

SC and Maintenance Diagnosis Versus Excellency

Jellouli Olfa^{#1}, Bettaieb Alaa^{#2}

[#]Logistic Department, ISTLS City Erriadh Sousse, BP 247, 4023 Sousse, Tunisia

¹jellouliolfa1@gmail.com

²alaaBettaieb12345@gmail.com

Abstract— Challenging the management or logistics of a system is an ongoing process within the PDCA framework. The problem that remains is which diagnosis to choose. It is in this context that my article is situated. Indeed, it develops a diagnosis of the supply chain of a transport company as well as a diagnosis of the maintenance of the latter aiming for excellency in industrial management.

Keywords— Maintenance, Diagnosis, Scm, Excellency, Logistics.

1. Introduction

The logistics processes according to [1] consist of activities of the type:

- provide materials and services
- welcome, integrate and produce
- move processes and materials
- store
- ongoing sales and support

Supply chain management consists of the overall management of its logistics processes

2. Literature Review

The services cover a wide field of activities:

- administration
- transportation
- financial and real estate activities
- scientific and technical activities
- administrative and support sources
- education
- health
- social action

The development of services is today a trend of world economies. We live in an era of services. SCM can be described as the management of physical and information flows from customer to supplier to provide the most satisfactory response possible to customer needs.

Service logistics (Service Supply Chain Management) is an integrated and coordinated approach that guarantees the continuity of flows within the service company and with its partners.

The SSCM is a factor of economic, social and societal performance of the service company.

Performance has largely been a one-dimensional concept in the past. It was measured exclusively by profit. This measure was aimed particularly at the creation of value by shareholders. This vision has been much criticized ([8], [3], [1]) because it does not consider the various actors of the stakeholders apart from the shareholder.

Bourguignon [2] developed that performance in management covers three meanings: action, result and success. Thus, he proposes the following definition: "performance is the achievement of organizational objectives"

For Bouquer [1] an efficient organization is one that manages to "meet the expectations of stakeholders by acting on the level of expectations and/or by organizing itself to produce the retributive surplus expected by them."

Indeed, to better understand the complexity and richness of the concept of organizational performance, some authors ([5],[6], [7], [9]) offer a bigger vision.

These authors propose integrating various indicators such as product and service quality, employee mobilization, work climate, productivity and customer satisfaction.

In this context, the performance of an organization induces the satisfaction of the stakeholders.

Performance is therefore more global and associated with four fundamental principles [9]:

- efficacy
- efficiency
- coherence
- relevance

For the diagnosis of the supply chain of the company, we were inspired by the main part of the book [4] which proposes a successful logistics of service activities based on 10 steps that are:

1. Strategy, planning and management
2. Designing, defining and managing processes and projects
3. Procurement of materials and equipment and integration of external services
4. To welcome and integrate the customer, to produce the services
5. Move people, materials and equipment
6. To store materials and service materials
7. Sell and provide support during the service
8. Sell and provide after sales support for the service
9. Management indicators
10. Permanent progress

3. Methodology

In our approach to industrial excellence, we have targeted the shortcomings in the management of the company's supply chain and the strengths related to the latter. Insofar as we targeted transport companies, we focused our vision on the diagnosis of maintenance. Indeed, effective maintenance is at the heart of the proper functioning of transport companies.

4. The conceptual model

4.1 The sc diagnosis

Does the company have relevant choices regarding the choice of suppliers?

Do you have a standardization of the service of the transactions made with the suppliers?

Have you thought about indicators relating to supply operations?

Have you considered partnership contracts with the supplier?

Do you organize visits to the supplier to evaluate their performance?

Have you thought about reducing the time between the order and the execution of the service?

Have you done a customer survey to find out what they expect from the reception and the service?

Do you use a scientific method to optimize vehicle routing?

If there is an anomaly in the transport, have you thought of a procedure for rapid action in the face of the anomaly?

Do you carry out a checklist before the departure of each truck?

Do you calculate the costs related to anomalies in the goods transport procedure?

Do you do preventive maintenance on time?

Do you have problems with corrective maintenance?

Does the stock manager easily find products in the warehouse?

Is your warehouse organized according to the 5S method?

Is there a plan of the warehouse which specifies the locations of the products by product family or by product?

Do you use scientific methods to manage the stock?

Do you have steering indicators?

Do you use PDCA?

4.2 Maintenance diagnosis

We add to the diagnosis of [10], the operations linked to OOMAINTEANCE and we obtain these questions.

Are the objectives of the maintenance function written, known and posted?

Is the procedure for eliminating stoppages and other malfunctions explained?

Are Failure accounted for ?

Are maintenance cost reduction approaches described according to an objective?

Is maintenance carried out to ensure the safety of men and property?

Is there a budget control that generates quick results at the end of each month?

Is there a major maintenance mastery?

Do we control the activity according to the type of curative, preventive or improvement maintenance in hours and costs?

Do you have a dashboard allowing you to decide on the corrective actions to be taken?

Are the workers capable of resolving breakdowns?

Can you monitor the frequency and severity of outages?

Do you have a work history for each piece of equipment?

Can we know the number of incidents and their causes?

Do you have formal troubleshooting methodologies?

Do you have an established preventive maintenance program?

Is there a person responsible for preventive maintenance actions?

Do operators have routine adjustment and maintenance responsibilities?

Is there a specific person responsible for scheduling the work?

Is there a "work order" document allowing all interventions to be followed, which is used systematically for all work?

Do the leaders meet on a regular basis to look at the various problems?

Do you have a daily work start schedule?

Is there a formal method for analyzing and organizing preventive maintenance interventions?

Are the means of handling in the workshop suitable?

Is the maintenance workshop space sufficient

Is the maintenance plan established for each piece of equipment?

Is preventive maintenance established by sheet?

Is there an inventory of equipment per unit?

Does each piece of equipment have a unique identification number other than the chronological number indicated?

Is a technical file opened for each piece of equipment or installation?

Do you have information on hours spent, parts consumed, and equipment costs per unit?

Do you ensure a formal follow-up of the information relating to the reports of visits or preventive inspections?

Are the logs analyzed once a year?

Is the working climate generally positive?

Are problems often discussed in a group that includes operators?

Are there annual appraisal interviews for management and executing staff?

Are managers and operators sufficiently available?

Overall, do you consider that the technical competence of your staff is satisfactory

Do managers ensure the development of their staff?

Do managers receive training in new technologies?

Is staff training programmed and managed by the maintenance department?

Is OOMAINTEANCE applied?

5. Discussion: Case study and Corrective actions

We apply the two diagnosis in a international company of transport VECTORYS and we conclude with these corrective measures:

1. Suppliers
 - Establish a standardization of the service of the transactions made with the suppliers, this ultimately facilitates process automatization and eliminates time waste.
 - Organizing visits to the suppliers is recommended to ensure a better quality of services.
2. Warehouse
 - Implementing a 5s system.
 - Implementing an automated system for the warehouse which specifies the locations of the products by product family.
3. Maintenance orientation
 - Setting up a more detailed maintenance plan including clear and known objectives and working towards those objectives.
 - Introducing maintenance cost reduction approaches described according to an objective.
 - Establishing a formal method for analyzing and organizing preventive maintenance interventions.
 - Establishing the maintenance plan for each piece of equipment.
 - Making in order to achieve OOMAINTEANCE an action sheet that contains the duration of the maintenance operation with the precision of who have done the latter.

4. Technical monitoring of equipment

- Distributing an inventory of equipment per unit.
- Establishing an information sheet including hours spent, parts consumed, and equipment costs to deduce the effectiveness to maintenance cost of each piece of equipment.

6. Conclusion

We were able to reach Excellency in management by use of these two diagnosis. These latter are our findings. We are working in introducing quality diagnosis within our diagnosis to be more efficient.

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