

Summary for publication due to confidentiality agreement

The core significance of the project upon which the thesis is built, is how well this project serves the needs of the company Teknomics in achieving its enhanced market share in the said market through rapid and timely introduction of quality innovations being launched in the market. It banks on the fact that the need for high end ceramic tiles and innovative solutions is ever increasing and thus the thesis assesses feasibility of local presence of R&D and pilot plant facilities, and the dedicated storage in the regional market.

Positive outcomes from the market study led to decision on the warehouse location and its procurement, followed up with mapping of all the facilities, assessment of financial feasibility, planning and designing of an efficient pilot plant for ceramics, glass, sanitaryware and tableware. The process optimization was conducted to have a singular but flexible pilot plant catering to R&D requirements of all of these sectors despite significant differences in product range.

The Tecnomatix simulation was utilized to validate the process and line balancing results along with testing the flexibility of the process as well as to compare the theoretical efficiency and line productivity of the process with the simulation results. This flexible simulation could be used to test different products and innovations.

The financial analysis via ROI and NPV tools also supported the feasibility of the project of making the pilot plant and thus the construction of the warehouse is ongoing while the management is in process of securing equity funding from the headquarters for the pilot plant as the pilot plant is still in the proposal phase internally but is part of the whole project in the coming years. All realistic limitations of a pilot plant for this sector have been incorporated into the project and analyzed for probable solutions. The hiring of the 2 technicians has also already commenced so that they could be trained by the time pilot plant is approved by the higher manager.

Proposed plans beyond this pilot plant include setting up a roof top solar farm to live up to the name of a green company & to turn the showroom in a VR attraction so that more customers from far and wide could access the results of the Pilot plant through a website or portal only.