Project Logistics Management: A Literature Review for Project Managers [1]

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Abstract

Linking project management to logistics, this article aims to decrypt the adoption of a project-based process to supply chain management – and more precisely logistics, which derives substantial benefits to the organization. The current research will examine an ensemble of concepts that are relevant to both Supply Chain Management and Project Management. This exercise will help identify the key components and factors of a successful logistics' project implementation. Finally, this article will present the best practices to succeed in a logistics project by exploring a new emerging business field: Logistics Project Management.

Key Words: Supply Chain, Logistics Management, Project Management in Logistics, Logistics Project Manager

Introduction

Project management and Supply Chain Management are both complementary and necessary for a successful endeavor. Project managers are concerned with logistics-related issues and logistics managers will need to work within a project-based framework (Pich et *al*., 2002). Managers and project leaders must understand the various roles and responsibilities when it comes to implementing a logistics' project (e.g. planning, executing, controlling, etc.).

Nowadays Logistics Managers are required to lead projects and transform the supply chain by optimizing it while taking into account their resources and the intended outcome

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– as it will increase the organization's sustainability and adaptability in the business-transformational environment (Alicke et *al*., 2020).

Business industries are reconfiguring their Supply Chain Management dynamic by applying it within a project-based framework given its strategic importance to an organization's success (Giunipero et al., 2006; Aloini et *al*., 2015).

Any project, great and small, will have its own complexity and will require the crisscrossing of both Supply Chain Management and Project Management principles, tools, processes and procedures (Tatikonda & Rosenthal, 2000; Maylor et *al*., 2008). The components of both business disciplines are critical to success as they combine business strategy to technical operationality (Loten & Castellanos, 2019). Business practices and operations benefit greatly from the crisscrossing of both disciplines as this will increase business vigilance, enhance resource utilization, and provide better prospective options. Such a situation will better align projects with business strategies, industry trends, and organization's goals (Lycett et *al*., 2004).

Both Supply Chain Management and Project Management have attracted considerable interest from both practitioners and researchers which resulted in both publications and business processes formulation (Ika, 2009; Ponomarov & Holcomb, 2009). Both interests, business findings, and further empirical gaps have led to the emergence of a new area of research: Logistics Project Management. Logistics project management is considered as a complex and new field that requires an ensemble set of skills and competencies (Hartel, 2022). This new research field is of great interest to managers as they can benefit from better understanding and integrating Supply Chain Management within Project Management (e.g. risk management, supplier management and procurement, warehousing, IoT, etc.) (Wei et *al*., 2021). This will enable the building of a holistic business approach to deal with the increasing complexity within and across organizations (Aloini et *al*., 2015).

1. Logistics Project Management Definition

Most of the people in the business environment are familiar with the concepts of ''Logistics Management'', ''Supply Chain Management'' and ''Project Management'' – however few of them can see the overlapping of their components (Haug, 2022):

- **Project Managers**: They cannot appropriately address the risks, the schedule, the budget, and even the scope – if they have no proper understanding of the Supply Chain in which they operate. In other words, without the integration of all the processes that an organization uses to create value – a project cannot succeed or attain all of its set goals.

- **Supply Chain Managers**: They cannot implement or adapt to any changes (planned and unexpected) both effectively and efficiently if they do not master the tools, models, and components of project management. Hence, such a situation will not guarantee the delivery of value from the Supply Chain.

There is a growing demand for Supply Chain Project Managers capable of piloting complex logistics projects in unstable environment (e.g. technological innovation, geopolitical change, etc.) (Lambert & Cooper, 2000).

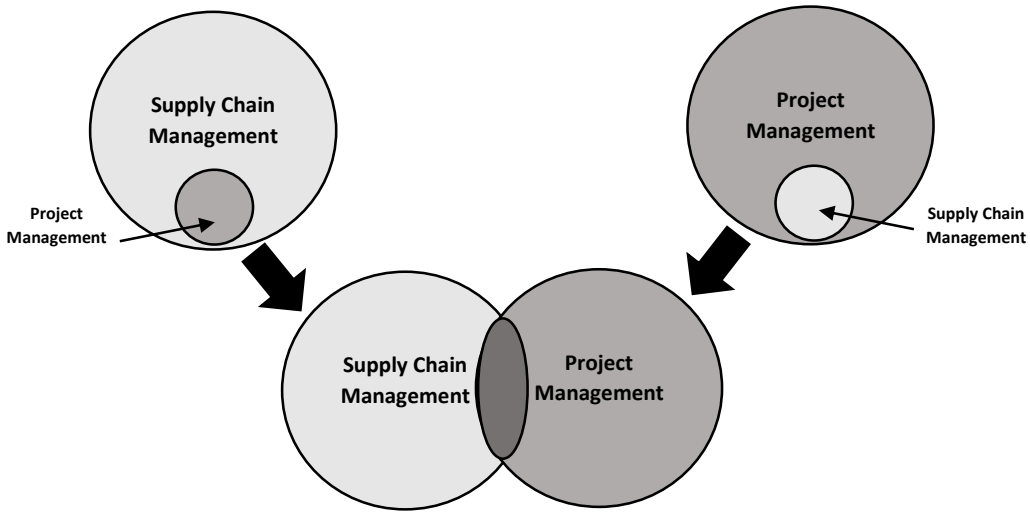

Figure 01. Crisscrossing Supply Chain Management with Project Management

Logistics Project Management can be defined as part of the Supply Chain Management that plans, implements and controls the efficient forward and reverses flow and storage of goods, services and other related information between the point of origin and the point of consumption to meet clients' requirements (Hartel, 2022).

From a broader perspective, Supply Chain Management encompasses both the planning as well as the management of all operations and activities involved in sourcing and

procurement, conversion / development, and all logistics management activities (Van Weele, 2014). Its dynamic (Supply Chain Management) includes coordination and collaboration with partners such as intermediaries, suppliers, third-party service providers, customers, freight facilitators, etc. (Haug, 2022). Hence, Supply Chain Management effectively integrates supply and demand management both within and across organizations.

Based on the cited above definitions, we can see that:

- Logistics Management is actually a subset of Supply Chain Management.
- When it comes to Project Management – we see that it overlaps onto Supply Chain Management – which gives rise to the terms ''Project Supply Chain Management'' and ''Project Logistics Management''.
- Hence, we understand that:
    - Project Logistics is a subset of Logistics.
    - Project Supply Chain Management is a subset of Supply Chain Management.

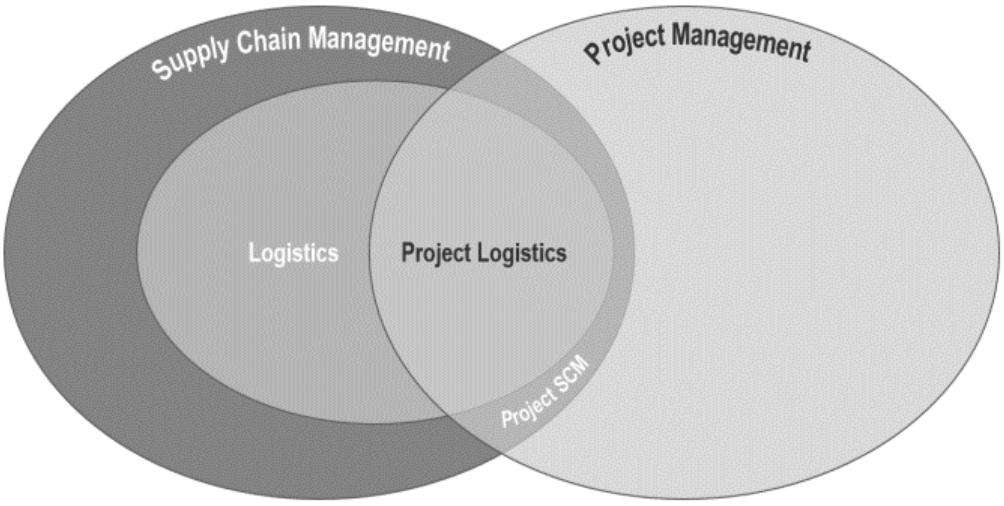

Figure 02. Project Logistics

Based on what was explained – Logistics Project Management is the adoption and application of Project Management principles, processes, models, and technique to ensure the appropriate conception, planning, execution and control of activities / operations that are relevant to the Supply Chain (e.g., procurement, distribution

channels, transportation, storage, inventory management, software implementation, etc.). However, every project is unique – which means that for every project, every supply chain is different (Ash & Smith-Daniels, 2004). Hence, logistics projects can range from simple to complex – depending on the project as is (e.g., scope, scale, location, objectives, dynamics, etc.).

2. Logistics Project Management Characteristics

There are many features that actually characterize Logistics Project Management (Boddy & Macbeth, 2000; Calamel et al., 2012; Buvik & Rolfsen, 2015):

- ***Converging***: All materials converge on the main project site where the facility is assembled from incoming materials to produce a main product.
- ***Temporary***: Apart from very rare exceptions, a project supply chain is temporary and short-lived, producing one-off results through repeated reconfiguration of project suppliers.
- ***Made-to-order***: Projects require made-to-order supply chains, thus new facilities are required for every project. There are rare exceptions where recurrence may be found.

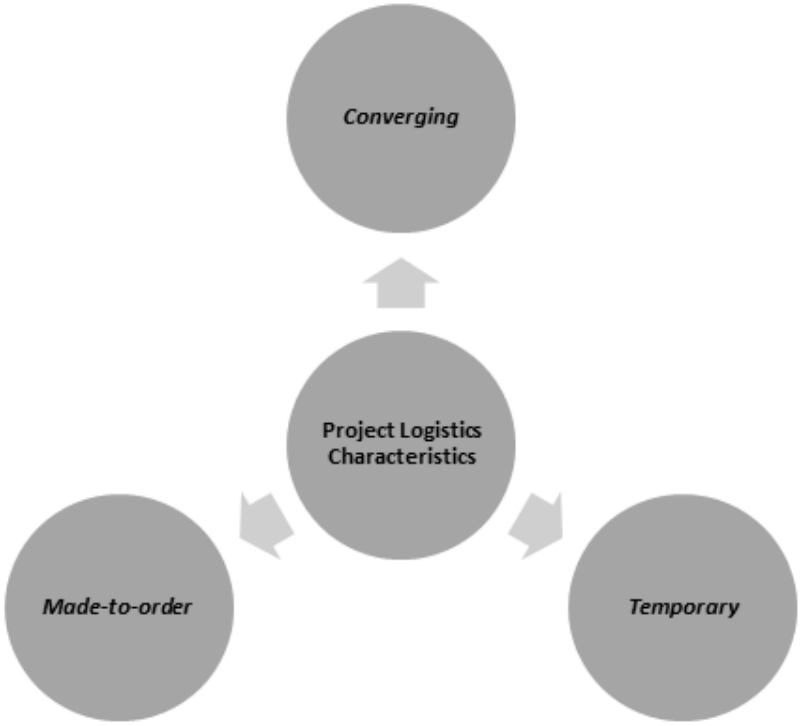

Figure 03. Project Logistics Characteristics

3. Logistics Project Management Roles

Logistics Project Management involves various roles and responsibilities (along with their specific tasks and activities), depending on the size and structure of the project team and the organization (as is) (Ekeskär & Rudberg, 2020; Elmquist & Dávila Novoa, 2023):

- ***The Logistics Project Manager*** is responsible for leading and coordinating the project team, defining the project scope, schedule, budget, and quality, risk management analysis, communicating with the implicated stakeholders, managing risks and issues, and ensuring that the project meets its objectives and deliverables.
- ***The Logistics Project Team Members***, such as logistics analysts, engineers, planners, coordinators, transporters, warehouse managers, and specialists, are responsible for performing the tasks and activities assigned by the project manager.
- ***Logistics project stakeholders***, such as customers, suppliers, vendors, contractors, regulators, subcontractors, and senior management, have an interest or influence in the project and provide inputs, feedback, notes, orientations and support to the project team.

4. Logistics Project Management Process

Logistics Projects need to be well planned, executed, and controlled in order to ensure their success. It is important to properly define and align the project scope, objectives, and deliverables with both the clientele's and stakeholders' expectations and requirements.

Logistics Project Management follows a similar process as any other types of projects (*Waterfall Model*: initiation, planning, execution, monitoring and control, and closure) – however, there are some specific considerations and challenges to be taken into account. Indeed, Logistics Project Management is evolving and must in turn adapt (and sometimes anticipate) the changes and demands of the market, the clientele, the technology, the politics, etc.

Nowadays Logistics Project Management urgent concerns that are to be taken into account are:

- ***Sustainability:*** Sustainable development, social development, green logistics, quality control, lean operations, etc. are some of today's major supply chain concerns and require meticulous planning (Koumar Gouda & Saranga, 2018; Fritz et al., 2022; Lissillour, 2022)

- ***Innovation***: Today's digital innovative exploits will necessitate logistics projects to leverage the opportunities and benefits of digital technologies (e.g. cloud computing, big data, artificial intelligence, blockchain, IOT, etc.) (Fulconis, & Paché, 2011; Lavastre & Ageron, 2016; Rhazzi Abderrazak, Dhiba, 2022).

- ***Globalization***: Logistics projects need to adapt with the complexity and uncertainty of operating in a global and competitive as well as unstable environment, where the project team and stakeholders may be located in different areas, and where the project may be affected by different regulations, cultures, and risks (e.g. political, technological, financial, sanitary, etc.) (Mesjasz-Lech & Nowicka-Skowron, 2013).

- ***Sovereignty:*** Logistics Projects and their strategies are becoming the spearhead of national strategies aimed at improving competitiveness and strengthening state sovereignty. They contribute to redrawing the global value chains, these routes of world trade, which polarize the activities and the creation of value (Livolsi, 2022).

Conclusion

The current study contributes to the Project Management literature by working on explaining the emerging concept of ''Project Logistics Management''. It highlighted the various elements that crisscross both disciplines while addressing this novel concept. Although this paper is not based on empirical research, it aims to bring relevant introductory knowledge to both researchers and practitioners. Future empirical studies are needed to validate and improve the conceptual framework herein presented. Finally, this article can help researchers on the deployments of future research regarding Project Logistics Management.

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