

ABSTRACT

Waste results in material loss and cascades to production processes, affecting a company's profitability. This research sought to answer to what extent the implementation of a solid waste management protocol in a flexible packaging company (FPC) improves profitability.

The research focused on reducing waste from the gravure printing process, which was analysed using a Lean Six Sigma tool, DMAIC, that has been shown to increase productivity, reduce cost, reduce defects and standardise operations. Processes were implemented to ensure that quality substrate was input at the correct levels and transformed efficiently into sellable product. Additionally, new protocols were employed to control and manage waste, further increasing the FPC's savings.

These modifications reduced waiting down time by 78%, rework by 53%, and job-specific waste by 6%, which translated into a 17% improvement in profit on average. Thus, the research effectively demonstrates that a waste management protocol increases the profitability of a FPC.