Design of Vegetable Cutting Machine for Small Time Commercial Applications

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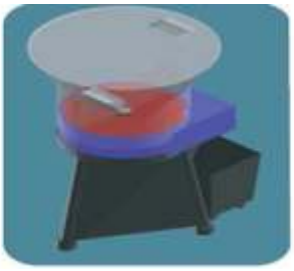
Abstract:

The aim of the project was to design a vegetable cutting machine for small time hotels with a customer base of around 200 people per day. The vegetable cutting machine was required to cater to the needs of majority of vegetable cutting requirements in the hotel and also decrease the time taken for cutting. Today, in the Indian market due to change in life style of working couples, restaurants for casual dining has become one of the fastest growing businesses. As per research done by National Restaurant Association of India (NRAI) it has been forecast that there would be an increase of 74% of business by 2018 in casual dining sector and same has been considered as the target customer segment for this project and the product has been designed to meet their requirement.

In the present investigation, one of the casual dining restaurants in the market has been considered as an example for user study, process and field study. Based on research it was understood that there were products in market which were of higher capacity for big market players or smaller machines for home applications. Detail study revealed that these machines were specifically designed to suit their requirements. However when one looked at medium sized hotels there appeared to be a wide market in India for a functional, low cost and economical vegetable cutting machine that could be used on a daily basis to meet their intermediate quantity requirement.

Based on target customer inputs, requirements along with a study of the existing products in market, QFD (Quality Function Deployment) and PDS (Product Design Specification) have been prepared. Concepts have been developed based on requirement of PDS and the final concept has been selected using the weighted ranking method. A full scale working model was prepared for validation and the results and customer feedback were satisfactory.



Final concept

1.1 working model