FINAL PROJECT REPORT

In an effort to enhance the efficiency and minimize the cycle time of the chapati making machine, an integrated approach utilizing Lean manufacturing methodologies was adopted. This strategy was directed towards streamlining the production process to eliminate waste and optimize overall workflow efficiency. To navigate through the complexities of the project, the DMAIC (Define, Measure, Analyze, Improve, Control) method played a pivotal role in the creation of a comprehensive project charter. This charter meticulously outlined the challenges, progress milestones, and goals, serving as a strategic roadmap to guide the systematic improvements required for achieving operational excellence. Moreover, a significant breakthrough was achieved with the introduction of a controlled heating system, designed to maintain the chapatis at an optimal temperature for extended periods. This innovation not only reduced wastage but also mitigated the risk of overcooking, thereby ensuring that the chapatis retained their quality over time.

Addressing the surge in demand during peak dining hours, a time dependency method was strategically employed to efficiently manage the increased workload. Through the precise calculation of takt time for each process, and the differentiation between value-added (VA) and non-value-added (NVA) activities, the initiative sought to significantly reduce the overall cycle time of the chapati making process. This methodical approach ensured that the production pace was perfectly aligned with customer demand, leading to an enhanced operational efficiency. To support these efforts, a comprehensive survey was conducted to gather statistical data on consumer count and preferences. This information was instrumental in refining the project charter and optimizing the production process to meet consumer needs more effectively. The implementation of these methodologies was closely monitored over a three-week period to assess progress and fine-tune the processes as needed, demonstrating a commitment to continuous improvement and customer satisfaction.

Further efforts to elevate operational performance involved a more intricate application of Lean manufacturing principles, aiming at a waste-free and efficient production line. The DMAIC framework facilitated a data-driven approach, enabling the identification of inefficiencies and the implementation of strategic measures to address them. The controlled heating system and the time dependency method during rush hours were pivotal in ensuring that the chapatis were produced at a rate that matched consumer demand while maintaining high quality. The detailed survey that captured consumer preferences played a critical role in this process, allowing for a tailored approach to production planning. The three-week evaluation phase that followed the implementation of these improvements was crucial for assessing their effectiveness, allowing for real-time adjustments and ensuring that the chapati making operation set new benchmarks in efficiency and customer satisfaction. Through these comprehensive strategies and continuous monitoring, the project not only aimed at enhancing efficiency but also at surpassing customer satisfaction goals, thereby establishing a new standard in chapati production excellence.