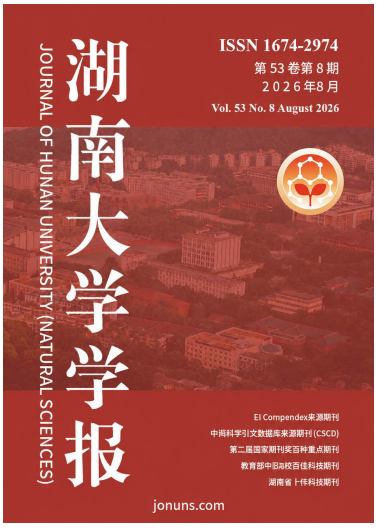

Journal of Hunan University (Natural Sciences)

Vol. 53 No. 8

August 2026

Available online at

https://jonuns.com

Open Access Article

https://doi.org/10.55463/issn.1674-2974.53.8.1

Global Drivers and Barriers to Sustainable Public Procurement: A Systematic Review and Bibliometric Analysis

Wuku Astuti [1]*, Baldric Siregar [2], Rudy Badrudin [2], Miswanto [2]

[1] Department of Accounting, Widya Mataram University; Doctoral Student, Doctoral Program in Accounting Science, Sekolah Tinggi Ilmu Ekonomi YKPN, Sleman, Indonesia,
[2] Department of Accounting, Doctoral Program in Accounting Science, Sekolah Tinggi Ilmu Ekonomi YKPN, Sleman, Indonesia,

* Corresponding author: wukuastuti@gmail.com

Article History:

Received: June 21, 2026
Revised: July 24, 2026
Accepted: August 5, 2026
Published: August 31, 2026

Abstract: Sustainable Public Procurement (SPP) supports Sustainable Development Goal (SDG) target 12.7 by integrating social, economic, and environmental considerations into public procurement policies. Although research on SPP continues to grow, existing studies remain fragmented regarding how drivers, barriers, and implementation strategies operate across diverse national and institutional contexts. This study synthesizes global evidence on the factors facilitating or hindering SPP implementation and identifies strategies to enhance its effectiveness. A systematic literature review following PRISMA protocols and a bibliometric analysis using VOSviewer were conducted on 69 peer-reviewed articles from the Scopus database. The review identified 244 drivers, 121 barriers, and implementation strategies. Drivers were classified into four categories: political will and policy mandates; stakeholder engagement; financial incentives and cost-benefit considerations; and organizational culture and leadership. Barriers were grouped into institutional, technical, and behavioral dimensions, with institutional constraints being the most dominant. Frequently proposed strategies include capacity building, evaluation and accountability mechanisms, institutional and governance reforms, inclusive and socially oriented procurement, and technology-based approaches. Findings also indicate that research on Sustainable Public Procurement (SPP) is concentrated in developed countries, predominantly employs qualitative designs, and focuses primarily on

environmental aspects. By integrating bibliometric mapping, thematic synthesis, and cross-contextual comparison, this study presents a comprehensive framework linking the drivers, barriers, and implementation strategies of SPP in both developed and developing nations. Future research needs to expand the evidence base from developing countries, utilize mixed-methods approaches, and examine digital transformation to strengthen SPP implementation.

Keywords: sustainable public procurement; public procurement; sustainable development goals; systematic literature review; drivers; barriers; VOSviewer; PRISMA.

全球可持续公共采购驱动与障碍：系统综述和文献计量分析

摘要：可持续公共采购（Sustainable Public Procurement, SPP）通过将社会、经济和环境因素纳入公共采购政策，支持可持续发展目标（Sustainable Development Goals, SDGs）12.7的实现。尽管关于SPP的研究不断增加，现有研究对于驱动因素、障碍因素及实施策略如何在不同国家和制度背景下发挥作用的认识仍较为零散。本研究综合分析了全球有关促进或阻碍SPP实施因素的实证证据，并识别了提升其实施成效的关键策略。本研究采用遵循PRISMA规范的系统文献综述，并结合VOSviewer文献计量分析，对Scopus数据库收录的69篇同行评审文献进行了分析。研究共识别出244项驱动因素、121项障碍因素以及多种实施策略。驱动因素被归纳为四大类别：政治意愿与政策支持、利益相关者参与、财政激励与成本效益考量，以及组织文化与领导力。障碍因素则归纳为制度、技术和行为三个维度，其中制度性约束最为突出。研究中最常提出的实施策略包括能力建设、评估与问责机制、制度与治理改革、包容性与社会导向型采购，以及技术驱动的方法。研究结果还表明，SPP研究主要集中于发达国家，研究方法以定性研究为主，并主要关注环境维度。通过整合文献计量分析、主题综合分析和跨情境比较，本研究构建了一个系统框架，揭示了发达国家与发展中国家SPP实施中的驱动因素、障碍因素及实施策略之间的关系。未来研究应进一步拓展发展中国家的实证证据，采用混合研究方法，并深入探讨数字化转型在提升SPP实施成效中的作用。

关键词：可持续公共采购；公共采购；可持续发展目标；系统文献综述；驱动因素；障碍因素；VOSviewer；PRISMA.

1. Introduction

The United Nations (UN) introduced the Sustainable Development Goals (SDGs) as a global framework for sustainable development, agreed upon by all UN member states until 2030 [1–3]. This agenda reflects the urgency of addressing poverty, inequality, climate change, and environmental degradation [4–6]. Among the goals, SDG Target 12.7 specifically calls for the development and implementation of sustainable procurement practices, positioning Sustainable Public Procurement (SPP) as a strategic mechanism to embed environmental, social, and economic considerations into public sector decision-making [6,7].

In many countries, public procurement represents approximately 15% of GDP and may ascend to 30% in developing economies, making it an important instrument for sustainable development policy [8,9]. Through its sheer economic weight, government procurement influences market dynamics, stimulates innovation, and delivers essential services such as infrastructure, education, and healthcare [10,11]. Moving toward sustainability-focused procurement helps mitigate environmental risks, promote social responsibility, and align public spending with long-term development priorities [8,11–13].

The conceptual basis of SPP is closely aligned with the Triple Bottom Line framework, which integrates three interrelated dimensions: economic,

environmental, and social sustainability. In the procurement context, the economic dimension emphasizes efficiency and long-term value creation; the environmental dimension focuses on resource conservation and pollution reduction; and the social dimension addresses equity, labor rights, and community empowerment [14–17]. Integrating these dimensions into public procurement shifts evaluation from a narrow price-based approach toward a broader assessment of long-term value [18,19]. This orientation can be strengthened through life cycle costing (LCC) and life cycle assessment (LCA), as LCC captures total ownership costs while LCA evaluates environmental impacts across the product or service life cycle [5,20]. Thus, SPP provides a conceptual and practical basis for procurement decisions that are economically efficient, environmentally responsible, and socially inclusive. However, the extent to which these frameworks are applied and evaluated in practice remains underexplored.

Despite the substantial growth of SPP literature over the past decade, current studies continue to exhibit topic and analytical limitations. Torres-Pruñonosa et al. [2] conducted a co-citation analysis to identify the conceptual structure of SPP literature, although they did not thoroughly investigate implementation strategies in various national settings. A bibliometric analysis conducted by Cardoso et al. [21] discerned publication patterns in SPP, although did not thoroughly investigate subject dynamics or practical problems. Likewise, Benchekroun et al. [20] investigated supply chain resilience in the post-COVID-19 milieu, whilst Adjei-Bamfo et al. [7] analyzed the relationship between e-government and SPP in developing nations. Consequently, there remains a gap in comprehensive syntheses that link key drivers, barriers, and strategies for the implementation of SPP across nations.

Addressing this gap, the present study aims to provide a comprehensive and structured thematic synthesis of research on SPP implementation from diverse regions and economic contexts. The main objectives are to identify: (1) key drivers supporting successful SPP implementation; (2) primary barriers hindering its execution; and (3) strategies and mechanisms proposed or applied to enhance its effectiveness. By emphasizing implementation dimensions and cross-jurisdictional learning, this review integrates normative frameworks with empirical evidence from both developed and developing countries.

The novelty of this research lies in its integrative and practice-oriented approach to analyzing Sustainable Public Procurement (SPP) implementation. Unlike previous studies that tended to be fragmented—focusing variously on e-Government adoption [7], intellectual structure via co-citation analysis [2], bibliometric trends [21], or supply chain resilience [20]—this study bridges the hitherto scattered evidence regarding SPP implementation. Specifically, this study delineates the interrelationships among drivers, barriers, and strategies across various stages of development through a systematic thematic synthesis, bibliometric mapping, and a comparison between developed and developing nations. It yields a comprehensive analytical framework illustrating the influence of institutional, organizational, market, technological, and capacity-related factors, while serving as a strategic guide for policymakers, practitioners, and experts in designing sustainable and context-specific SPP implementation.

2. Methods and Materials

2.1 Study Aim and Research Questions

This study aims to systematically identify, compile, and synthesise global evidence regarding the implementation of SPP, utilising a variety of national and sectoral contexts. This approach integrates insights from both developed and developing countries to encompass the diverse practices, challenges, and enabling factors that define SPP across various institutional contexts. The primary objective is to delineate the current body of knowledge and extract practical insights that can guide policy and practice. The study is organised around three primary research questions that direct the analytical process and shape the thematic synthesis.

Guided by this aim, the study addresses three central research questions (RQ): (1) What key drivers have been identified as critical enablers in the implementation of SPP across different countries and sectors? (2) What barriers are most frequently reported as hindering the adoption and execution of SPP within public sector organizations? (3) What strategies and mechanisms have been proposed or implemented to enhance the effectiveness of SPP implementation, particularly in overcoming existing barriers?

2.2 Search Strategy

This study employed a systematic literature review combined with bibliometric analysis using VOSviewer. The review was conducted and reported in accordance with the PRISMA 2020 guidelines [22]. The completed PRISMA 2020 checklist is presented in the Supplementary Material, while the study selection process is shown in the PRISMA flow diagram in Figure 1. The literature search was conducted in the Scopus database on 29 June 2025. The search was limited to the article title field using the following search string: TITLE (“sustainable public procurement”). No publication-year restriction was applied. The retrieved bibliographic records were exported in RIS format for bibliometric analysis using VOSviewer version 1.6.20. Scopus was selected as the sole data source because it is a large multidisciplinary citation database that provides broad coverage of peer-

reviewed journals and standardized bibliographic information suitable for systematic reviews and bibliometric analyses. Its compatibility with VOSviewer also facilitates the mapping of publication trends and research networks.

Alternative terms, such as “green public procurement,” “sustainable procurement,” and “socially responsible public procurement,” were considered during the development of the search strategy. However, the review focused specifically on studies explicitly referring to “sustainable public procurement” in their titles to ensure conceptual consistency and maintain a clearly defined scope. Although this approach improved the specificity of the search, it may have excluded relevant studies using related terminology.

2.3 Eligibility Criteria

Studies were included if they were peer-reviewed journal articles written in English that explicitly addressed sustainable public procurement within the public sector context. Studies were excluded if they were book chapters, review articles, articles in press, non-English publications, or other document types, or if they lacked sufficient relevance to the research question. Review articles were excluded from the systematic synthesis and bibliometric analysis to focus on primary empirical evidence, avoid double counting, and ensure consistent data extraction. However, relevant reviews were cited in the Introduction and Discussion to identify conceptual gaps and position the study’s novelty and contribution.

2.4 Screening and Study Selection

The initial Scopus search identified 109 records. Database-level screening was first conducted based on document type, publication status, and language. Book chapters (n = 21), review articles (n = 4), other document types (n = 4), and Article in press (n = 1) were excluded, leaving 79 records. A further 10 non-English articles were excluded, leaving 69 English-language peer-reviewed articles as the final corpus for thematic synthesis and bibliometric analysis. The remaining records were assessed for relevance based on their titles, abstracts, and, where necessary, full texts. The initial screening was conducted by the first author using the predefined eligibility criteria. The screening decisions were subsequently reviewed by the remaining authors to ensure consistency. Any differences in study selection were resolved through discussion until consensus was reached. The study-selection process is presented in the PRISMA flow diagram.

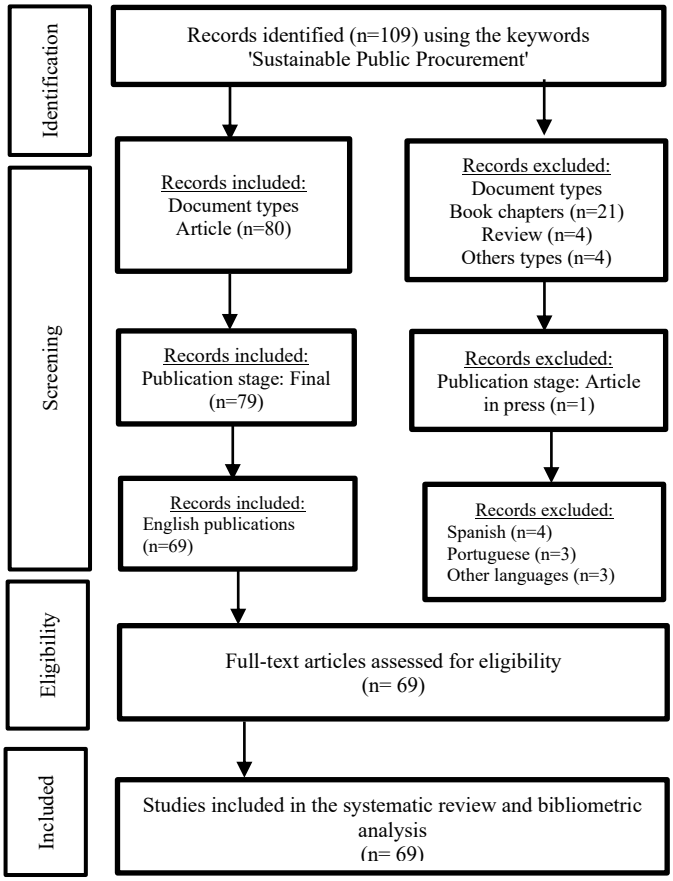

Figure 1. PRISMA Flow Diagram
(Source: The authors' elaboration)

2.5 Data Extraction and Thematic Analysis

Data were extracted using a structured coding framework that recorded study characteristics and all reported drivers, barriers, and implementation strategies. An inductive thematic coding approach was applied, whereby relevant factors were identified directly from the included studies using the terminology and meanings reported by the original authors. Codes that were conceptually similar or overlapping were merged to avoid duplication and subsequently grouped into broader thematic categories based on recurring patterns and their roles in influencing SPP implementation. The initial coding and categorization were performed by the first author, while the remaining authors conducted a peer review to verify the consistency and accuracy of the coding and thematic categorization. Any discrepancies in interpretation or categorization were resolved through discussion until a consensus was reached. The resulting thematic categories were then used to structure and present the findings in the Results section.

2.6 Bibliometric Analysis

A bibliometric analysis was conducted using VOSviewer version 1.6.20. Term co-occurrence analysis was performed using text data extracted from the titles and abstracts of the included studies,

employing the full counting method. A minimum occurrence threshold of five was applied, resulting in 65 terms meeting the threshold from a total of 1,723 identified terms. VOSviewer then selected 39 terms based on its default relevance criterion, corresponding to the 60% most relevant terms. During the verification stage, generic and geographical terms that did not contribute directly to the thematic interpretation were manually excluded. Following this screening stage, 22 terms were retained for the final bibliometric map. These 22 terms were used to generate network, overlay, and density visualizations to examine term relationships and clustering, temporal evolution, and areas of thematic concentration. The clusters were interpreted based on co-occurrence relationships, network proximity, and conceptual similarity, with their thematic significance determined by the terms dominating each cluster.

3. Results and Discussion

3.1. Publication Trends and General Bibliometric Characteristics

Global awareness regarding sustainability issues—particularly those related to Sustainable Public Procurement (SPP)—has risen significantly since the United Nations adopted the Sustainable Development Goals (SDGs) in 2015. The SDGs specifically call for the reduction of carbon emissions (SDG 13), the transformation of production and consumption systems (SDG 12), and the enhancement of social and economic equity (SDGs 5, 8, 10, and 17). SPP is viewed as a strategic policy instrument capable of linking public policy with the achievement of SDG targets, especially when governments intervene in the market through inclusive, ethical, and environmentally friendly procurement methods.

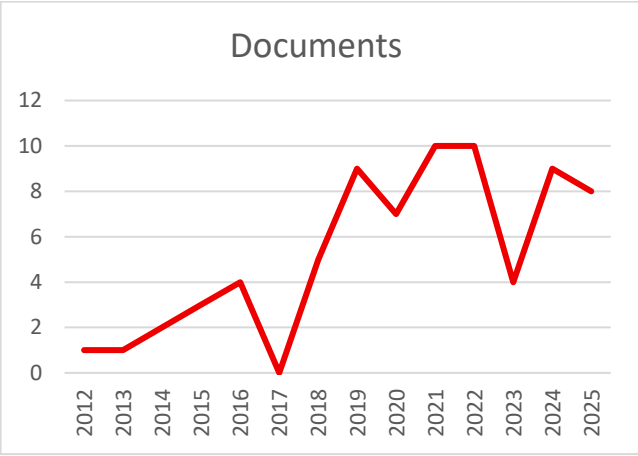

Figure 2. Article publications per year (Source: The authors' elaboration)

Publications on SPP have increased since 2016, following the adoption of the SDGs, with the strongest growth occurring between 2022 and 2025 (Figure 2). This trend highlights the growing importance of SPP in sustainability governance, the green transition, and post-pandemic recovery.

Research on SPP remains concentrated in developed countries, particularly in Western Europe and the United States (Figure 3), where studies frequently address green tendering, circular economy initiatives, supplier collaboration, and sustainability-oriented procurement procedures [2,5,9,23–25]. In contrast, studies from developing countries more often highlight implementation challenges, including weak political commitment, fragmented coordination, rent-seeking behavior, limited technical capacity, and uneven market readiness [3,12,16,18,19,26–28]. This imbalance suggests the need for more empirical evidence from developing-country contexts.

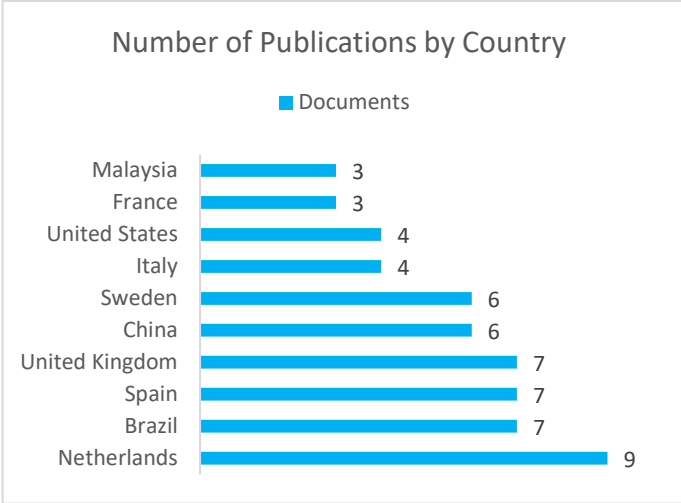

Figure 3. Documents by Country (Source: The authors' elaboration)

Geographical distribution indicates that research on SPP is concentrated in a relatively limited number of countries—specifically those with more mature public procurement systems and stronger policy commitments to sustainable development. These countries generally possess established regulatory frameworks, greater research funding, and broader implementation of sustainability policies, thereby creating conditions conducive to both SPP practices and academic research. Conversely, developing countries remain underrepresented, reflecting disparities in institutional capacity, policy maturity, and research infrastructure.

Figure 4 shows that SPP studies are dominated by qualitative designs, particularly case studies, interviews, and policy analysis [10,24,27,29–34]. Quantitative studies accounted for 24 articles or 35% of the reviewed papers [14,16,23,35–37], while mixed-method, systematic review, bibliometric, conceptual, and legal studies remained limited [2,7,20,21]. This pattern indicates the need for more comparative, mixed-method, and synthesis-oriented

research to improve the generalizability of SPP findings.

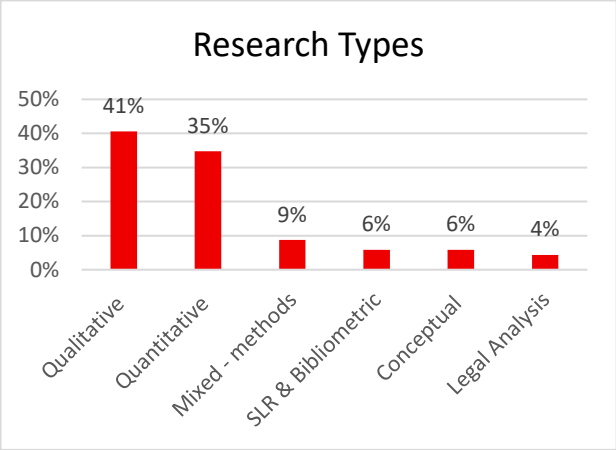

Figure 4. Research Types
(Source: The authors' elaboration)

The types of research shown in Figure 4 are classified based on their primary methodological approaches. Qualitative studies employ interviews, case studies, document or policy analysis, and other non-numerical approaches, whereas quantitative studies utilize surveys, statistical modeling, text mining, or other forms of numerical analysis. Mixed-methods studies combine qualitative and quantitative approaches. Conceptual studies develop theoretical frameworks without primary empirical testing; legal analyses examine laws and regulatory frameworks; and SLR or bibliometric studies synthesize existing literature or map research trends and intellectual structures.

3.2. Bibliometric Network (VOSviewer)

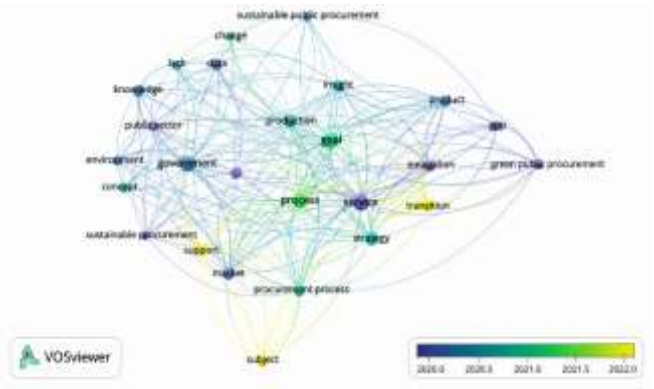

Figure 5. Overlay Visualizations
(Source: The authors' elaboration)

These themes indicate a shift toward more digital, transparent, and outcome-oriented procurement systems, although the strategic use of e-government for SPP remains underexplored in developing countries.

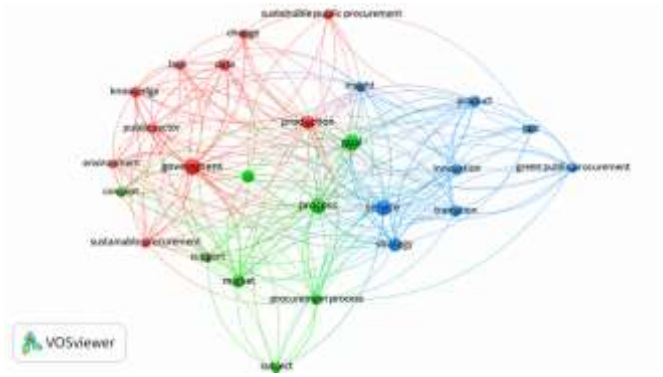

Figure 6. Network Visualizations
(Source: The authors' elaboration)

The network and density visualizations (Figures 6 and 7) indicate that SPP research is moving beyond traditional green procurement toward broader links between eco-innovation [31,40–42], circular economy [23,25,29], public procurement of innovation, SME support, and human rights [2,43]. However, several gaps remain, particularly in long-term performance measurement, supplier behavior change, innovation outcomes, and the balanced integration of environmental, social, and economic dimensions. These patterns suggest a transition from regulation-driven procurement toward a more transdisciplinary SPP agenda [4,38,44].

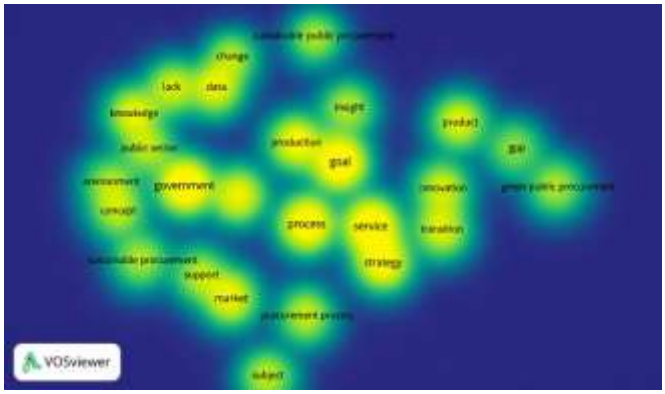

Figure 7. Density Visualizations
(Source: The authors' elaboration)

Theoretically, SPP research remains fragmented. Institutional Theory is commonly used to explain regulatory, normative, and mimetic pressures [19, 27, 44, 45], while organizational and commitment perspectives emphasize structure, culture, and leadership [18, 23, 33, 36, 46]. However, these perspectives are rarely integrated with individual-level models such as Theory of Planned Behavior (TPB) and Ability–Motivation–Opportunity (AMO) [23,47], or with broader frameworks such as Stakeholder Theory, Circular Economy, and Socio-Technical Transition Theory [4,25,29,48]. Future research therefore needs more explicit and integrative theoretical approaches.

3.3. Thematic Synthesis: Key Drivers

The identified drivers were grouped based on their primary focus and conceptual similarities. Based on the first research question—What key drivers have been identified as critical enablers in the implementation of SPP across different countries and sectors?—the inductive thematic analysis identified 244 key drivers influencing the success of SPP adoption (see Appendix A). Conceptually similar or overlapping drivers were consolidated and grouped into four main clusters: political will/policy mandates, stakeholder engagement, financial incentives, and organizational culture and leadership.

Political will/policy mandates, encompassing regulatory frameworks [15,26,31,41,45,49], formal policies [3,7,20,50–52], and political commitment [12,34,44,53–57] as the normative and strategic foundation of SPP.

Second, stakeholder engagement, including collaboration, [12,25,27,30,40,43,58], communication [1,6,19,38,46,48,55] and coordination among actors within the procurement ecosystem [9,23,32,34,60].

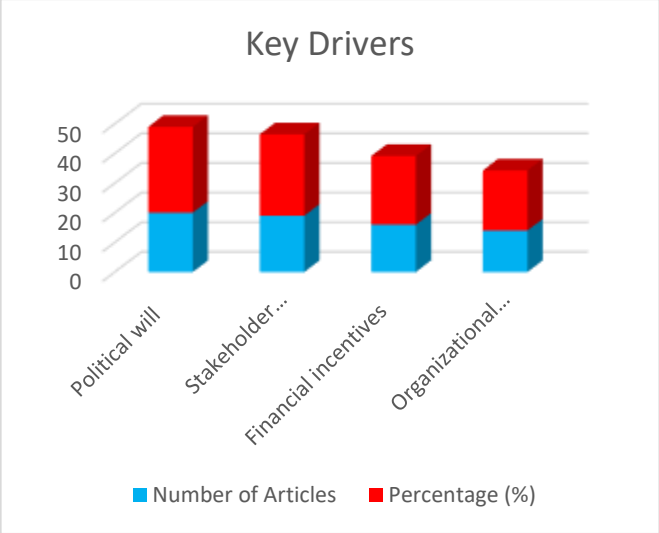

Figure 8. Key Drivers for SPP Implementation (Source: The authors' elaboration)

Third, financial incentives/cost–benefit, covering long-term cost–benefit considerations [5,27,29,36], fiscal incentives [13,20,24,35,50] and funding mechanisms for sustainable options [3,15,45,61].

The last category, organizational culture/leadership, referring to values [10,19,23,30,39], leadership [8,11,46,48], internal capacity [33,43,47,62], and organizational culture in embedding SPP principles. This categorization was selected because it represents both external factors (regulation, policy, stakeholder involvement) and internal factors (organizational culture, leadership, cost considerations), while aligning with widely recognized classification patterns in public governance and sustainable supply chain management research. Despite the extensive identification of drivers, gaps remain. Few studies empirically model the interactions between these dimensions, particularly how internal organizational capabilities reinforce or mediate external drivers such as regulation. The literature remains predominantly descriptive, with limited theory-based causal testing or sector-specific comparative analysis.

3.4. Thematic Synthesis: Barriers

Although the barriers were grouped according to their primary characteristics, some barriers may overlap because institutional, technical, and behavioral factors are often interconnected in SPP implementation. Based on the second research question—What barriers are most frequently reported as hindering the adoption and implementation of SPP within public sector organizations?—the inductive thematic analysis identified 121 barriers constraining SPP implementation (see Appendix B). Conceptually similar or overlapping barriers were consolidated and grouped into three overarching thematic categories: institutional, technical, and behavioral barriers. This categorization provides a systematic framework for distinguishing structural, operational, and human-related challenges and supports the formulation of more targeted policy responses.

Institutional barriers were the most dominant across contexts. These include poor inter-agency coordination, fragmented legal frameworks, and weak political commitment, which often reduce the consistency and authority of SPP mandates [10,31]. Even when regulations exist, inconsistent enforcement and a lack of monitoring mechanisms undermine policy effectiveness [27,56]. Additional challenges include limited strategic planning and overlapping stakeholder roles, which lead to unclear responsibilities and diluted accountability [48,60].

Technical barriers relate to operational and capacity issues. A key concern is the lack of training among procurement officers, many of whom lack the skills to assess sustainability criteria or apply life cycle tools [12,16]. Further constraints include limited data availability, absence of standardized sustainability metrics, and weak digital infrastructure, especially in developing contexts [28,63]. Resistance to change, risk-aversion, and low motivation are common across both developed and developing contexts [7,13,14]. Complex procurement procedures and lack of supplier capability—particularly among SMEs—further hinder adoption [5,35].

Behavioral barriers are often rooted in organizational culture and individual resistance. Procurement personnel may perceive sustainability as misaligned with institutional goals or too complex to integrate into existing routines [10,23,38]. In some

cases, a short-term focus and limited awareness about SPP benefits contribute to passive implementation [16,17,51].

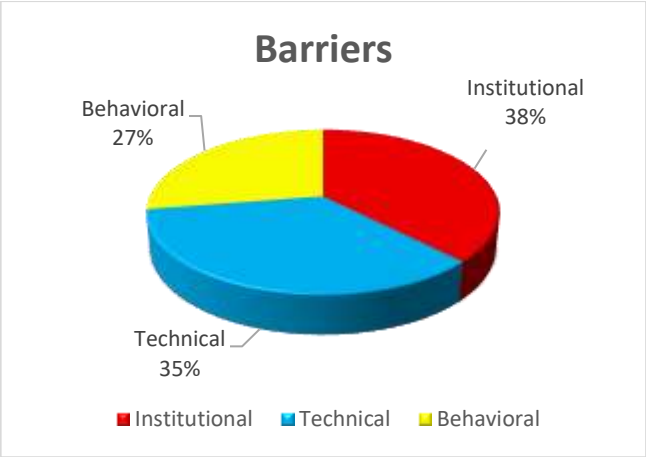

Figure 9. Barriers in SPP Implementation (Source: The authors' elaboration)

In some cases, sustainability objectives are perceived as misaligned with organizational vision, being seen as additional burdens rather than core priorities [8,28]. Studies also highlight a prevalent risk-averse procurement culture, where officers prioritize safe and familiar choices over innovative sustainable alternatives [12,19,64]. Other barriers include a lack of trust in sustainability claims, which reduces confidence in suppliers' credentials [57,65], and cultural or organizational inertia that reinforces conventional practices [1,18]. Additionally, low motivation among procurement officers [47] and a persistent short-term focus over long-term sustainability [41] further constrain change. The combination of these behavioral barriers slows the transition toward SPP, even when policy frameworks and technical tools are already in place.

3.5. Thematic Synthesis: Strategies

A complete summary of the identified strategy categories, representative implementation strategies, and supporting references is presented in Appendix C. To address RQ3, the reviewed studies show that capacity building is the most frequently proposed strategy for improving SPP implementation. This strategy includes training procurement officers and suppliers, developing practical guidelines and toolkits, strengthening sector-specific competencies, and creating knowledge-sharing platforms to support circular economy and sustainability-oriented procurement practices [7,16,19,25,29,30,35,47,60,64]. These initiatives are particularly important for overcoming operational constraints such as limited technical skills, weak understanding of sustainability criteria, and insufficient readiness among suppliers and procurement officials.

Evaluation, accountability, and governance reforms are also central to strengthening SPP effectiveness. The literature emphasizes the need for transparent tender evaluation, public access to procurement information, stakeholder involvement, performance indicators, independent audits, and regular monitoring of SPP outcomes [4,5,13,18,23,27,31,34,38,44,50,57,58]. From an institutional perspective, SPP can also be improved by strengthening legal frameworks, harmonizing procurement regulations, integrating environmental, social, and economic criteria into tender documents, and encouraging cross-agency coordination [5,6,10,15,19,34,45,53,66,67]. These reforms help address fragmented policy implementation and weak accountability, which are frequently reported as major institutional barriers.

Other strategies focus on social inclusion and technology-based transformation. Socially inclusive procurement seeks to expand opportunities for SMEs, vulnerable groups, social economy entities, and local suppliers by integrating social, human rights, and local development criteria into procurement contracts [1,6,15,16,40,45,47,57,67,68]. Meanwhile, digital and information-system strategies emphasize e-procurement, e-government, real-time monitoring, sustainability data dashboards, ecolabel integration, and verification mechanisms for sustainable product claims [7,9,12,13,16,20,45,51,57]. Together, these strategies indicate that effective SPP requires not only technical capacity, but also institutional reform, inclusive market participation, and digital tools that improve transparency and accountability.

3.6. Discussion

The findings indicate that SPP implementation is shaped by the interaction between political commitment, institutional capacity, organizational culture, and market readiness. Political will and binding regulations remain important drivers because they provide the formal mandate for integrating sustainability criteria into procurement decisions [23,69]. However, in developing countries, these drivers are often weakened by fragmented coordination, limited resources, and uneven institutional readiness [16,26]. Furthermore, the review reveals that empirical evidence from developing countries remains relatively limited compared to developed nations, which generally possess more established SPP policies and procurement systems. This gap limits the understanding of how SPP operates across diverse institutional, financial, and governance contexts, thereby underscoring the need for research specifically tailored to the context of developing countries. This suggests that SPP cannot be advanced only through policy adoption; it also requires organizational

learning, technical capacity, and consistent implementation mechanisms across procurement institutions.

The analysis also shows that institutional, technical, and behavioral barriers are closely interrelated. Weak coordination and accountability mechanisms may limit the effectiveness of regulations, while inadequate skills, limited procurement data, and resistance to change reduce the ability of officers to apply sustainability criteria in practice [33,62]. Interestingly, financial cost is not consistently identified as the most dominant barrier, indicating a shift in how SPP is understood: from an additional administrative burden toward a strategic instrument for innovation and sustainable development [5,27]. Accordingly, effective strategies should combine capacity building, governance reform, accountability mechanisms, socially inclusive procurement, and digital procurement tools [7,9,13,16,20,57,60,64].

These interconnected findings also point to several priorities for future research. Future research needs to examine how political, organizational, behavioral, and technological factors interact within various institutional contexts, particularly in developing countries. Greater attention also needs to be paid to the social and economic dimensions of SPP, which have thus far been less explored than environmental aspects. In particular, future studies should investigate the inclusion of SMEs and disadvantaged groups, fair labor practices, local community development, life-cycle costing, and value-for-money considerations to achieve a more balanced understanding of sustainable public procurement.

In addition to those empirical priorities, future research could strengthen the theoretical foundation of SPP research by integrating diverse theoretical perspectives by combining Institutional Theory to explain the influence of regulation and governance; Stakeholder Theory to examine stakeholder relationships and expectations; the Theory of Planned Behavior to understand the behavioral intentions of procurement officers; the Ability–Motivation–Opportunity (AMO) framework to assess organizational capabilities; and Socio-Technical Transition Theory to analyze how technological innovation and institutional change jointly facilitate the implementation of SPP.

In addition to these directions for future research, this review makes several contributions to the SPP literature. This review extends previous SPP studies by integrating bibliometric mapping, thematic synthesis, and cross-context comparison. The findings highlight that SPP implementation is shaped by interacting institutional, organizational, technological, market, and capacity-related factors, with priorities varying across developed and developing countries. These insights provide a foundation for future research and context-sensitive SPP policymaking.

Despite these contributions, this study is subject to several limitations, particularly its exclusive reliance on the Scopus database for literature identification. Although Scopus is widely recognized for its broad coverage of high-quality journals, this single-database approach may have excluded relevant publications indexed only in Web of Science, ProQuest, or EBSCO. Future research should therefore integrate multiple databases to provide a broader mapping of the SPP literature. In addition, the review included only English-language publications, which may have excluded relevant evidence reported in national languages. This restriction was applied to ensure accuracy and consistency in the screening and data extraction processes, given the authors' limited proficiency in other languages. This limitation is significant because the implementation of SPP is heavily influenced by national procurement systems, regulatory frameworks, and local legal and institutional contexts. Furthermore, the search strategy was restricted to the term "sustainable public procurement," meaning it may not encompass studies using related terms such as "green public procurement," "sustainable procurement," or "socially responsible public procurement." Future reviews could employ broader search terms and include multilingual databases to capture a wider range of relevant studies.

4. Conclusion

This review indicates that the effective implementation of SPP is significantly affected by political commitment, regulatory frameworks, and organisational culture, whereas institutional, technical, and behavioural barriers continue to pose considerable challenges. Capacity building is identified as the most commonly suggested strategy, in conjunction with governance reforms, accountability mechanisms, socially inclusive procurement, and emerging digital solutions. Findings indicate a shift in perception: SPP is increasingly recognised not as a financial burden but as a strategic instrument for fostering innovation, sustainable development, and systemic change.

The synthesis identifies multiple gaps in the existing literature. The relationship between political drivers and organisational or market-based incentives is not fully understood; behavioural barriers, including resistance and motivation, are underexplored; and the efficacy of technology-oriented strategies has not been adequately studied. To address these gaps, it is essential to employ comparative, context-sensitive, and mixed-method approaches that encompass both institutional and human aspects of procurement practices.

Overall, this study contributes by offering a comprehensive thematic synthesis of key drivers, barriers, and strategies across diverse contexts. Its

findings provide both a conceptual lens and a practical reference for policymakers, practitioners, and researchers aiming to design more effective, contextually relevant, and sustainable public procurement systems.

Declarations

Author Contributions

Conceptualization, W.A. and B.S.; methodology, W.A., B.S., R.B., and M.; literature search, W.A.; study selection, eligibility assessment, data extraction, and thematic synthesis, W.A., B.S., R.B., and M.; bibliometric analysis and visualization, W.A.; writing—original draft preparation, W.A.; writing—review and editing, B.S., R.B., and M.; supervision, B.S., R.B., and M. Study selection, eligibility assessment, data extraction, and thematic synthesis were conducted collaboratively by all authors. Any disagreements regarding study inclusion or exclusion were resolved through discussion until consensus was reached. All authors have read and agreed to the published version of the manuscript.

Data Availability Statement

The literature screening file, thematic coding matrix, and VOSviewer project files used in this study are available from the corresponding author upon reasonable request. The synthesized categories of drivers, barriers, and strategies are provided in the supplementary appendices.

Funding

This research received no specific funding.

Acknowledgements

Not applicable.

Institutional Review Board Statement

Not applicable. This study is a systematic literature review and bibliometric analysis and did not involve human participants or animals.

Informed Consent Statement

Not applicable.

Conflicts of Interest

The authors declare no conflict of interest. The authors also confirm that ethical issues, including plagiarism, misconduct, data fabrication or falsification, double publication, and redundant publication, have been fully observed.

References

[1] ARNÁEZ ARCE VM. Socially sustainable public procurement: the cooperative model as an alternative. Boletín de la Asociación Internacional de Derecho Cooperativo. 2022;(60):47–82. https://doi.org/10.18543/baidc.2389

[2] TORRES-PRUÑONOSA J, PLAZA-NAVAS MA, DÍEZ-MARTÍN F, BELTRAN-CANGRÓS A. The intellectual structure of social and sustainable public procurement research: a co-citation analysis. Sustainability. 2021;13(2):774. https://doi.org/10.3390/su13020774

[3] WANG X, LIU Y, JU Y. Sustainable public procurement policies on promoting scientific and technological innovation in China: comparisons with the U.S., the UK, Japan, Germany, France, and South Korea. Sustainability. 2018;10(7):2134. https://doi.org/10.3390/su10072134

[4] CAYOLLA TRINDADE P, ANTUNES P, PARTIDÁRIO P. SPP toolbox: supporting sustainable public procurement in the context of socio-technical transitions. Sustainability. 2018;10(1):67. https://doi.org/10.3390/su10010067

[5] FREGONARA E, FERRANDO DG, TULLIANI JM. Sustainable public procurement in the building construction sector. Sustainability. 2022;14(18):11616. https://doi.org/10.3390/su141811616

[6] STEFANOVIC L. SDG performance in local organic food systems and the role of sustainable public procurement. Sustainability. 2022;14(18):11510. https://doi.org/10.3390/su141811510

[7] ADJEI-BAMFO P, MALOREH-NYAMEKYE T, AHENKAN A. The role of e-government in sustainable public procurement in developing countries: a systematic literature review. Resources, Conservation and Recycling. 2019;142:189–203. https://doi.org/10.1016/j.resconrec.2018.12.001

[8] GRANDIA J. Finding the missing link: examining the mediating role of sustainable public procurement behaviour. Journal of Cleaner Production. 2016;124:183–90. https://doi.org/10.1016/j.jclepro.2016.02.102

[9] WALKER H, BRAMMER S. The relationship between sustainable procurement and e-procurement in the public sector. International Journal of Production Economics. 2012;140(1):256–68. https://doi:10.1016/j.ijpe.2012.01.008

[10] SANTOS F, LOZANO R, BARREIRO-GEN M. Analysing the drivers for sustainable public procurement. Environment Systems and Decisions. 2024;44(4):966–79. https://doi.org/10.1007/s10669-024-09985-8

[11] BAPTISTA IDS, SANTOS LD, VIEIRA PS. Analysis of antecedents and their influences on sustainable public procurement: a structural equation modeling approach. Sustainability. 2025;17(12):5598. https://doi.org/10.3390/su17125598

[12] JIN X, AZAM SMF, THAM J. Challenges of sustainable public procurement in Chinese higher education institutions: a Delphi study. Journal of

Public Procurement. 2024;24(3):371–92. https://doi.org/10.1108/jopp-05-2024-0051
[13] SAVA N. The eForms regulation and sustainable public procurement data collection. European Procurement & Public Private Partnership Law Review. 2023;18(3):177–84. https://doi.org/10.21552/epppl/2023/3/5
[14] GRANDIA J, KRUYEN PM. Assessing the implementation of sustainable public procurement using quantitative text-analysis tools: a large-scale analysis of Belgian public procurement notices. Journal of Purchasing and Supply Management. 2020;26(4):100627. https://doi.org/10.1016/j.pursup.2020.100627
[15] NEMEC P, KUBAK M, DZUPKA P. The transition of the Visegrad countries toward sustainable public procurement. Eastern European Economics. 2021;59(5):487–512. https://doi.org/10.1080/00128775.2021.1956973
[16] PUSPITASARI NB, DEVYTASARI AKA, SUSANTY A. What driver factors influence the implementation of sustainable public procurement in Indonesia? International Journal of Industrial Engineering and Production Research. 2025;36(1):87–98. https://doi.org/10.22068/ijiepr.36.1.1947
[17] TREVIÑO-LOZANO L. Sustainable public procurement and human rights: barriers to deliver on socially sustainable road infrastructure projects in Mexico. Sustainability. 2021;13(17):9605. https://doi.org/10.3390/su13179605
[18] INGLAT LP DA S, CABRAL VN, DE CASTRO BS, GUERRIERI DC. Sustainability and sustainable public procurement: an assessment of individual, organizational, and political commitment in brazilian public administration. Revista de Gestão Social e Ambiental. 2024;18(3):1–20. https://doi.org/10.24857/rgsa.v18n3-174
[19] MENDOZA JIMÉNEZ J, HERNÁNDEZ LÓPEZ M, FRANCO ESCOBAR SE. Sustainable public procurement: from law to practice. Sustainability. 2019;11(22):6388. https://doi.org/10.3390/su11226388
[20] BENCHEKROUN H, BENMAMOUN Z, HACHIMI H. Sustainable public procurement for supply chain resilience and competitive advantage. Acta Logistica. 2024;11(3):349–360. https://doi.org/10.22306/al.v11i3.519
[21] CARDOSO MG, PICORELI TR, ARENAS MVDS, DE SOUZA VBP. Sustainable public procurement: a bibliometric survey. Revista de Gestão Social e Ambiental. 2023;17(1):e03155. https://doi.org/10.24857/rgsa.v17n1-011
[22] PAGE MJ, MCKENZIE JE, BOSSUYT PM, BOUTRON I, HOFFMANN TC, MULROW CD, SHAMSEER L, TETZLAFF JM, AKL EA, BRENNAN SE, CHOU R, GLANVILLE J, GRIMSHAW JM, HRÓBJARTSSON A, LALU MM, LI T, LODER EW, MAYO-WILSON E, MCDONALD S, MCGUINNESS LA, STEWART LA, THOMAS J, TRICCO AC, WELCH VA, WHITING P, MOHER D. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ. 2021;372:n71. https://doi.org/10.1136/bmj.n71
[23] GRANDIA J. The role of change agents in sustainable public procurement projects. Public Money & Management. 2015;35(2):119–26. https://doi.org/10.1080/09540962.2015.1007706
[24] UTTAM K, LE LANN ROOS C. Competitive dialogue procedure for sustainable public procurement. Journal of Cleaner Production. 2015;86:403–16. https://doi.org/10.1016/j.jclepro.2014.08.031
[25] WITJES S, LOZANO R. Towards a more circular economy: proposing a framework linking sustainable public procurement and sustainable business models. Resources, Conservation and Recycling. 2016;112:37–44. https://doi.org/10.1016/j.resconrec.2016.04.015
[26] AMALIA R, KURNIAWAN F, SABRIE HY, PRIHATININGTYAS W, ISKANDAR YP. Enhancing the legal framework for sustainable public procurement: a comprehensive sustainable development plan for Indonesia. UUM Journal of Legal Studies. 2024;15(2):505–27. https://doi.org/10.32890/uumjls2024.15.2.5
[27] CADER DA SILVA R, BETIOL L, VILLAC T, NONATO R. Sustainable public procurement: the federal public institution's shared system. Revista de Gestão. 2018;25(1):9–24. https://doi.org/10.1108/rege-11-2017-001
[28] CAO F, LI R, GUO S. Rhetoric and reality of public-private partnerships in China: a sustainable public procurement perspective. Socio-Economic Planning Sciences. 2024;92:101852. https://doi.org/10.1016/j.seps.2024.101852
[29] DIÓFÁSI-KOVÁCS O, TÁTRAI T. Environmentally sustainable public procurement of construction projects – implementing circularity approach. Public Works Management & Policy. 2025;30(1):137–62. https://doi.org/10.1177/1087724x241290269
[30] LINGEGÅRD S, OLSSON JA, KADEFORS A, UPPENBERG S. Sustainable public procurement in large infrastructure projects—policy implementation for carbon emission reductions. Sustainability. 2021;13(20):11182. https://doi.org/10.3390/su132011182
[31] MÉLON L. Sustainable public procurement best practices at sub-national level: drivers of strategic public procurement practices in Catalonia and Barcelona. European Procurement & Public Private Partnership Law Review. 2020;15(2):138–161. https://doi.org/10.21552/epppl/2020/2/7

[32] ORUEZABALA G, RICO JC. The impact of sustainable public procurement on supplier management — the case of French public hospitals. Industrial Marketing Management. 2012;41(4):573–80.https://doi.org/10.1016/j.indmarman.2012.04.004
[33] RIDZUAN KUSHAIRI MR. An organisational approach to sustainable public procurement. International Journal of Procurement Management. 2019;12(3):298–320.
https://doi.org/10.1504/IJPM.2019.099552
[34] VLUGGEN R, GELDERMAN CJ, SEMEIJN J, VAN PELT M. Sustainable public procurement—external forces and accountability. Sustainability. 2019;11(20):5696.
https://doi.org/10.3390/su11205696
[35] CAO F, LI R, CAO X. Implementation of sustainable public procurement in China: an assessment using quantitative text analysis in large-scale tender documents. Frontiers in Environmental Science. 2022;10:947962.
https://doi.org/10.3389/fenvs.2022.947962
[36] HSUEH L, BRETSCHNEIDER S, STRITCH JM, DARNALL N. Implementation of sustainable public procurement in local governments: a measurement approach. International Journal of Public Sector Management. 2020;33(6/7):697–712.
https://doi.org/10.1108/ijpsm-09-2019-0233
[37] ZHANG J, LONG J, VON SCHAEWEN AME. How does digital transformation improve organizational resilience?—findings from PLS-SEM and fsqca. Sustainability.2021;13(20):11487.
https://doi:10.3390/su132011487
[38] BERNAL R, SAN-JOSE L, RETOLAZA JL. Improvement actions for a more social and sustainable public procurement: a Delphi analysis. Sustainability. 2019;11(15):4069.
https://doi.org/10.3390/su11154069
[39] BIZARRO S, FERREIRO MDF. Sustainable public procurement in Portugal: the case of two public school canteens. Regional Science Policy & Practice. 2022;14(3):560–75.
https://doi.org/10.1111/rsp3.12508
[40] DE ROSA M, CASTELLI A, BARTOLI L, FRANCESCONE M. Sustainable public procurement and constrained agricultural entrepreneurship. AIMS Agriculture and Food. 2023;8(2):585–97.
https://doi.org/10.3934/agrfood.2023032
[41] MALOLITNEVA V, DZHABRAILOV R. New steps towards sustainable public procurement in Ukraine in the context of the EU–Ukraine Association Agreement. Croatian Yearbook of European Law and Policy. 2020;16(1):355–374.
https://doi.org/10.3935/cyelp.16.2020.368
[42] MENDONÇA RCA, PEDROSA IV, CAMARA MAOA. Sustainable public procurement in a brazilian higher education institution. Environment, Development and Sustainability. 2021;23(11):17094–125. https://doi.org/10.1007/s10668-021-01345-9
[43] ETSE D, MCMURRAY A, MUENJOHN N. Comparing sustainable public procurement in the education and health sectors. Journal of Cleaner Production. 2021;279:123959.
https://doi.org/10.1016/j.jclepro.2020.123959
[44] RAJ A, AGRAHARI A, SRIVASTAVA SK. Do pressures foster sustainable public procurement? an empirical investigation comparing developed and developing economies. Journal of Cleaner Production. 2020;266:122055.
https://doi.org/10.1016/j.jclepro.2020.122055
[45] D'HOLLANDER D, MARX A. Strengthening private certification systems through public regulation: the case of sustainable public procurement. Sustainability Accounting, Management and Policy Journal. 2014;5(1):2–21.
https://doi.org/10.1108/sampj-04-2013-0016
[46] PRIER E, SCHWERIN E, MCCUE CP. Implementation of sustainable public procurement practices and policies: a sorting framework. Journal of Public Procurement. 2016;16(3):312–46.
https://doi.org/10.1108/jopp-16-03-2016-b004
[47] GRANDIA J, VONCKEN D. Sustainable public procurement: the impact of ability, motivation, and opportunity on the implementation of different types of sustainable public procurement. Sustainability. 2019;11(19):5215.
https://doi.org/10.3390/su11195215
[48] OLIVEIRA MVDSS, SIMÃO J, CAEIRO SSFDS. Stakeholders' categorization of the sustainable public procurement system: the case of Brazil. Journal of Public Procurement. 2020;20(4):423–49. https://doi.org/10.1108/JOPP-09-2018-0031
[49] KANAPINSKAS V, PLYTNIKAS Ž, TVARONAVIČIENĖ A. Sustainable public procurement: realization of the social aspect in Republic of Lithuania. Business: Theory and Practice. 2014;15(4):302–15.
https://doi.org/10.3846/btp.2014.529
[50] VALLS-VAL K, IBÁÑEZ-FORÉS V, BOVEA MD. Evaluation of sustainable public procurement in spanish universities. a focus on canteen services. Environmental Impact Assessment Review. 2025;112:107818.
https://doi.org/10.1016/j.eiar.2025.107818
[51] MUNGKUNG R, SORAKON K, GHEEWALA SH. Ecolabelling and sustainable public procurement to promote sustainable consumption and production in Thailand. Chemical Engineering Transactions. 2018;63:241–246.
https://doi.org/10.3303/CET1863041
[52] OBICCI PA, MUGURUSI G, NAGITTA PO. Establishing the connection between successful disposal of public assets and sustainable public

procurement practice. Sustainable Futures. 2021;3:100049. https://doi.org/10.1016/j.sftr.2021.100049
[53] ADJEI-BAMFO P, MALOREH-NYAMEKYE T. The "baby steps" in mainstreaming sustainable public procurement in Ghana: a "double-agency" perspective. Journal of Public Affairs. 2019;19(1):e1902. https://doi.org/10.1002/pa.1902
[54] LAGSTRÖM C, EK ÖSTERBERG E. Exploring sustainable public procurement through regulatory conversations. Financial Accountability & Management. 2025;41(2):247–61. https://doi.org/10.1111/faam.12412
[55] LANGSETH M, MOE HT. Driving through dense fog: a study of the effects and control of sustainable public procurement of electric cars. Environment Systems and Decisions. 2022;42(4):572–85. https://doi.org/10.1007/s10669-022-09854-2
[56] SHAI L, MOLEFINYANA C, QUINOT G. Public procurement in the context of broad-based black economic empowerment (BBBEE) in South africa—lessons learned for sustainable public procurement. Sustainability. 2019;11(24):7164. https://doi.org/10.3390/su11247164
[57] ZHANG M, ZHANG L, VAN DIJK MP. Managing sustainable public procurement: a nationwide survey in China. Sustainability. 2022;14(19):11955. https://doi.org/10.3390/su141911955
[58] BERG A, ALHOLA K, PELTOMAA J, TIETARI S. Developing together: the Finnish way of promoting sustainable public procurement. Journal of Public Procurement. 2022;22(4):245–64. https://doi.org/10.1108/jopp-11-2021-0072
[59] LOZANO R, SANTOS F, BARREIRO-GEN M. Developing a harmonic sustainable public procurement framework. Environment, Development and Sustainability. 2024;26(1):2291–2306. https://doi.org/10.1007/s10668-022-02818-1
[60] RODRIGUEZ-PLESA E, DIMAND AM, ALKADRY MG. Community social capital, political values, or organizational capacity? indicators of engagement in sustainable public procurement at the local level. Journal of Cleaner Production. 2022;338:130556. https://doi.org/10.1016/j.jclepro.2022.130556
[61] LI R, CAO F. The impact of sustainable public procurement on corporate ESG performance—the Chinese evidence. PLoS ONE. 2023;18(10):e0292286. https://doi.org/10.1371/journal.pone.0292286
[62] JAAFAR MR, ABD AZIZ S, MAZNA RAMLI N. The roles of compliance with government procurement policy: moderating the effects between explanatory factors and sustainable public procurement practice. Jurnal Pengurusan. 2016;48:89–98. https://doi.org/10.17576/pengurusan-2016-48-07
[63] GRANDIA J, STEIJN B, KUIPERS B. It is not easy being green: increasing sustainable public procurement behaviour. Innovation: The European Journal of Social Science Research. 2015;28(3):243–60. https://doi.org/10.1080/13511610.2015.1024639
[64] DELMONICO D, JABBOUR CJC, PEREIRA SCF, DE SOUSA JABBOUR ABL, RENWICK DWS, THOMÉ AMT. Unveiling barriers to sustainable public procurement in emerging economies: evidence from a leading sustainable supply chain initiative in latin america. Resources, Conservation and Recycling. 2018;134:70–9. https://doi.org/10.1016/j.resconrec.2018.02.033
[65] SCHWERIN E, PRIER E. Rent-seeking obstacles to changing environmental practices and sustainable public procurement in China. Environmental Practice. 2013;15(3):240–52. https://doi.org/10.1017/s1466046613000288
[66] HADDADI TE, MOURABIT T, HADDADI AE. Sustainable public procurement in Morocco: an investigative survey regarding tender preparation. Sustainable Production and Consumption. 2021;26:33–43. https://doi.org/10.1016/j.spc.2020.09.002
[67] STOFFEL T, CRAVERO C, LA CHIMIA A, QUINOT G. Multidimensionality of sustainable public procurement (spp)—exploring concepts and effects in Sub-Saharan Africa and europe. Sustainability. 2019;11(22):6352. https://doi.org/10.3390/su11226352
[68] MORON D. Sustainable public procurement as a form of support for social economy entities in poland. Innovation: The European Journal of Social Science Research. 2021;34(4):585–608. https://doi.org/10.1080/13511610.2021.1964355
[69] VAN BERKEL JRJ, SCHOTANUS F. The impact of "procurement with impact": measuring the short-term effects of sustainable public procurement policy on the environmental friendliness of tenders. Journal of Public Procurement. 2021;21(3):300–17. https://doi.org/10.1108/jopp-10-2020-0070
[70] SANTOS F, HILLETOFTH P, VON HAARTMAN R. Managing organisational changes for collaboration between stakeholders in sustainable public procurement. Corporate Social Responsibility and Environmental Management. 2025;32(3):3008–3026. https://doi.org/10.1002/csr.3117
[71] PÁLENÍKOVÁ M, ŠPETÍK O, PÁLENÍK R, ILÍK J, ADAMÍK M. Implementation of sustainable public procurement in the rail transport in the Czech Republic and a comparison with the other members of the Visegrad Group. NISPAcee Journal of Public Administration and Policy. 2022;15(1):167–199. https://doi.org/10.2478/nispa-2022-0008
[72] DŽUPKA P, KUBÁK M, NEMEC P. Sustainable public procurement in Central European countries: can it also bring savings?

Sustainability. 2020;12(21):9241. https://doi.org/10.3390/su12219241

参考文献

[1] ARNÁEZ ARCE VM. 社会可持续公共采购：合作社模式作为一种替代方案. Boletín de la Asociación Internacional de Derecho Cooperativo. 2022;(60):47–82. https://doi.org/10.18543/baidc.2389

[2] TORRES-PRUÑONOSA J, PLAZA-NAVAS MA, DÍEZ-MARTÍN F, BELTRAN-CANGRÓS A. 社会和可持续公共采购研究的知识结构：共被引分析. Sustainability. 2021;13(2):774. https://doi.org/10.3390/su13020774

[3] WANG X, LIU Y, JU Y. 促进中国科技创新的可持续公共采购政策：与美国、英国、日本、德国、法国和韩国的比较. Sustainability. 2018;10(7):2134. https://doi.org/10.3390/su10010067

[4] CAYOLLA TRINDADE P, ANTUNES P, PARTIDÁRIO P. SPP工具箱：在社会技术转型背景下支持可持续公共采购. Sustainability. 2018;10(1):67. https://doi.org/10.3390/su10010067

[5] FREGONARA E, FERRANDO DG, TULLIANI JM. 建筑施工领域的可持续公共采购. Sustainability. 2022;14(18):11616. https://doi.org/10.3390/su141811616

[6] STEFANOVIC L. 地方有机食品系统的可持续发展目标绩效与可持续公共采购的作用. Sustainability. 2022;14(18):11510. https://doi.org/10.3390/su141811510

[7] ADJEI-BAMFO P, MALOREH-NYAMEKYE T, AHENKAN A. 电子政务在发展中国家可持续公共采购中的作用：系统文献综述. Resources, Conservation and Recycling. 2019;142:189–203. https://doi.org/10.1016/j.resconrec.2018.12.001

[8] GRANDIA J. 寻找缺失的联系：可持续公共采购行为中介作用的研究. Journal of Cleaner Production. 2016;124:183–90. https://doi.org/10.1016/j.jclepro.2016.02.102

[9] WALKER H, BRAMMER S. 公共部门可持续采购与电子采购之间的关系. International Journal of Production Economics. 2012;140(1):256–68. https://doi:10.1016/j.ijpe.2012.01.008

[10] SANTOS F, LOZANO R, BARREIRO-GEN M. 可持续公共采购驱动因素分析. Environment Systems and Decisions. 2024;44(4):966–79. https://doi.org/10.1007/s10669-024-09985-8

[11] BAPTISTA IDS, SANTOS LD, VIEIRA PS. 可持续公共采购前因及其影响分析：结构方程模型方法. Sustainability. 2025;17(12):5598. https://doi.org/10.3390/su17125598

[12] JIN X, AZAM SMF, THAM J. 中国高等教育机构实施可持续公共采购面临的挑战：德尔菲研究. Journal of Public Procurement. 2024;24(3):371–92. https://doi.org/10.1108/jopp-05-2024-0051

[13] SAVA N. eForms法规与可持续公共采购数据收集. European Procurement & Public Private Partnership Law Review. 2023;18(3):177–84. https://doi.org/10.21552/epppl/2023/3/5

[14] GRANDIA J, KRUYEN PM. 使用定量文本分析工具评估可持续公共采购实施：对比利时公共采购公告的大规模分析. Journal of Purchasing and Supply Management. 2020;26(4):100627. https://doi.org/10.1016/j.pursup.2020.100627

[15] NEMEC P, KUBAK M, DZUPKA P. 维谢格拉德国家向可持续公共采购的转型. Eastern European Economics. 2021;59(5):487–512. https://doi.org/10.1080/00128775.2021.1956973

[16] PUSPITASARI NB, DEVYTASARI AKA, SUSANTY A. 哪些驱动因素影响印度尼西亚可持续公共采购的实施？ International Journal of Industrial Engineering and Production Research. 2025;36(1):87–98. https://doi.org/10.22068/ijiepr.36.1.1947

[17] TREVIÑO-LOZANO L. 可持续公共采购与人权：墨西哥社会可持续道路基础设施项目实施中的障碍. Sustainability. 2021;13(17):9605. https://doi.org/10.3390/su13179605

[18] INGLAT LP DA S, CABRAL VN, DE CASTRO BS, GUERRIERI DC. 可持续性与可持续公共采购：巴西公共行政中个人、组织和政治承诺的评估. Revista de Gestão Social e Ambiental. 2024;18(3):1–20. https://doi.org/10.24857/rgsa.v18n3-174

[19] MENDOZA JIMÉNEZ J, HERNÁNDEZ LÓPEZ M, FRANCO ESCOBAR SE. 可持续公共采购：从法律到实践. Sustainability. 2019;11(22):6388. https://doi.org/10.3390/su11226388

[20] BENCHEKROUN H, BENMAMOUN Z, HACHIMI H. 面向供应链韧性和竞争优势的可持续公共采购. Acta Logistica. 2024;11(3):349–360. https://doi.org/10.22306/al.v11i3.519

[21] CARDOSO MG, PICORELI TR, ARENAS MVDS, DE SOUZA VBP. 可持续公共采购：文献计量调查. Revista de Gestão Social e Ambiental. 2023;17(1):e03155. https://doi.org/10.24857/rgsa.v17n1-011

[22] PAGE MJ, MCKENZIE JE, BOSSUYT PM, BOUTRON I, HOFFMANN TC, MULROW CD, SHAMSEER L, TETZLAFF JM, AKL EA, BRENNAN SE, CHOU R, GLANVILLE J, GRIMSHAW JM, HRÓBJARTSSON A, LALU MM, LI T, LODER EW, MAYO-WILSON E, MCDONALD S, MCGUINNESS LA, STEWART LA, THOMAS J, TRICCO AC, WELCH VA, WHITING P, MOHER D. PRISMA 2020声明：系统综述报告指南的更新版本. BMJ. 2021;372:n71. https://doi.org/10.1136/bmj.n71

[23] GRANDIA J. 可持续公共采购项目中变革推动者的作用. Public Money & Management. 2015;35(2):119–26. https://doi.org/10.1080/09540962.2015.1007706
[24] UTTAM K, LE LANN ROOS C. 可持续公共采购中的竞争性对话程序. Journal of Cleaner Production. 2015;86:403–16. https://doi.org/10.1016/j.jclepro.2014.08.031
[25] WITJES S, LOZANO R. 迈向更加循环的经济：构建连接可持续公共采购与可持续商业模式的框架. Resources, Conservation and Recycling. 2016;112:37–44. https://doi.org/10.1016/j.resconrec.2016.04.015
[26] AMALIA R, KURNIAWAN F, SABRIE HY, PRIHATININGTYAS W, ISKANDAR YP. 加强可持续公共采购法律框架：印度尼西亚综合可持续发展规划. UUM Journal of Legal Studies. 2024;15(2):505–27. https://doi.org/10.32890/uumjls2024.15.2.5
[27] CADER DA SILVA R, BETIOL L, VILLAC T, NONATO R. 可持续公共采购：联邦公共机构共享系统. Revista de Gestão. 2018;25(1):9–24. https://doi.org/10.1108/rege-11-2017-001
[28] CAO F, LI R, GUO S. 中国公私合作的言辞与现实：可持续公共采购视角. Socio-Economic Planning Sciences. 2024;92:101852. https://doi.org/10.1016/j.seps.2024.101852
[29] DIÓFÁSI-KOVÁCS O, TÁTRAI T. 环境可持续的公共建筑项目采购——循环性方法的实施. Public Works Management & Policy. 2025;30(1):137–62. https://doi.org/10.1177/1087724x241290269
[30] LINGEGÅRD S, OLSSON JA, KADEFORS A, UPPENBERG S. 大型基础设施项目中的可持续公共采购——碳减排政策实施. Sustainability. 2021;13(20):11182. https://doi.org/10.3390/su132011182
[31] MÉLON L. 地方层面的可持续公共采购最佳实践：加泰罗尼亚和巴塞罗那战略性公共采购实践的驱动因素. European Procurement & Public Private Partnership Law Review. 2020;15(2):138–161. https://doi.org/10.21552/epppl/2020/2/7
[32] ORUEZABALA G, RICO JC. 可持续公共采购对供应商管理的影响——法国公立医院案例. Industrial Marketing Management. 2012;41(4):573–80. https://doi.org/10.1016/j.indmarman.2012.04.004
[33] RIDZUAN KUSHAIRI MR. 可持续公共采购的组织方法. International Journal of Procurement Management. 2019;12(3):298–320. https://doi.org/10.1504/IJPM.2019.099552
[34] VLUGGEN R, GELDERMAN CJ, SEMEIJN J, VAN PELT M. 可持续公共采购——外部力量与问责机制. Sustainability. 2019;11(20):5696. https://doi.org/10.3390/su11205696
[35] CAO F, LI R, CAO X. 中国可持续公共采购的实施：基于大规模招标文件定量文本分析的评估. Frontiers in Environmental Science. 2022;10:947962. https://doi.org/10.3389/fenvs.2022.947962
[36] HSUEH L, BRETSCHNEIDER S, STRITCH JM, DARNALL N. 地方政府可持续公共采购的实施：一种测量方法. International Journal of Public Sector Management. 2020;33(6/7):697–712. https://doi.org/10.1108/ijpsm-09-2019-0233
[37] ZHANG J, LONG J, VON SCHAEWEN AME. 数字化转型如何提升组织韧性？——基于PLS-SEM和fsQCA的研究发现. Sustainability. 2021;13(20):11487. https://doi:10.3390/su132011487
[38] BERNAL R, SAN-JOSE L, RETOLAZA JL. 推动更加社会化和可持续公共采购的改进行动：德尔菲分析. Sustainability. 2019;11(15):4069. https://doi.org/10.3390/su11154069
[39] BIZARRO S, FERREIRO MDF. 葡萄牙的可持续公共采购：两所公立学校食堂案例. Regional Science Policy & Practice. 2022;14(3):560–75. https://doi.org/10.1111/rsp3.12508
[40] DE ROSA M, CASTELLI A, BARTOLI L, FRANCESCONE M. 可持续公共采购与受约束的农业创业活动. AIMS Agriculture and Food. 2023;8(2):585–97. https://doi.org/10.3934/agrfood.2023032
[41] MALOLITNEVA V, DZHABRAILOV R. 在欧盟—乌克兰联系国协定背景下乌克兰可持续公共采购的新进展. Croatian Yearbook of European Law and Policy. 2020;16(1):355–374. https://doi.org/10.3935/cyelp.16.2020.368
[42] MENDONÇA RCA, PEDROSA IV, CAMARA MAOA. 巴西高等教育机构中的可持续公共采购. Environment, Development and Sustainability. 2021;23(11):17094–125. https://doi.org/10.1007/s10668-021-01345-9
[43] ETSE D, MCMURRAY A, MUENJOHN N. 教育部门与卫生部门可持续公共采购的比较. Journal of Cleaner Production. 2021;279:123959. https://doi.org/10.1016/j.jclepro.2020.123959
[44] RAJ A, AGRAHARI A, SRIVASTAVA SK. 压力是否促进可持续公共采购？发达经济体与发展中经济体的实证比较. Journal of Cleaner Production. 2020;266:122055. https://doi.org/10.1016/j.jclepro.2020.122055
[45] D'HOLLANDER D, MARX A. 通过公共监管加强私人认证体系：可持续公共采购案例. Sustainability Accounting, Management and Policy Journal. 2014;5(1):2–21. https://doi.org/10.1108/sampj-04-2013-0016
[46] PRIER E, SCHWERIN E, MCCUE CP. 可持续公共采购实践与政策的实施：分类框架. Journal of Public Procurement. 2016;16(3):312–46. https://doi.org/10.1108/jopp-16-03-2016-b004
[47] GRANDIA J, VONCKEN D. 可持续公共采购：

能力、动机和机会对不同类型可持续公共采购实施的影响. Sustainability. 2019;11(19):5215. https://doi.org/10.3390/su11195215
[48] OLIVEIRA MVDSS, SIMÃO J, CAEIRO SSFDS. 可持续公共采购体系中的利益相关者分类：巴西案例. Journal of Public Procurement. 2020;20(4):423–49. https://doi.org/10.1108/JOPP-09-2018-0031
[49] KANAPINSKAS V, PLYTNIKAS Ž, TVARONAVIČIENĖ A. 可持续公共采购：立陶宛共和国社会维度的实现. Business: Theory and Practice. 2014;15(4):302–15. https://doi.org/10.3846/btp.2014.529
[50] VALLS-VAL K, IBÁÑEZ-FORÉS V, BOVEA MD. 西班牙大学可持续公共采购评估：以食堂服务为重点. Environmental Impact Assessment Review. 2025;112:107818. https://doi.org/10.1016/j.eiar.2025.107818
[51] MUNGKUNG R, SORAKON K, GHEEWALA SH. 通过生态标签和可持续公共采购促进泰国可持续消费与生产. Chemical Engineering Transactions. 2018;63:241–246. https://doi.org/10.3303/CET1863041
[52] OBICCI PA, MUGURUSI G, NAGITTA PO. 建立公共资产成功处置与可持续公共采购实践之间的联系. Sustainable Futures. 2021;3:100049. https://doi.org/10.1016/j.sftr.2021.100049
[53] ADJEI-BAMFO P, MALOREH-NYAMEKYE T. 加纳将可持续公共采购纳入主流的“初步探索”：“双重代理”视角. Journal of Public Affairs. 2019;19(1):e1902. https://doi.org/10.1002/pa.1902
[54] LAGSTRÖM C, EK ÖSTERBERG E. 通过监管对话探索可持续公共采购. Financial Accountability & Management. 2025;41(2):247–61. https://doi.org/10.1111/faam.12412
[55] LANGSETH M, MOE HT. 在浓雾中驾驶：可持续公共电动汽车采购的效果与控制研究. Environment Systems and Decisions. 2022;42(4):572–85. https://doi.org/10.1007/s10669-022-09854-2
[56] SHAI L, MOLEFINYANA C, QUINOT G. 广泛黑人经济赋权（BBBEE）背景下的公共采购——对可持续公共采购的经验启示. Sustainability. 2019;11(24):7164. https://doi.org/10.3390/su11247164
[57] ZHANG M, ZHANG L, VAN DIJK MP. 可持续公共采购管理：中国全国性调查. Sustainability. 2022;14(19):11955. https://doi.org/10.3390/su141911955
[58] BERG A, ALHOLA K, PELTOMAA J, TIETARI S. 共同发展：芬兰促进可持续公共采购的方式. Journal of Public Procurement. 2022;22(4):245–64. https://doi.org/10.1108/jopp-11-2021-0072
[59] LOZANO R, SANTOS F, BARREIRO-GEN M. 构建协调统一的可持续公共采购框架. Environment, Development and Sustainability. 2024;26(1):2291–2306. https://doi.org/10.1007/s10668-022-02818-1
[60] RODRIGUEZ-PLESA E, DIMAND AM, ALKADRY MG. 社区社会资本、政治价值观还是组织能力？地方层面参与可持续公共采购的指标. Journal of Cleaner Production. 2022;338:130556. https://doi.org/10.1016/j.jclepro.2022.130556
[61] LI R, CAO F. 可持续公共采购对企业ESG绩效的影响——来自中国的证据. PLoS ONE. 2023;18(10):e0292286. https://doi.org/10.1371/journal.pone.0292286
[62] JAAFAR MR, ABD AZIZ S, MAZNA RAMLI N. 政府采购政策合规性的作用：解释因素与可持续公共采购实践关系中的调节效应. Jurnal Pengurusan. 2016;48:89–98. https://doi.org/10.17576/pengurusan-2016-48-07
[63] GRANDIA J, STEIJN B, KUIPERS B. 绿色采购并不容易：提升可持续公共采购行为. Innovation: The European Journal of Social Science Research. 2015;28(3):243–60. https://doi.org/10.1080/13511610.2015.1024639
[64] DELMONICO D, JABBOUR CJC, PEREIRA SCF, DE SOUSA JABBOUR ABL, RENWICK DWS, THOMÉ AMT. 揭示新兴经济体可持续公共采购的障碍：来自拉丁美洲领先可持续供应链倡议的证据. Resources, Conservation and Recycling. 2018;134:70–9. https://doi.org/10.1016/j.resconrec.2018.02.033
[65] SCHWERIN E, PRIER E. 中国改变环境实践和可持续公共采购面临的寻租障碍. Environmental Practice. 2013;15(3):240–52. https://doi.org/10.1017/s1466046613000288
[66] HADDADI TE, MOURABIT T, HADDADI AE. 摩洛哥可持续公共采购：关于招标准备的调查研究. Sustainable Production and Consumption. 2021;26:33–43. https://doi.org/10.1016/j.spc.2020.09.002
[67] STOFFEL T, CRAVERO C, LA CHIMIA A, QUINOT G. 可持续公共采购（SPP）的多维性——探索撒哈拉以南非洲和欧洲的概念与影响. Sustainability. 2019;11(22):6352. https://doi.org/10.3390/su11226352
[68] MORON D. 可持续公共采购作为支持波兰社会经济实体的一种形式. Innovation: The European Journal of Social Science Research. 2021;34(4):585–608. https://doi.org/10.1080/13511610.2021.1964355
[69] VAN BERKEL JRJ, SCHOTANUS F. “有影响力的采购”的影响：衡量可持续公共采购政策对招标环境友好性的短期效应. Journal of Public Procurement. 2021;21(3):300–17. https://doi.org/10.1108/jopp-10-2020-0070
[70] SANTOS F, HILLETOFTH P, VON HAARTMAN R. 管理可持续公共采购中利益相关

者协作的组织变革. Corporate Social Responsibility and Environmental Management. 2025;32(3):3008–3026. https://doi.org/10.1002/csr.3117
[71] PÁLENÍKOVÁ M, ŠPETÍK O, PÁLENÍK R, ILÍK J, ADAMÍK M. 捷克共和国铁路运输中可持续公共采购的实施及其与其他维谢格拉德集团成员国的比较. NISPAcee Journal of Public Administration and Policy. 2022;15(1):167–199. https://doi.org/10.2478/nispa-2022-0008
[72] DŽUPKA P, KUBÁK M, NEMEC P. 中欧国家的可持续公共采购：它是否也能带来成本节约？ Sustainability. 2020;12(21):9241. https://doi.org/10.3390/su12219241

Manuscript Information
Word count: 12,905 words (excluding references).
Peer-Review Record

Fast-track status: Not fast-tracked.
First-round reviews received: 3 reports.
Revision cycles completed: 3 rounds.
Final version submitted: August 5, 2026

Appendix A. Drivers of SPP Implementation

Category	Drivers
Political will / policy mandates	Mandatory GPP legislation
Political will / policy mandates	EU directives / integration
Political will / policy mandates	Effectiveness of regulation
Political will / policy mandates	EU regulation—social aspect
Political will / policy mandates	E-procurement adoption policy
Political will / policy mandates	Donor influence in policy
Political will / policy mandates	Implementation tools & vendor databases
Political will / policy mandates	Regulatory discourse / dialogue
Political will / policy mandates	Institutional pressures
Political will / policy mandates	Financial rule reform / eco-labels link
Political will / policy mandates	BBBEE / preferential procurement
Political will / policy mandates	EU integration agenda / legal harmonization
Political will / policy mandates	Centralized procurement, commitment by authorities
Political will / policy mandates	University leadership support as policy lever
Political will / policy mandates	Award weighting / EC-GPP alignment
Political will / policy mandates	Emphasis on enforcement / legal reform
Political will / policy mandates	Accountability mechanisms / normative incentives
Political will / policy mandates	Asset disposal policy
Political will / policy mandates	Policy design & regulatory incentives
Political will / policy mandates	Government policy incentives
Stakeholder engagement	Collaboration & specs
Stakeholder engagement	Stakeholder influence/salience
Stakeholder engagement	Stakeholder involvement
Stakeholder engagement	Strategic approach via KEINO—stakeholder capacity
Stakeholder engagement	Change agents / ecological attitude
Stakeholder engagement	Stakeholder feedback
Stakeholder engagement	Local gov procurement & SDGs
Stakeholder engagement	Social clauses / reserved markets
Stakeholder engagement	Stakeholder engagement
Stakeholder engagement	Social criteria integration
Stakeholder engagement	Shared procurement model
Stakeholder engagement	External supplier cooperation
Stakeholder engagement	Supplier availability
Stakeholder engagement	Supplier market maturity / project leadership
Stakeholder engagement	Supplier selection / relational norms
Stakeholder engagement	Supports smallholder farms
Stakeholder engagement	Stronger practices in health sector
Stakeholder engagement	External pressure
Stakeholder engagement	Community social capital
Financial incentives / cost–benefit	Life cycle CO_2/LCC evaluation
Financial incentives / cost–benefit	Lifecycle costing & circular economy
Financial incentives / cost–benefit	Economic feasibility
Financial incentives / cost–benefit	Evaluation metrics & vendor databases
Financial incentives / cost–benefit	SME accessibility
Financial incentives / cost–benefit	Award methods & SME inclusion
Financial incentives / cost–benefit	SME participation / competitive advantage
Financial incentives / cost–benefit	Scale & process efficiency
Financial incentives / cost–benefit	Decision-making criteria / standards
Financial incentives / cost–benefit	Costs & availability of sustainable products
Financial incentives / cost–benefit	Incentives / digital skills & education
Financial incentives / cost–benefit	Award weighting for MEAT
Financial incentives / cost–benefit	Government procurement scale / regional dev. level
Financial incentives / cost–benefit	Market share of public procurement
Financial incentives / cost–benefit	MEAT & competitive dialogue
Financial incentives / cost–benefit	Resource recovery / environmental impact
Organizational culture / leadership	Transformational leadership / change agents
Organizational culture / leadership	Organizational learning capacity
Organizational culture / leadership	Affective commitment to change
Organizational culture / leadership	Organizational culture / willingness to innovate
Organizational culture / leadership	Top management support / training systems
Organizational culture / leadership	Director involvement & legitimacy of SPP work
Organizational culture / leadership	Project leadership / resource constraints
Organizational culture / leadership	Political will inside organizations

Category	Drivers
Organizational culture / leadership	Integrated & strategic approach; org engagement
Organizational culture / leadership	Organizational commitment & knowledge
Organizational culture / leadership	Intra-organizational engagement
Organizational culture / leadership	Organizational structure / adoption efficiency
Organizational culture / leadership	Familiarity with rules / professionalism
Organizational culture / leadership	Targeted training / awareness of rights & safety

Appendix B. Barriers in SPP Implementation

Category	Barriers
Institutional	Lack of coordination among departments
Institutional	Weak or fragmented legal frameworks
Institutional	Lack of political commitment
Institutional	Inconsistent implementation of policies
Institutional	Insufficient institutional support
Institutional	Lack of monitoring and impact evaluation
Institutional	Fragmented stakeholder roles
Institutional	Limited strategic planning or focus
Technical	Lack of training and technical capacity
Technical	Lack of tools and metrics
Technical	Complexity of procurement regulations
Technical	Limited evaluative data or monitoring systems
Technical	Lack of standardized environmental or social criteria
Technical	Data gaps or poor information availability
Technical	Weak ICT infrastructure and digital literacy
Technical	Supplier capability gaps
Behavioral	Resistance to change
Behavioral	Low awareness or knowledge about SPP
Behavioral	Misalignment with organizational vision
Behavioral	Risk-averse procurement behavior
Behavioral	Lack of trust in sustainability claims
Behavioral	Cultural or organizational inertia
Behavioral	Low motivation among procurement officers
Behavioral	Short-term focus over long-term sustainability

Appendix C. Strategies to Enhance SPP Implementation

Category	Strategy
Capacity Building and Education	Training toolkits and practical guides such as EU's 'Buying Green Handbook'
Capacity Building and Education	Online learning for procurement actors and suppliers
Capacity Building and Education	Establishing national and local training programs with knowledge-sharing platforms and support tools
Capacity Building and Education	Training toolkits and practical guides from the EU such as the 'Buying Green Handbook'
Capacity Building and Education	Online training (e-learning) for procurement actors and suppliers
Capacity Building and Education	Strengthening public institutions' capacity to assess the environmental impacts of procurement
Capacity Building and Education	Training procurement officers and enhancing local institutional capacity
Capacity Building and Education	Improving education and awareness of environmental criteria
Capacity Building and Education	Encouraging commitment to change among public procurers
Capacity Building and Education	Training procurement staff to enhance sustainability knowledge and skills
Capacity Building and Education	Encouraging commitment to change among procurement staff through leadership engagement and vision alignment
Capacity Building and Education	Training procurement staff and stakeholders on sustainability criteria, certification standards, and best practices
Capacity Building and Education	Promoting awareness and motivation among public agents to strengthen individual and organizational commitment to SPP
Capacity Building and Education	Training and capacity building for public procurement practitioners and suppliers related to SPP in Brazil

Category	Strategy
Capacity Building and Education	Joint training programs to enhance public sector knowledge and readiness of social entities
Capacity Building and Education	Use of the SPP Toolbox as guidance for strategic implementation of GPP, SPP, and PPI
Capacity Building and Education	Training farmers to meet environmental criteria and quality standards in public procurement
Capacity Building and Education	Providing training on carbon reduction practices to procurement officers and suppliers
Capacity Building and Education	Capacity building of procurement officers and suppliers through sensitisation programmes prior to SPP policy implementation
Capacity Building and Education	Training and knowledge enhancement on sustainability to improve ability, motivation, and opportunity for SPP implementation
Capacity Building and Education	Training programs for procurement officials and suppliers to enhance readiness for SPP.
Capacity Building and Education	Knowledge sharing among stakeholders to support circular economy approaches in procurement.
Capacity Building and Education	Develop online training modules, workshops, and capacity building programs for procurement actors and suppliers.
Evaluation and Accountability	Public access to tender evaluation reports and civil society involvement
Evaluation and Accountability	Applying stakeholder evaluation and scoring models for sustainability integration into procurement decisions
Evaluation and Accountability	Analyzing the effect of coercive, mimetic, and normative pressures on SPP implementation across contexts
Evaluation and Accountability	Developing structured performance monitoring indicators for sustainability in electric vehicle procurement
Evaluation and Accountability	Providing public access to tender evaluation reports and engaging civil society for transparency
Evaluation and Accountability	Performance assessments and independent audits of local PPCs
Evaluation and Accountability	Using quantitative text analysis to assess SPP implementation levels
Evaluation and Accountability	Using behavioral indicators and procedural justice to assess impact
Evaluation and Accountability	Applying quantitative text analysis to monitor SPP implementation in tender documents
Evaluation and Accountability	Monitoring stakeholder influence and role salience to adjust governance mechanisms
Evaluation and Accountability	Assessing institutional design parameters of private certification systems for their effect on governance effectiveness
Evaluation and Accountability	Measuring commitment levels at individual, organizational, and political levels to identify bottlenecks in SPP implementation
Evaluation and Accountability	Use of performance indicators and external pressures (lobbying, citizens) for SPP accountability in the Netherlands
Evaluation and Accountability	Short-term evaluation of the 'Procurement with Impact' policy in the Netherlands to enhance green tenders
Evaluation and Accountability	Using awareness-constraints-attitude (ACA) framework to assess readiness for GPP participation
Evaluation and Accountability	Monitoring and reporting carbon reduction progress at project and national level
Evaluation and Accountability	Leveraging external forces such as lobbying, citizen engagement, and political pressure to improve municipal SPP accountability
Evaluation and Accountability	Using stakeholder pressure mapping (legal, political, market, social, societal) to enforce compliance with SPP goals
Evaluation and Accountability	Life cycle costing (LCC) and CO2 emissions assessment integrated into tender evaluation.
Evaluation and Accountability	Development of sustainability performance indicators for procurement practices.
Evaluation and Accountability	Conduct periodic monitoring and evaluation of SPP implementation and assess market readiness for sustainable products.
Institutional and Governance	Integration of GPP/SPP/PPI into organizational strategy and adoption of life-cycle cost approach

Category	Strategy
Institutional and Governance	Use of private certification systems regulated through public policies
Institutional and Governance	Harmonization of procurement processes via EU Directives like 2014/24/EU
Institutional and Governance	Creating a harmonized procurement framework integrating environmental, social, and economic pillars using multi-criteria decision analysis
Institutional and Governance	Using collaborative governance models between municipalities and ministries to mainstream SPP
Institutional and Governance	Enhancing supportive regulations and policy integration
Institutional and Governance	Leveraging centralized SPP structure with top-down implementation
Institutional and Governance	Simplification and coherence in policy frameworks across regions
Institutional and Governance	Integrating multidimensional goals into centralized SPP frameworks
Institutional and Governance	Aligning SPP policies with organizational strategic vision to strengthen commitment to change
Institutional and Governance	Reforming China's SPP from a rigid two-list system to broader inclusion of state-owned enterprises and infrastructure projects
Institutional and Governance	Simplifying legal frameworks to enable multidimensional sustainability in procurement
Institutional and Governance	Identifying and categorizing key stakeholders using the stakeholder salience model to prioritize engagement in SPP implementation
Institutional and Governance	Aligning public regulation with private certification systems to strengthen institutional design and effectiveness
Institutional and Governance	Increasing political and organizational commitment to sustainability goals in procurement through policy alignment and leadership endorsement
Institutional and Governance	Strengthening the legal and policy framework of SPP in Catalonia aligned with EU environmental policies
Institutional and Governance	Shared procurement system among Brazilian federal public institutions (MPF) for budget efficiency and sustainability
Institutional and Governance	Integration of sustainability criteria into tender evaluation to encourage SME participation in Visegrad countries
Institutional and Governance	Strengthening political, organizational, and individual commitment to SPP in Brazil
Institutional and Governance	Promoting localised agrifood systems through GPP to support smallholder farmers
Institutional and Governance	Integrating carbon emission reduction targets into infrastructure procurement policies
Institutional and Governance	Establishing national task forces and amending procurement laws to integrate sustainability criteria, as in Ghana's adoption of the Marrakech Task Force framework
Institutional and Governance	Creating multi-stakeholder procurement governance structures for policy alignment and coordinated SPP actions
Institutional and Governance	Integration of sustainability aspects into evaluation criteria of public tenders to enhance SME participation.
Institutional and Governance	Policy adaptations in PPP models to better incorporate sustainability considerations alongside economic assessments.
Institutional and Governance	Transposition of EU directives into national law with emphasis on social and environmental aspects.
Institutional and Governance	Strengthening regulations and aligning national policies with sustainable procurement goals.
Institutional and Governance	Incorporating qualitative criteria into procurement contracts for food services to address health and sustainability.
Institutional and Governance	Establishment of vendor databases and classification systems for innovative and sustainable products.
Institutional and Governance	Government should consider cultural change management and address organizational culture barriers to enhance adoption of SPP.
Institutional and Governance	Form policies for SPP, align central and regional programs, and develop technical guidelines (Norms-Standards-Procedures-Criteria) for implementation.
Institutional and Governance	Integrating GPP/SPP/PPI into organizational strategies and using life-cycle cost approaches

Category	Strategy
Institutional and Governance	Utilizing private certification systems through public regulation to improve SPP effectiveness
Social and Inclusive	Encouraging smallholder farmer participation through regional agrifood systems
Social and Inclusive	Encouraging smallholder farmer participation through regional agrifood systems and local markets
Social and Inclusive	Expanding social criteria in tendering (e.g., support for minorities and SMEs)
Social and Inclusive	Focus on local and vulnerable populations through procurement in SSA
Social and Inclusive	Introducing social performance indicators in contract conditions
Social and Inclusive	Expanding social criteria in procurement to support marginalized groups and SMEs
Social and Inclusive	Including equality and human rights criteria in procurement processes, reflecting local socio-economic priorities
Social and Inclusive	Incorporating social, ethical, and fair trade criteria into SPP policies to promote equality, labor rights, and SME participation
Social and Inclusive	Use of social clauses in public contracts to support social economy entities in Poland
Social and Inclusive	Cooperative model as a sustainable social alternative in public procurement in Spain
Social and Inclusive	Public procurement for Black economic empowerment in South Africa through BBBEE
Social and Inclusive	Encouraging ZeroKM initiatives and geographical indications in public food tenders
Social and Inclusive	Aligning procurement with national climate goals to benefit communities
Social and Inclusive	Incorporating social return on investment policies to improve employment opportunities for disadvantaged groups
Social and Inclusive	Applying international social criteria in tenders to eliminate unfair trade practices and promote fair labor
Social and Inclusive	Inclusion of SMEs and disadvantaged groups in tender opportunities through adjusted evaluation processes.
Social and Inclusive	Public procurement to support local organic food systems and address multiple SDG targets.
Social and Inclusive	Provide MSME certification facilities for environmentally friendly products and encourage local supplier participation.
Technology and Information Systems	Implementation of e-procurement systems for transparency and efficiency
Technology and Information Systems	Utilization of AI and IoT in SPP for real-time tracking and data-driven decisions
Technology and Information Systems	Online portals to disseminate procurement requirements and monitor implementation
Technology and Information Systems	Integrating national ecolabelling schemes into digital procurement systems
Technology and Information Systems	Implementing e-procurement systems for transparency, efficiency, and corruption reduction
Technology and Information Systems	Using AI and IoT in SPP for real-time tracking and data-based decision-making
Technology and Information Systems	Integrating procurement portals with market assessment systems to measure supplier readiness
Technology and Information Systems	Improving access to sustainability data and e-procurement platforms
Technology and Information Systems	Utilizing digital tools for monitoring and implementation assessment
Technology and Information Systems	Improving access to user-friendly sustainability information tools and digital platforms for procurement officers
Technology and Information Systems	Integrating life-cycle costing, eco-labels, and sustainability assessment tools in tender evaluation
Technology and Information Systems	Using certification schemes and ecolabel databases to support transparency in SPP product/service selection
Technology and Information Systems	Implementation of e-government to facilitate e-procurement, market readiness assessment, and SPP monitoring in developing countries

Category	Strategy
Technology and Information Systems	Use of the eForms Regulation in the EU to collect and monitor SPP data
Technology and Information Systems	Using greenhouse gas (GHG) assessment tools to evaluate supplier bids
Technology and Information Systems	Implementation of the eForms Regulation in the EU for standardized SPP data collection to enable monitoring and benchmarking
Technology and Information Systems	Use of open data dashboards and digital procurement systems for real-time monitoring of sustainability indicators
Technology and Information Systems	Use of e-government platforms for integrating SPP requirements, monitoring, and evaluation.
Technology and Information Systems	Increase availability of sustainable products on e-procurement platforms and create tools to verify product claims.

Supplementary Material. PRISMA 2020 Reporting Checklist

No.	Reporting item	Information reported in the manuscript	Location
1	Database searched	Scopus was used as the sole bibliographic database.	Section 2.2
2	Date of search	The literature search was conducted on 29 June 2025.	Section 2.2
3	Full search string	TITLE (“sustainable public procurement”)	Section 2.2
4	Search field	The search was limited to the article title field. Abstracts and keywords were not included in the search field.	Section 2.2
5	Publication-year restriction	No publication-year restriction was applied.	Section 2.2
6	Inclusion criteria	Peer-reviewed journal articles written in English that explicitly addressed sustainable public procurement in the public sector context were included.	Section 2.3
7	Exclusion criteria	Book chapters, review articles, articles in press, non-English publications, other document types, and studies lacking sufficient relevance were excluded.	Section 2.3
8	Screening process	Records were screened based on document type, publication status, language, title, abstract, and, where necessary, full text.	Section 2.4
9	Reviewers involved	Initial screening was conducted by the first author, and the screening decisions were reviewed by the remaining authors.	Section 2.4
10	Resolution of disagreements	Differences in study-selection decisions were resolved through discussion until consensus was reached.	Section 2.4
11	Study-selection results	The search identified 109 records, of which 69 articles were included in the final review.	Section 2.4 and Figure 1
12	Data extraction	Data were extracted using a structured coding framework covering study characteristics, drivers, barriers, and implementation strategies.	Section 2.5
13	Synthesis method	An inductive thematic coding approach was used to identify, merge, and categorise related factors.	Section 2.5
14	Bibliometric analysis	Term co-occurrence analysis was conducted using VOSviewer version 1.6.20 with the full counting method.	Section 2.6
15	PRISMA flow diagram	The study-selection process is presented in the PRISMA flow diagram.	Figure 1
16	Completed PRISMA checklist	The completed reporting checklist is provided in Supplementary Material.	Supplementary Material