Bruegmann/Circle K Line Queue Height Team 9 Senior Design Project

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Client Background



- Founded in 1970 in Cologne, Germany
- Strong client partnerships by offering customized solutions
- With vertically integrated operations –
 Bruegmann supports efficient, end-to-end service and global innovation

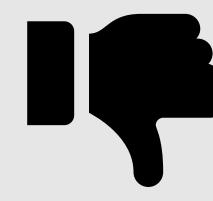


Creation of the FlexRoller in 2008 was a major breakthrough

Problem Statement



Low product visibility and inefficient space utilization reduce product accessibility.



This negatively impacts the customer experience and limits sales potential.



As a result, store performance declines and supplier ROI is affected.

Discussion

Challenges

- Adapting to a variable project scope
- Product visibility and availability issues

Future Work

- Expansion of the queue line
- Further equipment modification
- Customer queue pathing

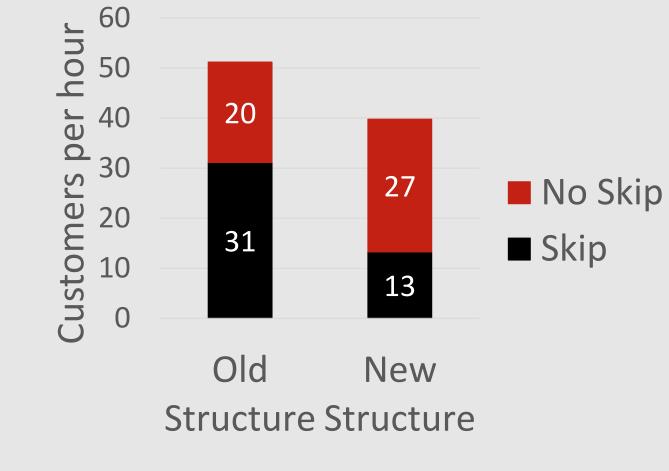
Results

Proportion of Queue vs Store Items Sold



The share of items sold from the queue line rose by 7%

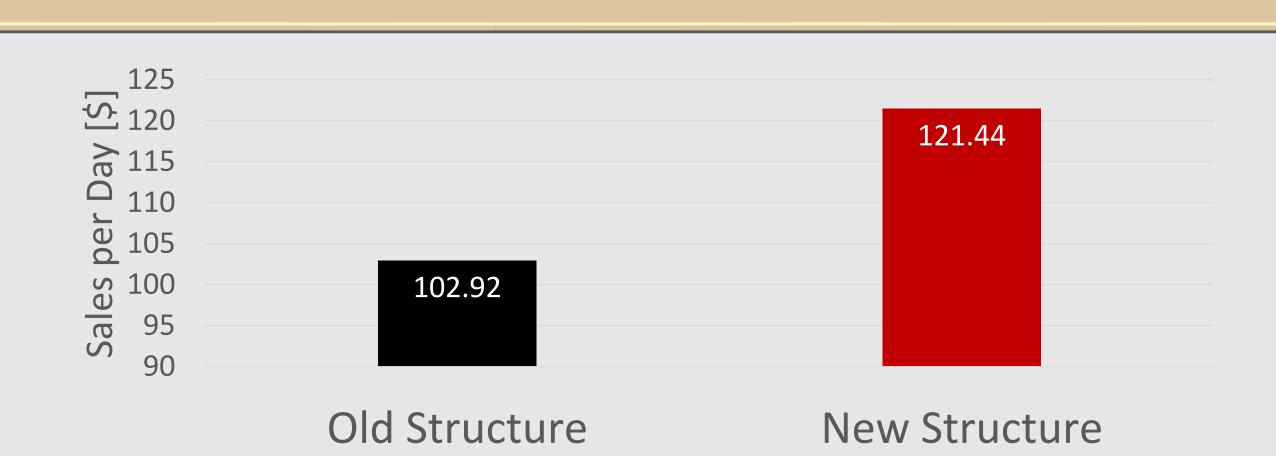
Hourly Customer Queue Skipping



A 28% reduction in line-skipping,

resulting in increased product visibility and, consequently, higher purchase rates.

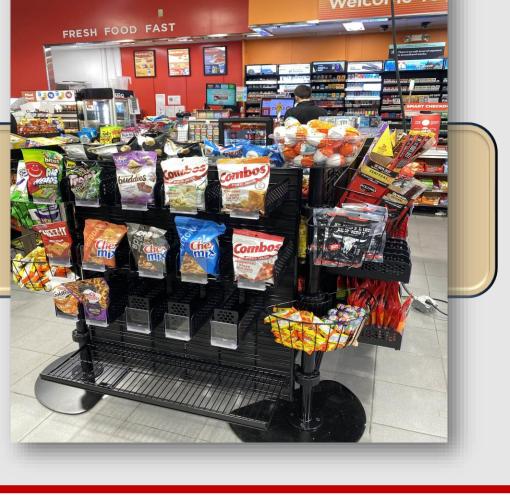
Queue Line Daily Sales Comparison



Average sales per day went from \$102.92 to \$121.44, resulting in an increase of 18.5%.



Queue Line Changes



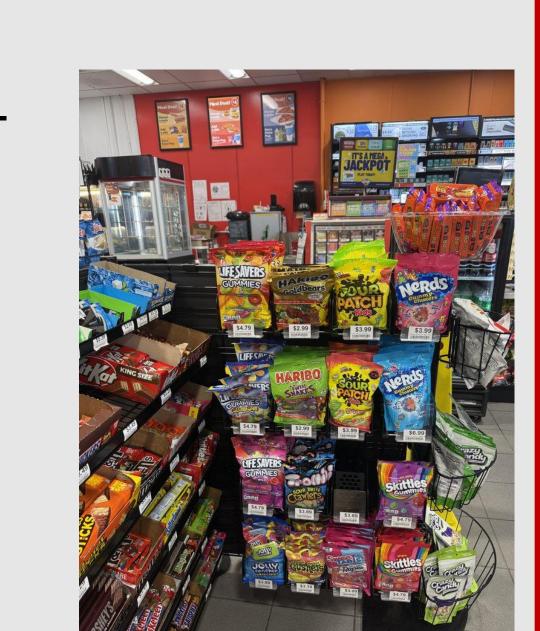
Methodology

Planogram Design

Hershey Design Principles:
 Placing top-selling items in high-view spots

Time Studies

- <u>Item Sales:</u> Tracking overall number of items purchased and queue line purchases
- <u>Basket Size:</u> Increasing number of items bought per person through queue line sales



Impact

	Raw Value	Percentage Change		
ange in Sales per day	18.52154753	18.00%		
anges in Units Sold per Da	4.448401826	13.53%		
	Return on Investm	nent Calculator		
Fixed Values	Cost of Investment (\$)	2397	Sales Increase per Day (\$)	18
Inputs	Input Mode (Days or ROI)	ROI		
	Number of Days to Run Model		Target ROI %	- 2
Calculated Values	ROI% Calculated		Days to Reach Target ROI %	1.
	Monetary Value of Return (\$)	479.4	Break-even Days	1
	Return on Investr	nent Calculator		
Fixed Values	Cost of Investment (\$)	2397	Sales Increase per Day (\$)	1
Inputs	Input Mode (Days or ROI)	Days		
	Number of Days to Run Model	365	Target ROI %	
Calculated Values	ROI% Calculated	181.71	Days to Reach Target ROI %	
	Monetary Value of Return (\$)	4355.5	Break-even Days	

It will take 130 days to break-even



Recommendation to ensure product availability

Time Saved:

• Pushers reduce the need for constant adjustment of the products

Human Factors Improvements:

• By reducing the need for constant adjustment, we minimize the frequency of having staff working in an uncomfortable position

Scan Here for Appendix