Data Analysis Project – ValueFrenzy

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Agenda

➢ Company Overview

➢ Problem Statement

➢ Project Scope and Timeline

➢ Key Stakeholders

➢ Assumptions & Constraints

➢ Key Performance Indicators (KPIs)

➢ Insights and Recommendations

➢ Conclusion

ValueFrenzy Supermarket Chain Overview

➢ Founded in 2006, specializing in FMCG.

➢ Operations in the **USA**, **Mexico**, and **Canada** with 100+ stores.

➢ Product range: low-tier (groceries), medium-tier (household goods), high-tier (electronics).

➢ Strong focus on private label brands and affordability

➢ Omnichannel strategy: Seamless integration of physical stores and online shopping

➢ Committed to operational efficiency and sustainable growth.

A Call for Help: Analyzing ValueFrenzy's Decline

➢ 2021-2023: Revenue and profit decline, especially in the **USA**.

➢ Sarah Jameson, COO, reached out for an urgent data analysis.

➢ Goal: Examine KPIs—Revenue, Profit, Quantity Sold, Transactions, and Average Transaction Value (ATV) segmented by regions and product-tiers.

➢ Objective: Pinpoint gaps, analyze customer behavior, and recommend improvements.

What's Included in the Analysis?

In-Scope

➢ Data Analysis:
  ➢ KPIs: Revenue, Profit, Quantity Sold, Transactions, ATV (2021-2023).
  ➢ Analyze by product tiers: Low, Medium, High.
  ➢ Track trends and identify seasonal patterns.
  ➢ Examine regional differences in sales and customer behavior.

➢ Recommendations:
  ➢ Recommend actions to recover ATV, boost gross profits, and drive medium and high-tier product sales.
  ➢ Propose targeted promotions, loyalty programs, and region-specific marketing to improve customer engagement.
  ➢ Suggest operational improvements to cut supply chain costs and boost profitability in Canada.

Out-of-Scope:

➢ No Customer Surveys (qualitative data).
➢ No Detailed Supply Chain or operational analysis.

Four Phases, Four Weeks

1. Week 1

   Stakeholder Meetings, Finalize KPIs, Data Collection, Initial Preparation

2. Week 2

   Data Cleaning, Transformation, Preliminary Analysis, Feedback

3. Week 3

   Detailed Data Analysis, Insights Development, Feedback & refinement

4. Week 4

   Draft Dashboard, Internal review, Dashboard refinement, Presentation

The People Behind the Project

➢ Sarah Jamieson – Chief Operating Officer (COO)

➢ David Lee - Chief Financial Officer (CFO)

➢ Amanda Cole - Head of Sales and Marketing

➢ Michael Rogers - Regional Manager, USA

➢ Isabella Martinez - Regional Manager, Mexico

➢ Ethan Carter - Regional Manager, Canada

➢ Karen Blake - Head of Product and Strategy

➢ Nitin Kunigal - Data Analyst (Consultant)

Assumptions

➢ Business Continuity: No major disruptions, except ATV drop (Q4-2021 to Q1-2022).

➢ Macroeconomic Factors: Inflation and supply chain issues affected performance across regions.

➢ Regional Consistency: Consumer preferences remained stable in the **USA**, **Mexico**, and **Canada**.

➢ Comparable Store Performance: Similar product availability and pricing across all stores.

➢ Stable Market Share: Sales trends reflect internal factors, not external competition.

➢ Product Portfolio: No major new product lines introduced between 2021-2023.

➢ Predictable Consumer Behavior: Low-tier products drive volume; medium/high-tier drive profit.

Constraints

➢ Time Frame: Limited to data from 2021-2023.

➢ Data Granularity: Limited promotional or inventory details i.e. limited breakdowns.

➢ Regional Differences: Consumer behavior varies, limiting global recommendations.

➢ Tool Limitations: Excel only, no advanced tools (SQL, Python) used.

➢ Operational Data Excluded: Focus on sales, no supply chain or staffing analysis.

➢ External Market Conditions: No access to competitor performance or external market data.

➢ Stakeholder Availability: Dependent on timely input from key stakeholders.

➢ Unpredictable Events: No consideration of unforeseen events unless in the dataset.

KPIs and Business Metrics

1. Total Revenue
   Generated across all regions and product categories.

2. Gross Profit
   Deducting COGS (Cost of Goods Sold) from Total Revenue.

3. Quantity Sold
   Total units sold across all regions.

4. Total Transactions
   Number of customer transactions across all regions.

5. Average Transaction Value (ATV)
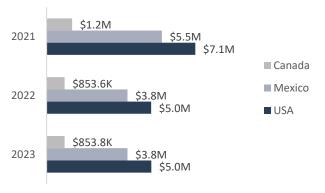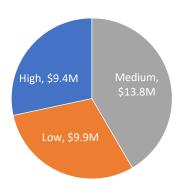   Average amount spent per transaction.

Total Revenue (2021-2023)

Revenue (Across all Regions): $33.1M – USA (51%), Mexico (40%), Canada (9%)

Drastic **DROP** in **REVENUE** from **2021** to **2022** and remained Constant Thereafter

Low and **High-Tier** contribute **SIMILAR** Revenue and need Granular Attention

2021
- Canada $1.2M
- Mexico $5.5M
- USA $7.1M

2022
- Canada $853.6K
- Mexico $3.8M
- USA $5.0M

2023
- Canada $853.8K
- Mexico $3.8M
- USA $5.0M

- Canada
- Mexico
- USA

High, $9.4M
Medium, $13.8M
Low, $9.9M

REVENUE DECLINED From **$13.8M** in 2021 to **$9.7M** in 2022 & 2023, impacted by ATV **DROP**.
Specifically, **REVENUE DECLINED** from **$1.4M** to **$793.6K** between **Dec-2021** & **Jan-2022**
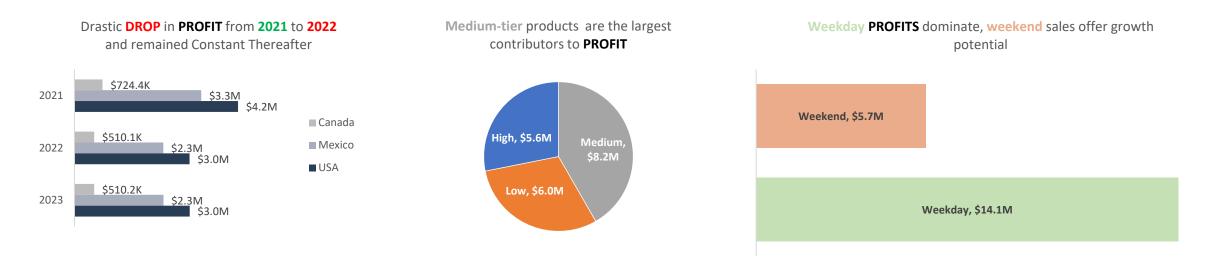
$1.4M

$966.9K

$793.6K

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec | Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec | Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

2021 | 2022 | 2023

Gross Profit (2021-2023)

Profit (Across all Regions): $19.8M – USA (51%), Mexico (40%), Canada (9%)

Drastic DROP in PROFIT from 2021 to 2022 and remained Constant Thereafter

2021
- $724.4K
- $3.3M
- $4.2M

2022
- $510.1K
- $2.3M
- $3.0M

2023
- $510.2K
- $2.3M
- $3.0M

Legend:
- Canada
- Mexico
- USA

Medium-tier products are the largest contributors to PROFIT

- High, $5.6M
- Medium, $8.2M
- Low, $6.0M

Weekday PROFITS dominate, weekend sales offer growth potential

- Weekend, $5.7M
- Weekday, $14.1M

PROFITS DROPPED From $8.2M in 2021 to $5.8M in 2022 & 2023, impacted by sharp DECLINE in ATV, sales volume, and transactions. Specifically, PROFITS DECLINED from $822.7K to $474.1K between Dec-2021 & Jan-2022

- $822.7K
- $576.9K
- $474.1K

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec — 2021
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec — 2022
Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec — 2023

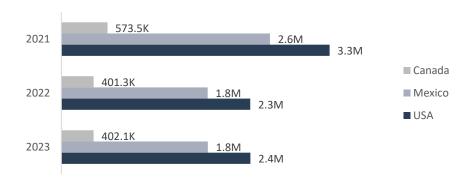# Quantity Sold (2021-2023)
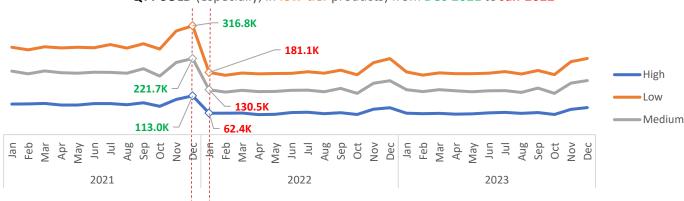
Total Quantity Sold (Across all Regions): 15.7M – USA (51%), Mexico (40%), Canada (9%)

Drastic **DECLINE** in **QTY SOLD** from **2021** to **2022** and remained Constant Thereafter

2021
- Canada: 573.5K
- Mexico: 2.6M
- USA: 3.3M

2022
- Canada: 401.3K
- Mexico: 1.8M
- USA: 2.3M

2023
- Canada: 402.1K
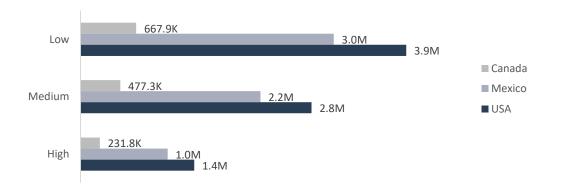- Mexico: 1.8M
- USA: 2.4M

Legend:
- Canada
- Mexico
- USA

High Tier Products contribute towards **LOWEST QTY SOLD**. A significant **DROP** in the Overall **QTY SOLD** (especially, in **low-tier** products) from **Dec-2021** to **Jan-2022**
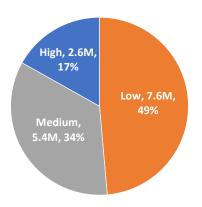
- 316.8K
- 181.1K
- 221.7K
- 130.5K
- 113.0K
- 62.4K

Legend:
- High
- Low
- Medium

X-axis: Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec (2021), Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec (2022), Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec (2023)

Mexico (**40%**) has Great Potential Competing with the **USA** (**51%**). **Medium-Tier** (**34%**) show Great potential while **High-Tier** Needs Attention

Low
- Canada: 667.9K
- Mexico: 3.0M
- USA: 3.9M

Medium
- Canada: 477.3K
- Mexico: 2.2M
- USA: 2.8M

High
- Canada: 231.8K
- Mexico: 1.0M
- USA: 1.4M

Legend:
- Canada
- Mexico
- USA

17% of **High-Tier** units sold, despite having the highest ATV, Needs Granular Attention

- High, 2.6M, 17%
- Low, 7.6M, 49%
- Medium, 5.4M, 34%
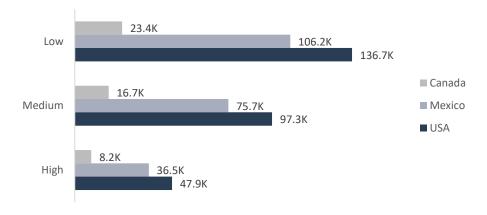
Total Transactions (2021-2023)

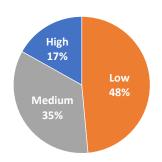## Total Transactions: 548,649 – No Change in YoY Transaction Volume across regions and product tiers

Strong Customer Engagement in **Mexico** (**40%**) despite its Market Size. **Medium-Tier (35%)** shows Great potential While **High-Tier** Needs Attention

Sharp **DECLINE** in transaction volume from late 2021 to early 2022 (mainly, in the USA). Mexico showed SEASONAL PEAKS in Nov-Dec as Opposed to the USA
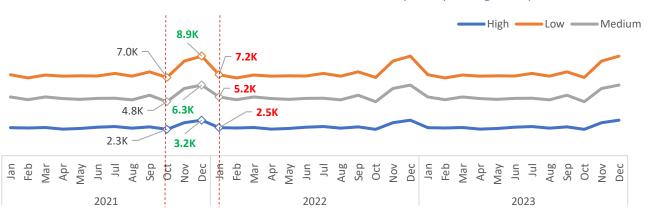
Low-tier (48%) dominate, **medium-tier (35%)** stable, **high-tier (17%)** low volume but high value and needs attention

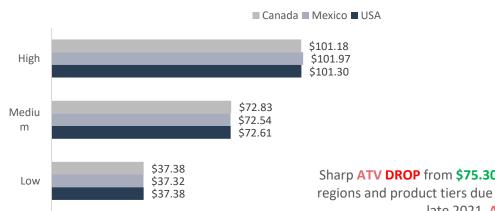**DROP** in transaction volume from **late 2021** into **2022**, especially for **high-tier** products

Average Transaction Value/ ATV (2021-2023)

ATV (Across Regions): Canada ($60.45), USA ($60.40), Mexico ($60.33)
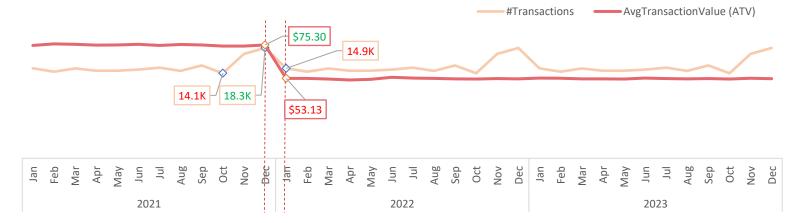
ATV remained consistent across regions for **Low**, **Medium**, and **High-Tier** products

Low-tier products have the **LOWEST ATV**, **high-tier** products the **HIGHEST**, but with **FEWER** Transactions

Legend: ■ Canada ■ Mexico ■ USA

High: $101.18 / $101.97 / $101.30

Medium: $72.83 / $72.54 / $72.61

Low: $37.38 / $37.32 / $37.38

Pie chart: Low, $37.35 — Medium, $72.60 — High, $101.55

Sharp **ATV DROP** from **$75.30** to **$53.13** between **Q4-2021** to **Q1-2022**. **ATV** remained consistent across regions and product tiers due to **STABLE PURCHASING PATTERNS**. Despite a **TRANSACTION INCREASE** in late 2021, **ATV** remained steady, driven by **FREQUENT low-tier** purc

Legend: #Transactions — AvgTransactionValue (ATV)

$75.30

14.9K

14.1K   18.3K

$53.13

Timeline: Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec — 2021 | Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec — 2022 | Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec — 2023

Insights and Recommendations

Insight 1

Declining Revenue and Gross Profit:

- Insight: ValueFrenzy's revenue dropped from $13.8M in 2021 to $9.7M in 2022 and 2023, alongside a decline in gross profit from $8.2M to $5.8M.

- Root Cause: Reduced high-tier product sales, especially in the USA, due to economic constraints and lower ATV after Q4 2021.

Recommendation 1

Address Declining Revenue and Gross Profit:

- Focus on targeted promotions and pricing strategies for high-tier products, especially electronics and furniture, to revive sales in the USA.

- Introduce flexible financing or installment plans to encourage purchases of higher-value items.

Insights and Recommendations (Contd..)

Insight 2

Stable Quantity Sold but Shifting Product Mix:

➢ **Insight**: 15.7M units sold, with groceries making up 60% of sales. High-tier product sales declined significantly.

➢ **Root Cause**: Economic pressures led customers to prioritize essential goods like groceries, reducing demand for high-tier items.

Recommendation 2

Optimize Product Mix and Encourage High-Tier Sales:

➢ Shift marketing focus toward **medium** and high-tier products in regions like **Mexico** and **Canada**, where potential for growth remains.

➢ Launch product bundles and cross-selling initiatives to increase spending on higher-margin categories.

Insights and Recommendations (Contd..)

Insight 3

High Transaction Volume but Lower Average Transaction Value:

➢ Insight: Transaction volume remained steady, but ATV dropped from $75+ in 2021 to $53+ in 2022-2023.

➢ Root Cause: Fewer high-value transactions and more frequent low-cost purchases caused the sharp drop in ATV.

Recommendation 3

Boost Average Transaction Value (ATV):

➢ Implement loyalty programs and personalized discounts to increase the ATV, particularly for frequent customers.

➢ Encourage customers to add higher-value products to their carts through targeted upselling at checkout.

Insights and Recommendations (Contd..)

Insight 4

Regional Disparities in Performance:

➢ Insight: **USA** saw the largest revenue drop, while **Mexico** and **Canada** showed better stability.

➢ Root Cause: Economic challenges in the **USA** drove the steep decline in high-tier sales, while **Mexico** and **Canada** were less affected.

Recommendation 4

Improve Regional Performance with Tailored Strategies:

➢ Develop region-specific marketing campaigns to address the unique needs of each market (**USA**, **Mexico**, and **Canada**).

➢ Invest in localized market research to better understand customer behavior and adapt product offerings accordingly.

Insights and Recommendations (Contd..)

Insight 5

Impact of Macroeconomic Conditions on Purchasing Patterns:

➢ Insight: A significant drop in ATV, especially in the USA, indicated a shift toward lower-cost, essential goods.

➢ Root Cause: Inflation and changing consumer behavior led to fewer purchases of high-value products like electronics.

Recommendation 5

Adapt to Macroeconomic Conditions:

➢ Leverage ValueFrenzy's private label brands to provide customers with affordable, high-quality alternatives.

➢ Enhance operational efficiency to mitigate rising costs and pass savings on to consumers through competitive pricing.

CONCLUSION

➢ The analysis of ValueFrenzy's performance from 2021 to 2023 highlighted key challenges in revenue, profit, and regional sales.

➢ By identifying these issues and understanding customer behavior, we now have a clear path to improve performance and drive future growth.

➢ By implementing these strategic recommendations, ValueFrenzy is well-positioned to recover lost ground, enhance profit margins, and stay competitive in the FMCG market.