Group 10

Root Cause Analysis Report: Seasonal Sales Fluctuations and Stagnant Growth

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Executive Summary

This Root Cause Analysis (RCA) report delves into the core issues contributing to the observed seasonal sales declines and stagnant growth over the past three years in our company. Utilizing a comprehensive data-driven approach, we employed analytical tools like Tableau and Python to dissect sales data, uncovering key patterns and correlations. The RCA was visualized through a fishbone diagram, enhanced by the application of the "5 Whys" technique, enabling us to dissect and understand the multifaceted nature of the problems.

The analysis identified four primary factors impacting sales performance:

1. **Team Performance**: Challenges include a decline in sales team effectiveness, increased competition, excessive workload, communication gaps with customers, and managerial skill deficiencies.
2. **Product-Related Issues**: Factors include seasonal trends, product relevance, shortcomings in features and performance, low profit margins in certain categories, insufficient product feedback and research, inadequacies in the product development process, and issues related to product pricing and quality.
3. **Customer Dynamics**: Key concerns are variations in customer income levels, customer service quality and satisfaction, insights from post-purchase surveys, and budget constraints impacting quality control and staff training.
4. **Location Strategy**: Issues involve the balance of region and sales channels, poor performance in specific locations due to cost considerations, store location choice and profitability, reduced visibility and foot traffic, and gaps in market research or underestimation of location importance.

By meticulously analyzing these areas, the report aims to offer actionable insights and strategic recommendations to address the identified root causes, ultimately steering the company towards improved sales performance and growth.
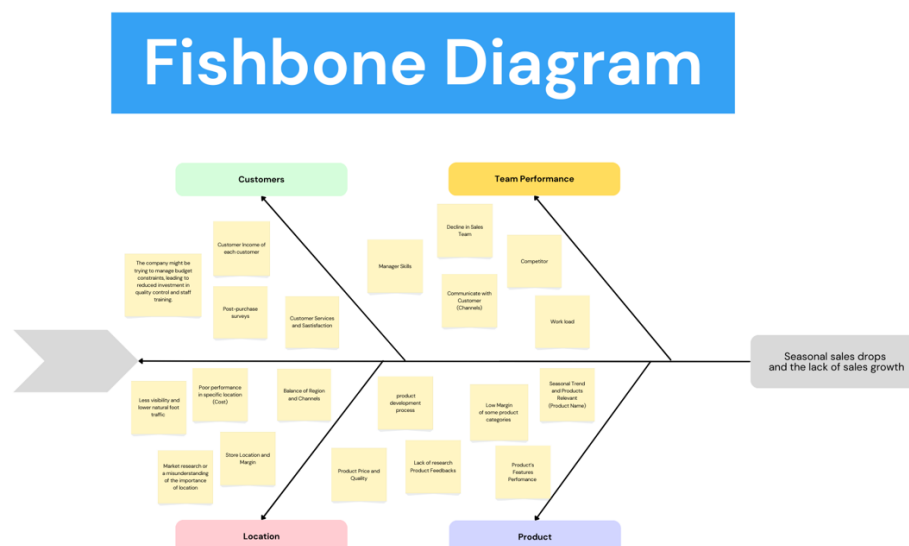
Root Cause Analysis: Identifying the Problem
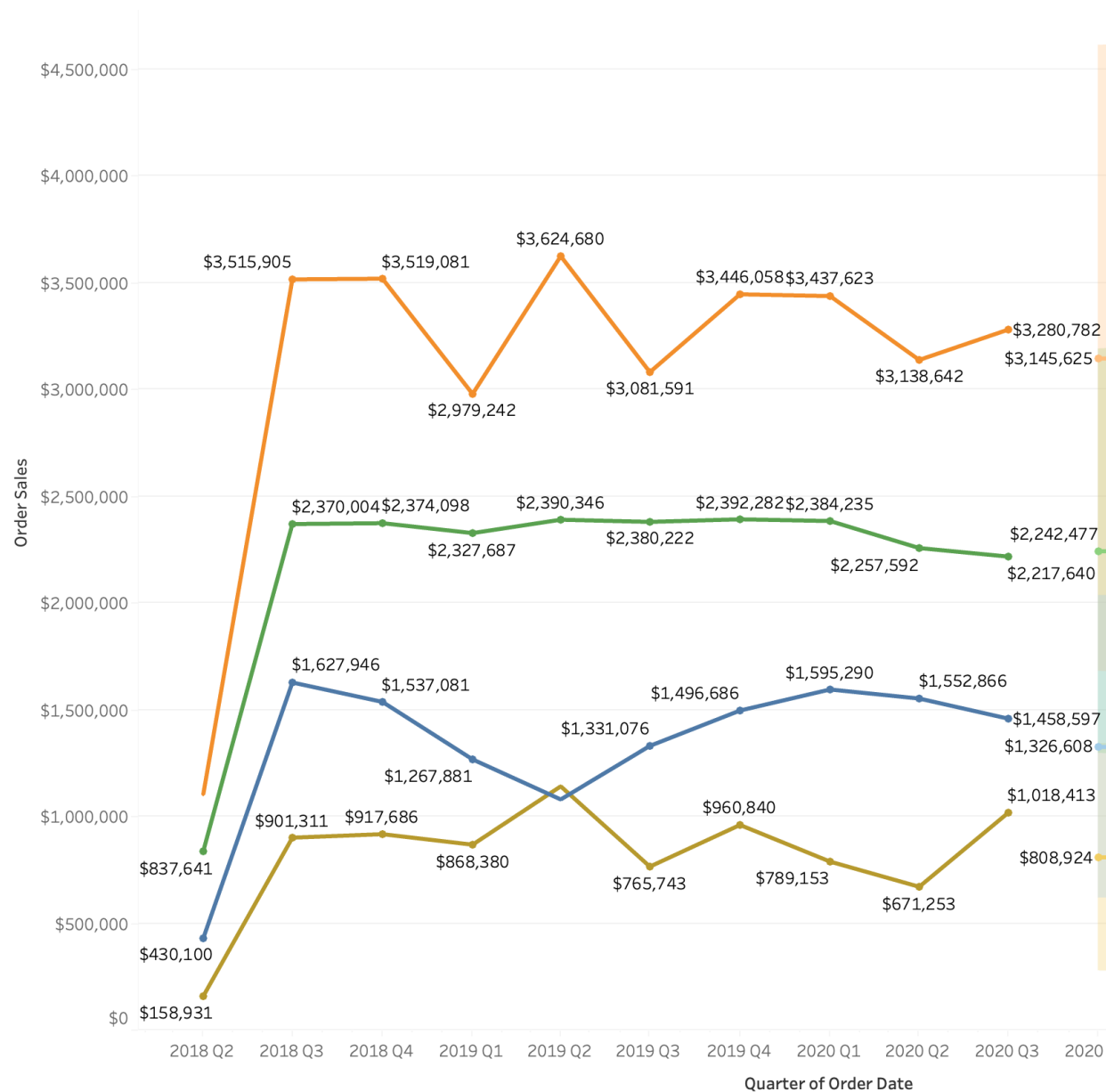
Problem Overview

Our Root Cause Analysis has brought to light a complex scenario regarding the company's sales trends over recent quarters. The provided Tableau visualization captures the ebb and flow of our sales figures, tracing a trajectory that suggests both cyclical patterns and irregularities that merit a deeper examination.

Specific Problem Identification

Stagnant Sales Growth

- **Description**: The visualization displays a fluctuating pattern of sales over the quarters. After a peak in Q4 2018, there is a noticeable drop in subsequent quarters, with occasional upswings that fail to sustain an upward trend.
- **Impact**: The fluctuation and the overall trend towards stagnation indicate an inconsistency in sales performance, which hinders reliable forecasting and strategic planning.
- **Observations**: The highest sales figures appear in Q4 across the years, suggesting a potential seasonal influence on sales performance.

Seasonal Sales Decline

- **Description**: A distinct pattern emerges, where Q1 of each year consistently shows a drop in sales, indicating a possible seasonal decline post the holiday season.
- **Impact**: These regular declines in Q1 can significantly impact annual revenue and may require specific strategies to counteract the seasonal effect.
- **Observations**: The sales decline in the first quarter of each year, followed by a varying degree of recovery in subsequent quarters, hints at underlying cyclical factors affecting purchasing behavior.

Analysis of Sales Data

The sales data, when plotted quarter by quarter, reveals both cyclical trends and unpredictable fluctuations that demand a detailed analysis. The graph shows sales peaking in the last quarter of each year, with sharp declines following in the first quarter. This pattern points to the need for a robust understanding of the factors influencing these trends, including market forces, consumer behavior, and operational efficiencies.

Initial Hypotheses

The RCA posits several initial hypotheses to explain the observed sales trends:

- **Post-Holiday Season Slump**: The sales boost in Q4 could be due to the holiday season, with a subsequent natural drop-off in Q1.
- **Market Dynamics**: Certain market dynamics, such as economic conditions or consumer confidence levels, may be contributing to the observed sales patterns.
- **Sales and Marketing Strategy**: The effectiveness of sales and marketing strategies, particularly around the holiday season, could be influencing the quarter-to-quarter fluctuations.
- **Product Life Cycles**: New product releases or the phasing out of older products could be impacting sales differently throughout the year.

1. Team Performance Analysis

Profit by Team - qianfan
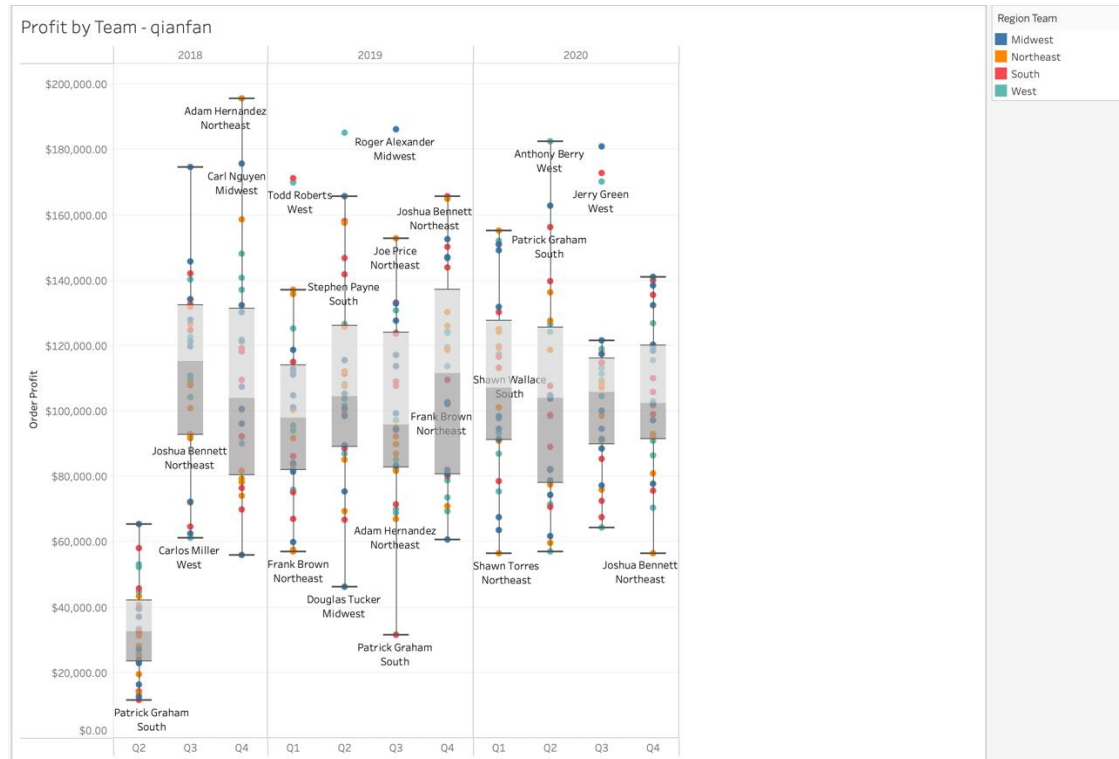
The Tableau visualization provides an insightful snapshot of our team's sales performance, pinpointing areas of high achievement and those requiring intervention. The data from 2018 to 2020 shows that while some regional teams, specifically in the West and South led by individuals like Anthony Berry, Jerry Green, and Patrick Graham, have excelled, others, particularly in the Northeast, have not met expectations.

Decline in Sales Team Effectiveness

A deeper analysis reveals a disparity in effectiveness among the teams. High performers in the West and South have demonstrated the ability to capitalize on opportunities and overcome challenges, while teams in the Northeast, including those led by Shawn Torres and Joshua Bennett, have seen less favorable outcomes. This uneven performance across regions could be reflective of varying degrees of team morale, motivation levels, training adequacy, and strategic alignment with company goals.

Increased Competition

The range of profit margins suggests that some teams are facing stiffer competition. Teams operating in more contested markets, as indicated by lower profit margins in the Northeast, need to innovate and adapt their strategies to maintain their customer base and market share.

Excessive Workload

The exceptional performance of teams in the West and South may also hint at an uneven distribution of workload. This raises concerns about whether all teams have the resources they need to meet their targets and suggests that some teams might be stretched too thin, risking burnout and a drop in work quality.

Communication Gaps with Customers

Variations in profit levels across teams could also be symptomatic of differing levels of customer engagement and communication effectiveness. It's essential to ensure that all teams have the skills and tools needed for clear and persuasive customer communications.

Managerial Skill Deficiencies

The contrast in team performance over the years underscores the importance of strong leadership. Managerial deficiencies in areas with lagging performance could be contributing to the lack of results, while the success in other regions may be indicative of more effective management and strategy implementation.

Conclusion and Recommendations

The visualization stresses the need for a strategic and balanced approach to enhance team performance. Recommendations include:

- **Enhanced Training and Development**: Focusing on areas with low performance, particularly in the Northeast, to ensure all team members have the necessary skills and product knowledge.
- **Revising Sales Targets and Processes**: Reevaluating sales targets and processes to ensure they are realistic and equitable across all regions, fostering an environment where all teams can succeed.
- **Improving Communication Strategies**: Enhancing customer communication strategies to build stronger relationships and improve customer trust and loyalty.
- **Addressing Workload Management**: Redistributing workload to prevent burnout and support teams that are under-resourced.
- **Fostering a Supportive Culture**: Building a culture that promotes employee well-being, encourages communication, and supports professional growth.

2. Product-Related Issues

Pareto of Order and Sales

Analysis of the Pareto Principle in Sales Distribution

In evaluating our sales distribution through the lens of the Pareto Principle, our investigation has uncovered a broader spectrum of influential products than the traditional 80/20 rule would suggest. Notably, it is approximately the top 40% of our product portfolio that accounts for 80% of our sales revenue, indicating a more expansive range of key contributors to our business success.

When dissecting the components of this 40%, several product-related issues become apparent, each contributing to the overall sales dynamic:

1. **Seasonal Trends**: Products within this influential segment are subject to seasonal fluctuations, which can dramatically affect sales performance. Recognizing and adapting to these trends is crucial for maintaining a consistent sales trajectory.
2. **Product Relevance**: The relevance of these products to current market needs has been highlighted as a pivotal factor. Products that align closely with consumer preferences tend to contribute more to sales, underscoring the need for market-aligned product development.

3. **Features and Performance**: The analysis suggests shortcomings in the features and performance of some products, which may be inhibiting their sales potential. Enhancements in these areas could drive a more significant share of revenue.
4. **Profit Margins**: Certain categories within this segment are identified as having lower profit margins, affecting overall financial outcomes. Reevaluating cost structures and pricing strategies for these products may improve profitability.
5. **Product Feedback and Research**: A deficit in product feedback and market research has been identified, suggesting that more robust data collection and analysis could inform better product iterations and innovations.
6. **Product Development Process**: The current product development process may not be sufficiently agile or responsive to market changes, leading to products that fail to meet evolving consumer demands.
7. **Pricing and Quality**: Issues around pricing strategies and quality assurance have also come to light, with implications for customer satisfaction and competitive positioning.

The insights drawn from this Pareto analysis necessitate a strategic overhaul in several aspects of our product management. A more comprehensive approach to product development, informed by robust market research and customer feedback, is required. Addressing the issues of product features, performance, pricing, and quality will be pivotal in capitalizing on the sales potential within the critical 40% of our product range.

3. Customer Dynamics
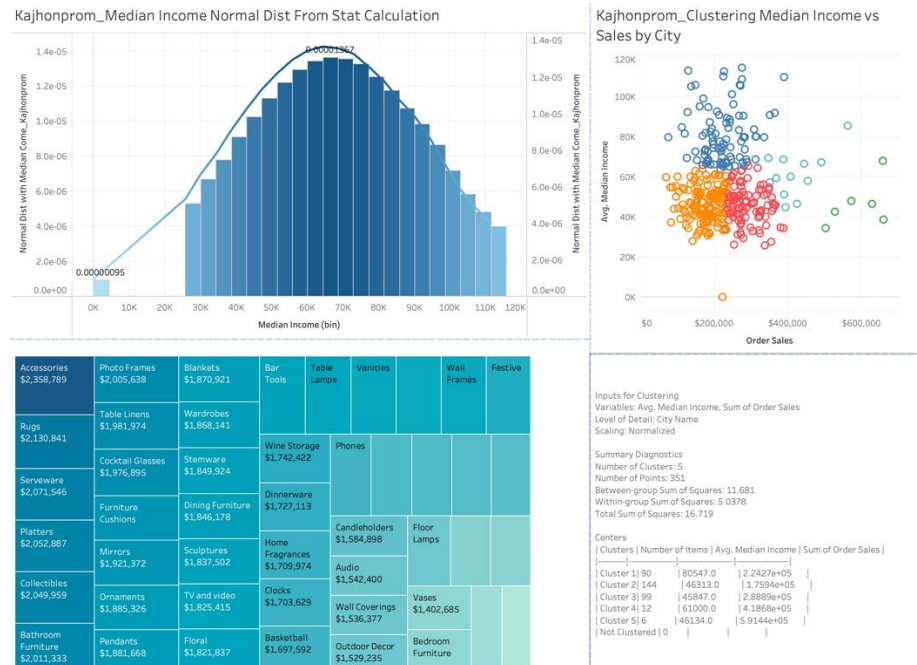
The interplay of customer income levels, service quality, satisfaction, and internal budget constraints is pivotal to our sales strategy. A detailed examination of customer demographics, paired with an analysis of sales performance across different product categories, offers a nuanced understanding of these dynamics.

Our analysis, which includes customer segmentation into five distinct clusters, highlights significant variations in average median incomes ranging from $46,313 to $80,547. These income variations correlate with the sales performance of different product clusters, as observed in the recent Tableau visualization outlining our top ten products. For example, Accessories lead the sales with a substantial margin, while items like Bathroom Furniture, although at the lower end of the top ten, still contribute notable sales figures.

The Tableau data, when coupled with the cluster information, reveals that clusters with average median incomes significantly below the overall median income of $64,000 can still have a substantial sales impact. Cluster 5, with an average median income of $46,134, remarkably contributes the highest sales figures with the fewest items, suggesting that lower median income does not necessarily equate to lower purchasing power. Conversely, Cluster 4, with a median income of $61,000, boasts high sales figures with only 12 items, indicating a potentially higher spending per item.

These insights are crucial in addressing the key concerns identified. Understanding the variations in customer income levels helps tailor our marketing and product development strategies to different economic segments. Quality customer service and satisfaction levels are also essential, especially in clusters with higher income, where expectations may be greater, and purchasing power is substantial. Insights from post-purchase surveys across these clusters can guide improvements in customer service and product offerings.

Additionally, internal budget constraints that may affect quality control and the scope of staff training are particularly pertinent. Investment in quality control and staff training is essential to maintain high service standards and customer satisfaction, which are critical for sustaining sales, especially in clusters with higher sales per item.

In response to these dynamics, we recommend:

- **Customized Marketing Approaches**: Develop tailored marketing campaigns that resonate with the economic profiles and preferences of each customer cluster.
- **Enhanced Customer Service Training**: Prioritizing investment in comprehensive customer service training, ensuring that all customer interactions are consistent and of high quality, irrespective of the cluster.
- **Leveraging Post-Purchase Feedback**: Actively using customer feedback to refine product offerings and enhance the overall customer experience.
- **Strategic Budget Allocation**: Allocating resources strategically to improve product quality and staff training, particularly in clusters that have shown a high sales potential.

4. Location Strategy
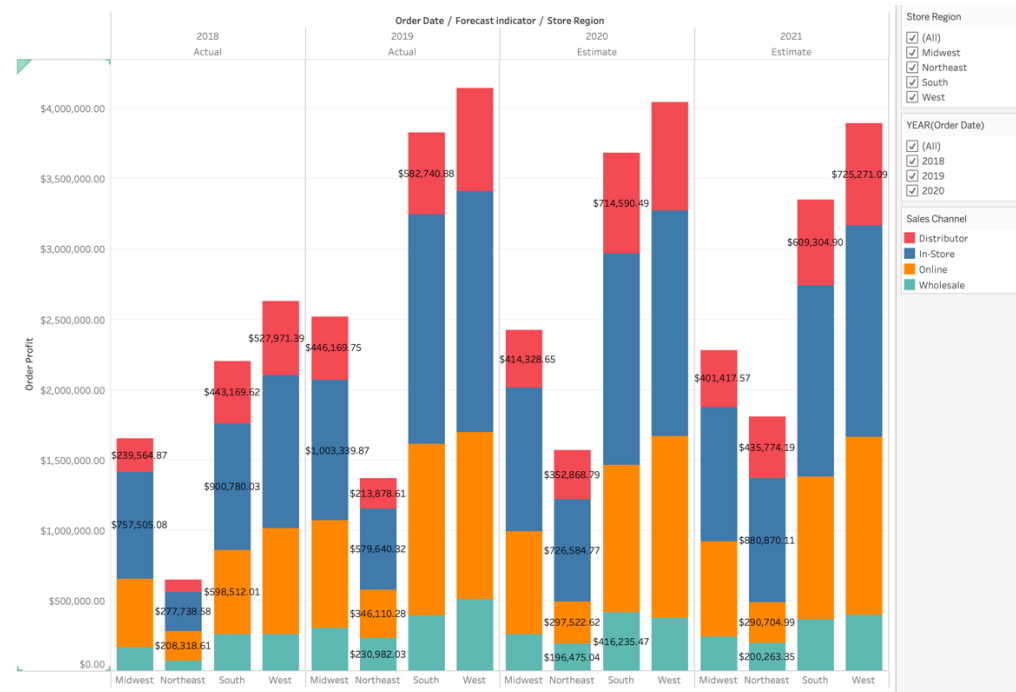
Our strategic review, informed by the latest sales data visualization, identifies key factors influencing the performance of our sales channels across various regions. The data for the year 2020 presents a telling picture of our regional sales dynamics, with the Northeast region's performance being lower compared to others, yet exhibiting steady growth.

The visualization details the order profits by region—Midwest, Northeast, South, and West. Each region's performance is color-coded by sales channel, allowing us to discern how each channel contributes to the overall profitability of the region. The Northeast stands out for its consistent, albeit lower, performance, indicating the potential for a targeted strategy to foster further growth.

For the year 2020, the actual profits are as follows:

- **Midwest**: The total profits are marked at $444,042.37.
- **Northeast**: Total profits show a steady increase, totaling $729,559.77.
- **South**: Here, the profits are significantly higher, amounting to $1,521,422.13.
- **West**: This region reports the highest profits at $1,656,363.55.

Moving into the year 2021, the values are estimated based on the average performance from the previous year. This projection is a valuable indicator for setting benchmarks and goals for each region, helping us to adjust our strategies accordingly.

To capitalize on the steady growth in the Northeast and address its lower profits compared to other regions, our location strategy must consider several actions:

- **Market Analysis**: Conduct in-depth market analysis in the Northeast to identify factors contributing to its steady growth and lower profit margins compared to other regions.
- **Channel Optimization**: Optimize sales channels in the Northeast, enhancing those that show the most promise based on the steady growth observed.
- **Cost Management**: Review and manage operational costs in the Northeast to improve profitability without sacrificing the growth trajectory.
- **Sales Strategy Customization**: Customize sales strategies for the Northeast to leverage its unique market conditions, potentially increasing the region's profits to match or exceed other regions.
- **Forecast Utilization**: Use the estimated values for 2021 as a guide to manage expectations and resource allocation, ensuring that strategies are aligned with projected growth.

By addressing the regional discrepancies and leveraging the steady growth in the Northeast, we can enhance our location strategy to improve sales channel performance, manage costs effectively, and drive profitability across all regions.

Summary

In conclusion, our comprehensive analysis across various facets of the business – from team performance and customer dynamics to product strategy and location planning – has unveiled multifarious challenges and opportunities.

Team Performance has surfaced as a critical area, with disparities in effectiveness across regions. High performers have demonstrated resilience and adaptability, while underperforming teams may benefit from targeted training and revised sales strategies. We must also address the issue of increased competition and workload management to bolster team morale and efficiency.

Customer Dynamics have revealed that income variations, customer service quality, and post-purchase feedback significantly influence sales. Tailored marketing approaches and enhanced customer service training are recommended to address the specific needs of different income segments, leading to improved customer satisfaction and loyalty.

Product Strategy adjustments are necessary due to the Pareto Principle analysis indicating that a larger array of products contributes to sales than previously believed. This calls for a reevaluation of product offerings, marketing efforts, and research investment to ensure we cater to consumer demands effectively and optimize profitability.

Location Strategy insights highlight the importance of strategic site selection, channel optimization, and market analysis to enhance profitability. The Northeast region, with its steady growth yet lower overall profits, requires particular attention to leverage its upward trend.

Each of these components interlinks to form a complex picture of our operational landscape. By adopting a holistic approach – focusing on enhancing training, revising targets, improving communication, and fostering a supportive culture – we can address team performance. Simultaneously, leveraging customer insights, tailoring product offerings, and refining location strategies will enable us to better meet market demands and drive sustained growth.

In essence, the synthesized findings from these analyses provide a robust foundation for strategic decision-making and resource allocation, guiding us toward a path of enhanced performance, customer satisfaction, and overall business success.

Appendix

Fishbone Diagram

Customers

Customer Income of each customer

The company might be trying to manage budget constraints, leading to reduced investment in quality control and staff training.

Post-purchase surveys

Customer Services and Sastisfaction

Team Performance

Decline in Sales Team

Manager Skills

Competitor

Communicate with Customer (Channels)

Work load

Seasonal sales drops and the lack of sales growth

Poor performance in specific location (Cost)

Balance of Region and Channels

product development process

Low Margin of some product categories

Seasonal Trend and Products Relevant (Product Name)

Less visibility and lower natural foot traffic

Store Location and Margin

Market research or a misunderstanding of the importance of location

Product Price and Quality

Lack of research Product Feedbacks

Product's Features Performance

Location

Product