

Making efficiency improvement suggestions for a dairy warehouse

Warehouses are a necessity for many companies, but an expensive one at that. Not uncommonly businesses strive to reduce their expenses and become efficient to compete in the market. This thesis provides efficiency improvement suggestions to a warehouse in the dairy industry, with the intention to strengthen its competitiveness. The hope is that the means taken can be applied at other warehouses so that they become less of a burden for organizations.

Traditionally warehouses offer little to no value from the perspective of the end consumer. However, they are indispensable in their ability to provide buffer capacity to manage demand volatilities and consolidating goods. Despite their importance, improvement focus has traditionally landed on other areas of businesses. Manufacturing for instance has had many programs aimed to improve efficiency over the years, among which lies the well-known Japan originated Lean Production. Lean is a broad concept, but its fundamental goal is to improve process efficiency by using a bunch of tools and practices. This thesis uses parts of the extensive Lean toolbox and applies it to the warehousing context, to explore if it can be useful there to develop efficiency improvement suggestions.

Having an efficient warehouse with a seamless flow of goods from entry to exit can hold the key for businesses to thrive. The Lean tool value stream mapping (VSM) is used as the main mean in the thesis to identify problem areas and develop improvement suggestions for these. VSM is an approach where process steps are mapped out in a certain way to visualize any flaws or redundancy. After reviewing the current configuration and movement of goods at the dairy warehouse, noteworthy problem areas, or wastes (non-value adding activities) could be found. Eight problem areas were highlighted by the findings, in need of improvements.

By using more Lean practices and analyzing the root causes for the issues, a final set of seven immediate recommendations are presented, and an additional set of six future recommendations. These recommendations encourage the warehouse to have a quick flowthrough of goods, have a standard set of equipment, and utilize resources better. A quick flowthrough is desired since the warehouse is often just an expense and time spent there should be minimized. Having a clear standard reduces variability, which is desired if efficiency is the aim, and available resources not being used are nothing but a waste.

The findings from this thesis show that Lean production practices can be effective to identify inefficiencies or wastes. It is surprising how clearly redundancy becomes after using the VSM tool. While some of the identified flaws are difficult to salvage, there are also a lot of low-hanging fruits that become clear. Using this approach might not solve all problems for a company, but it will highlight flaws and show where to focus improvement projects.

The thesis is conducted as a single case study of a company in the dairy industry. Theory on warehousing and Lean is used together with empirical data to develop efficiency improvement suggestions to the case company's warehouse.