

# AN ANALYSIS OF THE VARIABLES INFLUENCING 500MG TABLETS BLISTER CARD WASTE DURING THE MANUFACTURING PROCESS AT ABC COMPANY IN SRI LANKA

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## 1. Introduction

Packing is crucial for global trade, especially in the pharmaceutical industry. PVC and aluminum-foil-based blisters are preferred due to their benefits. Addressing tablet blister waste during the manufacturing process is more significant. 92% of the over-the-counter market share belongs to it. However, manufacturing processes at ABC Company generate over 77kg of blister waste against 495kg of blister production daily, making recycling difficult and incineration harmful. The main purpose is to analyze the variables that influence 500 mg tablet blister waste during the manufacturing process at ABC Company.

## 2. Research Methodology

Microsoft Excel and SPSS analysis were used to quantify the variables by running the Pearson Correlation technique. For that, a quantitative approach was used under the case study, and the Cleaner Production methodology was used as the protocol for the study. The variables that the researcher has selected are blister machine defects, material issues, machine setup, reel changeover, broken tablets, forming issues, and design waste. By running the correlation analysis, the researcher identified the most impactful variable for blister waste.

## 3. Findings and Discussion

0.491, 0.396, 0.583, 0.550, 0.499, 0.259, and 0.987 are the relative correlation values for the mentioned variables of blister waste, and design waste is the most impactful variable since its Pearson value is closer to one. The average monthly cost is Rs. 1,539,185, with Rs. 46,345 for recycling costs.

## 4. Conclusion and Implications

Hence, there is a 16% wastage of blisters for three months against blister production, shifting the aluminum-plastic dry separation strategies that manufacturers can implement instead of incineration. Using paper-based blisters saves blister recycling costs, and it is an environmentally friendly solution that gains more benefits.

**Keywords:** Cleaner Production, Pharmaceutical Industry, Sustainable Blister Manufacturing.