

Beyond Adoption: Stakeholders' Roles in the Diffusion of Sustainable Supply Chain Management — A Case Study Analysis

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Abstract— This study examines the wide-ranging impact of companies' decisions to adopt Sustainable Supply Chain Management (SSCM) practices on their stakeholders and the subsequent diffusion of these practices across the stakeholder network. Drawing on game theory, the research investigates how stakeholder interactions and reciprocal influences contribute to the spread of sustainable practices within and beyond organizational boundaries. Through a qualitative, multiple case study approach involving three major Moroccan companies, the study employs triangulation and cross-case analysis to uncover the complex dynamics underlying SSCM implementation. The findings reveal that stakeholder relationships evolve into iterative, strategic interactions that not only reinforce sustainability adoption within individual firms but also catalyse broader diffusion across the supply chain ecosystem.

The study contributes to SSCM literature by: (1) clarifying the mechanisms—grounded in game-theoretical principles—that underpin sustainability diffusion, and (2) offering rare empirical insights from an emerging market context. By linking SSCM adoption to strategic stakeholder engagement, the research underscores its transformative potential for sustainable development. These insights are particularly valuable for policymakers, practitioners, and scholars seeking to leverage SSCM for broader societal impact.

Keywords— Sustainable Supply Chain Management (SSCM), Stakeholders, Corporate Social Responsibility (CSR), Sustainability Practices Diffusion, Game theory.

1. INTRODUCTION

Amid growing environmental and climate-related challenges, sustainability has become essential for firms aiming to build resilient and competitive

supply chains. Sustainable Supply Chain Management (SSCM) integrates environmental, social, and economic considerations into operations, helping firms mitigate risks, build stakeholder trust, and improve long-term performance [1]–[3].

Over the last two decades, SSCM research has expanded—from early work on definitions and barriers [4], [5] to more recent studies on performance outcomes, stakeholder pressure, regulation, and governance [6]. Newer contributions highlight SSCM's role in enhancing resilience and risk mitigation in the face of climate change and rising social expectations [1], [7]–[9].

Yet, limited attention has been paid to how SSCM practices diffuse across stakeholders and how organizational influence shapes stakeholder decision-making. While motivations for SSCM adoption are well studied, strategic interactions driving or hindering its diffusion remain underexplored.

To fill this gap, the study uses evolutionary game theory to model interactions between focal firms and stakeholders. Drawing on case study evidence, it investigates how firms influence stakeholder behaviour and how this interaction fosters the diffusion of sustainability across the supply chain. This approach reveals how sustainability becomes embedded in organizational ecosystems.

The article begins with a literature review on SSCM and game theory, then presents the conceptual framework and research methodology. It proceeds to discuss case study findings, followed by implications, conclusions, limitations, and directions for future research.

2. LITERATURE REVIEW AND RESEARCH QUESTIONS DEVELOPMENT

Due to increasing pressure from diverse stakeholder groups, organizations are being compelled to integrate sustainable practices into their operations, especially within supply chains [10]. The academic interest in SSCM began in the late 1990s, evolving through several stages. It was in 2008 that Seuring and Müller (2008:170) offered one of the earliest and most cited definitions of SSCM, describing it as “the management of material, information, and capital flows as well as cooperation among companies along the supply chain while taking goals from all three dimensions of sustainable development”[4].

The adoption of SSCM practices entails identifying and mitigating environmental, social, and ethical risks. Such efforts help firms avoid legal challenges, protect brand reputation, and ensure business continuity [1], [11]. These practices also align conceptually with evolutionary game theory, which emphasizes that the strategies of individuals or organizations are influenced by the actions and interactions of others within an ecosystem [12].

According to evolutionary logic, entities that adapt well to their environment tend to thrive, while successful traits propagate over time [12]. In a similar way, organizations that adopt sustainability often influence others within their network to follow suit. Studies have shown that SSCM adoption often initiates a diffusion process, whereby various stakeholders begin integrating similar practices into their operations [6], [13].

This diffusion is shaped by interactions between companies and stakeholders, making evolutionary game theory a suitable analytical lens. It enables researchers to understand how sustainability practices persist, evolve, or fade depending on collective stakeholder behaviour [14], [15].

Based on this theoretical foundation, the following research questions are proposed:

RQ1: How does the adoption of SSCM by an organization influence various stakeholder groups in their sustainability-related decisions and behaviours?

This primary question is explored through the following sub-questions:

- **RQ1a:** How does SSCM adoption by firms' influence customers?

- **RQ1b:** How are employees affected by their organization's SSCM practices?
- **RQ1c:** What is the impact of SSCM adoption on government policies or support?
- **RQ1d:** How do NGOs, unions, and societal groups respond to corporate SSCM adoption?
- **RQ1e:** What influence does SSCM adoption have on investor and shareholder behaviour?
- **RQ1f:** How are suppliers' practices affected by a firm's SSCM decisions?
- **RQ1g:** How does SSCM adoption shape competitors' strategies?

These research questions guide an in-depth qualitative investigation using case studies and stakeholder interviews. The goal is to understand the dynamic and reciprocal relationships between corporate sustainability initiatives and stakeholder responses.

RQ2: How do organizations and stakeholders collaborate and coordinate to achieve SSCM objectives?

This question explores the mechanisms of communication, goal alignment, and mutual influence that underpin successful SSCM collaboration. A mixed-methods approach is used to analyse case evidence, focusing on how coordination between firms and stakeholders supports the broader goals of SSCM.

By investigating these questions, this study seeks to reveal the underlying incentives, interactions, and strategic dynamics that contribute to the diffusion and effectiveness of SSCM initiatives across different stakeholder groups.

3. METHODOLOGY

This study uses an **exploratory multiple case study** approach to investigate how Moroccan firms' adoption of SSCM influences stakeholder behavior and cooperation in an emerging sustainability context [4], [16]. Three major Moroccan companies were selected through purposive sampling based on their leadership in sustainability, industry influence, and stakeholder accessibility. Company A is a global leader in construction materials known for decarbonisation and green logistics; Company B is a regional mining multinational committed to CSR and environmental compliance; and Company C is a phosphate-producing multinational recognized for

its sustainability innovations and stakeholder initiatives.

These cases span diverse sectors—construction, mining, and agriculture—offering complementary insights. Data were collected through nine semi-structured interviews with supply chain and sustainability managers, supplemented by sustainability reports, internal policy documents, press releases, and stakeholder engagement dashboards. Thematic analysis was conducted across all data, followed by cross-case comparison to identify shared patterns and firm-specific strategies related to stakeholder impact, feedback loops, and mechanisms of influence. Rigor was ensured through triangulation and member checking. While the aim is not statistical generalization, the study provides context-rich insights into SSCM diffusion in Morocco, offering implications for researchers, practitioners, and policymakers interested in sustainability and stakeholder engagement in supply chains.

4. RESULTS

SSCM practices prioritize long-term sustainability and responsible business conduct. Although short-term financial gains may be limited, these practices enhance reputation, reduce risk, and build stakeholder trust over time [10], [17], [18], fostering stable and sustained growth.

Across the three case studies, SSCM adoption showed consistent, tangible impacts on stakeholders, influencing both internal operations and the broader organizational environment.

4.1. Customers

Customers, as direct stakeholders, play a crucial role in shaping company behaviour through their purchasing power. Integrating sustainability into the supply chain strengthens customer relationships [10], [13], [19]. Our findings highlight that in B2B contexts especially, customers are increasingly scrutinizing the environmental and social commitments of their suppliers [10].

Overall, the study confirms that customers are key drivers of SSCM adoption, directly shaping company behaviour and supply chain coordination:

- In all cases, corporate and end customers pushed firms toward greater sustainability, even prompting usage guidelines for products.
- Company A and C saw growing demand for eco-certified or low-carbon goods, leading to supplier alignment and

preventive measures (e.g., contractual clauses) to protect brand integrity.

- Customer expectations served as market signals, encouraging upstream SSCM diffusion.

4.2. Employees

Employees are a key internal driver of sustainability adoption, especially in its social dimension [10], [18]. They influence companies both individually and collectively (e.g., through unions) to embed sustainability in supply chain operations.

Case evidence shows that SSCM practices often stem from employees' voluntary engagement. Workers act as both drivers and beneficiaries of change, valuing health and safety improvements that reduce accidents and costs. Employees also prefer firms with clear sustainability strategies, expressing pride in being part of socially responsible organizations—echoing literature linking CSR to greater motivation and purpose [20].

In sum, the findings demonstrate that employee involvement proved essential in operationalizing sustainability practices. A sense of purpose and participatory culture helped embed SSCM principles.

- In all three companies, especially Company A, internal employee engagement was instrumental in embedding sustainability.
- Employees responded positively to SSCM initiatives, displaying stronger commitment and incorporating sustainable thinking into daily operations.
- Sustainability training reinforced organizational culture and improved internal alignment.

4.3. Government

Governments are increasingly tightening environmental and social regulations [21], prompting companies to adapt proactively. Early adoption of SSCM positions firms to navigate these evolving requirements more effectively, minimizing legal risks and safeguarding shareholder value [6], [21]. Demonstrating positive outcomes may encourage governments to introduce supportive regulations or incentives. Moreover, corporate innovations in sustainability can lead to partnerships, knowledge sharing, and joint programs that promote broader sustainable development [22].

Interestingly, in the Moroccan context, the companies studied reported no direct influence on government policy following SSCM adoption. This suggests a limited interplay between corporate sustainability efforts and public policy. However, the study did reveal strong coercive pressure from the government, which played a key role in driving companies to adopt SSCM practices.

4.4. NGOs, unions, and societal groups

NGOs, labour unions, and community associations significantly shape awareness and mobilize stakeholders around sustainability issues [10], [18]. Case study analysis shows that companies adopting SSCM often set higher ethical and sustainability standards across their industries, prompting greater recognition and support from civil society. This fosters alignment around common sustainability goals and encourages collaborative action.

The empirical findings reveal that adopting SSCM fosters meaningful engagement with NGOs, labour unions, and community groups, who serve both as defenders and collaborative partners in advancing sustainability.

- In Company B, NGOs and unions played a pivotal role in strengthening and reinforcing sustainable practices.
- Across all three companies, SSCM adoption promoted increased transparency and cooperation with societal stakeholders, fostering a sense of shared responsibility for environmental and social objectives.
- Pressure from civil society was instrumental in embedding sustainability norms within organizational practices.

4.5. Potential investors and financial institutions

Companies committed to sustainability and CSR are more likely to attract socially responsible investors who value environmental and social performance alongside financial returns [4], [17], [18]. Financial institutions can promote sustainability by linking credit access to environmental compliance. While SSCM adoption entails initial costs, case studies reveal long-term savings from improved efficiency. However, firms observed less awareness among local shareholders than international investors. To bridge this gap, they launched efforts to educate domestic investors on SSCM's strategic value, aiming to boost engagement and encourage broader adoption across Moroccan firms.

Findings demonstrated that banks and investors increasingly conditioned support on environmental, social, and governance (ESG) performance. This financial scrutiny reinforced SSCM practices.

- All three companies acknowledged the need to raise awareness among domestic shareholders about the value of SSCM, as international investors and financial institutions showed greater enthusiasm for sustainability integration.
- SSCM adoption helped companies secure financing, improve credit ratings, and reduce investment risk.
- These pressures contributed to the formalization of sustainability reporting and performance tracking.

4.6. Suppliers

To ensure supply chain-wide sustainability, social and environmental standards must be shared across suppliers [23], [24]. Yet, upstream suppliers in B2B contexts often feel less urgency than those closer to end-users [10], while firms near consumers are more attuned to regulatory and reputational demands [25], [26]. Case studies show companies are increasingly selective, using strict protocols to ensure suppliers align with sustainability goals. Procurement prioritizes partners with shared values, creating normative pressure for broader adoption. All firms conducted training and workshops to promote sustainable practices. Suppliers responded proactively, not passively, fostering stronger vertical coordination and alignment across the supply chain.

- Company C used audits, training, and codes of conduct to uphold sustainability standards.
- Joint workshops and feedback loops enabled shared learning and long-term collaboration.
- Normative pressure from focal firms encouraged suppliers to adopt responsible practices to sustain partnerships.

4.7. Competitors

A strong commitment to CSR increasingly shapes customer loyalty, especially in competitive sectors where cutting spending on safety or environmental practices can harm a firm's image and position [27]. As companies enhance CSR to gain trust, rising competition drives mimetic behavior—firms replicate industry leaders' sustainability efforts to remain relevant and avoid market loss [28]. Study participants confirmed that competition prompts companies to adopt and mirror sustainability

practices to meet industry expectations and maintain competitiveness.

SSCM frontrunners set influential examples that shaped industry behaviour. Their proactive stance on sustainability triggered imitation from competitors seeking to preserve legitimacy and market standing.

- Evidence from Company A and Company B illustrated that early adopters strategically signalled their commitment to SSCM, prompting a visible response from competitors.

Competing firms replicated these sustainability efforts to align with market norms and stakeholder expectations, reinforcing the sector-wide spread of SSCM practices through mimetic pressures.

5. DISCUSSION

5.1. Stakeholders influenced by SSCM adoption

The case studies revealed a set of stakeholders significantly shaped by a company's decision to adopt SSCM. Each group displayed distinct behavioural patterns, yet all—except the government—showed generally positive engagement with sustainability initiatives.

5.1.1. Customers

Growing consumer awareness of environmental and social issues [13], [19] is driving demand for responsible products. This behaviour mirrors the harmony game, where cooperation yields optimal outcomes and free-riding incentives are minimal [29]. Applied to our context, both industrial and end customers—whether following Nash or Maxi-Min strategies—prefer companies adopting SSCM.

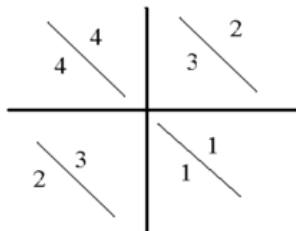


Figure 1. The payoff matrix of the 'Harmony game' (Source: [29])

The harmony game as a situation in which different individuals' or organizations' actions are brought into compliance with one another through a process of negotiation and/or coordination (see **Figure 1**) [30]. The presentation that results from adapting

this game to our circumstances is as follows (see **Table 1**).

Possible and beneficial outcome = the customer chooses 'Prefer SSCM adopters', as this strategy offers a better payoff.

Table 1. Adaptation of the harmony game to the Company-Customer relationship

		Customer	
		Prefer SSCM	Not to prefer SSCM
Company	Adopt SSCM	4,4	3,2
	Not to adopt SSCM	2,3	1,1

Whether they follow the Nash or Maxi-Min strategies, rational players will choose the (Adopt SSCM, Prefer SSCM) strategy pair. Therefore, whether they are industrials or normal customers, they both prefer companies that are adopting and implementing SSCM.

Empirical evidence aligns with the literature [10], [13], [19], addressing RQ1a:

- SSCM adoption strengthens customer–company relationships.
- It elevates customer expectations for sustainable products.
- Corporate customers exposed to SSCM encourage their own suppliers to improve practices.

Thus, customers emerge not only as recipients but as active promoters of sustainability, accelerating SSCM diffusion.

5.1.2. Employees

Employees, like customers, also reflect the harmony game dynamic, where coordinated action benefits all parties [30]. In this scenario, employees choose to apply SSCM practices because it enhances meaning and purpose at work [20]. The adoption of the harmony game to our circumstances gives the following presentation (**Table 2**):

Table 2. Adaptation of the harmony game to the Company-Employee relationship

Company	Employee	
	Apply SSCM	Not to apply SSCM
	Adopt SSCM	Not to adopt SSCM
Adopt SSCM	4,4	3,2
Not to adopt SSCM	2,3	1,1

Possible and beneficial outcome = the employee chooses ‘Apply SSCM practices’, as this strategy offers a better payoff.

Drawing on the empirical findings and their consistency with established theoretical insights [10], [18], [20], our analysis addresses RQ1b concerning the impact of SSCM adoption on employees. The results reveal that:

- Employees report greater satisfaction and appreciation when companies pursue sustainability.
- SSCM implementation boosts engagement, encouraging staff to embed sustainability in daily work.
- Clear sustainability strategies attract employees by giving their work purpose and meaning.

These findings emphasize the critical role of employees as internal champions of SSCM, whose engagement and motivation are essential for the effective integration and diffusion of SSCM practices.

5.1.3. Government

Government response to SSCM adoption showed distinct patterns, particularly in contexts like Morocco where the state plays a dominant economic and regulatory role.

- Unlike other stakeholders, government entities—particularly in contexts where they are dominant economic actors—showed less responsiveness to corporate SSCM efforts. Companies reported minimal feedback loops with policymakers regarding sustainability.
- Rather than influencing public policy, companies often complied with coercive government mandates or pressures, adopting SSCM practices to meet

regulatory requirements rather than through voluntary alignment.

In response to RQ1c, which explores the role of government in the diffusion of sustainability following companies’ adoption of SSCM practices, our empirical findings suggest a more complex and context-dependent dynamic. Contrary to claims in parts of the theoretical literature [21], [22], [31], government influence is not uniformly facilitative. This asymmetrical relationship highlights a top-down dynamic where the government acts more as an enforcer than a collaborative partner in sustainability.

5.1.4. NGOs, unions, and societal groups

Encouraging SSCM initiatives can stimulate market demand for sustainable products, creating a reinforcing cycle that promotes responsible consumption and production across sectors. This scenario bears resemblance to a game known as the coordination game, often referred to as the Bash or Stravinsky game.

Table 3. Coordination game (aka Bash or Stravinsky) – (Source: my illustration)

		Player 2	
		Bash	Stravinsky
Player 1	Bash	2,1	0,0
	Stravinsky	0,0	1,2

The BoS or coordination game illustrates how collaboration adds value (see **Table 3**). This game presents a couple with different concert preferences—Bach or Stravinsky—chooses to be together, even if one compromises, showing how one player may yield to the other. Applying the coordination game to the company/NGOs and societal group relationship produces the following representation (**Table 4**):

Table 4. Adaptation of the coordination game to Company-NGOs and societal groups relationship

		NGOs, unions, and societal groups	
		Advocate SSCM practices	Not to Advocate SSCM practices
Company	Adopt SSCM	4,3	2,2
	Not to Adopt SSCM	0,0	3,4

- The *primary value* for both companies and NGOs lies in *cultivating a positive rapport* between the two entities. NGOs rely on corporate funding, while companies seek credibility through NGO support (2).
- The *secondary* is to contribute toward public and social welfare goals (2).

Within this game, achieving the maximum total pay-off ($2+2=4$) occurs when one partner adopts a dominant approach while the other prioritizes the partner's preference. Otherwise, the primary value won't be achieved. Prior studies and our findings show that SSCM adoption shapes consumer preferences and societal expectations, with firms acting as dominant partners that inspire NGOs, unions, and civil society to advance sustainability.

Possible and beneficial outcome = NGOs, unions, and societal groups advocate SSCM and establish elevated benchmarks for ethical and sustainable practices.

Aligned with theoretical insights [18], [32] and addressing RQ1d, the empirical findings clarify the following:

- Visible SSCM implementation sets an example that motivates NGOs, unions, and social groups to intensify sustainability advocacy.
- This creates a feedback loop where companies strengthen their efforts in response to rising societal expectations, reinforcing mutual influence.

5.1.5. Potential investors and financial institutions

As with customers and employees, the behavior of investors and financial institutions aligns with the harmony game, where cooperation and coordination are likely. This application is illustrated in **Error! Reference source not found..**

Table 5. Adaptation of the harmony game to Company-Potential investors and financial institutions relationship

		Potential investors and financial institutions	
		Invest in SSCM	Not to Invest in SSCM
Company	Adopt SSCM	4,4	3,2
	Not to adopt SSCM	2,3	1,1

Possible and beneficial outcome = The potential investors and financial institutions choose 'Invest in SSCM', as this strategy offers a better payoff.

Rational players will settle on the (Adopt SSCM, Invest in SSCM) strategy pair whether they pursue Nash or Maxi-Min strategies. As a result, potential investors and financial institutions prefer companies that are adopting and implementing SSCM, as it contributes to reduced risk, long-term sustainability, enhanced reputation, and alignment with market trends [17], [18].

In response to RQ1e—examining how SSCM adoption shapes investor and financial institution perceptions—our findings confirm a strong signaling effect, consistent with earlier research [17], [18]:

- Adopting SSCM signals a firm's commitment to transparency and responsibility, which appeals to investors.
- SSCM influences investment decisions, with investors favouring companies aligned with sustainable and ethical standards.
- Investors indirectly encourage SSCM adoption, supporting both capital access and broader sustainability goals.

5.1.6. Suppliers

The company-supplier relationship resembles a coordination game (aka BOS), where both parties benefit most by aligning their actions. When we apply this game to the company-supplier relationship in our specific context, it results in the following representation (**Table 6**):

Table 6. Adaptation of the coordination game to the Company-Supplier relationship

		Supplier	
		Adopt SSCM	Not to adopt SSCM
Company	Deal with SSCM Adopters	4,3	2,2
	Not to deal with SSCM Adopters	0,0	3,4

- The *primary value* for the company and the supplier is to maintain their ongoing business collaborations (2),
- The *secondary* is to realise profit (2).

In this game, attaining the highest total pay-off ($2+2=4$) is feasible when one partner opts for a dominant or self-centred strategy, while the other gives precedence to the partner's preference. Otherwise, the essential value remains unrealized.

Studies and our investigation show that firms with greater bargaining power can compel suppliers to adopt SSCM [33]. In our assumptions, the company favours SSCM adopters and refuses to work with non-adopters, pressuring suppliers to comply.

Possible and beneficial outcome = the supplier decides to adopt SSCM.

In response to RQ1f on how focal firms influence supplier sustainability through SSCM, the data shows clear normative pressure and strategic alignment, consistent with theoretical perspectives [10], [23], [25].

- Companies can exert pressure on potential suppliers to improve the ecological and social dimensions of their supply chains, by exclusively selecting suppliers that employ comparable sustainability measures in their operations.
- This selective procurement strategy encourages suppliers to enhance their own sustainability practices, leading to broader diffusion of SSCM principles across supply networks and fostering alignment through imitation and compliance.

5.1.7. Competitors

To avoid falling behind in the industry, companies and their competitors are driven to adopt SSCM.

This competitive dynamic parallels the assurance game, or “Stag Hunt” (see

).

Table 7. The payoff matrix of the ‘Stag Hunt game’ (source: My illustration)

		Player 2	
		Stag	Hare
Player 1	Stag	2,2	0,1
	Hare	1,0	1,1

The assurance game (or stag hunt), based on Rousseau’s example, models a scenario where two players choose between hunting a stag (a payoff of 2) or a hare (payoff of 1). If one hunts stag and the other hare, only the hare hunter gains. This reflects situations where smaller or less developed firms hesitate to act on sustainability, waiting instead for larger or pioneering companies to lead.

This game presents the situation when small or less developed companies refuse to make a move and wait for large companies’ initiation or technological first-comers’ advantage. The adoption of this game to our circumstances gives the following presentation (**Table 8**):

Possible and beneficial outcome = the competitor decides to adopt SSCM.

Table 8. Adaptation of the assurance game to the Company-Competitor relationship

		Competitor	
		Adopt SSCM	Not to adopt SSCM
Company	Adopt SSCM	4,4	1,2
	Not to adopt SSCM	2,1	2,2

In this context, competitors adopt sustainability practices by imitating others, with some avoiding innovation costs and waiting for early adopters to act. Imitating other companies, fosters cooperation among competitors, raising sustainability achievements and standards across the sector.

In response to RQ1g on how competition drives SSCM diffusion, our findings align with prior theory [13], [27], [34] and clarify the following:

- Competitors adopt similar practices to stay competitive and position themselves as sustainability leaders.
- Industry competition drives the spread of SSCM as firms seek legitimacy and protect market standing.

⇒ **Summary of RQ1**, which explores how stakeholder groups respond to the adoption of SSCM practices by organizations, our findings provide strong support for the premise that such adoption significantly influences a wide range of stakeholders—including customers, employees, suppliers, and civil society actors. This is consistently evidenced across all three case studies, with the exception of government actors, whose responses appear more complex and context-dependent.

5.2. Diffusion of SSCM

Our findings provide strong insights into **RQ2**: *How do organizations and stakeholders collaborate and coordinate to achieve SSCM objectives?*

SSCM diffusion in the Moroccan context does not occur in isolation. It is shaped by a dynamic, ongoing process of stakeholder interaction, trust-building, and mutual learning across organizational boundaries. This adoption sets in motion a chain of reciprocal influence—where companies, suppliers, customers, and other actors continuously adapt their practices in response to one another.

5.2.1. Stakeholder-Driven Diffusion Pathways

Our cross-case analysis revealed multiple channels through which SSCM practices diffuse among stakeholders:

- **Customer and Market Signals:** At Company C, rising international demand for sustainable phosphate led to green logistics and eco-labelling, pushing suppliers to adopt similar standards [6].
- **Employee Engagement:** At all firms—especially Company A—staff training and internal integration of sustainability into operations helped embed SSCM across departments [18], [20].
- **NGOs and Civil Society:** Company B's partnerships with NGOs and communities supported environmental risk mitigation

and promoted broader industry alignment on sustainability goals.

- **Investor Pressure:** All three firms faced growing ESG scrutiny from investors, prompting more transparency and formal sustainability reporting, in line with institutionalization theory.
- **Supplier Alignment:** Structured audits and training (notably at Companies B and C) helped cascade SSCM practices down the supply chain through formal supplier engagement.
- **Competitive Influence:** SSCM pioneers influenced competitors to replicate practices, driven by reputational and market pressures, reflecting diffusion through strategic imitation.

5.2.2. The Dynamics of Repetition and Cooperation

The process of SSCM diffusion is not linear or one-time. It operates through repeated interactions—what game theory refers to as “repeated games.” Trust and reputation become central assets. Stakeholders cooperate not because of immediate gain, but because long-term relationships and future interactions depend on consistency in sustainability behaviour.

- Game-theoretical dynamics such as repeated play and mutual reinforcement shaped stakeholder behaviour.
- Companies built relational capital through consistent, transparent engagement.
- Trust emerged as a crucial currency in sustaining SSCM-driven collaboration.

5.2.3. Summary and Theoretical Validation

The cross-case findings show that SSCM adoption in Moroccan firms leads to a systemic diffusion process, in which stakeholders influence and learn from one another. This supports prior research suggesting that sustainability strategies evolve through multi-actor coordination and social learning [13]–[15].

- ⇒ In summary, **RQ2** is addressed by showing that SSCM practices not only improve individual firm performance but also transform the broader supply chain ecosystem through continuous cooperation, stakeholder alignment, and strategic interaction. This evolution fosters more resilient, collaborative, and environmentally responsive supply chains

capable of meeting complex global challenges.

6. CONCLUSION

This study examines how the adoption of SSCM practices influences stakeholder behavior and drives sustainability diffusion. Using case studies and game theory, findings reveal that SSCM fosters reciprocal interactions, building trust, cooperation, and alignment across the supply chain.

For **Research Question 1**, results show that SSCM adoption extends beyond internal operations, affecting suppliers, customers, employees, investors, and civil society. For **Research Question 2**, diffusion emerges as iterative, context-specific, and shaped by repeated interactions and reputational considerations, consistent with game-theoretical principles.

SSCM adoption can reshape stakeholder relationships, establishing new norms and expectations for sustainable behavior. It is therefore a strategic choice with ripple effects across the broader network, not merely a technical or operational decision. While focused on Moroccan firms, the study offers early insights into SSCM dynamics in emerging markets, supporting analytical generalization.

Future research should broaden the scope across sectors and geographies and use mixed methods to validate and extend these findings. By integrating game theory with empirical evidence, this study proposes a novel framework for understanding SSCM diffusion, offering actionable implications for practitioners and policymakers aiming to embed sustainability in supply chains.

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