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Research Article

Sustainable Procurement as a Strategic Capability: Toward a Decarbonized Supply Chain Logic

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Abstract

This viewpoint paper puts forward the argument that sustainable procurement has emerged as a strategic organizational capability, with decarbonization serving as the organizing principle for supplier choice and value chain management. This conceptual analysis employs a multi-theoretical framework integrating stakeholder theory, legitimacy theory, and green institutionalism to examine how decarbonization imperatives transform procurement decision-making processes. Through these theoretical lenses, we demonstrate that procurement practices incorporating carbon measurement restructure supplier evaluation from price-dominated models to impact-weighted assessment frameworks. Through systematic literature synthesis and analysis of contemporary trends and regulatory developments, our findings reveal how organizations must reconceptualize procurement beyond transactional efficiencies as a mechanism for value creation through environmental stewardship. The analysis demonstrates that sustainability pressures will reshape procurement strategies through 2030, establishing performance criteria integrating carbon footprint into supplier relationship management. This paradigm shift necessitates organizational development of capabilities in carbon accounting, stakeholder engagement, and regulatory compliance alongside operational excellence. The theoretical contribution lies in positioning sustainable procurement as a strategic capability affording competitive advantage through enhanced legitimacy, stakeholder trust, and long-term value creation. This framework advances procurement theory by integrating environmental imperatives into strategic capability development, offering practitioners a structured approach to building decarbonization competencies.

Keywords

Sustainable Procurement, Decarbonization, Supply Chain Management, Carbon Accounting, Stakeholder Theory, Environmental Stewardship, Strategic Capability

1. Introduction

What is happening in procurement today represents an important transformation occurring at the confluence of traditional purchasing paradigms and emerging environmental imperatives [1]. Organizations around the world are realizing that sustainable procurement extends far beyond regulatory compliance; it is a fundamental strategic capability, which changes how value is created, measured, and sustained in supply networks [2]. This transformation challenges conventional procurement assumptions: principally, that cost minimization and efficiency maximization constitute the primary

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criteria employed in decision making [3].

Contemporary procurement faces increasing imperatives to align vendor relationships within the framework of carbon neutrality goals and stakeholder expectations of environmental responsibility [4, 12]. This paradigm evolution signifies a shift toward decarbonized supply chain logic, integrating environmental stewardship into strategic procurement decision-making frameworks [5]. This approach necessitates comprehensive mechanisms to measure supplier performance along multiple dimensions: traditional metrics of cost, quality, and delivery, alongside environmental indicators of carbon intensity, environmental impact, and sustainability commitment [6].

This analysis employs three complementary theoretical perspectives. Stakeholder theory posits that firms must consider the interests of multiple constituencies beyond shareholders [7]. Legitimacy theory addresses how organizations secure social acceptance by aligning with prevailing environmental norms and expectations [8]. Green institutionalism provides a conceptual framework to understand how environmental concerns become embedded in organizational structures and decision-making processes [9].

The central argument of this viewpoint paper is that sustainable procurement should be regarded as a strategic capability requiring organizations to develop integrated competencies in carbon accounting, stakeholder engagement, regulatory compliance, and performance measurement [10]. The unique contribution lies in synthesizing these theoretical perspectives to demonstrate how decarbonization imperatives fundamentally reshape procurement from a tactical purchasing function into a strategic capability for competitive advantage. The analysis shows that these competencies enable organizations to navigate the complex transition from price-dominant models for supplier selection toward impact-weighted evaluation frameworks that balance long-term value creation with short-term cost optimization [11].

2. Theoretical Framework: Integrating Multiple Perspectives on Procurement Transformation

This conceptual analysis synthesizes three theoretical lenses to examine the transformation of procurement practices under decarbonization imperatives. The integration of stakeholder theory, legitimacy theory, and green institutionalism provides complementary insights: stakeholder theory explains the broadening scope of procurement considerations, legitimacy theory addresses the motivations for environmental alignment, and green institutionalism illuminates the mechanisms through which sustainability becomes embedded in organizational routines. Together, these perspectives offer a comprehensive framework for understanding how and why sustainable procurement emerges as a strategic capability rather than merely an operational adjustment.

2.1. Stakeholder Theory and Procurement Transformation

Stakeholder theory challenges the traditional buyer-seller dyadic approach to procurement by expanding the range of considerations beyond immediate cost implications. Modern procurement organizations operate in intricate webs of stakeholder relationships that include regulatory authorities, environmental advocacy groups, community associations, and future generations affected by carbon emissions [13]. This expanded stakeholder universe fundamentally alters the criteria by which procurement decisions are evaluated, shifting from unidimensional cost optimization to multidimensional value assessment. The broader universe of stakeholders necessitates that procurement professionals develop enhanced capabilities in identifying, analyzing, and addressing evolving stakeholder expectations regarding environmental performance [14].

The application of stakeholder theory to procurement practices reveals cascading effects that supplier selection decisions exert across various stakeholder groups [15]. Environmental NGOs scrutinize the carbon footprints of supply chains, investors assess ESG performance metrics, and customers increasingly demand transparency regarding product lifecycle impacts [16]. Critically, these stakeholder pressures create both incentives and constraints: organizations that proactively address environmental concerns gain reputational advantages and stakeholder support, while those that lag face increased scrutiny, potential boycotts, and regulatory intervention. These stakeholder dynamics generate substantial forces compelling firms to integrate sustainability concerns into procurement [18].

2.2. Legitimacy Theory and Environmental Compliance

Organizations seek to obtain legitimacy by aligning their practices with social expectations, as posited by legitimacy theory [18]. In contemporary contexts, procurement departments are increasingly recognized as instruments for demonstrating organizational commitment to sustainability through supplier selection criteria and performance monitoring systems [19]. The pursuit of environmental legitimacy drives organizations to adopt environmental standards, certification requirements, and carbon accounting methodologies that signal alignment with stakeholder expectations [20].

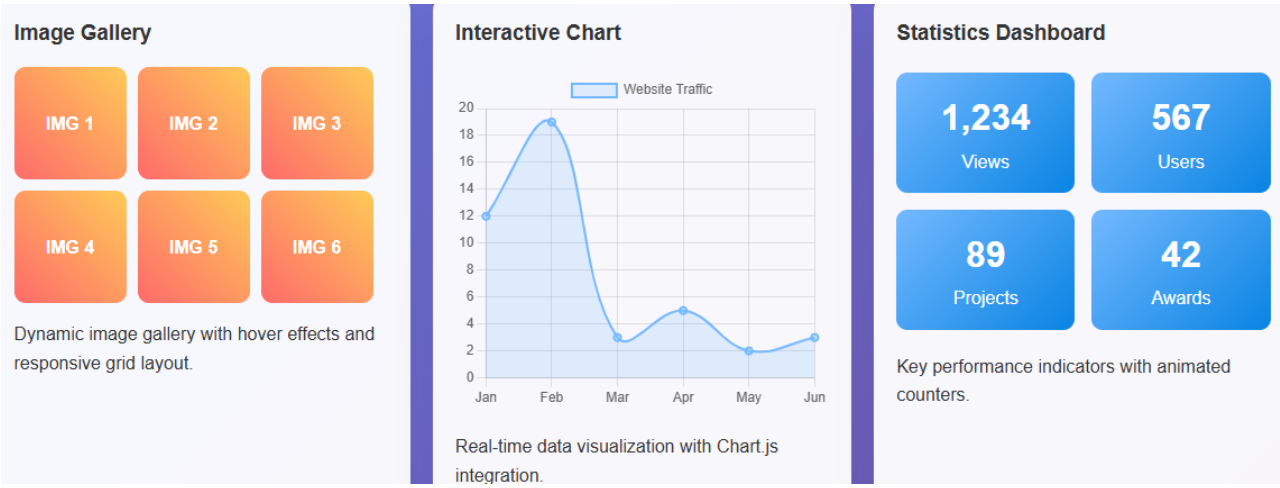

Figure 1. *Conceptual Framework - Integrating Stakeholder Theory, Legitimacy Theory, and Green Institutionalism in Sustainable Procurement.*

Note: Figure illustrates the interconnections between the three theoretical perspectives and their collective influence on procurement transformation toward decarbonization.

The pursuit of environmental legitimacy shapes procurement strategy through demands for transparency, third-party verification, and continuous improvement in sustainable practices [21]. Organizations that fail to demonstrate genuine environmental commitment risk losing legitimacy, facing stakeholder resistance and heightened regulatory scrutiny [22]. Conversely, organizations that successfully integrate sustainability into procurement gain reputational capital and stakeholder goodwill, thereby enhancing competitive positioning [23].

2.3. Green Institutionalism and Organizational Change

Green institutionalism explains how environmental considerations become embedded within organizational structures, processes, and decision-making frameworks [24]. Sustainable procurement institutionalization requires systematic modifications of performance measurement systems, supplier evaluation criteria, and strategic planning processes [25]. These institutional changes create path dependencies that reinforce environmental imperatives and establish sustainability as a permanent feature of procurement strategy [26].

The institutionalization process demands the introduction of new organizational routines, training programs, and performance metrics that integrate environmental considerations into daily procurement activities [27]. This transformation necessitates building new capabilities, implementing technology systems, and fostering organizational learning to enable the transition from traditional to sustainable procurement practices [28].

3. Current Trends and Strategic Imperatives (2025-2030)

3.1. Regulatory and Disclosure Mandates

Sustainable procurement is increasingly shaped by evolving regulatory frameworks that establish new compliance requirements and disclosure obligations fundamentally altering purchasing strategies [29]. Emerging regulations mandate comprehensive reporting of Scope 3 emissions, requiring organizations to develop sophisticated capabilities for tracking and measurement across complex supply networks [30]. These regulatory pressures accelerate adoption of environmental management systems and carbon accounting practices necessary both for compliance and for supporting strategic decision-making [31].

These regulatory mandates create standardization pressures that drive convergence toward shared sustainability metrics and reporting frameworks [32]. Organizations must invest in systems and capabilities that enable them to accurately measure, report, and verify the environmental performance of their supply chains despite inherent complexities [33]. This evolving regulatory regime transforms sustainability from a voluntary consideration into a mandatory criterion for procurement decision-making [34].

3.2. AI-Driven Transformation and Digital Integration

AI and digital technologies are revolutionizing sustainable procurement by enabling sophisticated analysis of supplier environmental performance and automated decision-support systems [35]. Advanced analytics capabilities allow pro-

curement organizations to process vast quantities of environmental data, identify optimization opportunities, and forecast future sustainability performance [36]. These technological capabilities facilitate the transition toward impact-weighted procurement by providing the data infrastructure and analytical tools needed for comprehensive environmental assessments [37].

Digital evolution encompasses the integration of carbon accounting systems with procurement platforms, facilitating real-time environmental performance monitoring and automated compliance verification [38]. Such integrated systems empower procurement organizations to make data-informed decisions that optimize environmental outcomes while maintaining operational efficiency [39].

3.3. Reducing Scope 3 Emissions Through Supply Chain Decarbonization

A substantial portion of organizational carbon footprints resides in Scope 3 emissions, creating strong imperatives for supply chain decarbonization initiatives [40]. Procurement functions play central roles in Scope 3 emissions management encompassing supplier selection, performance monitoring, and improvement initiatives [41]. This emphasis on Scope 3 emissions necessitates deeper supplier collaboration, joint improvement programs, and shared sustainability objectives [1].

Supply chain decarbonization requires sophisticated approaches for aligning supplier incentives with organizational sustainability goals [2]. Procurement organizations must develop the capacity to engage suppliers in environmental measurement, monitoring, and improvement initiatives while preserving cost competitiveness and operational reliability [3].

4. From Price-Dominant to Impact-Weighted Evaluation Models

4.1. Redefining Value Creation Metrics

The transition from price-dominant to impact-weighted procurement models necessitates fundamental reconceptualization of value creation metrics [4]. Traditional procurement typically optimized for immediate cost reduction and efficiency, often neglecting environmental and social costs with future implications [5]. In contrast, impact-weighted models conduct comprehensive lifecycle analyses encompassing total cost of ownership, environmental externalities, and future risk mitigation [6].

Impact-weighted evaluation frameworks incorporate multiple performance dimensions spanning carbon intensity, resource efficiency, waste generation, and circular economy contributions [7]. These expanded metrics require advanced analytical capabilities and stakeholder engagement processes to enable comprehensive supplier assessments [8]. This evolution toward impact-weighted models represents a paradigmatic shift in procurement thinking, prioritizing long-term value creation over short-term cost optimization [9].

4.2. Supplier Relationship Evolution

The emergence of impact-weighted procurement models transforms supplier relationship management from transactional exchanges toward collaborative partnerships centered on shared sustainability goals. These collaborations encompass supplier development programs, joint improvement efforts, and co-managed performance tracking systems. Procurement organizations must cultivate capabilities to engage suppliers in sustainability initiatives while maintaining competitive dynamics and performance standards.

The shift toward cooperative supplier relationships creates opportunities for innovation, risk mitigation, and competitive advantage through shared sustainability initiatives [13]. Organizations that successfully develop these collaborative capabilities gain access to supplier knowledge, innovative solutions, and enhanced resilience when confronting environmental challenges [14].

5. Implementation Framework for Decarbonized Procurement

5.1. Carbon Accounting Integration

Effective implementation of decarbonized procurement depends on robust carbon accounting systems capable of measuring and monitoring supplier environmental performance [15]. These systems must be integrated with procurement platforms to provide real-time visibility into carbon impacts and support data-driven decision-making [16]. Procurement organizations utilize carbon accounting systems to identify optimization opportunities, track progress toward established performance targets, and verify compliance with regulatory requirements [17].

Developing carbon accounting infrastructure necessitates investments in technology systems, data management processes, and analytical expertise [18]. Organizations must establish standardized protocols for measurement, verification, and reporting that ensure consistent and reliable assessment of environmental performance [19].

5.2. Supplier Engagement and Development

Systematic supplier engagement and targeted capacity development programs are essential for successfully decarbonizing supply chains [20]. Effective programs establish clear performance expectations while providing enabling support that helps suppliers achieve sustainability objectives [21]. Procurement organizations require capabilities for assessing

supplier readiness, providing technical assistance, and monitoring improvement progress [22].

Supplier development programs generate shared value by enhancing supplier capabilities in alignment with organizational sustainability objectives [23]. These efforts build trust, stimulate innovation, and strengthen competitive positioning through enhanced supplier performance [24].

5.3. Performance Measurement and Continuous Improvement

Sophisticated performance measurement systems are critical for decarbonized procurement, capturing environmental outcomes alongside traditional procurement metrics [25]. Effective systems provide visibility into both absolute performance levels and improvement trends to facilitate continuous enhancement [26]. Comprehensive performance measurement frameworks integrate environmental considerations with cost, quality, and delivery indicators to enable holistic supplier selection and evaluation [27].

Continuous improvement processes enable organizations to adapt procurement strategies based on performance feedback and evolving environmental imperatives [28]. This adaptability is essential for maintaining effectiveness in dynamic regulatory and stakeholder environments [29].

6. Future Directions and Strategic Implications

6.1. Emerging Technologies and Innovation

The future of sustainable procurement will be significantly influenced by emerging innovations such as blockchain for supply chain traceability, IoT sensors for real-time environmental monitoring, and machine learning for predictive sustainability analytics. These technological advancements will enhance capabilities for environmental assessment and optimization [31]. Organizations must invest in technology adoption and capability building to maintain relevance as procurement continues to evolve [32].

Future innovation in sustainable procurement will increasingly involve integrating environmental considerations throughout digital transformation initiatives [33]. Organizations that successfully merge technological expertise with sustainability competence will secure significant competitive advantages [34].

6.2. Regulatory Evolution and Compliance

Future regulatory developments will likely impose stricter requirements for environmental reporting, supplier disclosure, and carbon accounting [35]. Organizations must cultivate adaptive capabilities to respond rapidly to regulatory changes without compromising operational effectiveness [36]. Proactive engagement in regulatory development processes can yield early insights into emerging requirements and create opportunities for competitive advantage through early adoption [37].

International sustainability standards will continue to evolve, creating opportunities for global harmonization and the sharing of best practices [38]. Organizations that actively participate in standard-setting processes and adopt emerging standards early can gain reputational benefits and enhanced stakeholder trust [39].

7. Conclusion

The emergence of sustainable procurement as a strategic capability signifies a fundamental transformation in how organizations approach supplier relationships and value creation [40]. Transitioning toward decarbonized supply chain models necessitates integrating environmental considerations throughout procurement decision-making while maintaining operational excellence and competitive performance [41]. This transformation requires organizations to develop novel capabilities in carbon accounting, stakeholder engagement, and regulatory compliance [1].

The theoretical framework presented here, integrating stakeholder theory, legitimacy theory, and green institutionalism, provides comprehensive guidance for organizations navigating this transformation [2]. These theories illuminate the diverse pressures and incentives driving sustainable procurement practices while identifying strategic choices available to proactive adopters [3].

Implementing impact-weighted procurement models demands systematic transformation of performance measurement, supplier evaluation, and relationship management practices [4]. Organizations that successfully cultivate these capabilities will secure competitive advantages through enhanced legitimacy, stakeholder trust, and long-term value creation [5]. Sustainable procurement therefore represents not merely an operational adjustment but a strategic imperative for competitive success in an increasingly carbon-constrained global economy [6].

For practitioners, this framework offers actionable guidance: organizations should (1) establish carbon accounting infrastructure integrated with procurement systems, (2) develop supplier engagement programs that balance performance expectations with capacity-building support, (3) implement impact-weighted evaluation criteria that capture both financial and environmental value, and (4) build organizational capabilities in data analytics, stakeholder dialogue, and regulatory compliance. These practical steps enable organizations to translate strategic intent into operational reality.

Future research should examine the specific mechanisms through which sustainable procurement capabilities generate competitive advantage and enhance organizational performance [7]. Additionally, investigating boundary conditions and contextual factors that moderate sustainable procurement effectiveness will benefit both practitioners and policymakers

[8]. Empirical studies examining the implementation challenges, cost-benefit trade-offs, and performance outcomes of sustainable procurement initiatives across different industries and organizational contexts would provide valuable insights. Furthermore, longitudinal research tracking the evolution of decarbonization capabilities and their impact on competitive positioning would enhance understanding of this strategic transformation. Collaborative efforts among researchers, practitioners, and policymakers are essential for developing effective frameworks that advance both environmental stewardship and value creation [9].

8. Declaration

A computer program was not responsible for creating this manuscript. All content thus generated was original intellectual property created especially for this publication. AI tools were not consulted in the processes of conceptualizing, writing, or editing the manuscript.

Abbreviations

AI	Artificial Intelligence
ESG	Environmental, Social, and Governance
IoT	Internet of Things
NGOs	Non-Governmental Organizations

Conflicts of Interest

The authors declare no conflicts of interest.

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