An Academic Inquiry into ESG Strategy Communication and the Enhancement of Operational Control within the Supply Chain

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Abstract

This study delves into the effective integration of sustainability goals within corporate strategies and supply chain management, focusing on the strategies and practices of ASUS and TSMC in implementing Environmental, Social, Governance (ESG) initiatives and enhancing supply chain operations. ASUS exemplifies how embedding sustainability into corporate culture and decision-making processes can help companies stay competitive globally and foster long-term value growth. It prioritizes diverse options and consumer preferences, sets medium- to long-term sustainability objectives, and views sustainability performance as integral to its economic outcomes. Furthermore, ASUS emphasizes ESG performance to investors and senior management as a catalyst for innovation and value enhancement, revolutionizing supply chain management through the enforcement of a stringent supplier code of conduct and the assessment of supply chain ESG metrics. Taiwan Semiconductor Manufacturing Company Limited, TSMC, a global semiconductor industry leader, anchors its ESG strategy in robust corporate governance, environmental sustainability promotion, and proactive engagement in social responsibilities. It achieves transparent and equitable decision-making via rigorous corporate governance standards, aims to minimize energy consumption and carbon emissions, and enhances product energy efficiency with cutting-edge technologies. In supply chain management, TSMC enforces strict evaluation and selection protocols for suppliers, mandating adherence to environmental and social standards, and fosters the sustainability of the supply chain through the joint development of sustainable solutions. The analysis of ASUS and TSMC illustrates how companies can proactively undertake social responsibilities and advance environmental sustainability while seeking economic gains through varied methods and focuses. These initiatives not only positively influence their operational performance and brand reputation but also offer invaluable insights for other corporations, particularly in the seamless integration of ESG strategies into corporate culture and operations, and in fortifying sustainability within supply chain management.

Keywords: ESG strategy, supply chain management, sustainable development, ASUS, TSMC

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Introduction

Background

According to the World Economic Forum's (WEF) 112 Global Risks Report, climate-related risks dominate the list of top global threats in the coming decade, constituting four out of the top 10 risks. These encompass frequent extreme weather events, unsuccessful climate action, human-induced environmental harm, and biodiversity loss (Evans et al., 2017). Concurrently, the Intergovernmental Panel on Climate Change's (IPCC) AR6 report highlights specific climate risks for Taiwan, including heightened rainfall intensity, prolonged periods of maximum rainfall, extended summers, and diminishing winters. In response to such climate shifts, organizational resilience becomes paramount to ensure comprehensive adaptability, with an immediate focus on diminishing reliance on natural energy sources (Chen., 2021).

Human activities are accelerating climate change effects, contributing to phenomena like extreme heatwaves, floods, torrential rains, black rains, droughts, tropical cyclones, and wildfires (Trenberth, 2018) The summer of 2023 was declared the hottest on record by the European Union's Copernicus Centre for Climate Change, witnessing a significant global temperature surge. Notably, Xinjiang province in northwestern China experienced an unprecedented temperature of 52.2°C, while California's Death Valley recorded Earth's highest-ever temperature at 56.7°C (Witze, 2019) These occurrences underscore the urgent need for proactive measures to counteract the looming threats of climate change.

The Sustainable Development Goals (SDGs) constitute the 2030 Agenda for Sustainable Development, endorsed by the United Nations in 2015 (Hák et al., 2016). This global initiative aims to unite governments, local entities, businesses, civil society organizations, and other stakeholders to collaboratively achieve 17 core objectives for global sustainable development. These goals will serve as a compass for policymaking, investments, and actions over the next 15 years, striving to create a world where every nation experiences sustained, inclusive, and sustainable economic growth, ensuring universal access to decent employment. Guided by this philosophy, the SDGs advocate for responsible production, consumption, and utilization of natural resources, including air, land, rivers, lakes, groundwater, and oceans.

In addition to the existing 17 SDGs, the latest addition, SDG18, emphasizes leveraging digital technologies to benefit the planet. Encompassing critical issues such as poverty eradication, hunger alleviation, enhanced health, quality education, gender equality, clean water and sanitation, affordable and clean energy, decent work and economic growth, industrial innovation and infrastructure, reduced inequalities, sustainable urban-rural development, responsible consumption and production, climate action, life below water, life on land, peace, justice and institutions, and partnerships, the SDGs provide a holistic framework for sustainable development (Yusha'u, 2021) description of the main problem

According to the 2023 Corporate Sustainability White Paper, the corporate landscape is witnessing nine significant trends in Environmental, Social, and Governance (ESG) that shape the trajectory of sustainability. Firstly, internal carbon pricing is gaining traction, serving as an incentive for companies to adopt carbon reduction measures. Biodiversity conservation has emerged as a key environmental focus, drawing widespread attention. The adoption of circular economy practices continues to expand, establishing itself as a crucial aspect of corporate sustainability. Science-based emissions reductions, with a focus on achieving net-zero targets, underscore the pivotal role of science and technology in emission reduction. Emerging climate technologies are taking the spotlight, emphasizing innovation's role in combatting climate change. Sustainable finance is highly anticipated as a key enabler for achieving corporate sustainability objectives. Social innovation organizations are expanding both in depth and breadth, showcasing the deepening collaboration between society and businesses. The emphasis on collective participation in ESG by all stakeholders highlights its indispensable role in sustainable development. Finally, diversity, equality, and inclusion have become integral standards, forming a crucial element in the corporate value system, often referred to as EDI (diversity, inclusion, equality).

Objectives of the Study

This study seeks to conduct a comprehensive examination and understanding of companies' practices in ESG strategy communication and the subsequent impact on internal and external stakeholders. Simultaneously, the research aims to evaluate how companies can integrate ESG considerations to enhance operational control within their supply chains, ultimately achieving sustainability goals. The overarching goal is to provide practical recommendations that drive companies toward more positive outcomes in ESG strategy and supply chain management, fostering sustainable growth across economic, social, and environmental dimensions.

Research Questions

The study will address the following interconnected research questions:

1) ESG Strategy Communication: How can organizations effectively communicate and strengthen ESG strategies internally and externally, fostering resonance of corresponding values and practices?

2) Supply Chain Operational Control: In supply chain management, how can operational control be enhanced through ESG considerations? This includes reducing environmental footprints, mitigating social risks, and improving governance mechanisms to achieve sustainable development goals?.

3) ESG Strategy and Operations Alignment: How can synergies between ESG strategy and supply chain operations be achieved to maximize the environmental and social impact of the organization while maintaining an appropriate governance structure?

Literature review

Background of ESG

ESG, an acronym for Environment, Social, and Governance, encapsulates a company's performance in these three crucial domains. The environmental aspect scrutinizes the enterprise's environmental footprint, the social aspect assesses its societal contributions and impacts, while corporate governance delves into internal management and transparency practices.

ESG holds significance as it offers a comprehensive approach, moving beyond a company's mere financial performance to encompass its broader environmental, social, and governance standing. This holistic evaluation aligns with the sustainability concept, providing investors with a more complete understanding of a company's value and long-term viability. Unlike the past, where investors predominantly focused on financial metrics, today's investors are increasingly concerned about a company's ESG impact, considering these factors vital to enterprise development, management performance, and information disclosure. Consequently, effective and accurate communication becomes imperative for companies to showcase their ESG endeavors and accomplishments to diverse stakeholders.

Operational Management of the Supply Chain

This segment of the study concentrates on supply chain management, acknowledging that a company's manufacturing and consumption processes collectively form an integrated supply chain. Evaluating a company necessitates examining not only its production phase but also its upstream raw material supply and downstream consumer use. This entails scrutinizing raw material procurement, product manufacturing, product transportation and storage, and cost control.

Effective supply chain management demands collaboration to manage risks and share information, fostering sustainable development and enhanced efficiency across the entire supply chain. Consequently, when exploring a company's ESG, it becomes essential to consider not only the company itself but the entire supply chain. This involves extensive communication between upstream and downstream supply chain partners.

Strategy Communication

Strategic communication involves effectively conveying an organization's strategic goals and plans to both internal and external stakeholders, including employees, investors, customers, and partners. It encompasses core enterprise goals, values, development directions, and corresponding implementation plans (Sciarelli et al., 2021).

In the realm of supply chain management, strategic communication assumes paramount importance, manifested in several key aspects:

1) Shared Understanding: Effective strategic communication ensures that all stakeholders within the supply chain comprehend the enterprise's overarching strategy and objectives. This alignment ensures that the entire supply chain operates cohesively, striving toward common goals.

2) Collaboration: As all facets of the supply chain must work harmoniously for efficient and cost-effective operations, strategic communication fosters transparency. It allows partners at different stages to understand and adapt to each other's strategies, promoting improved collaboration.

3) Risk Management: Transparent communication regarding potential risks and changes in the supply chain provides early warnings and facilitates appropriate responses. This proactive approach minimizes the likelihood of production disruptions, inventory issues, or other supply chain risks.

4) ESG Integration: Particularly concerning ESG, strategic communication empowers companies to articulate their commitments and actions toward sustainability. This communication is instrumental in embedding ESG goals into supply chain management, propelling sustainable practices throughout the supply chain (Van Duuren, et al., 2016). In summary, strategic communication plays a pivotal role in building trust, transparency, and collaboration within the supply chain, thereby enhancing overall supply chain effectiveness and sustainability. Figure 1 illustrates a schematic diagram depicting the use of business models to facilitate communication.

Figure 1 Use business models to assist communication.

Research Methods

Strategy Map

This study utilizes a strategy map as a primary tool for investigation. A strategy map is a visual representation that outlines an organization's fundamental strategy, goals, and associated implementation plans. Typically, it visually illustrates the interconnections among different strategic elements, offering a clear depiction of the overall strategic direction. The primary aim of a strategy map is to facilitate team members' understanding, alignment, and effective execution of the organization's strategic plan (Kaplan & Norton, 2004).

In the context of supply chain management, the application of a strategy map encompasses several critical aspects:

1) Integrated Supply Chain Strategy: A strategy map can visually articulate an enterprise's supply chain strategy, encompassing elements such as raw material procurement, production, logistics, storage, and other integral links. This visualization ensures that the entire supply chain operates cohesively within the same strategic framework.

2) Emphasis on Key Objectives: By utilizing a strategy map, companies can distinctly identify key objectives within supply chain management, such as enhancing efficiency, reducing costs, improving quality, and more. This clarity aids in focusing attention and allocating resources effectively to the most critical areas.

3) Communication & Empathy: Serving as an excellent communication tool, a strategy map succinctly presents complex strategic messages to team members and stakeholders. This aids in building empathy and ensures that all involved parties comprehend and support the supply chain strategy.

4) Assessment and Adjustment: Strategy maps enable companies to regularly assess the efficacy of their supply chain strategy execution. If deviations or adjustments are deemed necessary, a strategy map guides appropriate modifications to ensure alignment with the overall corporate strategy.

The linchpin for driving strategy execution lies in people, and it is imperative that all members deeply understand the outcomes and impact of strategy execution. Visualization through a strategy map stands out as the most effective approach for achieving this. Applying strategy maps to supply chain management enhances overall collaboration, ensures alignment of supply chain activities with corporate strategy, and empowers teams to comprehend and execute strategic plans more effectively.

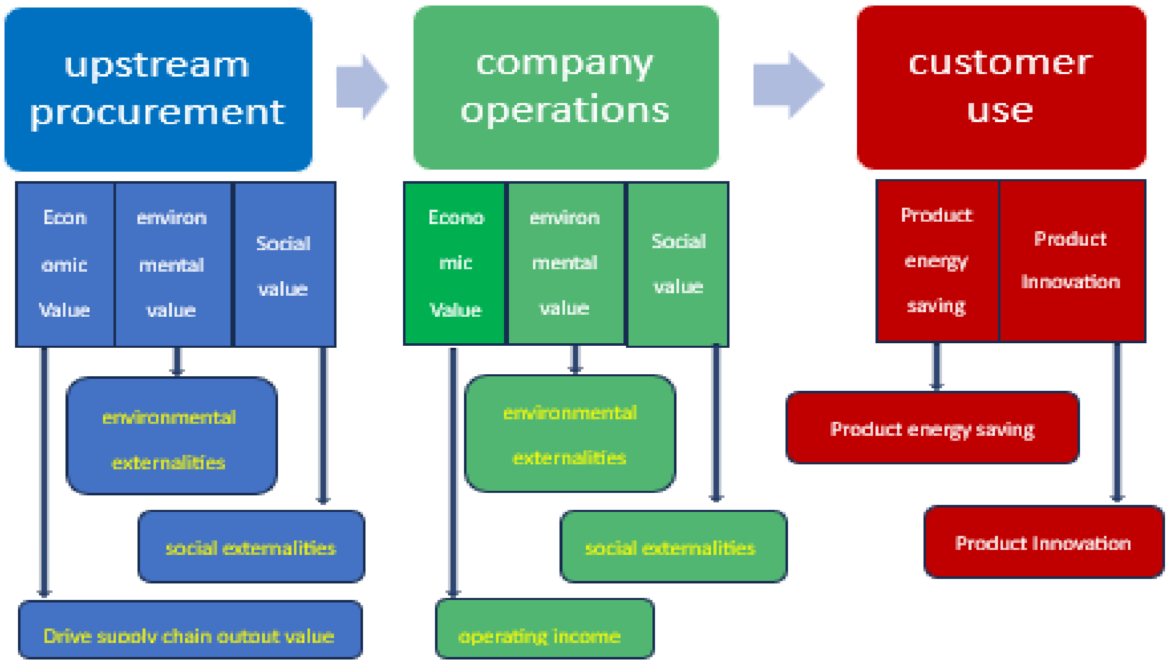

Figure 2 An Example of a Sustainable Impact Strategy Map

Comparative Conceptual Research Methods

Conceptual comparative research is a method that scrutinizes abstract concepts to comprehend and analyze the similarities and differences among different concepts, theories, or models. This approach underscores the comparison of different concepts to elucidate their characteristics, commonalities, strengths, or limitations. Key features of the Comparative Conceptual Research Method include:

1) Clear Concept Definition: The researcher begins by precisely defining the concept, theory, or model under comparison. This involves identifying the core elements of the concept for systematic analysis.

2) Comparison of Similarities and Differences: In-depth comparisons are conducted, focusing on the similarities and differences between concepts. This may involve comparing definitions, characteristics, scope of application, theoretical basis, and other aspects of the concept.

3) Analytical Characteristics: Through comparison, the researcher analyzes the characteristics of each concept, unveiling strengths and weaknesses. This provides insights into the meaning, application, and impact of each concept in a specific context.

4) Establishment of a Theoretical Framework: A conceptual comparative approach aids in establishing a theoretical framework, enabling researchers to develop a more comprehensive and profound understanding of the study's field. This contributes to expanding knowledge in the subject area.

5) Theoretical Deduction: Comparing different concepts allows researchers to make theoretical deductions, proposing new theories or models based on the comparative results. This fills gaps in existing theories or provides more comprehensive explanations.

Comparative conceptual research is often employed to explore and comprehend the interrelationships between different concepts. Given the abstract nature of environmental, social, and corporate governance concepts in ESG studies, a comparative examination of these concepts will foster more In-Depth discussions and research on the ESG topic.

Case Study Method

This study also incorporates case studies of various companies to comprehend the strategic maps adopted in response to ESG.

Results and Discussion

Different Response Strategies under ESG

In the realm of ESG, companies can adopt diverse response strategies, as delineated in Table 1. This table categorizes the response strategies according to the three ESG modules: Environmental, Social, and Governance. It provides a comprehensive overview of the strategies that companies can employ to tackle challenges and fulfill the requirements across various aspects.

Table 1 Strategies Adoptable by Enterprises in the Context of ESG

ESG Module	Response Strategy
Environmental	- Develop a sustainability plan to reduce your carbon footprint and save energy. - Promote a circular economy and reduce the use of hazardous substances. - Invest in green technology and innovation.
Social	- Promote diversity and inclusion and ensure that social diversity is reflected within the organization. - Enhance employee well-being, including improving working conditions and providing a safe and healthy working environment. - Take measures to promote gender equality, cultural diversity and racial equality.

Table 1 (Cont.)

ESG Module	Response Strategy
Governance	- Strengthen corporate governance, transparency and accountability. - Disclose financial information and establish an effective code of ethics. - Promote shareholder participation and balance the interests of all stakeholders.
Respond to risks	- Conduct a comprehensive ESG risk assessment and develop a risk management strategy. - Establish a crisis response plan to address the impact that unexpected events may have on ESG performance.
Stakeholder involvement	- Actively participate in dialogue with stakeholders to understand their needs and expectations. - Incorporate stakeholder feedback and adjust ESG strategies and practices.

Strategy Map Analysis

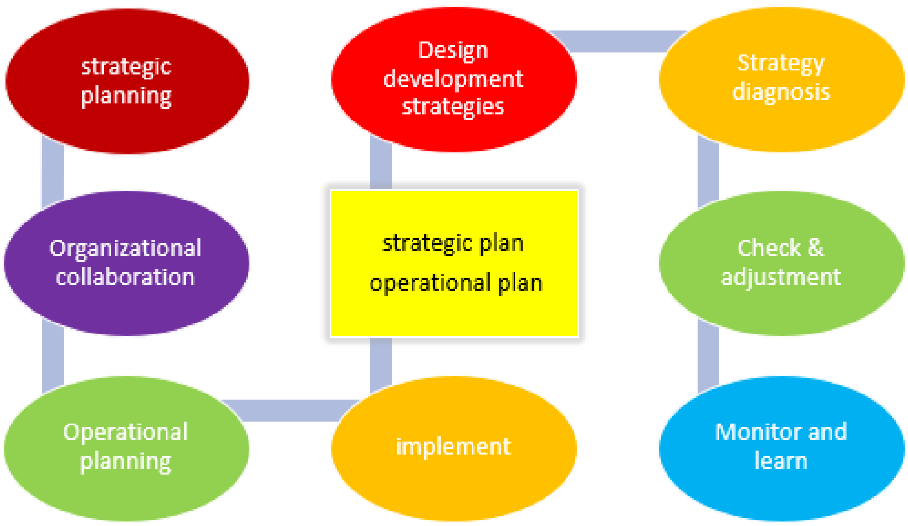

Figure 3 Policy Diagnosis and Management Architecture

Figure 3 illustrates a comprehensive map outlining how companies respond to ESG strategies.

Case Analysis

ASUS's Corporate Sustainability Performance

The overview chart in Table 2 provides a concise summary of ASUS's corporate sustainability performance. It encompasses key elements such as diversity options, the integration of sustainability into operational plans, sustainability concepts, sustainability strategies, and the supplier code of conduct. This comprehensive overview serves as a valuable snapshot of ASUS's commitment and approach to corporate sustainability. (Yeh, 2021)

Table 2 Overview of ASUS's corporate sustainability performance (ASUS, 2023)

firm	Asus
Diversification of options	- Preferences can be expressed in ways never before possible - Companies that you can choose to buy and work for based on your values
Sustainability is integrated into the business plan	- Integrate strategic sustainability into operational plans - Set medium- and long-term sustainability goals - Management sustainability performance is the same as economic performance - Measure program progress with assessment tools - Establish a bridge of communication between stakeholders in different fields to jointly create corporate and social sustainability
The concept of sustainability	- Investment institutions regard corporate governance, environmental, and social performance as one of the top priorities in investment evaluation
Perpetual Strategy	- Established a sustainability unit in 2000 - Make sustainability an integral part of business decisions - Adopt data-based measurement and technology-based management < - Incorporate environmental and social considerations into every decision-making process - Shaping sustainable competitive advantage
Supplier Code of Conduct	- Become a full member of the Responsible Business Alliance (RBA). - Establish a supplier code of conduct, require suppliers to comply with and encourage upstream suppliers to do the same - Strengthen protections for young workers and female employees - Integrate suppliers' ESG performance into the selection and management process - Ensure that suppliers comply with the Code of Conduct through annual audits - Lead the supply chain to a sustainable transformation and make substantial contributions to the UN SDGs

The table below outlines the relevant ESG concepts and initiatives, providing a chronological overview of TSMC's progression and dedication to the Sustainable Development Goals (SDGs). It highlights key actions

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taken by TSMC in alignment with specific SDGs, illustrating the company's proactive engagement with sustainable practices over time.

Table 3 TSMC's Development and Commitment to SDGs (TSMC, 2023)

Time	Specifics	Main actions
2021	By the United Nations Development Programme (UNDP) "Enterprise SDG Impact Standards" released the "Enterprise SDG Impact Standards", TSMC has set a long-term sustainability goal for the Republic of China for 119 years, and regularly reviews the progress and degree of compliance, and dynamically reviews the appropriateness of adding or removing targets.	- Set long-term sustainability goals - Regularly review progress and attainment of targets – review the appropriateness of adding or removing targets
2022	TSMC pledged 52 long-term goals that echo the SDGs, adding 5 new goals, including managing employee health and stress, hiring employees with disabilities, reducing carbon dioxide derived from waste, cultivating semiconductor workers, and requiring suppliers to participate in CDP's supply chain projects.	- Committed to 52 long-term goals that echo th e SDGs - 5 new goals - Continuously reflect on and expand opportunities across the value chain to contribute to the SDGs
2021	78% of the targets (37) continued to make progress and achieved the annual targets, which is a positive trend of the green light level, while 22% of the targets (10) are negative, of which 3 goals are at the yellow light level, and 2 goals are still exceeding last year's performance although they have not reached the annual target.	- Positive Trend Goals: Continue to make progress and achieve goals - Among the targets of negative trend, there is a distinction between yellow and red-light levels - regardless of positive or negative trend targets, the company continues to implement corresponding sustainable actions.

Conclusion

This study underscores the pivotal role of integrating sustainability goals into business strategies and supply chain management for companies to remain competitive in the global market and achieve sustained value growth. Examining ASUS and TSMC reveals their unwavering commitment to environmental stewardship, social responsibility, and robust governance standards. Both companies showcase initiatives to fortify the sustainability and efficiency of their supply chains through innovative measures and collaborative efforts.

The ASUS and TSMC case study illuminate key elements. Firstly, well-defined ESG goals and strategies form the bedrock for sustainable development and heightened shareholder value. Secondly, rigorous control and evaluation of the supply chain not only mitigate operational risks but also enhances enterprises' adaptability to external changes and foster innovation. Moreover, proactive corporate social responsibility implementation fosters brand image and deepens trust among customers and investors.

ASUS and TSMC exhibit innovative practices in supply chain management and substantial investments in sustainable development, setting high benchmarks for the entire industry. Their endeavors contribute to steering the industry towards a more sustainable and responsible trajectory.

In conclusion, the analysis of ASUS and TSMC underscores that the successful execution of ESG strategies and adept management of supply chain operations are paramount for enterprises navigating the dynamic global market. It also emphasizes the crucial role of business leaders in propelling sustainability and social responsibility forward, alongside the imperative of continuous innovation and collaboration in strategic planning and execution. As global demand for sustainability rises, companies must continually adjust and optimize their ESG strategies and supply chain management practices to ensure enduring success and positive impact.

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