

SALES AND PROMOTION ANALYSIS USING POWER BI:

A CASE STUDY ON NOVA RETAIL





OUR TEAM

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01 Introduction

Nova Retail is a rapidly growing retail company operating across multiple regions and product lines. The leadership team aims to move beyond static reports and leverage interactive Power BI dashboards to gain actionable insights into sales, promotions, and external events.

Our Goal

- Analyze factors influencing sales & forecast accuracy.

02

Business Questions

01

Which items sell more with promotions?

02

Are there items that don't respond to discounts?

03

Do Salary Days or Holidays boost sales more?.

04

How do different promotions (Unit, Mix, Multibuy, Vendor) affect sales?



02

Business Questions Cont..

05

Which products are most sensitive to Holiday-related demand spikes?

06

Are there items with high sales but low promotion spend (efficient performers)?

07

Which items have low sales despite frequent promotions (potentially unprofitable)?.

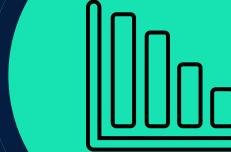


Brainstorm & Approach



Thought Process Before Building the Dashboard

- Understand business context: Sales, promotions, and external events
- Define key questions: promotions, salary days, holidays, forecasts
- Decide dashboard structure: Overview → Product Performance → Promotion Effects
- Plan to use *KPIs, visuals, slicers, and DAX* for interactivity



Interpreting the Dataset

- Weekly sales data by item (Sales Quantity, Contribution)
- Forecasts: Baseline vs Total (with & without promotions)
- Promotion variables: Unit, Quantity, Mix, Multibuy, Vendor (0–7 intensity scale)
- External events: Holidays (0–4), Salary_Day (0/1/2)
- Discounts: % applied during the week

Brainstorm & Approach Cont..



Challenges Faced

- Multiple promotion types with coded intensity (0-7 → needed simplification)
- Overlap of promotions & events → hard to isolate true effects
- Forecast deviation varied widely across items
- Ensuring dashboard remains simple but insightful



Why We Chose Our Business Questions

- Promotions = major cost → measure ROI
- Identify ineffective discounts → avoid wasted spend
- Salary Days & Holidays → key demand drivers
- Compare promotion types → optimize marketing
- Holiday-sensitive products → better stock planning
- High sales + low promo spend → star performers
- Low sales + high promo spend → potential unprofitable items

INSIGHTS

SALES PERFORMANCE



- Sales volume is strong (273K units, 12.28M revenue), but discounts are extremely high (10.51M), eroding profit margins.
- A handful of categories dominate sales (top 3 = 100% of major contribution), creating high product dependency.
- Promotions are ineffective: sales actually fall during salary days (-32%) and holidays (-79%).



FORECAST VS ACTUAL

- Forecasting model performance is poor: forecasts (29K) underestimate actual sales (45K) by a large margin.
- Forecasting model performance is poor.

INSIGHTS CTD...



PROMOTION IMPACT

- Non-promo sales dominate: 177K units vs 96K from promo sales.
- Promo lift is negative (-0.46) → promotions do not increase incremental sales, they only shift timing.
- Deep discounts do not translate into higher volumes.

05 RECOMMENDATIONS

Rebalance Promotions & Discounts

- Reduce blanket discounts (currently almost equal to revenue).
- Shift toward targeted promotions (loyalty-based, product-specific, limited-time offers).
- Test smaller but smarter discounts instead of high blanket ones that hurt margins.

Diversify Product Portfolio

- Dependency on 2-3 categories is risky.
- Explore new product launches or upselling in underperforming categories.
- Use insights from top-selling SKUs to guide product development and bundling.



THANK YOU

ANY QUESTIONS?



