

AN IN-DEPTH STUDY ON EXAMINING THE IDENTIFIABLE SUSTAINABLE MANAGEMENT STRATEGIES FOR ENHANCED GLOBAL PERFORMANCE IN SUPPLY CHAIN SERVICE

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ABSTRACT

In regions worldwide, the imperatives of sustainable development are increasingly shaping the management of logistics flows. Supply chain management is now grappling with new environmental and social considerations, extending to both product and service supply chains. Notably, sustainable development requirements are now influencing the practices of the Service Supply Chain (SSC), a specific supply chain for services. Consequently, how can sustainable chain management enhance the overall performance of service companies? A prospective study indicates that sustainable Service Supply Chain Management, emphasizing coordination, information exchange, collaboration, and resource pooling among various stakeholders, can enhance the efficiency and global performance of the service supply chain.

INTRODUCTION

In the past decade, integrating sustainability into supply chains has become imperative for organizations. The absence of a cohesive framework for Sustainable Supply Chain Management (SSCM) has emerged as a significant concern for both researchers and practitioners. Furthermore, inter- and intra-organizational supply chain operations involve multiple actors spanning from upstream to downstream markets and vice versa. These interactions enable the modification of logistics practices with the aim of enhancing individual and collective performance. Consequently, from material procurement to waste recycling, supply chain members collaborate to refine organizational management practices in a globally competitive context. While sustainable supply chain management has garnered considerable attention from researchers due to pressure from various stakeholders to embrace sustainable development, its scope encompasses the entire lifecycle of products or services, from material extraction to end-of-life processing. This necessitates that companies committed to sustainability reassess their strategies and operational mechanisms to achieve a better balance between traditional economic goals and environmental objectives. However, the impact of sustainable logistics on performance remains relatively underexplored, particularly in the services sector. This research aims to provide an overview of Sustainable Service Supply Chain Management (SSSCM), conceptualize the relationship between this management approach and overall performance, and identify effective supply chain management practices capable of enhancing companies' overall performance in the future. The research will be structured into three main sections:

1. Defining the concept of SSSCM, highlighting the specificities of services, examining sustainable SCM concepts in service companies, and exploring the notion of performance.
2. Detailing the chosen research methodology.
3. Presenting the findings of the empirical study conducted.

THEORETICAL AND CONCEPTUAL FRAMEWORK

A. Supply Chain and Service Supply Chain

The supply chain encompasses all operations involved in manufacturing a product or delivering a service, from raw material extraction to customer delivery, including processing, storage, and distribution stages. In addition to material flows, the supply chain also encompasses information and financial flows. It is regarded as a system comprising suppliers, producers, subcontractors, distributors, retailers, and customers engaged in the exchange of material flows from upstream to downstream.

The flow of information operates bidirectionally within Supply Chain Management (SCM), while financial flows move from downstream to upstream. SCM emerged in the 1980s and gained widespread promotion in the 1990s. Defined by [3] and [4] as "the systemic, strategic coordination of traditional operational functions and their respective tactics within a single company and between partners in the supply chain," its essence aligns closely with a management philosophy aimed at cost reduction and enhanced service quality.

The evolution of markets since the 1980s challenged conventional organizational models, leading to the emergence of a post-bureaucratic paradigm [5]. This paradigm emphasizes inter- and intra-organizational management, focusing on cooperation and integration. Integration involves horizontal and vertical coordination, with joint planning across multiple supply chain levels and the latter involving synchronization of strategic, tactical, and operational plans.

Service Supply Chains (SSCs), as defined by [6], encompass a network of suppliers, service providers, consumers, and support units facilitating service production, transformation, and delivery. SSCs engage customers actively in the production process, enabling companies to leverage customer-centric knowledge management strategies for competitive advantage.

The shift towards service-oriented economies, facilitated by digital transformations, presents opportunities for improving service quality and reducing delivery costs ([7]; [8]). Unique industry practices necessitate specific Service Supply Chain Management (SSCM) policies, with frameworks and performance measures developed to guide implementation ([9]; [10]).

Sustainable Service Supply Chain Management (SSSCM) integrates stakeholders' concerns with ecological and social considerations [11]. It encompasses the design, organization, coordination, and monitoring of supply chains to ensure economic viability without compromising social or environmental systems [12]. SSSCM broadens SCM by incorporating the triple bottom line concept, addressing environmental, social, and economic dimensions [13].

In contemporary service supply chains, sustainability practices are increasingly integral to internal management, responding to environmental imperatives. Consequently, SSSCM emerges as a key driver of overall service company performance.

The concept of performance has evolved beyond a purely financial metric to encompass various stakeholder interests [14]. Management performance is defined by [16] as achieving organizational objectives, encompassing action, results, and success.

Performance is commonly understood as the successful execution or achievement of positive outcomes. According to [17], a well-performing company effectively accomplishes its objectives through the implementation of an appropriate strategy [15] defines a high-performing organization as meeting stakeholder expectations and generating the expected surplus. Performance occurs when an organization optimally utilizes its material, human, and financial resources to fulfil its objectives. It encompasses various dimensions, including economic, social, and commercial aspects.

To grasp the complexity of organizational performance, some schools of thought advocate for a broader perspective. This entails integrating product and service quality indicators, employee engagement, work environment, productivity, and customer satisfaction. Economic performance can be gauged through market, operational, or accounting metrics [18], while environmental performance considers resource efficiency, recycling efforts, pollution reduction, and waste management [19]. Social performance accounts for human rights, labour practices, and community impact [20]. Enhancing the sustainability performance of Service Supply Chains (SSCs) poses challenges due to reduced visibility in chain management [21], diluted firm power, and divergent sustainability expectations across stakeholders [22]. In this context, organizational performance drives stakeholder satisfaction and strategic alignment.

SUSTAINABLE SUPPLY CHAIN SERVICE AND GLOBAL PERFORMANCE: A PROSPECTIVE APPROACH

A. Research Methodology

The term "prospective" denotes an approach to identifying future scenarios. Through a rational and holistic process, Foresight aims to prepare for the future by analyzing available data to envisage possible scenarios. It does not predict the future but explores potential outcomes based on current perceptions. [23] identifies three main prospective methods in management sciences: the Delphi method, the business prospective method, and the Prospective Dynamique Interrelationnelle method (PRODIN).

As suggested by [24], we adopt the PRODIN approach, wherein company actors and experts are the primary project managers. Drawing on their experience and expertise, this method facilitates the development of a future vision based on dynamic interaction among actors. Although relatively uncommon in the literature, this approach offers several advantages over the classical Delphi method, including the mobilization of separate focus groups, engagement of different groups across prospective stages, and dissemination of results to both researchers and practitioners.

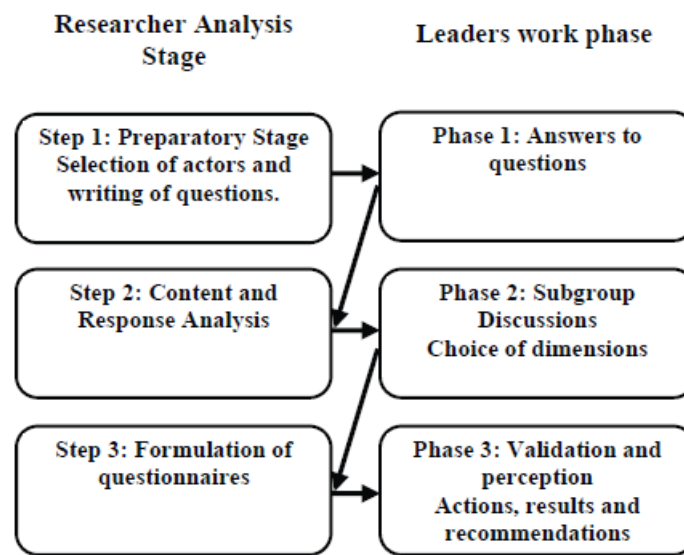


Fig. 1. Diagram of the prospective approach followed, adapted from [25]

B. Insights from Current Research on Sustainable Supply Chain Services

Recent years have witnessed a notable upsurge in research on sustainable Supply Chain Management (SCM) across a broad spectrum of sectors, organizations, and industries, drawing from academic and professional literature.

One study [26] thoroughly examined consumer behavior's influence on sustainable SCM, analyzing data from 28 European nations. Another study [27] underscored the pivotal role of governance in SCM practices, spanning 146 industries, and evaluated its economic feasibility and ecological advantages. Within the cement sector, [28] investigated the nexus between environmental performance, responsible sourcing, competitive edge, and sustainable innovation. Furthermore, [29] scrutinized the relationship between ecological and financial performance, focusing on customer-centric approaches within 119 enterprises. Additionally, [30] explored the interconnections between financial and environmental performance and SCM capabilities.

Further research delved into the interplay among SCM practices, corporate motivations, and performance in high-tech firms ([31]) and Brazilian automotive supply chains ([32]). Meanwhile, [33] delved into the impact of institutional pressures, internal environmental initiatives, and external partnerships on supply chain ecological performance.

At a more granular level, several studies have honed in on Sustainable Service Supply Chains (SSC), dissecting unique facets of SSC sustainability and providing valuable insights into its dynamics and ramifications.

Chosen to concentrate on performance analysis specifically within the Sustainable Service Supply Chain (SSSC), the exploration of service sustainability within supply chains is still in its infancy ([34]; [35]), [36] evaluated the environmental performance of the service supply chain, neglecting other facets. [37] addressed the sustainability of service supply chains, yet only outlined the primary dimensions. [7] exclusively emphasized "environmental design" in constructing a

framework for assessing sustainable service management performance.[38] introduced a theoretical framework for sustainable service supply chain operations, considering three key sustainability dimensions, but omitted the criteria for evaluating these dimensions. Our research journey began with a collaborative effort. A committee of five SCM service experts, all intrigued by the SSSCM theme, was established. Together, we extracted common characteristics from the interviews and formulated a generic concept of 'SSSCM' by synthesizing expert expressions. This collective effort is a testament to the value we place on diverse perspectives in our research.

C. Results and Discussions

Phase 1 of our study was conducted with meticulous attention to detail. We enabled a qualitative analysis of the interview content with experts using Tropes and Iramuteq software. This rigorous method allowed us to derive the necessary items for the phase 2 questionnaire, ensuring the validity and reliability of our findings.

TABLE I. SUMMARY PRESENTATION OF THE EXPERTS INTERVIEWED

	Branch	Function	Sex	Employees
1	Pharmaceuticals	Logistics Manager	M	140
2	Education	Educational Director	M	30
3	Banking	Head of General Services	W	500
4	Transportation	Logistics Manager	M	100
5	Accounting	Administrative Manager	M	6

TABLE II. ITEMS MOST USED BY EXPERTS INTERMS OF SSCM

Concepts	Number of items
Sustainable	220
Process	196
Environmental	121
Employees	72
Waste	71
Technology	67
Risk	50
Quality	44
Ecology	34
Conservation	16

During active discussions, we observed a prevalence of concepts associated with SCM, albeit with varying degrees. As illustrated in Table II, the interviewed stakeholders hold differing perceptions of the service company's SSC.

CONCLUSION

This article endeavoured to analyze the service supply chain, mainly focusing on sustainability and durability. Through a prospective study, we aimed to forecast future trends in SSSCM.

Implementing this logistics process within service companies can streamline operations and enhance SCM performance by integrating sustainability parameters, albeit with varying approaches and priorities.

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