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Lean Supply Chain Management: A Powerful Combination for Success

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Abstract: ***The intensification of globalization, the acceleration of development cycles (FAST FASHION for the textile and clothing sector) and the decrease in margins are forcing companies, especially Textiles, to rethink their Supply Chain to react more effectively, almost in in real time, at the request of their customers and partners. Aligning Supply Chain Management and Lean Management is a new concept which has emerged after the convergence of the fundamental principles of the latter. This article is a first elaboration of the strategies and methodologies proposed for the improvements which seek to privilege the overall performance of the company. I analyzed the contributions of Lean to Supply Chain Management, starting from a case study of the company NEW WASH, a company specialized in industrial washing and dyeing. An Analysis which will lead us to conclude that a Supply Chain can only be effective and efficient if it is Lean.***

Keywords: management; strategy; KPIs; macro-process; micro-process; efficiency

1. Introduction

The denim industry nowadays involves modernizing businesses, training, innovation and retraining adapted to the challenges and requirements of the market. Adopting Lean Management in the supply for modernizers and increasing the output of industrial tools in order to satisfy an increasingly demanding clientele and to face possible competition is the new challenge of NEW WASH. This article is based on the approach to adopt to implement Lean Management and have an efficient Lean Supply Chain

2. Overview of Lean Management and Supply Chain Management

2.1 Lean Management definition

Lean Management is a new concept proposed in the late 1980s by JIM Womack and Dan Jones, based on the implementation of a few principles, techniques and approaches aimed at identifying and eliminating waste by using improvement projects. Before Lean Management is a work organization system, it is also defined as a way of thinking, a posture to take to produce better with a minimum of energy.

2.2 Lean Management in all its forms:

Lean effective in the medium term:
Lean Management is an organization that can only achieve its results after having spent several months of work which are sometimes counterproductive. It must therefore be admitted that Lean Management is thought of in the medium-long term and not in the urgency of seeking immediate profitability and productivity.

***Best conditions for successful Lean*:**
Successful Lean Management requires a stable, stable organization since each entity in the company or outside (partners) must have the most interesting mission to entrust to it. Lean is a means that allows us to identify leaders, trusting their objectives and those of the entire staff must be implemented as an essential condition for the success of the Lean approach.

Lean Management must affect the entire company:
Often we focus on eliminating waste at the level of production workshops and we forget the waste that affects business processes such as inventory management, purchasing management etc. What is the point of saving a few minutes in terms of production lines, if it takes 4 days to complete an order? Lean Thinking must be a staple in the strategy and management of the company before trying to implement it via its tools in everyday life and operational.

2.3 Supply Chain Management

Supply Chain Management (SCM) is a concept that appeared in the 1990s. It is an overall vision that corresponds to the conception, planning, execution, management and monitoring of chain activities logistics. The objective of the Supply Chain is the creation of added value, the establishment of a competitive infrastructure, the optimization of logistics on an international scale, the synchronization of supply and demand and the measurement of overall performance.

SCM is a legacy, an evolution of several definitions and logistical, industrial and managerial practices. It is an approach defined as a set of processes necessary to provide products or services. Adopting an SCM approach appears as a performance tool since its objective is to improve service levels, cost reduction, value creation, and relationship management both upstream and downstream, with suppliers and customers. However, this approach can be implemented according to several logics, it is therefore necessary to choose the logic appropriate to the sector and to the company to succeed.

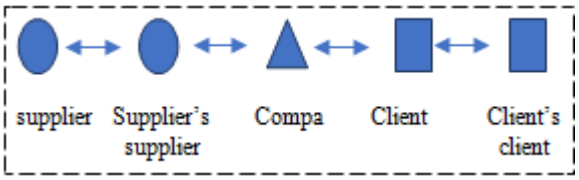


Figure 1: Simplified presentation of the Supply Chain

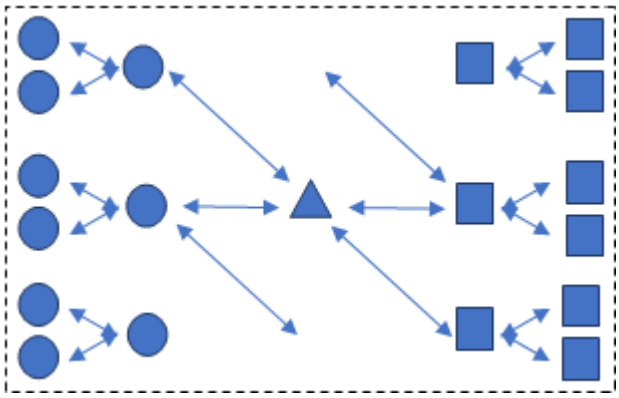


Figure 2: Real presentation of the Supply Chain network

3. Lean Management et Supply Chain Management

3.1 The convergence of Lean Management and SCM

The idea of combining Supply Chain Management with Lean Management was born from the fruitful results of several companies that first adopted a Lean vision, and improvement of the Supply Chain subsequently founded from the Lean angle. Management. Toyota is one of the efficient companies that had a very efficient, agile, adaptable, and aligned Lean Supply Chain. The tables below presents the common points that these two concepts share in terms of affinities, principles, and tools:

Table 1: Goals and principles of the SC and Lean Management

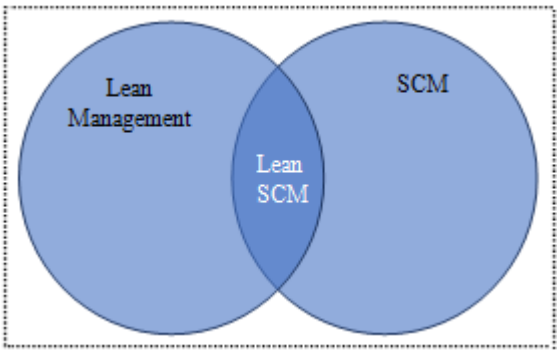
	Goals	Principles
Lean Management	• Privilege the Customer • Eliminate all types of waste • Aim for efficiency	Just in time • Simplicity • Visibility • Synchronization • Continuity • Involvement • Motivation • Respect • Teamwork
Supply Chain Management	• Serving the customer in best possible conditions. • Aim for efficiency • Evaluate as accurately as possible the needs, availability and capacities of each link in the supply chain and manufacturing.	Flow management Cost optimization
Points in common	• Privilege the Customer • Aim for efficiency	Research of performance indicators (KPI)
		Anticipation of needs
		Delivery of customers to date
		Stability of operations

Table 2: KPI's and tools of the SC and Lean Management

	KPIs	Tools
Lean Management	• Productivity • Efficiency • Yield • Rate of non-conformities (non-quality) • Versatility rate	• 5S • Bottleneck analysis • JIT • Kaizen • Jidoka • Kanban • Muda • TRG • PDCA • VSM
Supply Chain Management	• Stock levels • Reliability of forecasts • Service rate in the supply chain • In-time delivery rate	• Dashboards • Jidoka • 5S
Common points	• Efficiency • Rate of customer satisfaction	• Jidoka • 5S • VSM

Impact of Lean Thinking on SCM

Lean thinking provides the principles and tools used to eliminate waste through continuous improvement. If Lean thinking has been conceptualized to apply to all business activities of the company in the supply chain, Lean principles are generally applied in operational environments within the company. . Lean thinking in supply chain management involves the use of a few principles to align activities with business functions and to manage business relationships with customers and suppliers. In the following, I will show how lean principles and tools can be used in the context of the supply chain management framework.



4. Methodology to Adopt for an Effective Lean Supply Chain

It is common for companies to want to implement practices for priority systems without always taking the time to have the necessary prerequisites in place. The multiple precedents linked to practices relating to flows are partly explained by the complexity of the tools and concepts underlying these practices such as the use of the Kanban method, production according to the client's real demand, reduction of stocks. and load balancing. These practices require a great deal of flexibility from staff and the organization of the company. A high level of Lean maturity of the company is therefore necessary.

Making Lean is not limited to having productive production workshops, it is linked to the strategic intention to

generalize all the macro-processes of the company. A large number of Lean Managers and continuous improvement managers working in companies does not necessarily mean that companies will distinguish themselves and easily achieve the required performance.

4.1 Modeling the company's activities:

The modeling of business processes or the modeling of the activities of each process is a method that allows you to represent the activity of your staff to respond more quickly to customer demand and the objectives of the company.

- Strategic activities
- Managerial / tactical activities
- Executive or operational activities

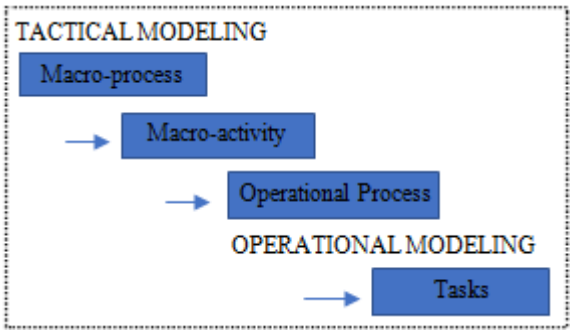


Figure 3: Synthesis of the modeling phase

4.2 Impact of Lean Thinking on SCM

Lean thinking provides the principles and tools used to eliminate waste through continuous improvement. If Lean thinking has been conceptualized to apply to all business activities and to all companies in the supply chain, Lean principles are generally applied in operational environments within the company.Lean thinking in supply chain management involves the use of a few principles to align activities with business functions and to manage business relationships with customers and suppliers. In the following, I will show how lean principles and tools can be used in the context of the supply chain management framework.

4.3 Diagnose a Supply Chain

The diagnosis is the first step in the proposed methodology. The objective is to collect the information necessary for the problematization of the project and its validation. The diagnosis is used to make an inventory of the problem, to identify the actors, the quality of their activities, and potential partners, it is a set of analyzes and observations to assess the performance of the company.

To diagnose a supply chain as to diagnose any problem, you always have to go through 3 major steps:

- Diagnose the arrangement of the entities (the structure and the management)
- Diagnose the entities involved in the structure (resources)
- Diagnose the different interactions or possible flows between the entities. (information flow – physical flow)

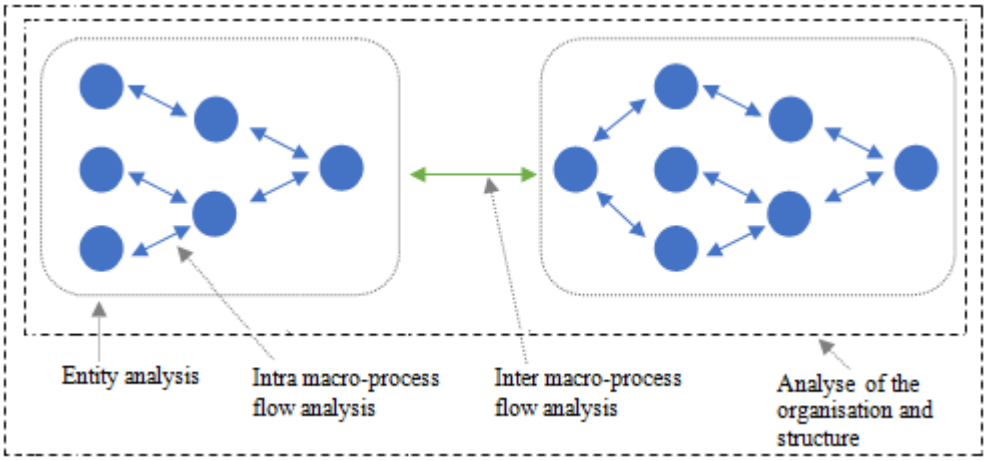


Figure 5: Methodology of functional analysis

4.3.1 Diagnosis of the entities

The diagnosis of the company's resources and its distinctive skills makes it possible to highlight its strengths and weaknesses to make more appropriate strategic and managerial decisions. It is a diagnosis that must be made before or in parallel with the organizational and structural diagnosis. This will make it possible to optimize the management of resources and to focus on the weaknesses of each human and material resource to fill them and become more competitive.

The resources of a company can be categorized into 3 points:

- Material (or physical) resources: equipment, premises, machines, information system.
- Financial resources: cash flow, financing capacity, equity.
- Human resources: team skills, know-how, knowledge of products and customers.

Making a good entity diagnosis and implementing the actions identified in the analysis can allow the Supply

Chain to gain a decisive competitive advantage over its structure. It is for this reason that both structural and entity diagnoses must be treated simultaneously.

4.3.1.1 Diagnosis of the human resources

The difference between a garden and a desert is not water, it is Man.

First of all, it is important to define that the human resources of a company are an essential factor for the analyzer. For these effects, two variables must be taken into account: namely the quantitative variable and the qualitative variable.

The right profile and position

The notion 'Who does what? It's not as simple as it sounds. Being able to answer this question would allow us to guarantee the objectives expected of each person, to know who is responsible for what, and therefore guarantee the objectives of the company in the best condition.

The number of managers and leaders in each company

Developing a Lean environment will require meeting strategic, managerial, and operational objectives while adopting Lean thinking. Having only one manager in a company to improve performance cannot be enough. Depending on the size and organization of the company, a significant number of managers and / or leaders must be set up to manage it.

4.3.1.2 Diagnosis of the material resources

Material resources, also called physical resources, can be diagnosed in each department independently of other departments. This methodology is proving to be very effective for the simple reason that each department is solely responsible for knowing the physical and IT materials necessary and suitable for their process.

Production machines for manufacturing companies, information systems (ERP, BPM, etc.) are concerned by the diagnosis. The diagnosis of machines is often carried out by maintenance experts in collaboration with industrial managers, while the diagnosis of the IT systems can only be done by management consultants after analyzing the structure and the organization to locate the IT system appropriate to the nature of the activity and structure of the company.

4.3.2 Flow diagnosis

The diagnosis of flows must include the analysis of the organization and structure of the company (strategy), the analysis of inter macro-process flows (management), and the analysis of intra macro-process flows (operational activities and / or tactical activities)

Diagnose the strategy, management, and operational

Without a strategy, society cannot have a guideline. Diagnosing the company's strategy is therefore the first step to take.

Several dysfunctions in operational activities can have repercussions on the company's strategy if we aim at operational improvement without questioning its organization (tactical activities) or the strategic principles that guide it.

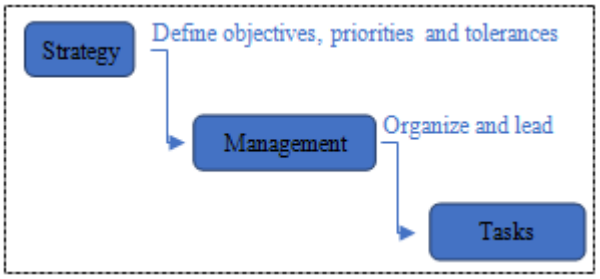


Figure 6: Summary of the operational analysis phase

The impact of a Lean strategy adopted within the company can be assessed on the different phases of the methodology as follows:

- Modeling: the strategy guides the organization of the company.
- Diagnosis: the strategy makes it possible to choose the points to be diagnosed first, which constitute the elements of performance of the company according to its position.
- Improvement: the objectives set or the vision of the strategy makes it possible to locate the major improvements to be prioritized.

4.3.3 Action plan

The objective of this phase of the proposed methodology is to define, implement, and monitor the action plans aimed at optimizing the performance of the company.

It will be a question of valuing the dysfunctions identified to make possible a perspective and to be able to define improvement action plans based on the identified resolution priorities. How? 'Or' What?

The accuracy of priorities can be achieved from several points of view depending on the situation of the company, its main activity, and its customer and supplier relationships.

The three axes identified as priority definition criteria for the implementation of improvement action plans are:

- The location of the malfunction
- The impact on Supply Chain or production performance
- The difficulty of resolution.

Methodology used:

1) Summary table gathering all the necessary information.
2) Mapping of malfunctions.
3) Rank the malfunctions to be solved first based on the severity and cost of the resolution.
4) Find the best resolution methodology in terms of time and cost.
5) Solve
6) Monitor the effectiveness of the solutions using keys performance indicators.

From the precise analysis of events to the reduction of operational costs, Lean management makes it possible to deploy an intelligent supply chain, more agile and focused on the reduction of waste.

Lean management integrated into business solutions allows a better understanding of internal or external events that can affect the supply chain.

5. Conclusion

Lean Management and Supply Chain Management are two complementary approaches based on common foundations. They must both be considered as systems of global management of the value chain. Whatever the size of the company, although the promises of Lean are interesting, its principles can only demonstrate their relevance if they have been applied globally with a coherent approach. To achieve maximum performance, it is necessary to consider the entire process from the first supplier to the end customer, working with an optimal system without breaking and where no fragile link is acceptable. A good lean approach can lead to a well-designed supply chain, which becomes a real growth driver. A good adaptive supply chain combined with a good improvement process means real alignment with customer needs which can only be translated through indicators of satisfaction, performance and green profitability.

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