

## A critical assessment on SPC implementation in the UK food industry

### ABSTRACT

Statistical process control (SPC) is one of the most widely applied techniques to control and improve processes in manufacturing industry, but very few studies have reported on the successful application of SPC in the food industry. This paper aims to critically assess the status of SPC in the UK food manufacturing industry and suggests avenues for future research. By surveying the UK food-manufacturing companies, forty-five percent of them were identified implemented SPC, with x-R and x-S charts found to be the most commonly applied SPC charts in this industry. Top management commitment was identified as the most critical factor, while lack of SPC training is the most significant challenge and lack of awareness of SPC as the main reason for food manufacturing companies not implementing SPC. The paper provides information to food companies in the UK on most common practiced and useful quality tools, SPC charts and critical success factors in the food industry. Furthermore, based on the process performance parameters, SPC companies were observed to achieving better results compared to non-SPC companies.

**Keyword:** Statistical process control; Food industry; Critical success factors; Challenges; Process performance; Continuous improvement