

Popular Science Summary

Title: Spare Parts Inventory Management – A Case Study at Axis Communications AB

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Popular Abstract:

For many years, inventory management has played a significant role in organisation's planning and control. It can assist in managing uncertainties of demand and supply factors to streamline an efficient flow in the supply chain.

Axis has two supply chains namely forward and reverse supply chain. The aim of this master thesis is to explore the phenomenon of spare parts in the Axis forward supply chain with respect to their categorization and how it is handled based on demand patterns. Spare parts inventories differ from other products as the demand is predominantly low and has high variability. The purpose of spare parts lies in the after-sales services where they can be used to replace the main component of the product. The demand for spare parts arises after a period of time once the main product is sold in the market. In Axis, one spare part supports multiple main products. Currently, there is no appropriate strategy to handle the spare parts efficiently. The major gap identified was the lack of differentiation between the spare parts and accessories as both of them are treated the same in the supply chain. In the forward supply chain, they are sold as accessories based on distributor demand and in the reverse supply chain, they are used to provide service to customers in the form of replacements.

The primary focus is to categorize the spare part based on its purpose and functionality in the supply chain. The second focus was to conduct a segmentation for spare parts to understand the demand variability. The spare parts available in the forward supply chain were considered for our analysis. The product life cycle and segmentation analysis based on demand volume and revenue were identified as the important factors. The ABC segmentation resulted in identifying the important spare parts that have high annual demands. From Axis point of view, it is believed that the spare parts are to be seen more from a service perspective rather than a sales perspective. Through strategic planning, it is recommended to keep high runners in the forward supply chain inventory while the remaining should be moved to reverse supply chain inventory taking the product life cycle of the main product as well as the corresponding spare part into consideration.

Further, an omnichannel distribution approach in the reverse supply chain will improve the overall efficiency and reduce the obsolescence of stock. This distribution will store all the necessary inventory at a centralized hub that will facilitate the requirements of the smaller hubs. The

proposed recommendations aim to enhance inventory management practices of spare parts to help Axis increase its supply chain efficiency while focusing on customer satisfaction and optimizing stock levels. This approach can be relevant for companies that are experiencing similar problems.