ENHANCING INVENTORY CONTROL TO PREVENT EXPIRED GOODS USING SIX SIGMA

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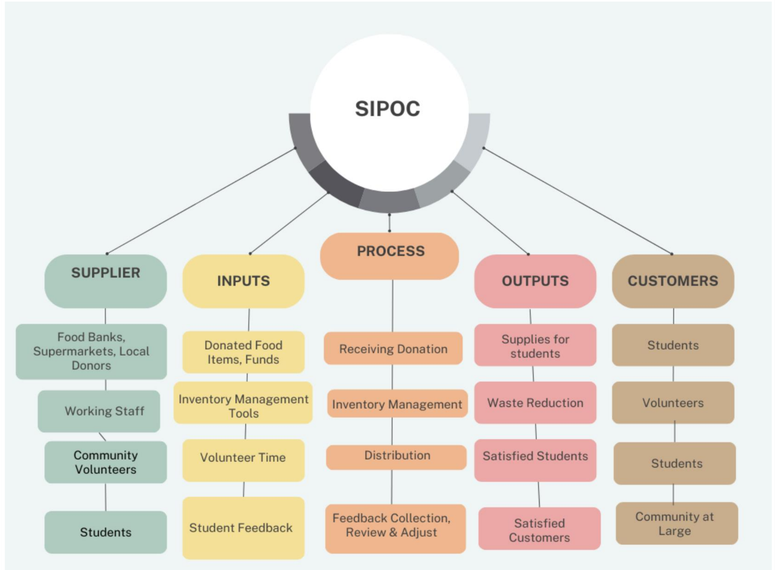
Abstract

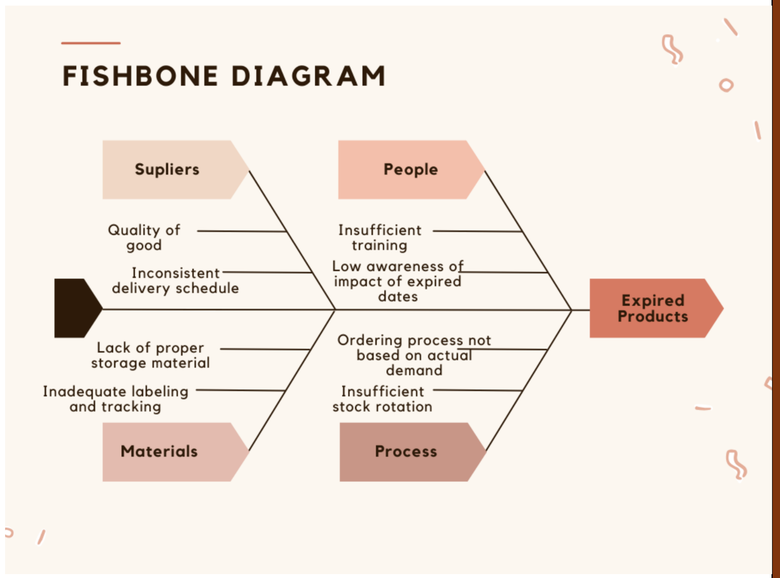
Reducing product expiration is important for food management for social and economic reasons. Consumers who use expired products run the risk of suffering health problems in addition to financial losses. This research paper suggests a methodical strategy for improving pantry operations and lowering the frequency of expired goods by utilizing Six Sigma methodologies. Organizations can attain increased efficiency and effectiveness in pantry management by pinpointing important areas for improvement, putting strong strategies into place, and closely monitoring and controlling procedures. This paper offers practical insights for optimizing pantry processes to reduce or eliminate product expiry through a case study analysis and the application of Six Sigma tools like DMAIC (Define, Measure, Analyze, Improve, Control).



Problem statement

The presence of expired goods in school pantries compromises efficacy and safety, posing risks to the health and well-being of recipients."

There is a serious problem with expired goods in school pantries, which raises questions about the general efficacy and security of these vital supplies. Due to their frequent reliance on gifts from different stores, donors and funds, school pantries sometimes struggle to keep track of product expiration dates, which puts the receivers' health and wellbeing at danger. In order to create a more secure and long-lasting food distribution system, this issue statement seeks to explore the intricacies of expired foodstuffs in school pantries. It does this by pointing out the underlying causes, consequences, and potential remedies.



Methods

Implement Six Sigma in the school pantry using the DMAIC framework:

1.Define: Identify inefficiencies in pantry operations and establish goals.

2.Measure: Collect data on inventory, waste, and distribution.

3.Analyze: Identify root causes of inefficiencies using tools like fishbone diagrams.

4.Improve: Implement solutions such as inventory optimization and streamlined distribution.

5.Control: Monitor outcomes with control charts and regular audits to sustain improvements.

Engage stakeholders (students, staff, suppliers), ensure data-driven decisions, and apply continuous improvement. This approach enhances efficiency, minimizes waste, and ensures better resource utilization.

Conclusion

The research confirms the effectiveness of Six Sigma in reducing expired products at the School Street Food Pantry. Using the DMAIC framework, we improved inventory control, volunteer training, and stock rotation. SIPOC diagrams and Voice of the Customer analyses identified key causes of food expiration, guiding targeted solutions. The Define phase set project parameters, while Measure and Analyze identified supply chain inefficiencies. Improve introduced pilot programs for better inventory systems and ordering. Control ensured sustainability through monitoring. This initiative reduced expired goods, boosted efficiency, and enhanced recipient satisfaction. It underscores the value of structured problem-solving in charitable food distribution, offering a model for improving food security and safety in similar organizations.

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