

Enhance Tea Quality and Market Stability with Advanced Technology: A Strategic Management Approach

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The tea sector has a substantial impact on the world economy; however, it faces difficulties such as unstable markets, uneven tea leaf quality, and ineffective inventory management. Therefore, to improve tea quality and market stability, this study suggests a web-based application that combines cutting-edge technology, such as image processing, vehicle monitoring, and predictive analytics. The main goal was to create a complete solution that enhances the ability of tea producers and processors to make decisions and operate more efficiently. The methodology of the study involves designing a system with five key components: predictive analytics for market forecasting, vehicle monitoring for logistics optimization, message control for stakeholder communication, tea leaf quality assessment through advanced image processing, and tea type management for inventory control. This integrated approach streamlines the operations in tea manufacturing, and it provides valuable insights into market trends and consumer preferences. The findings of the study indicate that the implementation of this system leads to improved tea quality, enhanced transportation efficiency, and better market responsiveness. However, challenges such as technology adoption and data integration remain. Future research will focus on refining these technologies and exploring their scalability across the industry. Furthermore, it improves the competitiveness and sustainability of the tea sector by presenting a strategic framework that makes use of state-of-the-art technologies to address critical issues.

Keywords: *tea quality enhancement, market stability, predictive analytics, image processing, strategic management approach*