Walmart Sales

Executive Summary

This project analyzes Walmart Sales data across two years identifying the highest earning stores and the most successful promotions, in order to inform the creation of marketing plans that will seek to increase the profitability of the lowest earning stores, drive earnings on the most successful promotions, grow international sales totals, and balance sales across domestic and international stores.

Project Description

The goal of this project is to **drive targeted revenue growth** and **strategic market balancing** across domestic and international sales channels.

FOCUS: *improving underperforming store revenue*, *maximizing returns from promotional efforts*, and *expanding international market share* over a 12-month period.

In Scope

- Optimize Current Sales Processes
- Leverage Promotional Strategy
- Expand Market Reach

Out of Scope

- New Product Development
- Unrelated Operational Initiatives

S.M.A.R.T. Goals

01

Year-Over-Year Growth

Increase revenue of lowest earning stores by 15% in the next year.

02

Sales Tracking

Grow sales of top grossing categories by 10% during the upcoming year's promotional periods.

03

International Sales Growth

Increase international sales contribution by 2.5% each quarter over the next fiscal year.

04

Sales Ratio Balancing

Track quarterly ratio changes between domestic and international sales to monitor pacing towards a 70% domestic/ 30% international sales target.

Deliverables

- Project Plan
- Data Visualizations
- Cybersecurity Risk Assessment
- Presentation

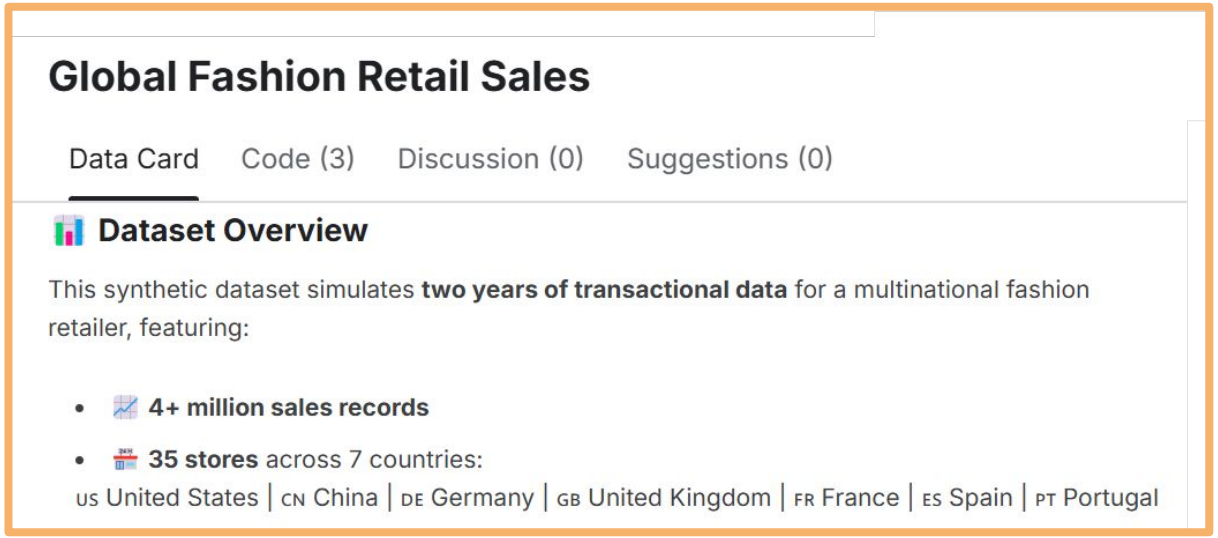
01

Data ETL and Modeling

Anahil Espinoza, Brenda Hernandez

Extract

Gathering data from different source systems



Global Fashion Retail Sales

Data Card | Code (3) | Discussion (0) | Suggestions (0)

Dataset Overview

This synthetic dataset simulates **two years of transactional data** for a multinational fashion retailer, featuring:

- **4+ million sales records**
- **35 stores** across 7 countries:
  US United States | CN China | DE Germany | GB United Kingdom | FR France | ES Spain | PT Portugal

6 Tables of data:

- Transactions
- Discounts
- Stores
- Products
- Employees
- Customers

Transform

Transforming data into a standardized format

*SQL transformations completed using DBeaver

DIM_LOCATION FRONTLINE <JACENT_EDW>

```
SELECT name
FROM customers_WIT cw
WHERE name LIKE 'Miss%';
```

DIM_LOCATION FRONTLINE <JACENT_EDW

```
UPDATE customers_WIT cw
SET name = SUBSTRING(name, 5)
WHERE name LIKE 'Miss%';
```

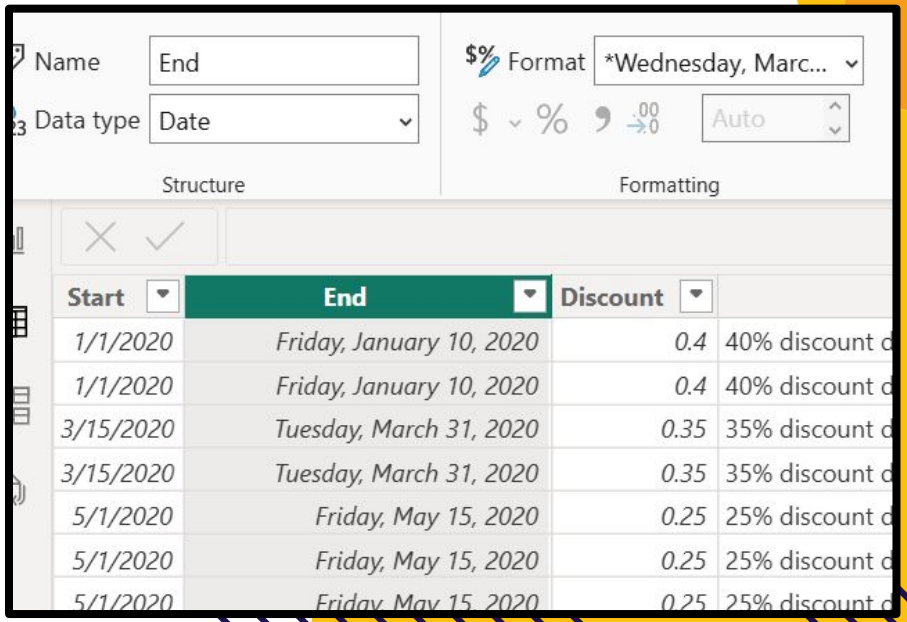
Statistics 1

Name	Value
Updated Rows	412
Execute time	0.653s
Start time	Wed Mar 26 14:39:26 CDT 2025
Finish time	Wed Mar 26 14:39:27 CDT 2025
Query	UPDATE customers_WIT
	SET name = SUBSTRING(name,6)
	WHERE name LIKE 'Miss%'

Load

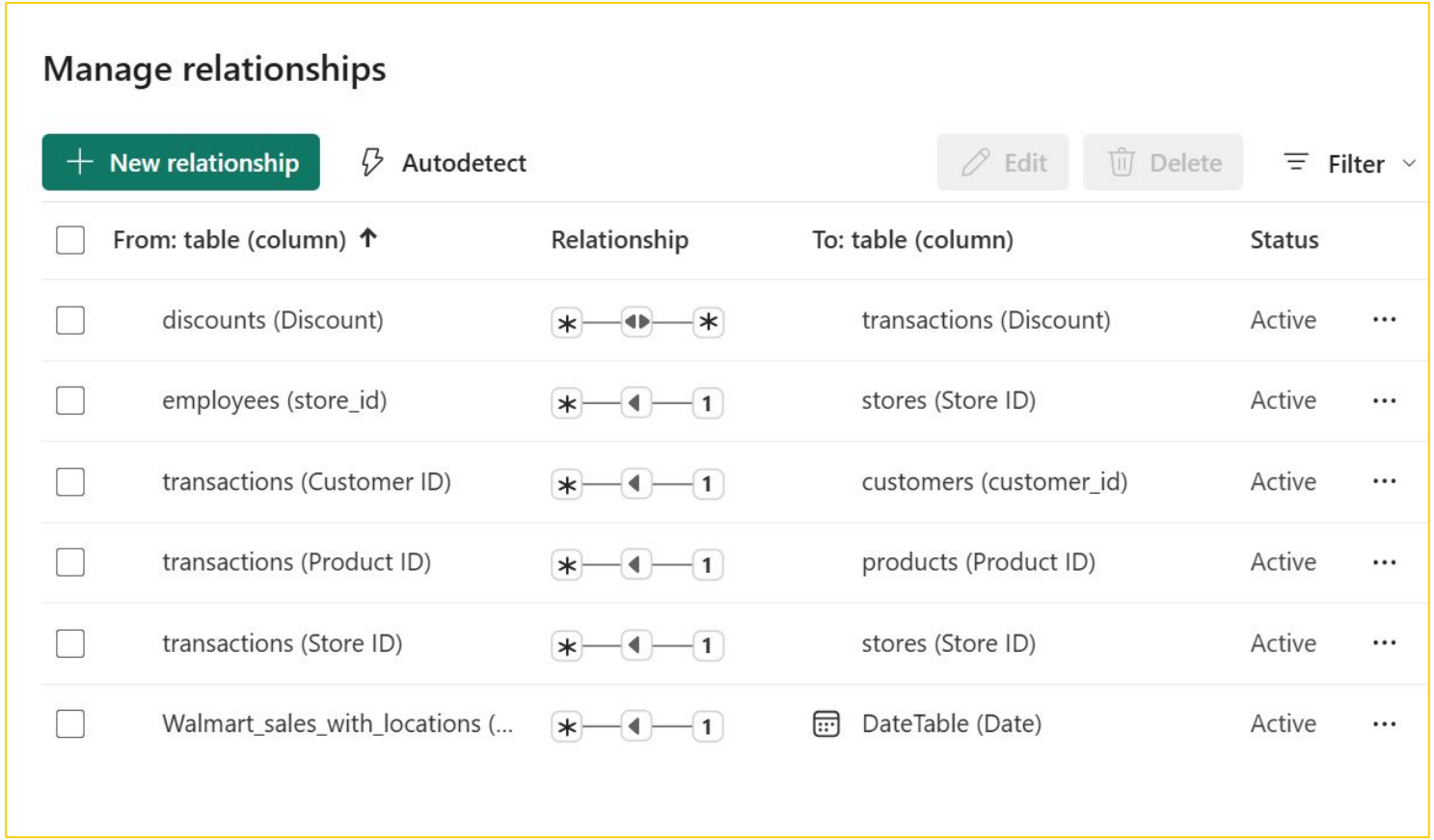
The transformed data is loaded into a repository

*Our data was loaded into PowerBI



Start	End	Discount	
1/1/2020	Friday, January 10, 2020	0.4	40% discount d
1/1/2020	Friday, January 10, 2020	0.4	40% discount d
3/15/2020	Tuesday, March 31, 2020	0.35	35% discount d
3/15/2020	Tuesday, March 31, 2020	0.35	35% discount d
5/1/2020	Friday, May 15, 2020	0.25	25% discount d
5/1/2020	Friday, May 15, 2020	0.25	25% discount d
5/1/2020	Friday, May 15, 2020	0.25	25% discount d

Data Modeling



02

Data Analysis & Visualization

Anahil Espinoza, Brenda Hernandez

WALMART

Total Sales
$6.74bn

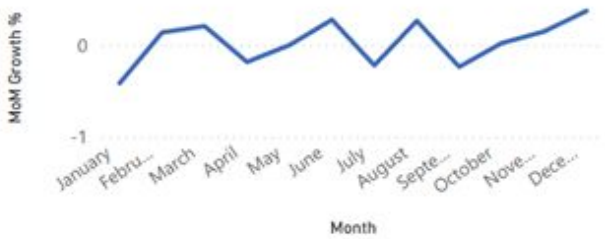
Average Sales Per Store
$1.05M

Most Profitable Store
$3.82M

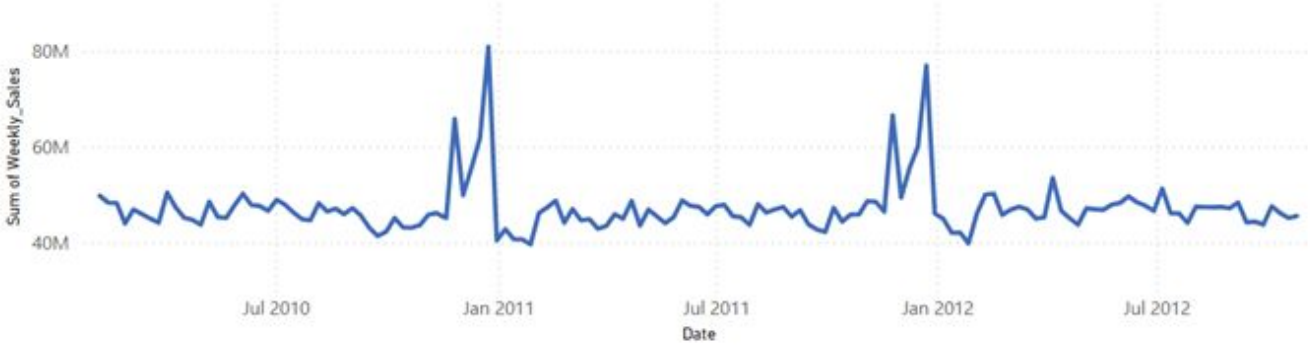
Least Profitable Store
$210K

Fiscal Year Goal

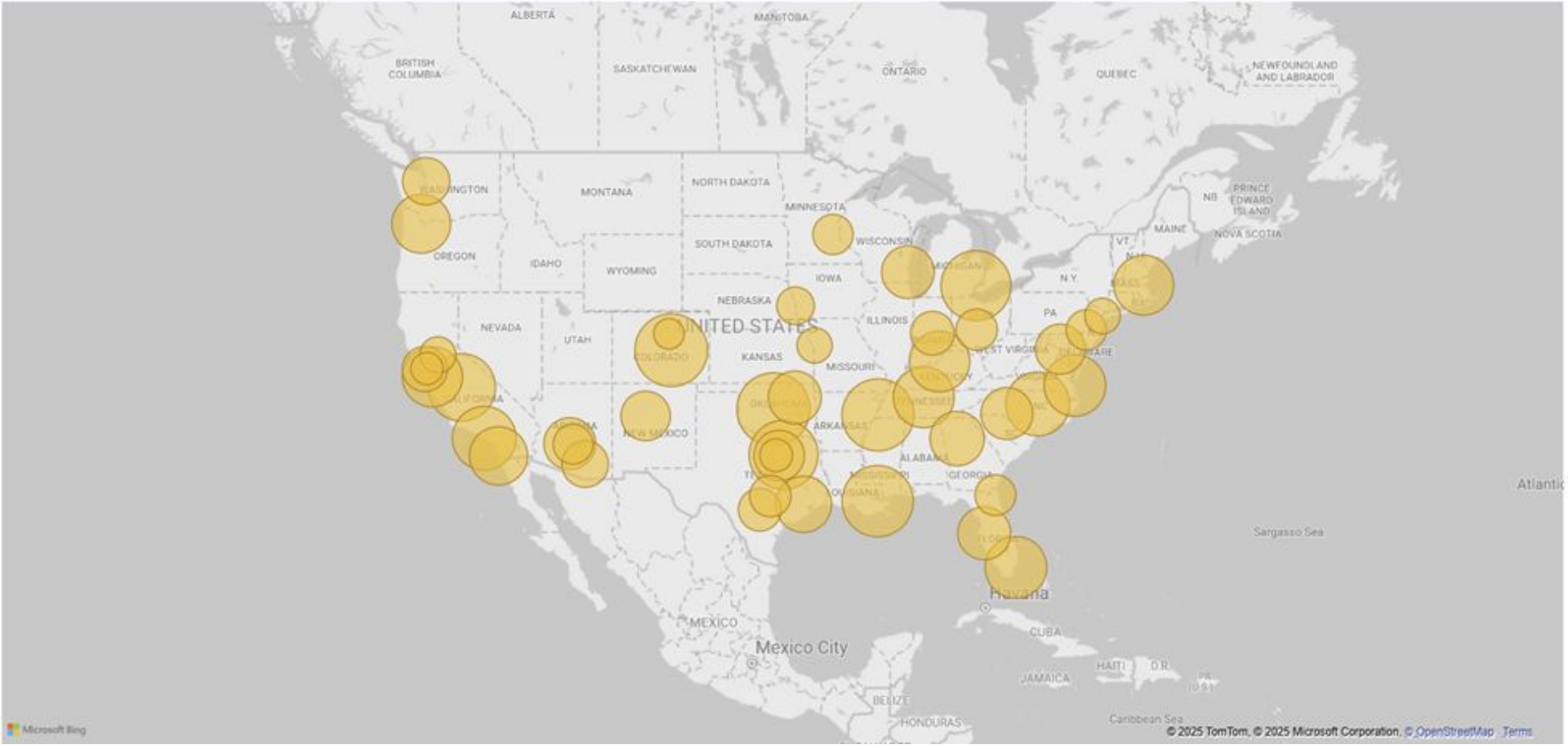
MoM Growth % by Month



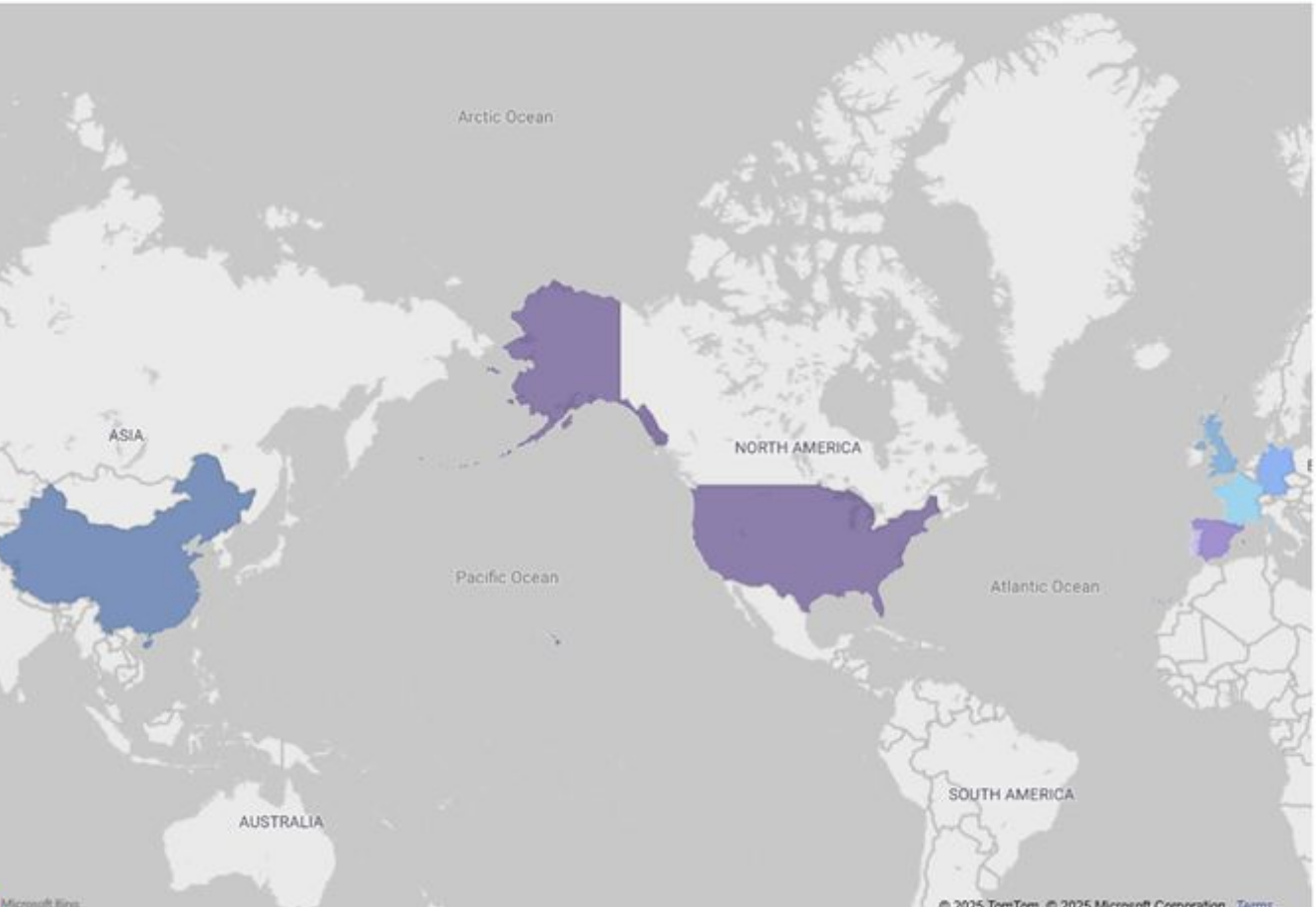
Weekly Sales



DOMESTIC SALES

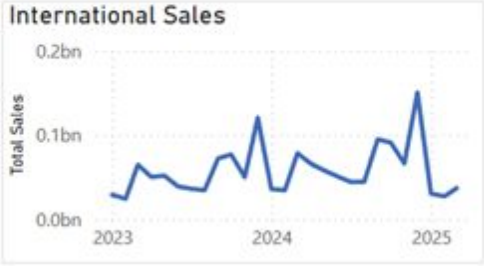


INTERNATIONAL SALES



Store ID	Country	Sum of Invoice Total
16	United Kingdom	10,967,744.70
17	United Kingdom	8,098,158.92
18	United Kingdom	4,799,009.63
19	United Kingdom	5,358,600.08
20	United Kingdom	7,876,948.94
Total		**37,100,462.27**

Store ID	Country	Sum of Invoice Total
10	中国	148,342,958.12
7	中国	211,616,030.69
9	中国	231,271,746.53
8	中国	275,683,801.26
6	中国	282,036,919.42
Total		**1,148,951,456.02**



CURRENT PROMOTIONS

Discount Type

All

Description	Category	Sub Category
60% discount during our Black Friday Mega Sale		
50% discount during our Holiday Season Sale		
45% discount during our Fall Collection Launch	Children	Coats
45% discount during our Fall Collection Launch	Children	Girl and Boy (1-5 years, 6-14 years)
45% discount during our Fall Collection Launch	Feminine	Dresses and Jumpsuits
45% discount during our Fall Collection Launch	Feminine	Shirts and Blouses
45% discount during our Fall Collection Launch	Feminine	Skirts and Shorts
45% discount during our Fall Collection Launch	Masculine	Pants and Jeans
45% discount during our Fall Collection Launch	Masculine	Shirts
40% discount during our New Year Winter Sale	Children	Coats
40% discount during our New Year Winter Sale	Children	Sweaters
40% discount during our New Year Winter Sale	Feminine	Coats and Blazers
40% discount during our New Year Winter Sale	Feminine	Sweaters and Knitwear
40% discount during our New Year Winter Sale	Masculine	Coats and Blazers
40% discount during our New Year Winter Sale	Masculine	Sweaters and Sweatshirts
35% discount during our Early Spring Collection Refresh	Children	Girl and Boy (1-5 years, 6-14 years)
35% discount during our Early Spring Collection Refresh	Feminine	Dresses and Jumpsuits
35% discount during our Early Spring Collection	Feminine	Shirts and Blouses

Women Category

Product ID	Category	Description EN	Sum of Quantity
12638	Feminine	Classic Bordô Polyester With Ruffles	1059
13288	Feminine	Formal Satin Beige Padded	1061
13574	Feminine	High-Tech Black Linene With Bow	1043
13345	Feminine	Skirt With Zipper Details On The Side	1050
14458	Feminine	White Jacquard Retro With Fringes	1067

Children Category

Product ID	Category	Description EN	Sum of Quantity
9564	Children	Turquoise Punk With Pockets	565
10214	Children	Sports Green Seda With Pockets	556
11904	Children	Formal Velvet Mustard With Hood	574
11826	Children	Formal Rose Suede With Glitter	566
11280	Children	Executive Pink Pink Lace	591

Men Category

Product ID	Category	Description EN	Sum of Quantity
14729	Masculine	Classic Turquoise With Bow	1090
12235	Masculine	Short -Sleeved Men'S Shirt With Pockets	1076
12417	Masculine	Men'S Polo Shirt With Stripe Details	1070
14134	Masculine	Men'S Medium Waist Jeans With Straight Bar	1067
13328	Masculine	Light Blue Men'S Jeans With Worn	1063

03

Cybersecurity Risk Assessment

Naomi Rhames, Hannah Curtis

Asset Description

Walmart operates a centralized relational database system that stores key business datasets, including customer profiles, product catalogs, and promotional metadata. This system supports various operational workflows such as CRM, inventory management, and targeted marketing through data integration with internal applications and APIs. Walmart's database contains personally identifiable information (PII) and business-critical attributes, making it a high-value asset in terms of confidentiality, integrity, and availability (CIA triad). As such, it is essential to implement robust access controls, encryption, and monitoring mechanisms to mitigate risks and ensure compliance with data protection regulations.

Scope

The scope of this risk assessment includes evaluating threats and vulnerabilities associated with the central database server hosting customer transaction data. The evaluation will focus on identifying potential security threats, their likelihood, and impact on business operations if data is compromised, altered, or unavailable.

Purpose

Walmart's database server holds sensitive customer data and transaction history that is critical for business intelligence, marketing, and financial reporting. Protecting this data maintains customer trust and ensures regulatory compliance. If compromised or disabled, the company risks data breaches, legal penalties, loss of customer trust, and business disruption due to the inability to process transactions or generate reports.

Qualitative Scale

Likelihood was categorized as Low, Medium, or High based on exposure, known vulnerabilities, and current controls.

Severity was similarly rated based on the potential effect on business continuity, data integrity, and regulatory obligations.

Risk Levels were determined by combining these categories to prioritize response strategies.

Limitations: The assessment did not include penetration testing or third-party systems and reflects current conditions only. As threats evolve, ongoing review and updates are necessary.

Risk Assessment

Threat source	Threat event	Likelihood	Severity	Risk
Internal Actor	*Unauthorized access or modification of sensitive customer data*	*Likely*	*Critical*	*High*
External Actor	*SQL injection attack targeting product and discount data*	*Medium*	*Major*	*High*
Malware	*Ransomware infection encrypting the customer database*	*Medium*	*Critical*	*High*
Competitor	*Exfiltration of pricing and promotional strategies from discount data*	*Medium*	*Major*	*Medium*
Natural Disaster	*Server failure or data loss due to physical damage (fire, flood)*	*Unlikely*	*Critical*	*Medium*

Remediation Strategy

Risk	Current Controls	Recommended Controls	Impact
Unauthorized access to customer data	Role-based access control (RBAC), user authentication	Enforce multi-factor authentication (MFA), conduct regular access reviews, encrypt data at rest	Reduces the risk of unauthorized access or data tampering
SQL injection	Input validation, use of prepared statements	Conduct regular vulnerability scans, perform penetration testing, and implement web application firewalls (WAF)	Protects against code injection, data corruption, and unauthorized database access
Phishing	Employee awareness training, email filtering	Deploy phishing simulations, enforce MFA for critical accounts, enable email encryption	Reduces the likelihood of credential theft and account compromise
Ransomware	Endpoint protection, basic network segmentation	Maintain offsite backups, implement advanced malware detection, conduct regular staff training	Minimizes business disruption and ensures rapid recovery from attacks
Data loss from disaster	Regular data backups, basic disaster recovery plan	Implement geo-redundant storage, test recovery procedures regularly	Ensures resilience and continuity in case of physical or environmental disasters
Competitor data exfiltration	Basic access controls, data encryption	Deploy Data Loss Prevention (DLP) tools, monitor for abnormal access patterns	Prevents sensitive pricing or promotional data from being leaked to competitors

Thank You!