Summary

This literature thesis analyses supply chain management from a systems perspective. Many theories are claimed to be part of supply chain management. These supply chain improvement theories are used by numerous companies to solve all kinds of problems within the supply chain. In the end though, companies keep having problems even after implementing the improvement theories. Do we actually need so many supply chain improvement theories?

In this literature thesis "supply chain" is defined as the system that is analysed. Functions and relations within "supply chain" are investigated and structured. Each system exists of multiple sub-systems. "Supply chain" exists of at least three sub-systems supplier, producer and customer. A supply chain exists of at least three companies. The sub-systems (companies) participate in the supply chain on different levels. Sub-functions, sub-sub-functions etc. of the sub-systems can be defined on several aggregation levels. Next to at least three sub-systems, three flows can be recognized in the system a service, production and resource flow. The flows together with the sub-systems combine into several sub-functions that are related in different ways, several sub-aspect-systems exist.
The linkage of sub-functions, sub-sub-functions etc. together fulfil the function of the system, the supply chain.

Transform matter through the interaction of the service-, product and resources flow into fulfilled end-customer needs according to demand or forecasts.

Supply chain management also needs to be analysed in a functional manner to assure the subject is examined on the right aggregation level and now essential information is missed. Two roles can be identified in supply chain management an integrating and a coordinating role. In the integrating role supply chain management crosses sub-system (company) boundaries. In the coordinating role sub-systems are evaluated and changes are initiated. Supply chain management doesn't fit into the "traditional" control paradigm because in its integrating and coordinating role it doesn't focus on one sub-system (company). The function of supply chain management can be described as:

Coordinate supply chain flows and integrate supply chain functions in order to increase customer satisfaction, profitability, competitive advantage or add value.

The function of "supply chain" and supply chain management is determined, but why do there exist so many supply chain improvement theories? The principle of supply chain management isn't new, it evolved into soft and hard theories though. Next to the two different views the theories where written with a different aggregation level in mind. The discussion how a supply chain works also adds to the proliferation of improvement theories. Some theories treat the supply chain as a strand of successive steps, while in the above stated function the supply chain is treated as a linkage of several sub-functions in different flows. Together this makes the theories hard to compare and value.

In the analysis a parallel can be seen with the SCOR-model. “The five core management processes” can be seen in the three flows with in the supply chain. From this a structure can be developed to structure the company’s problem at hand and the proliferation of supply chain improvement theories. It starts with analysing the problem at hand by zooming into the problem. The following steps need to be followed;

- First set and choose the main goal(s) that aren’t fulfilled due to the problem
- Choose the sub-function that isn’t fulfilled due to the problem
- In which flow is the problem situated?
- Choose the core management process within the flow in which the problem is situated

Next the supply chain improvement theories need to be structured by zooming out reversing the steps mentioned above:

- Determine which core management process the theory is discussing
- Determine the flow the theory is discussing
- Determine the sub-function the theory is trying to fulfil
- Determine the main goal(s) the theory is trying to fulfil

Both the zooming in and zooming out processes lead to a progressive scheme of stepping stones which can be compared and matched. In this manner problems in the supply chain can be matched with the theory that suits best and is most likely to help solving the problem.

By structuring both the problem at hand and the improvement theories is becomes clear that understanding the system and the problem is far more important then fast implementation of a supply chain improvement theory. By first extensively analysing the system and so fulfilling part of the integrating role the knowledge of the system and the problem at hand is sufficient to think of a solution for the problem. Next the improvement theories can be used to help evaluate and initiate changes into a sub-system. In supply chain management supply chain improvement theories are needed to help fulfil the coordinating role. The improvement theories are not the solution to the problem, they are a tool to help implement a well developed and analysed solution.