

Optimizing Bagnet Co.

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IE 4350 – Industrial Engineering Capstone Design



ABSTRACT

Our team has been given the task of designing the process and facility design of how products and orders will flow in the warehouse to better fulfill customers orders.

INTRODUCTION

Bagnet Company is a subsidiary company of Saddleback Leather Company in Fort Worth, TX. Bagnet has forecasted to double in sales and triple in available products. The problem is reducing cost and mis-shipped products while efficiently using the allocated space for the process.

REFERENCES

Material from Class:
Economics for Engineers, Metrics & Measurements, Production & Inventory Control, Facilities Planning & Design, Human Factors Engineering

METHODOLOGY

Define

- Problem Statement: Design the facility layout and process flow for how Bagnet Company will handle its order.
- Goal: Minimizing operating cost by 15%, reduce mis-shipped orders by 20%, and allocated space for future growth

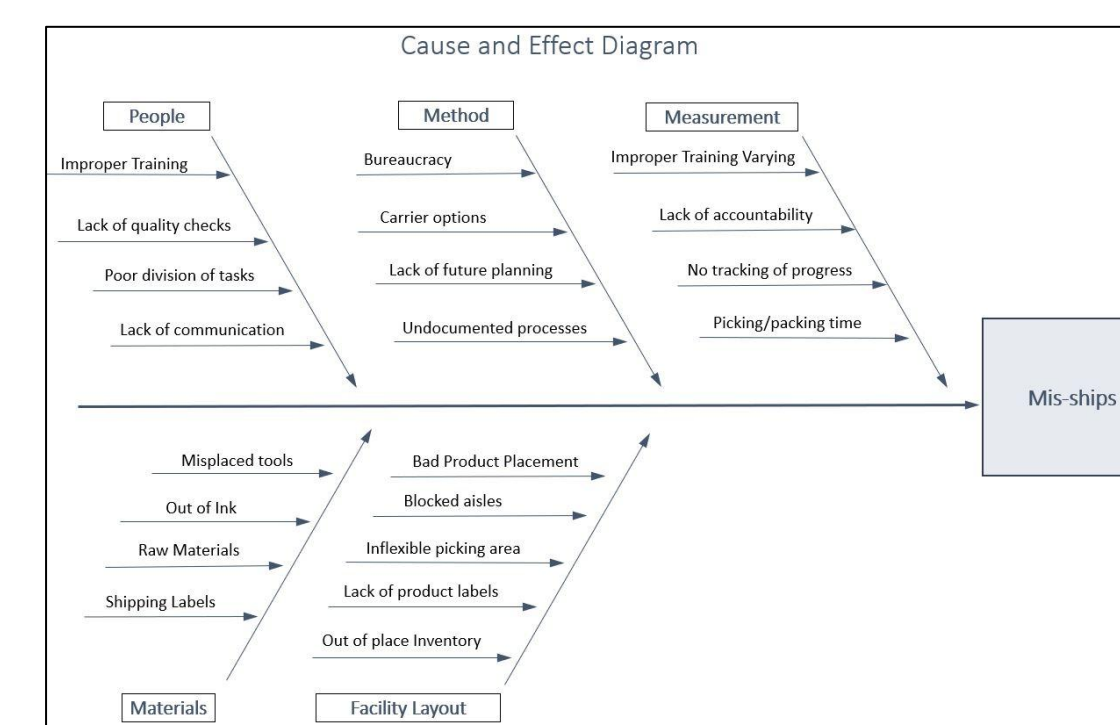
Measure

- Mis-ships and defect costs
- Uline vs Shorr box cost
- Products from Suppliers

Month	Orders	Mis-ships	% Error	Month	Mis-Ships	Defect Cost
May	3825	7	0.18%	July	2	\$20.53
June	3475	3	0.09%	September	2	\$18.56
July	2793	2	0.07%	January	2	\$34.47
August	3648	3	0.08%	June	3	\$23.74
September	3661	2	0.05%	August	3	\$27.85
October	4028	3	0.07%	October	3	\$26.88
November	8058	9	0.11%	May	7	\$81.29
December	8744	16	0.18%	November	9	\$188.50
January	2620	2	0.08%	February	9	\$48.78
February	2901	9	0.31%	December	16	\$285.09
Total					56	\$755.69
Cost per Defect						\$13.49

Analyze

- Process Flow
- Cost Comparison
- Fishbone diagram
- Verify root causes

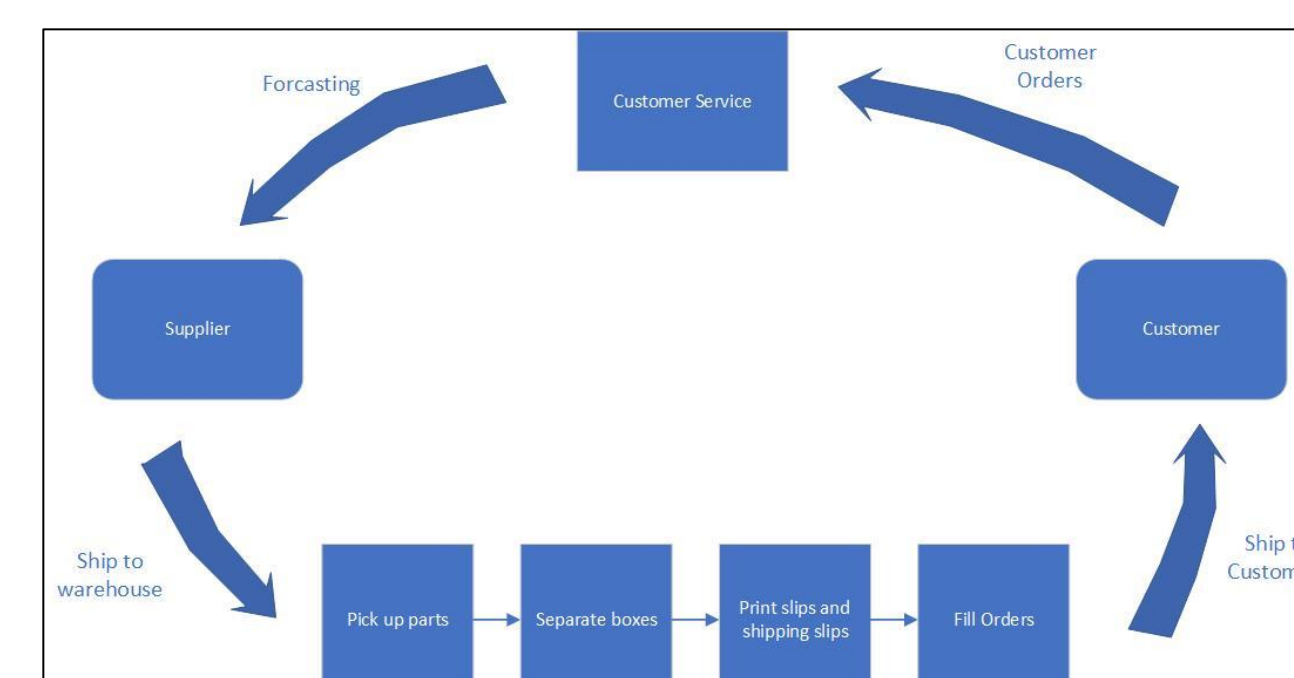


Improve

- Facility design based on future growth
- Reducing operating cost
 - Cheaper boxes
 - More efficient packing method
 - Utilization of tape

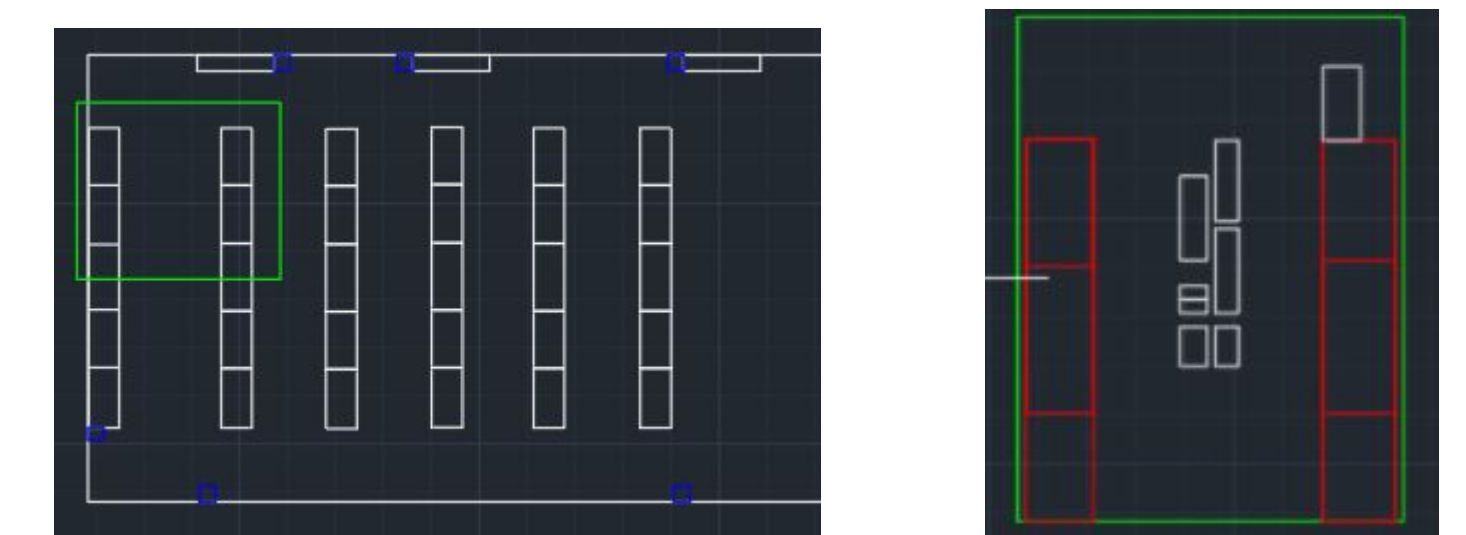
Control

- Proper documentation of the entire process
- Periodic monitoring and testing
- Continuous training and Improvement



RESULTS

1. Facility Design



2. Recommendations

- Switched material providers
- Allocated resources; space, time, and money
- Assume future growth and prepare process accordingly

CONCLUSION

With the facility design and recommendations that we proposed, Bagnet Company will be better suited for future growth (sales and products), save at least 15% in operating costs, and will have a dip in mis-ships by 20% or more.

FUTURE WORK

As Bagnet Company continues to grow, the facility layout will need to be adjusted and expanded to accommodate new products. New Products can cause an increase in mis-ships. Following the documented process and keeping up-to-date training will help reduce/eliminate mis-ships and defects.