

Multi Attribute Failure Mode Analysis of the Catering Systems: A Case Study of Sefako Makgatho Health Sciences University in South Africa

Authors : Mokoena Oratilwe Penwell, Seeletse Solly Matshonisa

Abstract : The demand for quality products is a vital factor determining the success of a producing company, and the reality of this demand influences customer satisfaction. In Sefako Makgatho Health Sciences University (SMU), concerns over the quality of food being sold have been raised by mostly students and staff who are primary consumers of food being sold by the cafeteria. Suspicions of food poisoning and the occurrence of diarrhea-related to food from the cafeteria, amongst others, have been raised. However, minimal measures have been taken to resolve the issue of food quality. New service providers have been appointed, and still, the same trends are being observed, the quality of food seems to depreciate continuously. This paper uses multi-attribute failure mode analysis (MAFMA) for failure detection and minimization on the machines used for food production by SMU catering company before being sold to both staff, and students so as to improve production plant reliability, and performance. Analytical Hierarchy Process (AHP) will be used for the severity ranking of the weight criterions and development of the hierarchical structure for the cafeteria company. Amongst other potential issues detected, maintenance of the machines and equipment used for food preparations was of concern. Also, the staff lacked sufficient hospitality skills, supervision, and management in the cafeteria needed greater attention to mitigate some of the failures occurring in the food production plant.

Keywords : MAFMA, food quality, maintenance, supervision

Conference Title : ICEORS 2020 : International Conference on Econometrics, Operations Research and Statistics

Conference Location : Zurich, Switzerland

Conference Dates : January 13-14, 2020