Efficiency analysis of the Supply chain in a project oriented company

Motivation & Objectives
Supply Chain has become a key element in every company’s organization to reduce costs and increase profitability. Purchasing is one of the strategic functions with the highest profitability. The objective of this work is to analyze the efficiency purchasing process in an Engineering, procurement constructed (EPC) company. The process lead time is calculated and process improvements through usage of Information technologies systems are studied.

SNC-Lavalin
SNC-Lavalin is one of the leading engineering and construction groups in the World with more than 28'000 employees in 35 countries. The Headquarters are located in Montreal, Canada. Currently SNC-Lavalin are active in more than 100 projects. The project from which this work arises is the Guelb II project, an iron ore expansion project in Zouerate, Mauritania.

Purchasing performance
Purchasing performance can be divided in two categories. Effectiveness, which is related to the results of the purchased equipments: price, quality and on time delivery. And Efficiency, which is related to the process to achieve this results: process lead time as well as technological investments. Therefore the purchasing process lead time and the use of information technology system is analyzed.

Process Model
- Search for suppliers and invitation to the bid process
- Bid process: follow up with suppliers on the purchase package
- Bid analysis, evaluation and recommendation to the Client
- Contract closure and monitoring suppliers relationships

Purchasing process lead time
On 34 analyzed purchased orders (PO) the average lead time was of 307 hours for EPS packages (blue) and 132 hours for type P packages (red). The complexity and customization of each package explains the high variance in the results obtained.

Recommendations
Steps 2 and 3 of the process represent about 75% of the total process. Improvement in this area can be brought with supplier software systems allowing easier communication, document tracking. This means a reduction of the administrative work of the purchaser who can concentrate in more analytical and strategic matters.

In a global company as SNC-Lavalin, sharing information is at the core of its success. Therefore the use of its Enterprise resource planning software and up to date suppliers database is a must in each of the next projects, in order to take advantage of the global knowledge at a local level.