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APPLICATION AND COORDINATION OF QUALITY OF PERFORMANCE MEASUREMENT INDICATORS IN A MANUFACTURING INDUSTRY

Purpose – The Study-Research took place in a Greek manufacturing industry situated east of the Attica County, more specifically in Ayios Stefanos (20 kilometres from Athens). The industry is called Tasty Foods and is a member of the PepsiCo International group. The purpose of the given research was to improve and ensure the quality of the company's products or services, in which information, data and measurements would be taken over a specific period of time. The important process parameters were assessed based on the principles of Total Quality working towards the goal of improving and coordinating them with the use of appropriate quality tools and the Statistical Process Control (SPC). After studying the processes and cooperation with the management of the company, various indicators from all fields of the factory were chosen, which, with their analysis and execution, would contribute to the improvement and ensuring of the industry's product quality. Data was taken from the company and was analysed and conclusions and suggestions were drawn up. The study was completed with the delivery of the Control charts (SPC) and the conclusions and suggestions to the company.

Methodology/Approach – The study was carried out based on the inductive approach to research using the company's guarantee for high quality products produced according to the specifications as a hypothesis. With the cooperation of the management, available data from the company was used or new data was gathered for the analysis and extraction of conclusions, in order for the possible potential for improvement to be revealed. The whole research process was carried out by adapting the company's data into the MS Excel platform and processing this data with the SPC Excel IV software. After the processing of the data, conclusions were reached in relation to Statistical Control, stability and the capability of the processes.

Findings – From the research it is established that for a company to reach its goals it has to adapt to systems and processes of ensuring quality. A necessary element is the research and application of the performance measurement indicators required and necessary to the process.

In the framework of the study performance measurement indicators were used, which involved the performance of packaging machines, the percentage of perfume in the envelopes, the quantity of production, the downtime of the machines, the measurements at the biological lab, measurements of electricity and water used, as well as faulty boxes during production.

Since the goals of the study have been achieved, the study is considered successful. The researcher applied the performance indicators and the tools for ensuring quality to a wide range of the company's processes.   Most of the indicators were within the specifications and the most significant of all was that the percentage of perfume of the product was within specifications. Based on the results, the previous was indeed within specifications, thus the company confirmed the hypothesis of the production of high quality products, within the specifications. Furthermore, the industry was given the platforms and charts along with suggestions for further improvement of both indicators and process.

An important element for the positive outcome of the study was not only the trust the company showed towards the two girls by giving them permission to collect confidential data, but also the discretion that the girls showed on their part. This resulted in better conduction of the research and smooth operation of the statistical analysis and procedures of ensuring quality.

Practical limitations- The data that was collected and used for the analysis and drawing of conclusions concerns the company and is confidential. The company's ethics code was signed by both students, which legally protects the company in case anything which demands extreme secrecy is published by the students.

Key Words

Performance Measurement Indicators, Statistical Process Control, Total Quality, Manufacturing Industry