

Using the Fourth Industrial Revolution to Produce Snus

To understand if Industry 4.0 is more than hype, a case study is made at the snus manufacturer Swedish Match. The study reveals that the technologies can be used in other contexts than Google searches or finding the location of your lost phone.

As new technological advances are introduced in the business environment, many companies ask themselves how this specific technology can be beneficial for their business. In the master's thesis *Utilizing Big data and Internet of Things in a Manufacturing Company* (Karlberg & Pettersson 2016), Industry 4.0 including the two new technologies big data and Internet of Things (IoT) are analyzed in the context of a manufacturing environment to find out if and how they can be used. Big data is explained as a large collection and understanding of data, which is made possible by strong analytic capabilities that monitor various digital streams. IoT consists of a number of connected data sources that both generate data and communicate with each other in efficient ways.

According to recent studies, the technologies have a number of possible applications and benefits. In this study, the focus is to understand how the manufacturing company Swedish Match can benefit from these two technological advances. The result shows that the technologies are useful for the company, mainly in terms of optimizing their production process. More specifically, to gain a holistic view of the process, steer the process and avoid errors, more accurate decision-making, and finally integrating and analyzing the currently collected data.

Swedish Match produces snus to consumers in the Scandinavian and American markets. New competitors have entered the snus market and Swedish Match does no longer have monopoly. The company continuously develops new tastes, sizes and styles of snus to make consumers choose their products. As a result of a more diversified product portfolio, the production process becomes more complex and a lot of data needs to be handled. Currently, the way of working has not yet adapted to the increased complexity. One example of this is the information sharing between the

different steps of the production process. These steps include milling of raw tobacco, pasteurizing and mixing the snus, and lastly packaging it in sachets and cans. Swedish Match feels that they have limited knowledge of how each process step affects the subsequent ones. For instance, there is a limited knowledge of how the characteristics of a certain tobacco flour in the mill affect the later steps. Without having an information base, no conclusions can be drawn and no optimizations can be made.

To address this issue, the two technologies can be utilized. An appropriate application of big data and IoT is to gain a holistic perspective of the production process. The components of IoT enable Swedish Match to collect data from machines, sensors or RFID tags. Big data enables combining the various data streams with analytical tools to understand different patterns. These patterns form a foundation for improved decision-making and optimization of the production process.

The discoveries from this study can be used both internally at Swedish Match and externally in other manufacturing companies. At Swedish Match, the study is a first step to realize how the technologies can be utilized to optimize to production process. Next, the company has to understand their actual goals and assess how much they can save by mitigating the issues. A study outside Swedish Match can also be of value. The study can inspire other companies to examine their potential utilization of big data and IoT.

References

Karlberg, H. & Pettersson, S. (2016) *Utilizing Big Data and Internet of Things in a Manufacturing Company - A case study of using technological advances in the production process of Swedish Match*, M.Sc. Lund University, Faculty of Engineering