CIRCULAR ECONOMY AND SUPPLY CHAIN GOVERNANCE: ETHICAL SOURCING AND SUPPLIER ACCOUNTABILITY IN GHANAIAN FIRMS

ABSTRACT

The accelerating global shift toward circular economy (CE) models necessitates new governance mechanisms across supply chains, particularly in emerging economies where linear production remains dominant. Circularity emphasizes not only environmental stewardship but also a redefinition of value creation through ethical sourcing and supplier accountability. This conceptual literature review explores how these two governance levers influence the adoption and effectiveness of CE-aligned supply chain governance in Ghanaian firms. Employing a qualitative thematic synthesis grounded in stakeholder theory, institutional theory, and the resource-based view, this study identifies five interrelated thematic domains: CE integration, governance complexity, ethical sourcing practices, contextual challenges, and supplier accountability mechanisms. Findings reveal that ethical supply chain leadership fosters circular practices by embedding trust, transparency, and environmental orientation into procurement decision-making. Simultaneously, accountability in CE emerges through both formal metrics and informal social norms, enhancing sustainability and stakeholder engagement. However, institutional voids, informality, and the lack of policy alignment continue to hinder ethical sourcing integration in Ghana's fragmented supply networks. The study proposes a conceptual framework linking CE orientation with governance mechanisms mediated by supplier accountability, and moderated by institutional and stakeholder factors. This synthesis contributes to theory by reframing circular supply chain governance through an ethics-centered African lens. It also provides policy guidance for promoting localized standards, third-party certifications, and multi-stakeholder coalitions that can enhance supply chain resilience and sustainability in Ghana.

Keywords: Circular economy, supply chain governance, ethical sourcing, supplier accountability, Ghana, sustainability, conceptual review.

1. INTRODUCTION

The global shift toward sustainability has repositioned the circular economy (CE) as a critical paradigm for transforming industrial production and supply chain governance. Unlike linear models that emphasize extraction, consumption, and disposal, CE systems prioritize regeneration, value retention, and the ethical use of resources (Garg et al., 2025). This transformation is especially evident in supply chain strategies that integrate design-out-waste principles with stakeholder expectations for transparency, traceability, and accountability. Increasingly, firms across industries are embedding CE goals into ESG (Environmental, Social, and Governance) frameworks, recognizing the strategic alignment between circularity, carbon neutrality, and long-term competitiveness (Tetteh et al., 2024).

Ethical sourcing—defined as the procurement of goods and services that meet rigorous environmental, labor, and human rights standards—has emerged as a critical enabler of CE-aligned supply chains. Beyond compliance, ethical sourcing influences supplier selection, stakeholder trust, and resilience in global production networks (Agyabeng-Mensah et al., 2023).

Moreover, the growing pressure from institutional investors and global buyers compels firms, especially in emerging economies, to formalize supplier accountability mechanisms through audits, certifications, and digital traceability systems (Ababio et al., 2023).

In Ghana, CE principles are gaining policy attention, catalyzed by environmental degradation, waste mismanagement, and climate-linked disruptions to resource-dependent sectors (Boon & Anuga, 2020). At the same time, Ghanaian firms are navigating increasing demands for ESG compliance while operating in environments characterized by regulatory fragmentation, limited enforcement capacity, and informal supplier networks (Ofori, 2023). These institutional and market dynamics render the integration of CE into supply chain governance both a necessity and a challenge.

Despite growing academic and policy interest in circular transitions, current literature offers limited conceptual clarity on how CE principles intersect with supply chain governance in Sub-Saharan Africa. Much of the CE discourse remains anchored in Global North contexts, with insufficient attention to institutional voids, informal economic practices, and hybrid governance models that typify African supply systems (Mawutor et al., 2023). This conceptual oversight obscures the operational realities facing Ghanaian firms attempting to embed CE values into procurement and sourcing functions.

Furthermore, while ethical sourcing and supplier accountability are widely cited as components of sustainable supply chains, there is little agreement on how they function under CE imperatives in weak institutional settings. Ghanaian firms often straddle dual expectations: externally imposed sustainability standards on the one hand, and internal limitations such as resource constraints, lack of supplier visibility, and fragmented policy implementation on the other (Asante et al., 2021). These tensions raise critical questions about the effectiveness and appropriateness of existing governance models when transposed into CE contexts in Africa.This study therefore poses the following guiding question:How do ethical sourcing practices and supplier accountability influence circular economy-aligned supply chain governance in Ghanaian firms?

This study is both timely and theoretically significant. First, it responds to a pressing need to contextualize CE governance frameworks within African economies, where industrialization, informality, and ESG compliance coexist in complex ways (Gyimah et al., 2024). By focusing on Ghana, the research advances localized, theoretically grounded insights into the governance of circular supply chains under real-world institutional constraints. Second, this study reframes ethical sourcing not merely as a normative commitment, but as a strategic capability that mediates the transition to CE in supply chains (Owusu-Ansah et al., 2025). Third, by integrating insights from stakeholder theory, institutional theory, and the resource-based view, the study provides a conceptual foundation for policy and managerial interventions that are both practically viable and theoretically robust.

This conceptual review contributes to circular economy scholarship by offering an Africa-centered framework for ethical and accountable supply chain governance—filling a critical gap in both academic literature and policy discourse.

LITERATURE REVIEW

2.1 Conceptual Framework

The integration of circular economy (CE) principles into supply chain governance (SCG) demands a reconfiguration of traditional linear models to systems that are regenerative, transparent, and ethically grounded. This section outlines the foundational constructs that underpin CE governance focusing on CE principles, SCG modalities, ethical sourcing, supplier accountability, and the contextual dimensions unique to Ghana and comparable developing economies.

Circular Economy Principles in Supply Chains: CE is predicated on three interconnected principles: designing out waste and pollution, keeping products and materials in use, and regenerating natural systems. These principles challenge firms to move beyond incremental sustainability initiatives toward systemic transformation in production and consumption processes (Garg et al., 2025). Within supply chains, CE implementation entails product redesign, reverse logistics, reuse networks, and closed-loop models that prioritize resource efficiency and lifecycle thinking (Tetteh et al., 2024). However, in developing countries like Ghana, CE principles often encounter infrastructure deficits, informality, and weak enforcement of environmental regulation challenges that necessitate localized adaptation of global CE frameworks (Gyimah et al., 2024).

Supply Chain Governance (SCG) Modalities: SCG refers to the structures, rules, and processes that regulate interactions among supply chain actors. It encompasses contractual governance (formal agreements and sanctions), relational governance (trust, norms, and communication), and normative governance (shared values and standards). In CE-aligned supply chains, governance must not only ensure compliance but also enable dynamic collaboration for innovation and transparency (Boateng, 2024; Asante et al., 2021). Particularly in African contexts, hybrid governance forms are prevalent combining formal contracts with informal social norms due to institutional weaknesses and fragmented enforcement environments (Mawutor et al., 2023). Effective CE governance therefore requires adaptive frameworks that account for relational trust, power asymmetries, and multi-stakeholder coordination across formal and informal actors.

Ethical Sourcing and Accountability in Circular Supply Chains: Ethical sourcing in CE goes beyond compliance to involve proactive engagement with suppliers on labor rights, environmental sustainability, and social equity. It functions as both a risk mitigation tool and a strategic lever for legitimacy, particularly in industries vulnerable to reputational harm or regulatory scrutiny (Agyabeng-Mensah et al., 2023). Accountability mechanisms such as certifications (e.g., ISO 14001), supplier audits, and digital traceability systems provide operational structure to these ethical commitments, helping firms monitor performance and enforce standards (Mensah et al., 2025). However, these tools are unevenly applied in Ghana, where small and informal suppliers often lack the technical and financial capacity to meet certification thresholds (Ababio et al., 2023). This suggests a need for graduated, inclusive accountability models that accommodate varying supplier capabilities while still advancing CE goals.

Contextual Dimensions in Ghanaian Supply Chains: The governance of supply chains in Ghana is embedded in broader institutional and socio-cultural realities. Weak regulatory oversight, informal economies, limited technological infrastructure, and entrenched power asymmetries shape how governance and accountability unfold. Moreover, the relational nature of many sourcing interactions reflects traditional norms of reciprocity and trust rather than purely contractual obligations (Ofori, 2023). These dynamics complicate the wholesale transplantation

of CE models designed in Global North contexts and point toward the necessity of co-developing governance mechanisms with local suppliers and stakeholders.

In this context, effective CE-aligned SCG in Ghana must balance global best practices with local adaptive governance(Mensah et al., 2025). This includes the strategic use of relational governance, investments in supplier capacity building, and co-regulation models involving state and non-state actors (e.g., NGOs, trade associations) to bridge governance gaps (Gyimah et al., 2024).

2.2 Theoretical Framework

Effective supply chain governance for circular economy (CE) transitions requires an integrative theoretical lens that accommodates the complexities of stakeholder dynamics, institutional pressures, resource capabilities, and system transitions. This section critically synthesizes four interrelated frameworks to conceptualize the governance of CE-aligned supply chains in Ghanaian firms: Stakeholder Theory, Institutional Theory, Resource-Based View (RBV), and the Multi-Level Perspective (MLP) from Circular Economy Transition Theory.

Stakeholder theory provides a normative and instrumental foundation for examining ethical sourcing and supplier accountability. It posits that firms have ethical and strategic responsibilities to a broad range of stakeholders not merely shareholders whose interests and values shape the governance of sustainable supply chains (Menghwar et al., 2023). Within CE contexts, stakeholder theory enables an expanded view of value creation that includes environmental stewardship, community wellbeing, and long-term system resilience (Salvioni&Almici, 2020).

Stakeholder governance in CE environments is shifting from firm-centric responsibility to collective stakeholder accountability, where various actors (e.g., suppliers, governments, civil society) actively co-create and enforce sustainability norms (Minoja& Romano, 2024). This reframing is particularly important in Ghana, where stakeholder expectations diverge across formal and informal networks. Furthermore, stakeholder salience and power vary, requiring governance models that balance equity and efficiency. As Schultz et al. (2023) argue CE transitions necessitate cross-sectoral stakeholder governance that transcends industry boundaries, creating new collective institutions of accountability (Schultz et al., 2023).

Institutional theory explains how organizational behaviors are shaped by regulative, normative, and cognitive pressures in the environment. In the context of CE-aligned supply chains, this theory elucidates why Ghanaian firms may adopt ethical sourcing practices not solely for efficiency but to gain legitimacy, conform to international ESG standards, and respond to global buyer expectations (Farrukh & Sajjad, 2024).

In weak institutional environments typical of many developing countries mimetic and normative isomorphism may dominate over regulatory compliance, as firms imitate best practices or adopt global norms to signal credibility. However, institutional voids such as fragmented regulatory frameworks and informal labor arrangements constrain the implementation of CE principles (Valentinov, 2022). These tensions highlight the dual role of institutions as both enablers and barriers to CE governance, especially in Ghanaian contexts where hybrid governance models involving both state and non-state actors are prevalent.

Importantly, stakeholder pressure itself functions as an institutional mechanism. Agyabeng-Mensah et al. (2024) find that Ghanaian SMEs experience institutional pressure from supply

chain stakeholders that directly influences their adoption of circular practices (Agyabeng-Mensah et al., 2024). Such dynamics affirm the relevance of institutional theory in theorizing the pathways through which supplier accountability evolves under CE regimes.

The RBV posits that firms can achieve sustained competitive advantage by leveraging rare, valuable, and inimitable internal resources. Ethical sourcing practices when embedded into supply chain governance can become strategic capabilities that enhance resilience, brand equity, and stakeholder trust (Luthra et al., 2022).

In CE contexts, firm-level capabilities such as eco-design, traceability systems, and sustainable procurement routines represent unique bundles of resources and know-how. These capabilities not only enable compliance with ESG expectations but also serve as competitive differentiators in global markets (Allen et al., 2021). Particularly in Ghana, where many firms lack economies of scale, resource-based competencies such as supplier relationship management, ethical audit integration, and knowledge sharing become vital issue for sustainable performance.

Moreover, the integration of resource optimization strategies through circular design and collaboration aligns with the core logic of RBV, whereby waste reduction and resource efficiency are treated as intangible assets. Luthra et al. (2022) demonstrate how collaborative governance enhances the resource orchestration process, enabling firms to adapt to CE demands and stakeholder expectations simultaneously.

Circular Economy Transition Theory (Multi-Level Perspective – MLP): The Multi-Level Perspective (MLP) offers a dynamic systems framework for analyzing socio-technical transitions, positioning CE shifts as multi-actor, multi-scale processes. According to MLP, transitions occur through the interplay of three levels: niche innovations (e.g., ethical sourcing pilots), socio-technical regimes (e.g., prevailing supply chain practices), and landscape pressures (e.g., climate policy, investor activism). This theory is particularly apt for analyzing Ghana's gradual CE adoption, characterized by bottom-up experimentation amid systemic constraints (Wang et al., 2022).

MLP emphasizes the importance of cross-sector collaboration and niche incubation processes essential for the institutionalization of CE-aligned sourcing and accountability practices. Schultz et al. (2023) argue that CE transitions are unlikely to succeed without reconfiguring governance across regimes, a finding particularly relevant in fragmented Ghanaian supply chains where innovation is often isolated or externally driven (Schultz et al., 2023).

Incorporating MLP into the theoretical framework thus allows for a longitudinal, systems-level understanding of how ethical governance innovations emerge, scale, and become embedded in national supply networks. It also highlights feedback loops between micro-level practices (e.g., supplier audits), meso-level regimes (e.g., procurement policies), and macro-level drivers (e.g., ESG regulation), positioning CE transition as a complex adaptive process.

2.3 Empirical Literature Review

The empirical literature on circular economy (CE) adoption and supply chain governance in Ghana and other developing countries is expanding, although significant gaps remain. This section synthesizes recent findings on CE implementation, ethical sourcing, and supplier accountability, with a focus on African contexts and Ghanaian case studies.

Circular economy practices have increasingly been adopted by firms in developing economies, including Ghana, driven by pressures for sustainability and resource efficiency. Afum et al. (2022) found that circular principles adoption among Ghanaian manufacturing SMEs indirectly improves zero-waste performance and green differentiation advantage when mediated by cleaner production and environmental management systems (Afum et al., 2022). Similarly, Agyabeng-Mensah et al. (2023) established a positive relationship between ethical supply chain leadership and CE practices, showing that firms with strong internal environmental orientation achieve higher sustainability outcomes (Agyabeng-Mensah et al., 2023).

The Ghanaian construction sector also demonstrates evolving interest in CE through public procurement reform. Ababio et al. (2023) developed a conceptual framework for circular procurement, identifying policy, circular strategy, and technological platforms as key implementation enablers (Ababio et al., 2023). In contrast, Asiedu et al. (2024) highlight several barriers to CE adoption in Ghana's construction industry, including institutional weaknesses, lack of technical expertise, and cultural reluctance to adopt innovative models (Asiedu et al., 2024)

Ethical sourcing and supplier accountability are closely tied to digital transformation and traceability. Ibrahim et al. (2024) found that the use of blockchain technology in Ghana's cocoa and agriculture sectors significantly enhances ethical sourcing and transparency, suggesting that technology adoption is a key predictor of accountability outcomes (Ibrahim et al., 2024). Mosa et al. (2024) reinforce this finding by documenting how blockchain supports validation of ethical practices across diverse supply chains and encourages compliance through real-time data sharing (Mosa et al., 2024).

The Ghana-specific context has also produced insights into accountability in CE. Kwarteng et al. (2022), using qualitative interviews, showed that accountability in CE manifests through both formal structures and informal cultural norms, influencing stakeholder engagement and competitive advantage (Kwarteng et al., 2022).

International comparisons provide useful benchmarks. In China, Sun et al. (2024) found that public procurement encourages CE adoption among supplier firms, particularly when supported by strong institutional ownership and government attention (Sun et al., 2024). Meanwhile, Gothár and Schanz (2024) highlighted how sourcing strategies for recycled plastics in Germany evolve over time, requiring active supplier-buyer engagement and strong regulatory frameworks (Gothár & Schanz, 2024).

Collectively, these empirical studies confirm that CE-oriented supply chain governance in Ghana and similar contexts were emerging through ethical leadership, technological innovation, institutional reform, and stakeholder collaboration. However, persistent barriers such as institutional voids, technical capacity gaps, and cultural inertia demand further inquiry and tailored interventions.

2.4 Identified Gaps

Despite increasing scholarly interest in circular economy (CE) and supply chain governance (SCG), substantial conceptual and empirical gaps persist especially in African contexts like Ghana. The literature remains largely shaped by Eurocentric paradigms, assuming institutional formality, regulatory sophistication, and corporate accountability infrastructures that are often weak or absent in sub-Saharan economies.

A key gap is the lack of theorization on how CE principles such as waste reduction and resource circularity translate into governance strategies suitable for African supply chains. Ghanaian firms frequently operate within institutional voids marked by weak enforcement, informal networks, and fragmented value chains. Existing SCG theories fail to account for the hybridity and informality inherent to these contexts, rendering many Global North models analytically inadequate.

Ethical sourcing, though widely advocated for sustainability, is rarely examined through the lens of cultural and institutional dynamics specific to developing economies. Traditional authority systems, informal contracts, and trust-based governance central to many Ghanaian supplier relationships are underexplored. Moreover, the literature often overlooks small and medium enterprises (SMEs), which dominate Ghana's economy but lack the capacity or incentives to adopt conventional traceability systems, certifications, or third-party audits.

Empirical documentation of firm-level accountability mechanisms in Ghana is limited. Most studies focus on multinational and export-oriented firms, neglecting domestically focused enterprises facing distinct constraints and governance challenges. Furthermore, the role of non-state actors NGOs, civil society, and certifiers in substituting for weak state enforcement in CE transitions remains poorly theorized, despite their potential to fill governance gaps.

In sum, advancing CE in Ghanaian supply chains requires reconceptualized governance models attuned to local realities. Without such contextualization, policy and practice risk being shaped by ill-suited frameworks that undermine sustainability and accountability goals.

3. METHODOLOGY

3.1 Research Design and Justification

This study adopts a conceptual literature review methodology, selected for its appropriateness in theory development, integrative analysis, and knowledge synthesis in underexplored domains such as circular economy (CE) governance in African supply chains. A conceptual review is especially suited to identifying gaps, building theoretical models, and proposing research propositions, unlike systematic reviews that prioritize exhaustive coverage over conceptual depth (Theeraworawit et al., 2022; Zhang et al., 2023). As Ghana and comparable contexts lack extensive empirical studies on CE-aligned supply chain governance, this method facilitates a critical exploration across fragmented yet thematically linked literatures.

Moreover, the review design aligns with the qualitative synthesis tradition, combining thematic analysis, theory-driven mapping, and critical integration of findings to construct new conceptual linkages (Sudusinghe& Seuring, 2021). The emphasis is placed on conceptual reconceptualization rather than data aggregation, allowing a richer understanding of governance, ethical sourcing, and accountability in CE transitions in Ghanaian firms.

3.2 Data Sources and Search Strategy

To ensure comprehensive and credible coverage, the study sourced materials exclusively from peer-reviewed journals, books, and high-quality policy reports published between 2010 and 2025. Searches were conducted using ScienceDirect, JSTOR, Scopus, Google Scholar, Consensus, and Web of Science databases. A preliminary search yielded over 1,300 articles, narrowed down using Boolean strings such as:"circular economy" AND "supply chain

governance" AND "ethical sourcing" AND "supplier accountability" AND Ghana OR "developing countries."

3.3 Inclusion and Exclusion Criteria

To ensure conceptual coherence, this review included only peer-reviewed English-language articles that explored intersections between circular economy (CE), ethical sourcing, supply chain governance, and supplier accountability particularly in African or developing-country contexts, with emphasis on Ghana. Eligible studies featured theoretical, empirical, or conceptual contributions with clearly articulated frameworks. Excluded were conference abstracts, articles lacking peer review, or, and those focused narrowly on technical aspects of recycling without governance relevance. Literature that did not address CE-governance linkages within supply chain ethics was also omitted. This selective approach preserved analytical rigor while accommodating diverse epistemological perspectives central to the study's conceptual synthesis.

3.4 Analytical Strategy

This study adopted a thematic synthesis approach, drawing on Braun and Clarke's (2006) model and tailoring it for conceptual mapping. The analysis unfolded in three phases. First, open coding was applied to 94 retained articles, identifying recurring themes such as governance complexity, supplier transparency, circular procurement, and institutional voids (Walker et al., 2020; Theeraworawit et al., 2022). Second, axial coding had established relationships among these initial codes, producing higher-order categories including "supplier accountability mechanisms," "relational governance," and "institutional voids" (Hidthiir, 2022; Koning et al., 2024). Third, theory-driven mapping aligned emergent concepts with relevant frameworks Stakeholder Theory, Institutional Theory, and the Resource-Based View (RBV) to structure supply chain governance under circular economy (CE) imperatives (Sudusinghe& Seuring, 2021; Zhang et al., 2023). This triangulated approach enhanced theoretical robustness and conceptual coherence. A mapping matrix was then developed to illustrate how CE principles are embedded in governance mechanisms, shaped by institutional quality and supplier configurations. The analytical process concluded with the formulation of a conceptual model, detailed in Section 5 of this paper.

3.5 Ensuring Validity and Rigor

To enhance credibility, a multi-source triangulation was applied: bibliometric reviews for quantitative trends (Zhang et al., 2023), thematic content analysis for pattern recognition (Sudusinghe& Seuring, 2021), and theoretical alignment for internal validity (Theeraworawit et al., 2022). Diversity in author background (African and non-African scholars), methodological approaches, and publication outlets ensured representativeness and reduced selection bias.

Furthermore, the use of recent, high-impact, peer-reviewed articles enhances both temporal relevance and scholarly robustness (Koning et al., 2024; Sokhetye, 2024). The critical synthesis of literature allowed for the identification of contradictions and convergence zones across disciplines.

4. RESULTS

This section presents the core thematic findings emerging from a conceptual synthesis of the literature on circular economy (CE), ethical sourcing, and supplier accountability in Ghana and comparable developing contexts. Through a rigorous interpretive analysis of recent peer-reviewed scholarship, six interlinked themes emerged, reflecting both theoretical depth and empirical complexity in understanding how circular supply chain governance is shaped in emerging economies.

Theme 1: Circular Economy as a Governance Challenge in Fragmented Supply Chains

Circular economy integration introduces governance tensions in fragmented and resource-constrained supply chain ecosystems, such as those prevalent in Ghana. Fragmentation in supplier networks, informality, and infrastructural limitations often inhibit circular initiatives like closed-loop logistics and reverse flows. Moreover, circular governance requires coordination mechanisms that exceed traditional contractual arrangements. These challenges are magnified in contexts where institutional enforcement is weak and coordination across actors is inconsistent (Ababio et al., 2023). Similarly, empirical work on the Ghanaian construction sector indicates the absence of enabling policy and technological platforms to support circular procurement, underscoring a broader misalignment between national policy objectives and localized governance capacity (Ababio et al., 2023).

Theme 2: Ethical Sourcing as a Risk Management and Legitimacy Strategy

Ethical sourcing has emerged as a critical strategy not only for ensuring compliance with global norms but also for managing reputational risk and cultivating stakeholder trust. In Ghanaian supply chains, ethical procurement enhances transparency in labor standards and environmental stewardship, contributing to legitimacy in global markets. For example, firms demonstrating ethical commitment through third-party audits and stakeholder reporting experience elevated competitive positioning (Kwarteng et al., 2022). Research further shows that ethical leadership within supply chains directly correlates with circular practice adoption, highlighting leadership behavior as a governance tool for reinforcing sourcing ethics (Agyabeng-Mensah et al., 2023).

Theme 3: Supplier Accountability Mechanisms – Beyond Compliance

The literature demonstrates a growing shift toward more holistic, relational governance mechanisms that promote supplier accountability beyond mere compliance. While formal mechanisms such as audits and certifications remain foundational, there is increasing emphasis on mutual commitment, transparency systems, and relational trust. Ghanaian firms apply a combination of formal (e.g., ISO 14001) and informal (e.g., face-to-face monitoring, relationship-based control) tools to hold suppliers accountable for circular performance outcomes (Corsini et al., 2024). Moreover, multi-criteria decision-making tools, such as the Circular Assessment of Suppliers (CAoS), have been introduced to assess supplier circularity, demonstrating a growing sophistication in procurement systems (Corsini et al., 2024).

Theme 4: Institutional Voids and Informal Supplier Networks in Ghana

The Ghanaian context is shaped by institutional voids that limit the predictability and enforceability of circular supply chain governance. These include regulatory incoherence, limited oversight capacity, and the prevalence of informal supplier relationships. Informality, while enabling flexibility, undermines traceability and weakens monitoring of ethical standards. Case studies reveal that many suppliers engage in circular practices such as reuse and repair, yet often

do so without awareness or alignment with formal CE frameworks (Ofori, 2023). These informal activities, though valuable, remain excluded from formal governance models, presenting a duality of opportunity and constraint.

Theme 5: Multi-Stakeholder Governance and the Role of Certifications

The literature emphasizes the importance of third-party actors—such as NGOs, certification agencies, and international buyers—in shaping circular supply chain governance in Ghana. Certifications like Fairtrade, ISO 14001, and Forest Stewardship Council (FSC) are increasingly being leveraged to enforce environmental and ethical accountability. These tools serve as both compliance mechanisms and market signals of sustainability performance (Kwarteng et al., 2022). Furthermore, participatory governance involving multiple stakeholders enhances legitimacy and ensures broader ownership of sustainability transitions (Stekelorum et al., 2021).

Theme 6: Tensions between Cost-Efficiency and Ethical Compliance

Despite growing awareness of CE and ethical sourcing, Ghanaian firms frequently encounter tension between ethical compliance and cost-efficiency. Resource constraints, cost pressures, and lack of buyer commitment to pay ethical premiums limit firms' ability to invest in circular infrastructure or ethical supplier development. Evidence suggests that while circular practices enhance long-term profitability and resilience, they often require up-front investments that are difficult to justify in low-margin environments (Owusu-Ansah et al., 2025). This tension calls for innovative financing models and public-private partnerships to reduce the compliance burden on local firms (Mensah et al., 2023).

5. DISCUSSION

5.1 Synthesis and Interpretation

The integration of circular economy (CE) principles into supply chain governance in Ghanaian firms is not a linear evolution but rather a multidimensional process shaped by normative values, operational limitations, and structural inequities. At its core, CE governance demands a transition from extractive to regenerative models of production, yet this ambition confronts several frictions when applied in emerging market contexts. Ethical sourcing once considered a peripheral function is now integral to this transformation, anchoring supply chain transparency and reinforcing environmental and labor standards at the supplier level (Agyabeng-Mensah et al., 2023). It also aligns procurement with broader ESG (Environmental, Social, and Governance) agendas, helping firms manage reputational risk and comply with global market standards (Stekelorum et al., 2021).

Supplier accountability mechanisms such as third-party audits, traceability systems, and informal trust-based relationships further institutionalize CE norms by embedding oversight across supply tiers (Kwarteng et al., 2022). However, in Ghana’s fragmented and semi-formal economic environment, these mechanisms must adapt to limited institutional enforcement, poor data systems, and constrained supplier capabilities (Mawutor et al., 2023). As firms pursue CE alignment, they are caught between global demands for standardization and local conditions of informality and infrastructural deficits.

These dual pressures result in governance trade-offs. On one hand, CE-oriented governance leads to measurable improvements in waste reduction, resource efficiency, and stakeholder trust

(Amankwah et al., 2024). On the other hand, implementation costs—especially for small and medium-sized enterprises—can be prohibitive, generating resistance to ethical sourcing mandates perceived as burdensome (Ababio et al., 2023). In this regard, institutional hybridity emerges as both a challenge and an opportunity. Informal supplier networks and relational governance norms, long viewed as barriers, may be reconceptualized as adaptive tools for scaling CE principles in settings where formal compliance regimes falter (Boon & Anuga, 2020).

Furthermore, the interpretation of CE governance must accommodate the non-linear and iterative nature of institutional change. As regulatory environments evolve and stakeholder expectations shift, Ghanaian firms are expected not only to comply but to anticipate new ethical horizons. This necessitates dynamic governance models capable of continuous learning and stakeholder negotiation. Thus, CE governance in Ghanaian supply chains is best understood as a negotiated process—one that balances normative ambition with institutional realism and promotes long-term resilience over short-term compliance (Agyapong et al., 2025).

5.2 Proposed Conceptual Model

In response to the governance complexities associated with implementing circular economy (CE) strategies in Ghanaian supply chains, this study proposes an integrative conceptual model (see Figure 5.1) that captures the dynamic relationships among ethical sourcing, supplier accountability, and CE orientation. The model is designed to illuminate both the enablers and constraints of CE governance in resource-constrained and institutionally fluid contexts such as Ghana.

The foundation of the model rests on three interrelated constructs:

1. *Circular Economy Orientation*: This refers to a firm's strategic commitment to waste minimization, resource regeneration, and the adoption of closed-loop systems. It reflects the degree to which a company embeds CE thinking into its procurement, production, and distribution functions. The literature highlights that CE orientation requires strategic alignment across functional units and proactive adaptation to both internal capabilities and external demands (Agyabeng-Mensah et al., 2023).
2. *Ethical Sourcing Practices*: These encompass a firm's operational policies and actions that promote social justice, environmental stewardship, and labor equity throughout the supply chain. Ethical sourcing, when implemented credibly, forms the bedrock for stakeholder trust, enhances brand reputation, and mitigates regulatory risk (Kwarteng et al., 2022). It also ensures that upstream activities are aligned with CE norms, thus safeguarding the integrity of sustainability claims.
3. *Supplier Accountability Mechanisms*: These are formal (e.g., contracts, audits, certifications) and informal (e.g., trust-based monitoring, peer evaluations) tools that enforce adherence to ethical and CE standards. In Ghana's semi-formal economic context, supplier accountability is often achieved through relational governance, augmented by emerging digital traceability platforms (Stekelorum et al., 2021).

These three pillars do not operate in isolation. Their effectiveness is shaped by critical mediating and moderating variables:

- *Institutional Quality*: The strength and reliability of public institutions, regulatory agencies, and legal enforcement frameworks influence how well governance mechanisms translate into practice. Weak institutional environments in Ghana often hinder CE policy

implementation, making informal governance an essential complement (Mawutor et al., 2023).

- *Supply Chain Complexity*: The degree of decentralization, number of supplier tiers, and geographic dispersion of the chain determine the feasibility of monitoring, coordination, and compliance. High complexity increases the cost of accountability and demands more robust governance innovations (Stekelorum et al., 2021).
- *Stakeholder Pressure*: External forces from investors, NGOs, consumers, and international regulators can amplify or suppress the adoption of CE-aligned governance. In many cases, such pressure serves as a surrogate for regulatory enforcement, especially in countries where institutional mandates are weak (Kwarteng et al., 2022).

The outcomes of this model sustainable supply chain performance, legitimacy, and resilience emerge when firms achieve alignment between strategic intent and operational governance. Resilience here encompasses the ability to withstand economic shocks while remaining environmentally and socially compliant. Legitimacy captures stakeholder acceptance and reputational capital, which are increasingly essential in global supply networks.

This conceptual model not only provides a framework for empirical testing but also underscores the necessity of adaptive and context-sensitive governance models. In doing so, it recognizes that CE transitions in African economies must be both structurally embedded and normatively grounded.

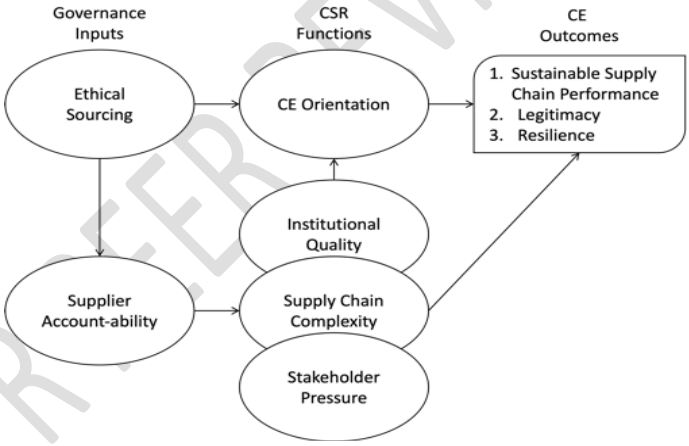

Figure 5.1 *Proposed ConceptualModels*

5.3 Proposition Development

Building on the proposed conceptual model, this section articulates four interrelated propositions designed to guide empirical investigation and theoretical refinement. These propositions draw directly from the constructs and relationships elaborated in Sections 5.1 and 5.2 and reflect the challenges and opportunities in governing circular economy (CE) transitions through ethical sourcing and supplier accountability mechanisms in Ghanaian firms.

Proposition 1 (P1):*Firms with robust ethical sourcing practices are more likely to embed CE principles into procurement and production systems.*

This proposition emerges from growing empirical evidence that ethical sourcing not only enhances compliance with environmental standards but also cultivates the trust and transparency necessary for implementing regenerative practices across supply networks. In Ghana, where upstream suppliers often operate under informal or hybrid governance regimes, ethical sourcing acts as a signal of legitimacy and long-term orientation, thereby enabling firms to adopt circularity-aligned sourcing and production (Agyabeng-Mensah et al., 2023).

Proposition 2 (P2):*Supplier accountability mechanisms mediate the relationship between ethical sourcing and successful CE implementation.*

Ethical sourcing practices set normative expectations, but it is the enforcement of these expectations through audits, performance contracts, and monitoring systems that determines whether CE objectives are realized. Accountability tools, particularly when implemented in combination (e.g., digital traceability plus relational oversight), enable firms to close the loop between sourcing intent and operational behavior (Kwarteng et al., 2022). This mediating role is especially critical in environments like Ghana, where supply chain opacity and institutional laxity hinder direct regulatory enforcement.

Proposition 3 (P3):*The strength of institutional environments moderates the efficacy of governance mechanisms in achieving CE goals.*

Institutional capacity including regulatory coherence, legal enforceability, and bureaucratic efficiency either amplifies or constrains the implementation of supplier governance systems. In contexts with high institutional quality, ethical mandates and accountability systems are reinforced by external oversight and state legitimacy. Conversely, in weaker institutional environments, private governance takes on disproportionate burden, leading to fragmentation and uneven CE outcomes (Mawutor et al., 2023).

Proposition 4 (P4):*Multi-stakeholder governance approaches outperform firm-centric models in scaling circularity in supply chains.*

Finally, the model hypothesizes that collaborative governance anchored in partnerships among firms, NGOs, certifiers, and regulators is more effective at scaling CE integration than unilateral, firm-led initiatives. Such multi-actor platforms offer access to expertise, monitoring infrastructure, and shared legitimacy, especially vital in settings where resource constraints and institutional voids challenge isolated efforts (Stekelorum et al., 2021).

These propositions not only provide a framework for future hypothesis testing but also serve as diagnostic tools for firms, policymakers, and researchers seeking to evaluate the conditions under which CE governance mechanisms can be successfully embedded in Ghanaian supply chains.

5.4 Implications for Theory

This study's conceptual integration of circular economy (CE) orientation, ethical sourcing, and supplier accountability contributes meaningfully to several theoretical domains in operations management, sustainability governance, and organizational theory.

First, the framework extends supply chain governance theory by foregrounding circularity not merely as an environmental strategy but as a governance imperative. Traditional governance models have emphasized transactional controls and contractual enforcement; however, CE-aligned supply chains require more collaborative, iterative, and values-based governance forms.

This demands a shift from linear coordination to systems thinking and reflexive oversight mechanisms. In this view, governance effectiveness depends on relational trust, stakeholder co-creation, and adaptability—core elements largely absent from conventional models.

Second, the analysis deepens stakeholder theory by reframing ethical sourcing not just as a moral responsibility but as a strategic mechanism for enhancing legitimacy and sustainability performance. Firms that prioritize stakeholder-informed procurement—by integrating community concerns, labor rights, and environmental risks—are better positioned to navigate ESG demands and global buyer expectations. This builds a bridge between normative ethics and competitive strategy, showing that stakeholder engagement can yield both reputational capital and operational resilience.

Third, this study offers an applied contribution to institutional theory, particularly in explaining how firms in emerging markets internalize and adapt to regulatory and normative pressures under conditions of institutional voids. The Ghanaian case illustrates that while formal enforcement capacity remains weak, informal institutions—such as relational networks, cultural norms, and NGO monitoring—often fill the governance gap. The study thus supports the view that institutional pluralism is central to sustainability transitions in the Global South (Kwarteng et al., 2022).

Finally, by integrating these insights into a systems-oriented model, this work contributes to transition theoryespecially the multi-level perspective (MLP) by linking micro-level firm practices with macro-level sustainability transitions. It suggests that CE governance is co-evolutionary, shaped by organizational learning, stakeholder activism, and institutional scaffolding. The model encourages scholars to explore how governance innovations in Africa might inform global theorizing on sustainable development.

5.5 Implications for Policy

The findings have significant implications for policy design and regulatory practice in Ghana and other developing economies pursuing circular economy transitions. They highlight that CE adoption is not merely a firm-level initiative but a governance challenge requiring systemic state and institutional support.

First, localized ethical procurement frameworks are essential. National regulators must articulate sector-specific CE guidelines that are contextually relevant and not simply imported from OECD models. This includes defining ethical sourcing criteria suited to informal markets and articulating CE benchmarks for SMEs and agro-based industries.

Second, institutional coordination must be strengthened through cross-sectoral coalitions. Public procurement authorities, environmental ministries, industry associations, and civil society organizations should co-create governance platforms that align goals, share monitoring tools, and foster compliance across value chains. These coalitions are especially crucial in Ghana, where institutional fragmentation undermines the credibility and enforcement of environmental standards.

Third, incentive structures should be embedded into policy design to ease the cost burden of CE transition. These may include green tax credits, preferential access to public procurement contracts for ethically certified suppliers, and subsidized training programs for supply chain

actors. Empirical work shows that fiscal instruments can significantly accelerate sustainability adoption among reluctant or resource-constrained firms.

Lastly, monitoring and evaluation systems must be institutionalized. This entails the deployment of digital governance tools such as real-time dashboards, certification tracking platforms, and environmental performance metrics to enhance transparency, comparability, and accountability.

By pursuing these policy interventions, Ghana can both strengthen its CE infrastructure and set an example for other countries navigating the intersection of sustainability, supply chain governance, and ethical development.

5.6 Implications for Practice

Implementing circular economy (CE) principles within Ghanaian supply chains requires substantial reorientation in firm-level governance practices. The implications of this study suggest that operationalizing CE in practice involves not only internal adjustments in procurement and production but also external engagement across a broader ecosystem of stakeholders. For Ghanaian firms, a successful CE transition is contingent on organizational preparedness, technological upgrading, and collaborative governance mechanisms.

First, capacity-building initiatives must become a strategic priority. Many suppliers in Ghana operate in informal sectors with limited access to training, sustainability tools, or CE literacy. Firms must invest in supplier education to introduce core concepts such as lifecycle thinking, material circularity, and resource recovery. These trainings should be modular and context-specific, allowing firms to address the differentiated needs of upstream, midstream, and downstream partners. Firms that embed CE into their supplier development strategies stand to gain long-term resilience, risk mitigation, and reputational advantages.

Second, a multi-stakeholder governance model should replace the conventional firm-centric approach. Traditional models of governance—characterized by top-down control and buyer dominance—are insufficient for CE implementation, which requires broader collaboration and transparency. Engaging civil society organizations, local community groups, industry associations, and third-party auditors can enhance legitimacy and strengthen social license to operate. This ecosystemic approach enables shared responsibility, reduces enforcement burdens on the state, and fosters co-innovation in circular practices.

Third, firms should invest in enabling technologies to improve traceability, accountability, and data-driven governance. Technological interventions—such as blockchain-based traceability systems, IoT-enabled waste tracking, and supplier sustainability dashboards—are instrumental in monitoring ethical sourcing and measuring CE performance. These tools enhance transparency, simplify compliance, and provide firms with real-time data for decision-making. Particularly in Ghana's decentralized and often opaque supply networks, digital tools can fill institutional voids and mitigate reputational risks.

Fourth, internal governance structures within firms must evolve to prioritize CE integration. This means aligning procurement metrics with sustainability KPIs, embedding CE objectives in corporate strategy, and incentivizing sustainability champions at operational levels. Cross-functional teams involving procurement, sustainability, and finance should co-own CE targets to ensure balanced implementation.

Finally, firms must anticipate and navigate trade-offs. Ethical sourcing and CE integration often entail higher short-term costs and require managing competing priorities. Effective governance, therefore, must strike a balance between economic viability and environmental-social responsibility. This calls for adaptive management practices that allow firms to recalibrate strategies based on regulatory changes, stakeholder pressures, or shifts in resource availability.

Ghanaian firms cannot rely solely on external mandates or policy incentives. Instead, they must act as proactive agents of transformation—equipping their suppliers, reconfiguring internal governance, leveraging digital tools, and forging inclusive partnerships to embed circularity into the heart of supply chain governance.

6. CONCLUSION

This study sought to conceptually examine how ethical sourcing and supplier accountability influence circular economy (CE)-aligned supply chain governance in Ghanaian firms. The analysis reveals that transitioning from linear to circular supply chains requires more than operational changes; it demands a paradigmatic shift in corporate governance, supplier relationships, and institutional collaboration. Ethical sourcing grounded in values of transparency, labor rights, and ecological stewardship, emerges not as an ancillary concern but as a pivotal lever for CE integration (Agyabeng-Mensah et al., 2023; Kwarteng et al., 2022).

Circular economy implementation in Ghana remains hindered by institutional voids, informal supply chain structures, and inadequate policy coherence (Ababio et al., 2023; Gyimah et al., 2024). Despite these barriers, evidence suggests that robust supplier accountability mechanisms—such as third-party audits, traceability systems, and stakeholder reporting—can reinforce sustainability governance, especially in fragmented procurement landscapes (Kwarteng et al., 2022; Agyapong et al., 2025). Such mechanisms not only enhance firm legitimacy but also support innovation and long-term value creation in supply networks (Amankwah et al., 2024; Boon & Anuga, 2020).

From a theoretical standpoint, this review contributes an integrative conceptual model linking circular economy orientation with ethical sourcing and accountability structures as co-determinants of sustainable supply chain governance. By embedding constructs from stakeholder theory, institutional theory, and the resource-based view, this model offers an enriched understanding of governance under CE pressures (Mawutor et al., 2023; Doe et al., 2022). The study also underscores that in low-governance environments like Ghana, small wins—incremental and feasible changes—can collectively catalyze broader system transformation, especially when supported by cross-sector collaboration (Kuhn et al., 2024).

Nonetheless, the conceptual nature of this work presents limitations. While the synthesis is theoretically robust, it lacks empirical testing across firm types, industries, or supply chain tiers. Hence, there remains an urgent need for field-based validation of the model's propositions through qualitative and quantitative studies within Ghana's diverse industrial sectors—including mining, agriculture, textiles, and manufacturing (Owusu-Ansah et al., 2025; Nkansah-Dwamena, 2023).

Future research should also explore how cultural values, informal governance practices, and localized interpretations of sustainability mediate the adoption of ethical sourcing and CE principles in African contexts. Cross-national comparisons within West Africa could further

reveal institutional patterns and governance innovations suitable for CE transitions. Lastly, deeper analysis is needed into the roles of NGOs, certification bodies, and civic institutions in driving accountability in circular supply chains.

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