COST ANALYSIS AND WASTE REDUCTION

INSIGHTS AND STRATEGIES TO CURB PRODUCTION INEFFECIENCY

AllSkin Manufacturing, a startup producing organic skincare products, sought an in-depth analysis of its cost structure, production efficiency, and waste management. This report provides key insights derived from data analysis and visualizations, along with actionable recommendations to help AllSkin reduce costs, improve efficiency, and minimize waste.

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Key Insights from Data Analysis

A. Cost Breakdown

Total Material Cost: 56.4% of total expenses.

Total Other Costs: 43.6%, including labor, utilities, rent, and packaging.

Material costs are the highest expense category, making it a key focus for cost reduction.

B. Production Efficiency

Total Production Efficiency: 85.71%

The efficiency rate indicates that 14.29% of production time is either wasted or non-value-adding.

Streamlining processes can help achieve an efficiency rate above 90%.

C. Material Wastage Analysis

Highest Wastage Materials: Cocoa Butter (26%), Aloe Vera (24%), Sea Salt(19%).

Essential Oils (18%)and Shea Butter(13%), have relatively lower wastage rates.

Reducing wastage in high-loss materials can lead to significant cost savings.

D. Defect & Spoilage Trends

Defective Units: Fluctuate between 0.3% to 0.5% per day.

Rework Units: 0.2% on average, showing moderate defects that can be corrected.

Spoiled Units: 0.1% daily, representing unrecoverable losses.

A consistent increase in defective units over time indicates potential issues in quality control.

Visual Analysis

A. Pie Chart – Cost Breakdown Depicts the proportion of material costs versus other expenses, highlighting areas for cost control.

B. Gauge Chart – Production Efficiency Illustrates the overall efficiency of production, with an 85.71% efficiency rate, indicating room for process improvement.

C. Bar Chart – Material Wastage Comparison Shows the wastage percentage for different raw materials, emphasizing the need to optimize usage of all products in this order- Cocoa butter, Aloe Vera, Sea Salt, Essential Oil and Shea butter

D. Line Chart – Defect & Spoilage Trends Over Time Tracks daily fluctuations in defective, reworked, and spoiled units, identifying patterns and areas for quality improvement.

Recommendation for Cost Reduction & Efficiency Improvement

* Optimize Material Usage: Implement stricter inventory controls to reduce raw material wastage. Train staff on precise measurements and handling to prevent excess usage.
* Improve Production Efficiency: Introduce lean manufacturing techniques to streamline processes. Invest in better scheduling to minimize production downtime.
* Enhance Quality Control Measures: Strengthen inspection procedures to identify defects earlier. Conduct regular equipment maintenance to prevent defects due to machinery issues.
* Reduce Spoilage & Rework: Implement stricter quality checks during production.
* Use defect analysis trends to identify root causes and address recurring issues.
* Monitor & Track Costs Regularly: Implement cost-tracking dashboards to continuously monitor material and production expenses.
* Conduct monthly audits to identify trends and take corrective actions.

Conclusion

By addressing material wastage, improving production efficiency, and enhancing quality control, AllSkin can significantly reduce costs and increase profitability. Implementing the recommendations outlined in this report will help the company achieve sustainable growth and operational efficiency.