Urban Green Space Based on Sustainable Supply Chain Management Concept: A Review

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Abstract. This paper examines sustainable supply chain management with the perception of urban green space. Urban Green Space (UGS) is located in residential areas to city centers, accommodates various social interactions between users and has many benefits. In an overview of supply chain management in an urban area, supply chain management provides benefits to the availability of critical infrastructure for the production and distribution of goods and services. Based on the context of sustainability, Sustainable Supply Chain Mangement (SuSCM) links, reconnects and integrates all work and reflection on SCM, Green SCM and Social/ Community SCM. In this paper a framework of sustainable supply chain management by considering urban green spaces. Content analysis was conducted to confirm the model developed. Overall, this review effort determines that sustainable supply chain management methods can be used as a basic concept for the design of urban green spaces with all their benefits.

Keywords: Urban Green Space (UGS), Sustainable Supply Chain Management (SSCM), Urban Design.

1 Introduction

Urban Green Space (UGS), often referred to as urban green space, is a type of open space that facilitates social interactions between users and is positioned between residential neighborhoods and city centers [1]. It offers several advantages. Urban green spaces, particularly those in the middle settlement, are crucial for both physical and mental health in addition to social features. The presence of a park in a residential area promotes users' physical activity, including playing, cycling, and walking. Additionally, greening public open spaces greatly contributes to lowering air pollution, lowering resident stress levels, and creating a cleaner, healthier atmosphere [2], [3].

Urban green spaces are an essential component of urban design, providing numerous benefits to both the environment and the people who live in cities [4], [5]. Effective characterization and management of urban green spaces are crucial to ensure that these spaces are sustainable,

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accessible, and meet the needs of the community. Here are some key insights from the search results:

- Urban green spaces can be analyzed and identified using landscape metrics and suitability checklists.
- Designing urban green spaces for climate adaptation requires evidence-based research.
- Urban green spaces provide numerous ecosystem services, including mitigating the impact of urbanization and improving human well-being.
- Effective management of urban green spaces requires a holistic understanding of the concept of "management" and the role of green spaces in urban landscapes.
- Indicators can be used to plan and manage urban green spaces, including those related to social, economic, and environmental factors.
- Open green space objectives and strategies can be proposed based on landscape functions, urban character, and urbanization level.

Overall, urban green spaces are an essential component of urban design, and effective characterization and management are crucial to ensure that these spaces are sustainable, accessible, and meet the needs of the community [5].

To illustrate the advantages of a supply chain management approach for urban planning, an analysis of the supply chain management of a metropolitan area was conducted. In our network economy, supply chains facilitate the production and distribution of goods and services by acting as the backbone of the manufacturing, transportation, and consumption of a wide range of goods, including food, clothing, cars, high-tech items, and healthcare products. Major population centers like cities have a large number of distribution and storage facilities, transportation providers, and even manufacturers in addition to being the primary demand points [6].

The hub of the products distribution system is the urban logistics spaces, or ULS, which serve as interfaces between producer and consumer, private and public, and interurban and urban areas. Urban systems are made up of both public and private domains. They are separate and complementary at the same time, with differing demands, roles, and timelines. Still, "bridges" already exist and are being developed. Organizations and businesses come together to design solutions that address the demands of urban planning and the economy. However, due to road network congestion and stricter regulations (such as delivery stop conditions and access hours), accessibility to metropolitan regions is becoming increasingly limited and unpredictable [7].

The aggregation of flows towards platforms or depots based on barycentric location, capacity (space and operations), and delivery round optimization is the result of traditional logistics schemes. The number and distribution of the static delivery sites define them. Both the schemes and the logistics are monotype and quite individualized. Urban logistics plans, on the other hand, fall under the purview of already-existing logistics plans and gain from their experiences as well. The concepts of proximity and diversity of distribution places and access ways will be incorporated. The strategy is more collaborative in nature, attempting to address the worldwide rise in delivery volumes for the diverse range of activities and city dwellers.

In parallel, it can be seen that the supply frequencies are greater and that the shipping is fragmented because of the high address dispersion, resulting in longer delivery amplitudes and distinct cycles. The key issue in both the classical and urban designs is the coordination of flows [8].

The distribution standards and changing consumer trends cause shippers and logisticians to reevaluate their supply networks. City planners are at the forefront of public actors when it comes to making decisions and implementing strategies that improve urban traffic flows. The instruments at the disposal of public actors, however, are insufficient to comprehend and keep track of the phenomena on a worldwide scale, and private players cannot, by themselves, address the transversal issues pertaining to the internal and exterior interactions of the urban logistics system. Ignoring the connections and exchanges of institutional, economic, and resident actors in urban logistics can only result in failure [9], [10].

Conversely, allowing the market to apply its own solutions prevents satisfying answers to the intricacy of a system of actors with occasionally incompatible goals from being brought about. The sole entity with the jurisdiction to regulate infrastructure usage and arbitrate and direct the structure of urban logistics activity is the local authority, which is a city or conurbation, through the arrangement of the road network. Prior to the 1980s, urban supply chain freight flow management had little effect on urban air pollution and traffic congestion. Furthermore, the efforts of public authorities concerning policy and planning for logistics and freight transportation in urban settings were restricted to emergency response measures.

The issue of urban freight distribution, which was formerly solely under the control of transportation carriers, has been brought to the attention of some public administrations due to the growth in urban traffic and the resulting congestion in both large and medium-sized cities. With the assistance of public administrations and other support funds, numerous studies and pilot projects were conducted between the 1990s and the start of the twenty-first century to determine how to organize urban freight distribution in order to reduce traffic and pollution caused by this transportation sector [4].

Conceptualizing a particular element for social/societal, green, and economic SCM—all of which involve sustainable transportation—becomes quite straightforward [4], [11]. But we must not lose sight of the fact that SCM and SuSCM are transversal concepts. Every dimension must, in actuality, be related to the others. We created an interview guide taking into account the scant literature on the subject of logistics and sustainable development. It took a while and was challenging to define this guide as it needed to be adaptable enough to let both interviewers and interviewed people adjust their interventions to suit one another's requirements and limitations. For instance, the maximum number of answers must comply with the most stringent restriction. Economic, environmental, and social/societal are the three variables that are noted and have a significant correlation [12], [13]. Furthermore, the economic and environmental components are significantly impacted by the social and sociological dimension. Nonetheless, we note that even when a project is designed with environmental objectives, the economic aspect is essential to ensure its continuation.

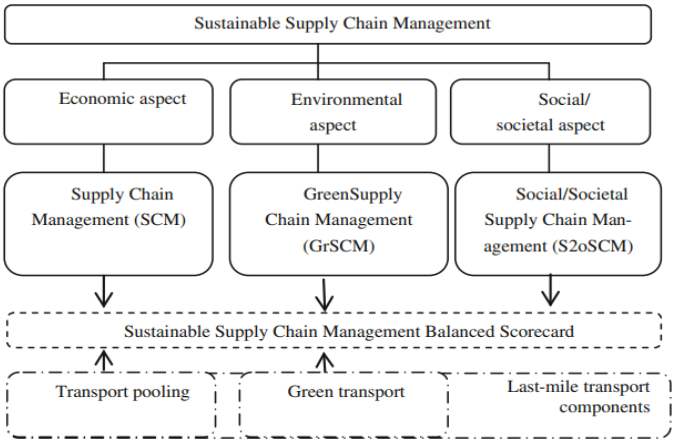

Fig. 1. Main components of the sustainable suppy chain management

Economic SCM, environmentally friendly SCM, and social/community SCM elements—which include sustainable transportation—make up the SuSCM concept. But we also need to remember that SCM and SuSCM are transversal or related concepts. Every dimension needs to be de facto related. Based on the explanation above, this paper examines sustainable supply chain management with the perception of urban design, namely urban green space.

2 Method

Content analysis was conducted to confirm the model developed. Content analysis is a qualitative research technique with emphasizes the plainness of the content, the meaning of the content of reading symbols and the meaning of the content of symbolic interactions [14].

The stages of content analysis carried out are [15]:

1. First, the description or orientation stage, namely where the researcher describe what is seen, heard, felt, and asked.
2. Second, the reduction stage, at this stage the researcher reduces all the information have been obtained in the first stage to focus on a particular problem, The data that needs to be sorted is data that is interesting, useful and important new.
3. The third stage is the selection stage, at this stage the researcher outlines the focus that have been determined in more detail. In this third stage after the researche rcarry out in-depth analysis of the data and information obtained then researchers can find themes by constructing the data obtained becomes new knowledge, hypothesis or knowledge

3 Results and discussion

3.1 A framework for improving urban green spaces based on sustainable supply chain management

There are three main sections to this framework. The components of a sustainable supply chain management are covered in part one, perception is one of the factors that can affect sustainable supply chain management, and the relationship between the intervention design and the space's perceived effects is covered in part three. According to the concept, sustainable supply chain management refers to maintaining urban green areas [16], [17].

The most significant group of individuals, or the users of the green space, are more focused on the area itself and are impacted in their opinion by the sustainable supply chain management, which is an extremely complicated and inconvenient intermediary stage. Furthermore, it is necessary to consider the possibility of adapting this framework for urban green spaces with the concept of sustainable supply chain management.

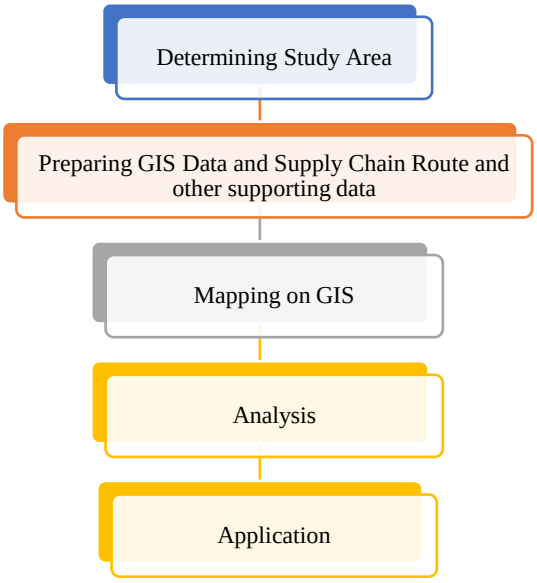

Fig. 2. Flow of developing sustainable supply chain management

3.2 Urban green spaces infrastructure

The supply chains for sustainable urban design are the main topic of this article. The objective is to record the supply network structure throughout the system chain and input the economic activities of the supply chain network at different frequencies, together with environmental impact fees and waste management expenses [17], [18].

Urban green spaces are open-space areas reserved for parks and other "green spaces," including plant life, water features, and other kinds of natural elements. Urban green spaces play an

important role in the sustainable development of cities. They improve environmental conditions, promote outdoor recreational spaces and active lifestyles, and protect biodiversity by creating wildlife habitats. Urban green spaces also reduce heat island effects and reduce surface runoff [4], [5].

Urban green infrastructure planning (UGI) is a strategic approach to developing interconnected and multifunctional networks of blue and green spaces that potentially provide a wide range of environmental, social, and economic benefits and simultaneously enhance the climate resilience of cities [10], [19], [20].

Urban green infrastructure includes different types of blue-green spaces such as forests, wetlands, agricultural land, public parks, private gardens, single green elements (street trees, green roofs, etc.) or ponds and streams [10], [20].

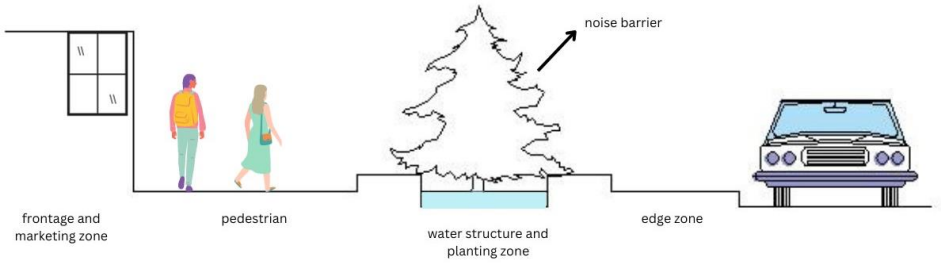

Fig. 3. Urban green spaces infrastructure

Strong urban planning teams and extensive technological utilization are not the only prerequisites for smart cities; active and willing stakeholder involvement is also necessary that includes experts in logistics. Basically, supply chains might be one of the sectors with the greatest benefits of more sophisticated municipal infrastructure [4].

4 Conclusion

In order to better understand sustainable supply chain management, this article looks at urban green space and how it might be tracked, described, or managed. The idea states that in order for supply chain management to be sustainable, it has to be implemented on large topography as well as public knowledge of sustainable supply chain management and the reciprocal linkages between these elements. Next, the manufacturing process employs GIS tools to manage a sustainable supply chain. We may infer that methods for accurately representing and investigating urban environmental concerns related to urban growth and design include sustainable supply chain management.

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