

Complex Decision Rules in Quality Assurance Processes for Quick Service Restaurant Industry: Human Factors Determining Acceptability

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Abstract : The large-scale quick-service restaurant industry is a complex business to manage optimally. With over 40 suppliers providing different ingredients for food preparation and thousands of restaurants serving over 50 unique food offerings across a wide range of regions, the company must implement a quality assurance process. Businesses want to deliver quality food efficiently, reliably, and successfully at a low cost that the public wants to buy. They also want to make sure that their food offerings are never unsafe to eat or of poor quality. A good reputation (and profitable business) developed over the years can be gone in an instant if customers fall ill eating your food. Poor quality also results in food waste, and the cost of corrective actions is compounded by the reduction in revenue. Product compliance evaluation assesses if the supplier's ingredients are within compliance with the specifications of several attributes (physical, chemical, organoleptic) that a company will test to ensure that a quality, safe to eat food is given to the consumer and will deliver the same eating experience in all parts of the country. The technical component of the evaluation includes the chemical and physical tests that produce numerical results that relate to shelf-life, food safety, and organoleptic qualities. The psychological component of the evaluation includes organoleptic, which is acting on or involving the use of the sense organs. The rubric for product compliance evaluation has four levels: (1) Ideal: Meeting or exceeding all technical (physical and chemical), organoleptic, & psychological specifications. (2) Deviation from ideal but no impact on quality: Not meeting or exceeding some technical and organoleptic/psychological specifications without impact on consumer quality and meeting all food safety requirements (3) Acceptable: Not meeting or exceeding some technical and organoleptic/psychological specifications resulting in reduction of consumer quality but not enough to lessen demand and meeting all food safety requirements (4) Unacceptable: Not meeting food safety requirements, independent of meeting technical and organoleptic specifications or meeting all food safety requirements but product quality results in consumer rejection of food offering. Sampling of products and consumer tastings within the distribution network is a second critical element of the quality assurance process and are the data sources for the statistical analyses. Each finding is not independently assessed with the rubric. For example, the chemical data will be used to back up/support any inferences on the sensory profiles of the ingredients. Certain flavor profiles may not be as apparent when mixed with other ingredients, which leads to weighing specifications differentially in the acceptability decision. Quality assurance processes are essential to achieve that balance of quality and profitability by making sure the food is safe and tastes good but identifying and remediating product quality issues before they hit the stores. Comprehensive quality assurance procedures implement human factors methodologies, and this report provides recommendations for systemic application of quality assurance processes for quick service restaurant services. This case study will review the complex decision rubric and evaluate processes to ensure the right balance of cost, quality, and safety is achieved.

Keywords : decision making, food safety, organoleptics, product compliance, quality assurance

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