piña Rosete & Hernandez Barros, 2024)	Y	Y	Y	Y	Y	P	5.5	91.67%
PS14 (Kurrahman et al., 2024)	Y	Y	Y	Y	P	N	4.5	75.00%
PS15 (Agyemang, 2024)	Y	Y	P	Y	Y	N	4.5	75.00%
PS16 (Khan & Gupta, 2025)	Y	Y	Y	Y	Y	N	5.0	83.33%
PS17 (Abubakr et al., 2024)	Y	Y	Y	Y	N	P	4.5	75.00%
PS18 (Almasyhari et al., 2025)	Y	Y	Y	Y	P	N	4.5	75.00%

PS19 (Korabayev et al., 2024)	Y	Y	P	Y	N	P	4.0	66.67%
PS20(Chang et al., 2024)	Y	Y	Y	Y	P	N	4.5	75.00%
PS21 (Khan, Gupta & Gupta, 2024)	Y	Y	Y	Y	P	Y	5.5	91.67%
PS22 (Fei, 2024)	Y	Y	Y	Y	N	P	4.5	75.00%

PS23 (Yao, Bo & Zhang, 2025)	Y	Y	Y	Y	P	N	4.5	75.00%
PS24 (Alassuli, 2024)	Y	Y	Y	Y	N	N	4.0	66.67%

Theme 1: Environmental Accounting Disclosure and Corporate Performance

Theme 2: Green Accounting, Sustainability, and Sectoral Applications

GA in the public sector is significantly shaped by various institutional factors, including government regulations, expectations around CSR, and pressures from external stakeholders aimed at enhancing sustainability transparency. Research by Huong (2024), Bala et al. (2024), and Lien and Duong (2024) consistently highlights the critical influence of regulatory frameworks, environmental taxation, and the reputations of audit firms on the practices of environmental disclosure. Specifically, Huong (2024) underscores the effectiveness of government mandates in promoting environmental reporting in Vietnam's frontier markets. Bala et al. (2024) demonstrate that heightened environmental taxation correlates with improved disclosure levels among Nigerian oil and gas companies. Complementing these findings, Lien and Duong (2024) (Lien & Duong, 2024) reveal that company size and audit reputation play significant roles in determining the quality of disclosure in Vietnam's food manufacturing sector. Together, these insights highlight the necessity of well-structured institutional interventions to promote sustainability through GA. Moreover, the adoption of sustainability accounting among small and medium enterprises (SMEs) and industrial sectors signifies its increasing strategic importance beyond mere compliance. Kurniawan and Basuki (2024) (Kurniawan & Basuki, 2024) emphasize that even with limited resources, GA can spark growth and innovation in SMEs. Similarly, Lestari et al. (2024) identify that both internal motivations, such as ethical responsibility, and external drivers, like market expectations, play a role in the adoption of green practices among Indonesian SMEs. Alassuli (2024) further reinforces these points by illustrating how environmental accounting enhances CSR and fosters organizational development within industrial firms in Jordan. Collectively, these findings suggest that GA acts as a transformative strategy that promotes both business sustainability and broader societal impact.

Despite these advancements, challenges specific to various sectors remain, particularly regarding the consistent implementation of natural capital accounting and sustainability reporting. Fleming et al. (2024) and Kurrahman et al. (2024) champion the use of participatory models and reliable valuation mechanisms in codeveloping frameworks for natural capital accounting, particularly in the agricultural sector. Meanwhile, Rahaman et al. (2024) along with García-Piña Rosete and Hernandez Barros (2024) highlight significant inconsistencies in sustainability disclosures across industries, including pharmaceuticals, textiles in Bangladesh, and the global automobile sector. These disparities underscore the pressing need for standardized and transparent sustainability reporting practices to improve the credibility and comparability of GA outcomes.

Theme 3: Governance, Regulation, and Innovation in Green Accounting

GA significantly benefits from digital advancements, enhancing transparency and the text discusses the significance of accountability across various sectors. Sholehah, Ishak, and Utirahman (2024) along with Alassuli (2024) emphasize the crucial role with regard to digital technologies, which includes big data, blockchain, as well as the Internet of Things (IoT), in fostering transparency within environmental accounting practices, particularly in remote and underserved regions. However, despite these technological advancements, persistent challenges such as insufficient waste management systems and profit-driven business strategies hinder the effectiveness of environmental accounting initiatives. Overcoming these obstacles requires robust collaboration among stakeholders (Sholehah et al., 2024) (Alassuli, 2024).

Moreover, strategic corporate decision-making and social responsibility are deeply intertwined with environmental accounting practices. Both Almasyhari et al. (2025) and Adow (2024) highlight the mediating influence of strategic decision-making and social performance in bolstering corporate sustainability efforts. Research by Almasyhari et al. (2025) illustrates that the incorporation concerning environmental accounting as well as effective waste management into decision-making processes positively affects CSR outcomes in Surakarta, Indonesia. Similarly, Adow (2024) found that the adoption of Green Accounting Standards (GAS) significantly enhances social performance, thereby promoting environmental sustainability through systematic resource efficiency monitoring and stakeholder engagement.

Additionally, government oversight and strong regulatory frameworks are crucial in supporting and advancing environmental accounting practices. Eccles, Havard-Williams, and Manning (2024) underscore the necessity of comprehensive sustainability reporting standards, contending that corporate reporting should be informed by both financial and impact materiality to drive meaningful behavioral change. Empirical evidence

from Yao, Bo, and Zhang (2025) reinforces this perspective, revealing a robust positive correlation between rigorous government auditing and sustainable regional development outcomes. Furthermore, Korabayev et al. (2024) highlight the challenges and the essential development of comprehensive environmental accounting and auditing frameworks, particularly in emerging economies like Kazakhstan, where effective management decisions and sustainable industrial practices depend on strong regulatory environments and government incentives.

DISCUSSION

The first RQ which is How do environmental accounting disclosure practices influence corporate performance among public sector organizations? underscores the consistent association between robust environmental accounting disclosure practices and enhanced corporate performance, particularly in managerial efficiency, financial outcomes, and environmental stewardship. For instance, studies such as Huong (2024) and Alassuli (2024) highlight how transparency in disclosing environmental costs and benefits fosters accountability, enabling public sector organizations to align fiscal decisions with sustainability goals. The second RQ which is What is the role of green accounting practices in promoting sustainability across various sectors within public sector institutions? emphasizes the sector-specific adaptability of GA, with applications in agriculture, manufacturing, and SMEs demonstrating operational efficiencies and resource conservation. Notably, Fleming et al. (2024) and Kurrahman et al. (2024) illustrate how tailored natural capital accounting models in agriculture and industry can bridge ecological and economic priorities. The third RQ which is How do governance mechanisms, regulatory frameworks, and innovation drive the adoption of green accounting practices in the public sector? was discussing on theme 3 which highlights the catalytic role of governance frameworks and technological innovation in institutionalizing GA. Digital tools like blockchain and AI, as explored by Sholehah et al. (2024) and Khan & Gupta (2025), are reshaping reporting accuracy, while regulatory interventions, such as environmental taxes (Bala et al., 2024), incentivize compliance. Collectively, these themes reflect a growing recognition of GA as both a strategic and ethical imperative, yet they also expose disparities in implementation, particularly in developing economies and under-resourced sectors.

The findings carry significant implications for policymakers and practitioners. Standardized frameworks for environmental accounting disclosure, as advocated by García-Piña Rosete & Hernandez Barros (2024), are critical to ensuring comparability and accountability across sectors. Public institutions must prioritize investments in digital infrastructure to automate data collection and enhance the reliability of sustainability reports. For instance, Yao et al. (2025) demonstrate how digital transformation strengthens internal controls and external monitoring. Sector-specific guidelines are equally vital; the agricultural sector's reliance on participatory natural capital models Fleming et al., (2024) contrasts with the pharmaceutical industry's need for stringent regulatory oversight (Rahaman et al., 2024). Policymakers should also leverage fiscal instruments, such as environmental taxes and subsidies, to incentivize adoption, particularly in industries resistant to change, like fossil fuels. Furthermore, capacity-building initiatives, including ESG literacy programs for public officials (Silaban & Sitorus, 2025), can mitigate institutional resistance. Stakeholder collaboration—engaging auditors, NGOs, and communities—emerges as a recurring recommendation to address implementation barriers, such as profit-driven short-termism (Silaban & Sitorus, 2025). These steps can transform GA from a compliance exercise into a driver of systemic sustainability.

Despite its contributions, this review has limitations. The temporal restriction to studies published between 2023–2024 and reliance on two databases (WoS and Scopus) may exclude seminal works or regional perspectives. Additionally, the QA revealed methodological gaps in several studies, such as insufficient comparative analysis (QA5) and poorly articulated limitations (QA6), which could affect the robustness of conclusions. Future research should address these gaps by expanding the scope to include longitudinal analyses, which are scarce in public sector contexts, and mixed-method approaches to capture qualitative insights into implementation challenges. Comparative studies across countries, particularly between developed and emerging economies, could elucidate the role of institutional capacity and cultural factors. For example, Kazakhstan's nascent regulatory environment (Korabayev et al., 2024) contrasts sharply with the EU's advanced frameworks (Öhlinger & Lehner, 2025), offering lessons for scalability. Finally, interdisciplinary research integrating environmental science, economics, and public administration could foster holistic frameworks that reconcile monetization challenges and non-market ecological values. By addressing these gaps, scholars can advance GA from a niche practice to a cornerstone of global sustainability governance.

CONCLUSION

This study aimed to systematically review and synthesize existing research on the implementation of GA practices in public sector organizations, employing the PRISMA protocol to maintain methodological rigor. The review concentrated on three primary RQs: the influence concerning environmental accounting disclosure on corporate performance; the advancement of sustainability through GA practices across different sectors; and the influence of governance mechanisms, regulatory frameworks, and innovation in fostering adoption within the public sector. Analyzing 24 primary studies revealed three key themes: Environmental Accounting Disclosure and Corporate Performance, Green Accounting and Sustainability, and Governance, Regulation, and Innovation in Green Accounting. The findings highlighted a consistent link between strong environmental disclosure practices and improved financial management, operational efficiency, and environmental stewardship in public institutions. Additionally, sector-specific adaptations of GA proved significant in achieving sustainability goals through initiatives like green budgeting and natural capital accounting. Technological innovations and regulatory instruments emerged as crucial catalysts for enhancing the transparency, accuracy, and effectiveness of GA implementation across various public sector contexts.

This systematic review contributes to the field by consolidating fragmented knowledge and providing a framework to understand the operationalization of GA in public administration. Insights into the relationship between accounting practices, governance structures, and sustainability objectives were offered, emphasizing the need for digitalization and regulatory support to overcome institutional and resource-based barriers. Practically, the study suggests that public sector organizations should develop standardized frameworks for environmental disclosure, invest in capacity building, and embrace digital tools to improve reporting quality and decisionmaking. The research acknowledges limitations, including the exclusive focus on English-language journal articles from 2024 to 2025 and the omission of grey literature, which may restrict the generalizability of the findings. Future exploration should utilize longitudinal designs, enhance geographical scope, and integrate mixed methods approaches to capture more intricate implementation dynamics. Furthermore, examining sectoral differences, cultural influences, and the impact of emerging technologies could yield valuable insights for global scaling of GA practices. Overall, the study highlights the strategic significance of embedding GA within public sector governance, offering a foundation for policymakers, practitioners, and researchers to promote accountability, sustainability, and transparency in public administration ratio.

GA practices have emerged as critical tools for enhancing corporate performance and advancing sustainability goals across various sectors. Integration of sustainability initiatives with accounting practices has strengthened internal management and competitiveness, particularly among small and medium enterprises and frontier market companies, despite resource limitations. Environmental accounting disclosure has demonstrated a significant positive effect on CSR and productivity, especially within industrial contexts, while standardized sustainability accounting frameworks have been emphasized to promote transparency and accountability globally. Sector-specific applications, such as natural capital accounting in agriculture and environmental taxation in oil and gas industries, illustrate the growing role of ecological-economic interactions in informing policy and encouraging improved disclosure practices. In the public sector, government regulations, audit reputations, and environmental taxes have proven instrumental in promoting transparency and sustainable reporting practices. The adoption of sustainability accounting not only supports compliance but also acts as a strategic business initiative that drives organizational development and societal contributions. Digital technologies like big data, blockchain, and IoT have further enhanced transparency, although challenges such as inadequate waste management and profit-driven approaches persist. Strategic decision-making and social responsibility initiatives are closely linked with the successful implementation of environmental accounting standards, reinforcing sustainable corporate behaviors. Government oversight, rigorous auditing practices, and the establishment of comprehensive regulatory frameworks are fundamental in sustaining and advancing environmental accounting efforts, particularly in emerging economies aiming for balanced economic and environmental development.

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