



# NIKE

We did it.



Luke  
Bravo



Ram  
Kapistalam



India  
Lindsay



Daniel  
Stern



Ali  
Sayyed



# Agenda



# Data Management Strategy

- Emphasis on supporting revenue, growth and profitability
- Highly competitive, fragmented, customer focused market
  - Main goal is to maintain market share against top competitors
  - 18.3% market share of US Sportswear
  - Main competitors: Adidas, Under Armour, Skechers, Lululemon
- Operate in a retail market with low levels of regulation



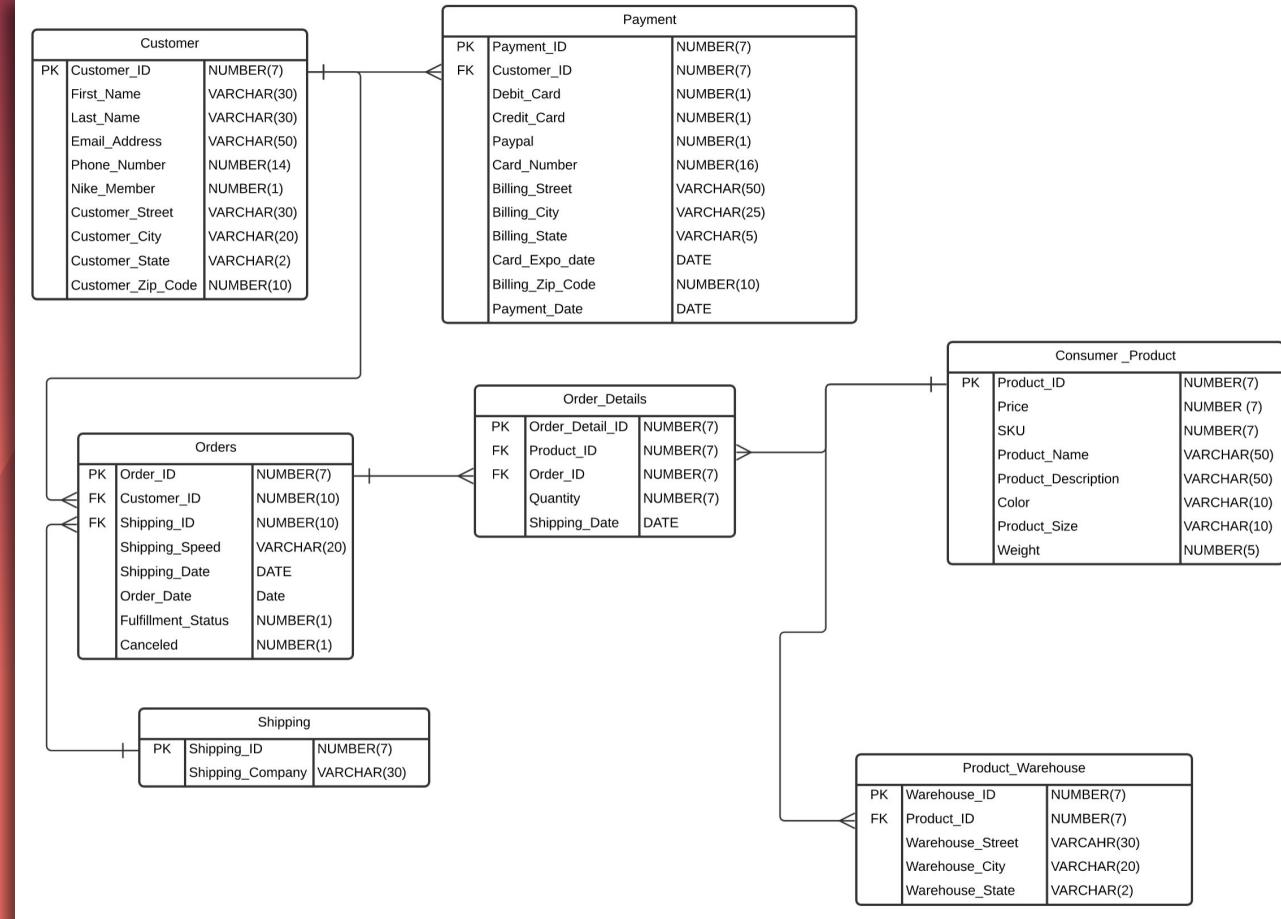
# Transaction Management Systems

Focusing on inventory management, order processing, employees, offices, and payroll.



# Order Processing

Entity-Relationship Diagram



# Order Processing

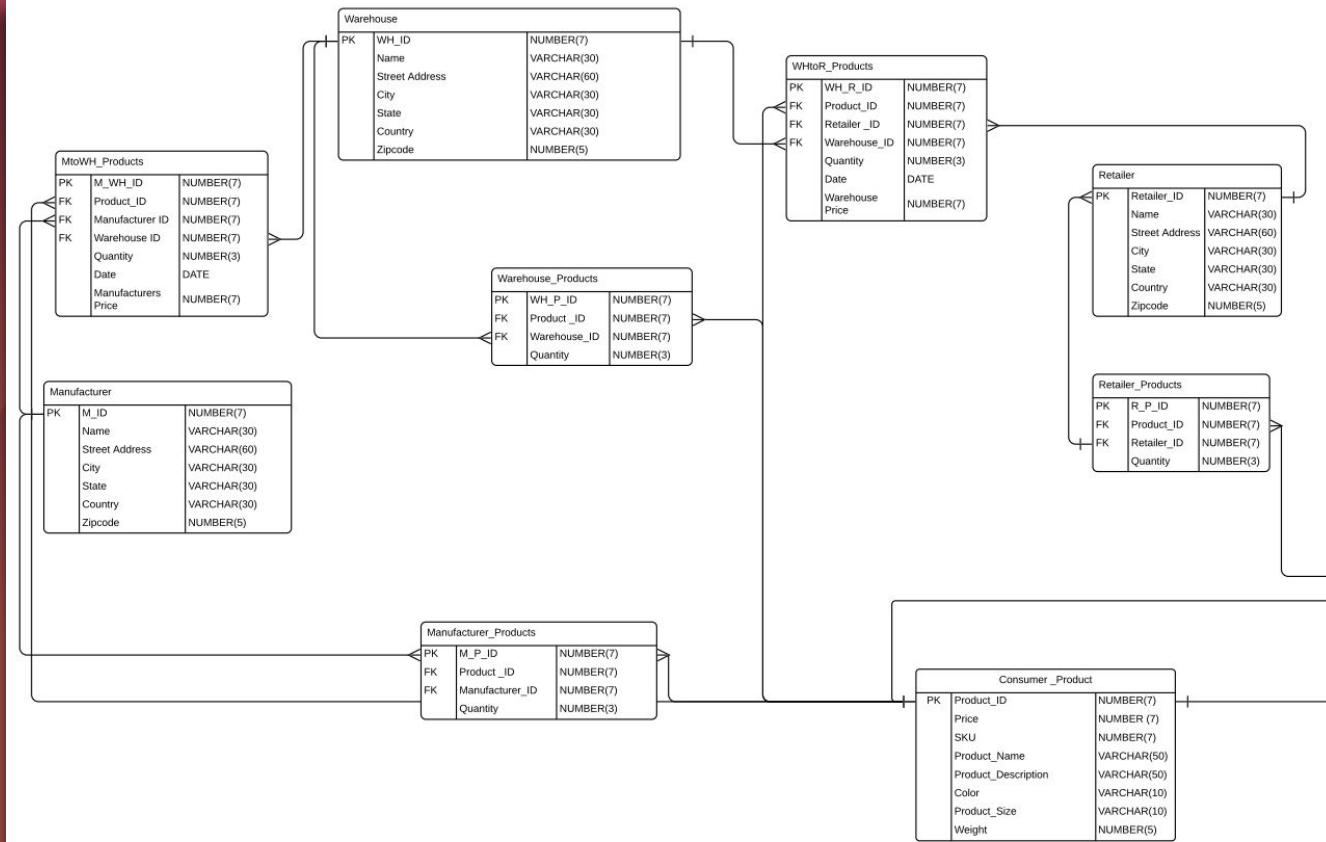
## Assumptions

- Exclusively ecommerce
- Each customer has 1 payment type on file
- All transactions are domestic
- Nike membership is yes/no as opposed to a tiered status
- Order Processing and Inventory Management ERD were developed separately
  - Entities that were used in both processes were later combined in DDL



# Inventory Management

# Entity-Relationship Diagram



# Inventory Management

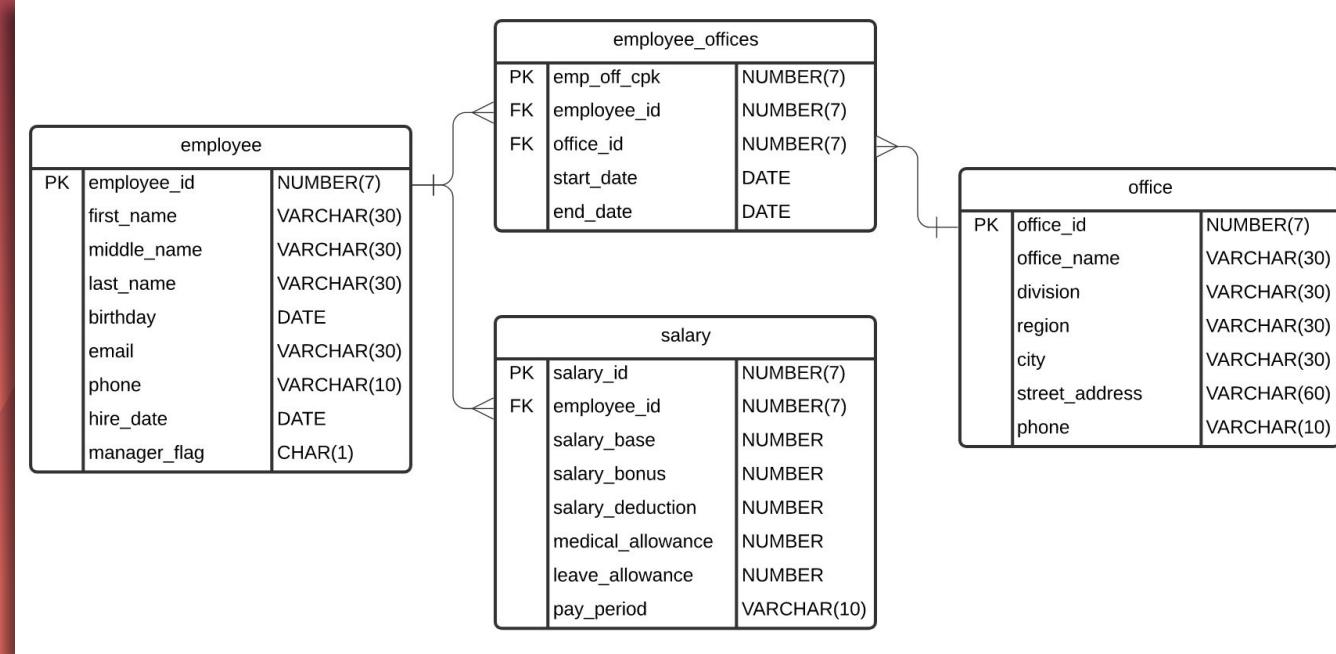
## Assumptions

- Focused on internal supply chain process, from manufacturer to retailer
- Assumes that Retailer and Warehouse order inventory at a unit level instead of a yearly contract
- Focused on United States for all transactions in database
- Assumes product information displayed in central product table is uniform across all United States locations



# Employees, Offices, and Payroll

Entity-Relationship Diagram



# Employees, Offices, and Payroll

## Assumptions

- A single employee can work in one or more office(s).
- A simple manager flag (Y/N) is sufficient. Why?
  - If an employee is a manager, they can only work in one office.
- “Division” in the “office” table refers to either inventory management or order processing.



# Enterprise Data Warehouse

Combining each product's journey through supply chain with  
detailed order information

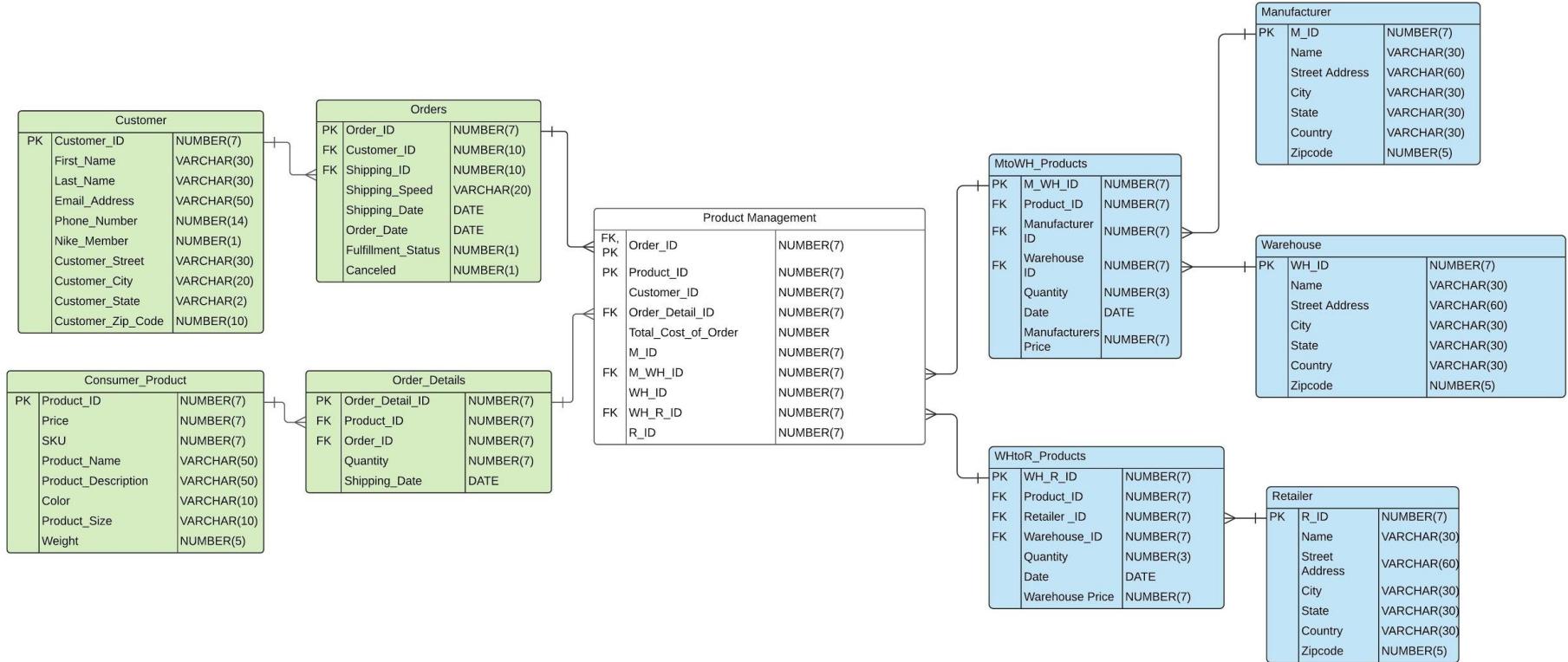


# The Enterprise Data Warehouse Assumptions

- Left out employee table - not relevant to analysis
- Each row of centralized table is a unique product in an order
- “Total cost of order” is the primary measure, calculated as Quantity of Product \* Price of Product
- Outer tables include data about supply chain, products, and orders to allow for filtering with simple joins



# The Enterprise Data Warehouse Model



# Product Management

	ORDER_ID	PRODUCT_ID	CUSTOMER_ID	ORDER_DETAIL_ID	TOTAL_COST_OF_ORDER	M_ID	M_WH_ID	WH_ID	WH_R_ID	R_ID
1	1000000	1000002	1000008	1000006		17784	1000002	1000012	1000002	1000002
2	1000001	1000006	1000000	1000007		27765	1000006	1000016	1000006	1000006
3	1000002	1000000	1000004	1000008		50400	1000000	1000010	1000000	1000000
4	1000002	1000003	1000004	1000004		36736	1000003	1000013	1000003	1000003
5	1000002	1000006	1000004	1000000		30850	1000006	1000016	1000006	1000006
6	1000003	1000009	1000004	1000003		1576	1000009	1000019	1000009	1000009
7	1000004	1000008	1000008	1000005		53750	1000008	1000018	1000008	1000008
8	1000006	1000000	1000006	1000009		15120	1000000	1000010	1000000	1000000
9	1000009	1000000	1000006	1000002		5600	1000000	1000010	1000000	1000000
10	1000009	1000001	1000006	1000001		45372	1000001	1000011	1000001	1000001

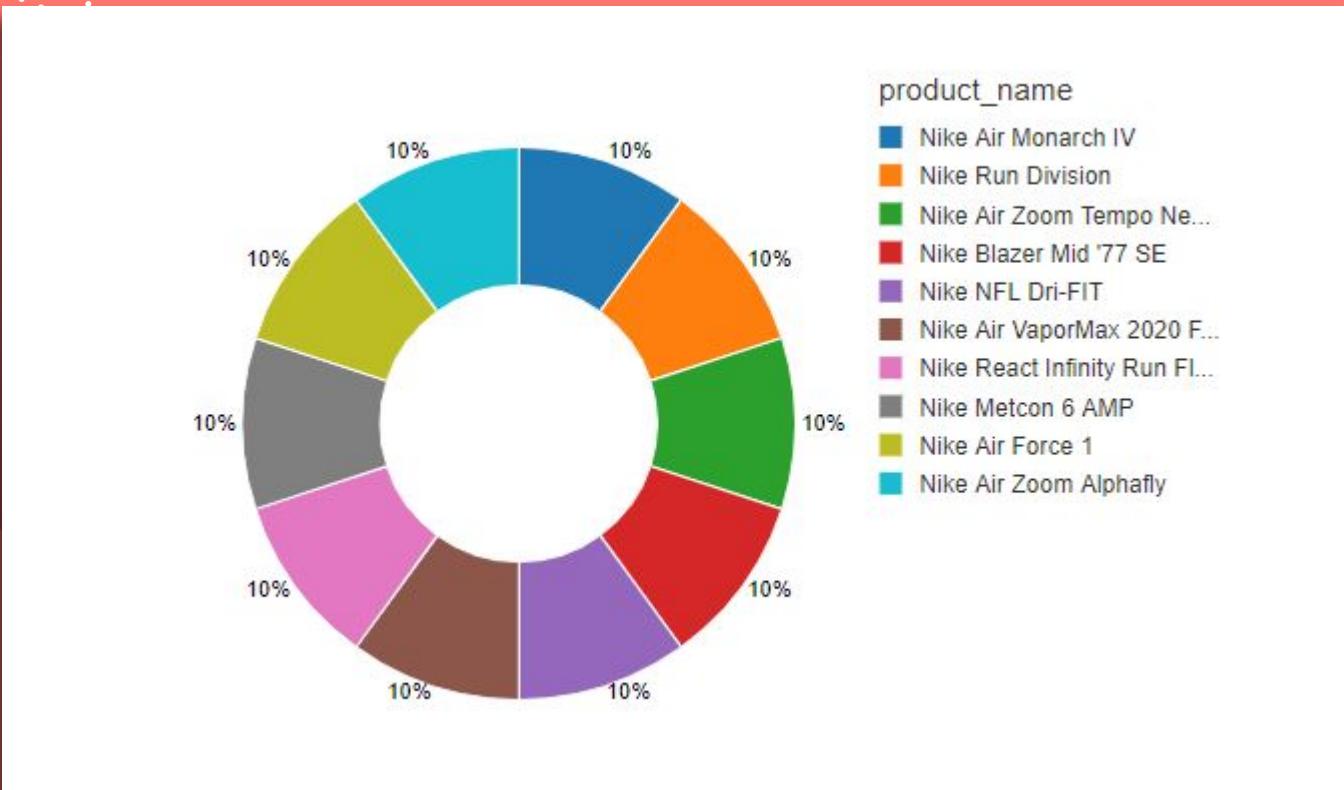


# Data Lake Analysis

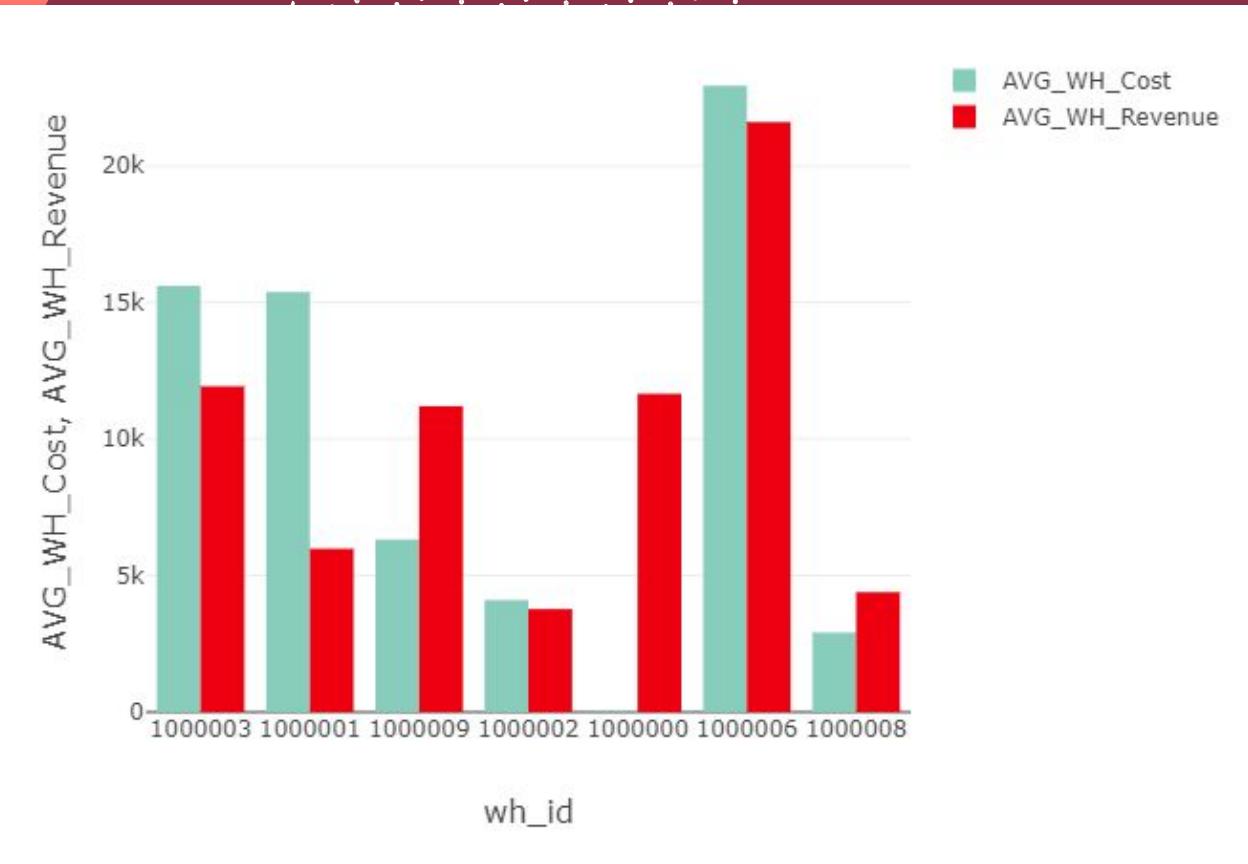
Spark



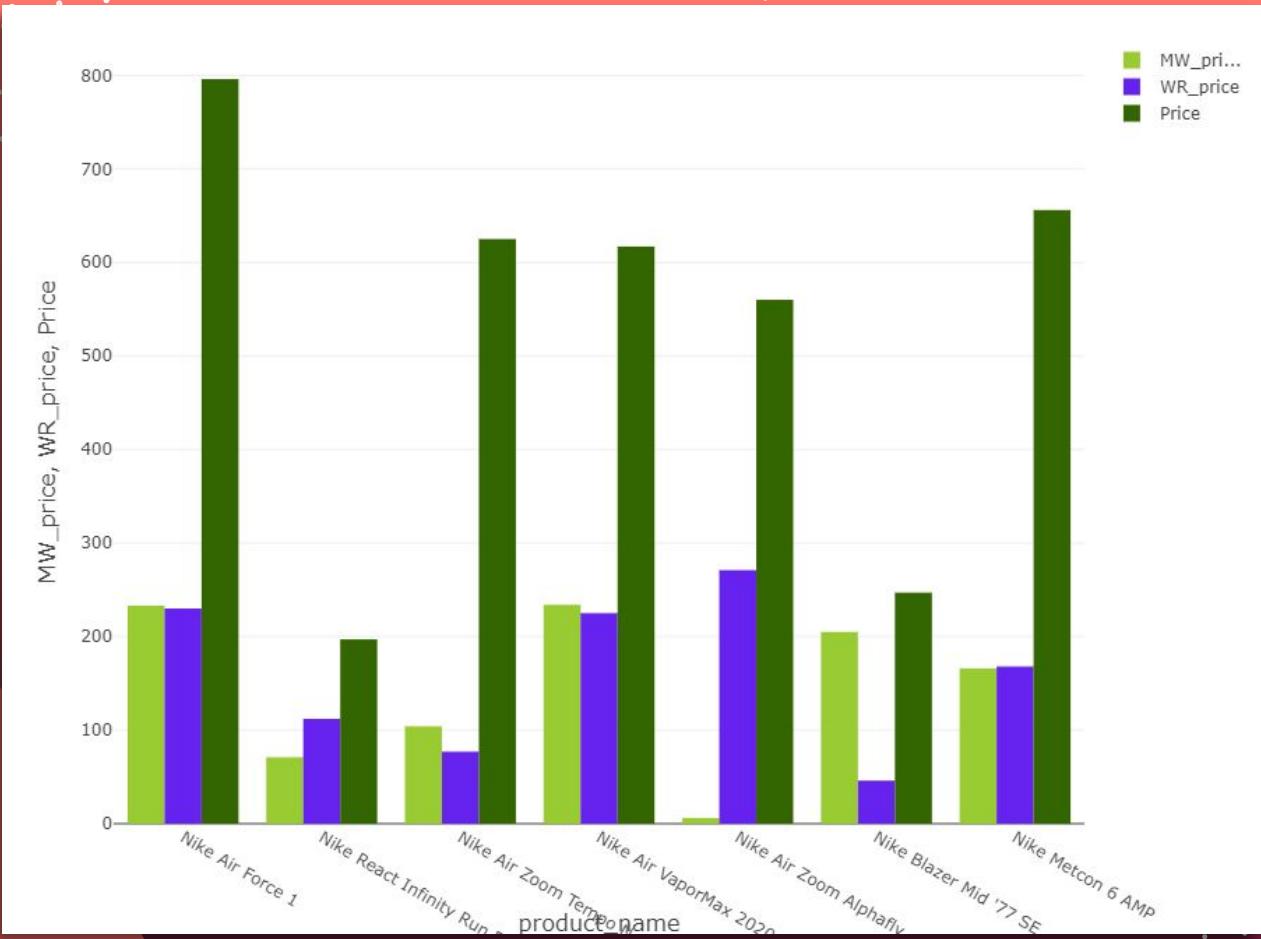
# Distribution of products



# Cost Revenue Warehouse



# Product Cost Distribution



# Project Takeaways



# Key Takeaways

- Well structured entity relationships make subsequent database creation and analysis more useful for business
- Data lakes are crucial for organizations with offensive data strategies to bring together disparate information
- Nike can discover and implement changes across supply chain by analyzing subsets of transactional data



# Future Explorations

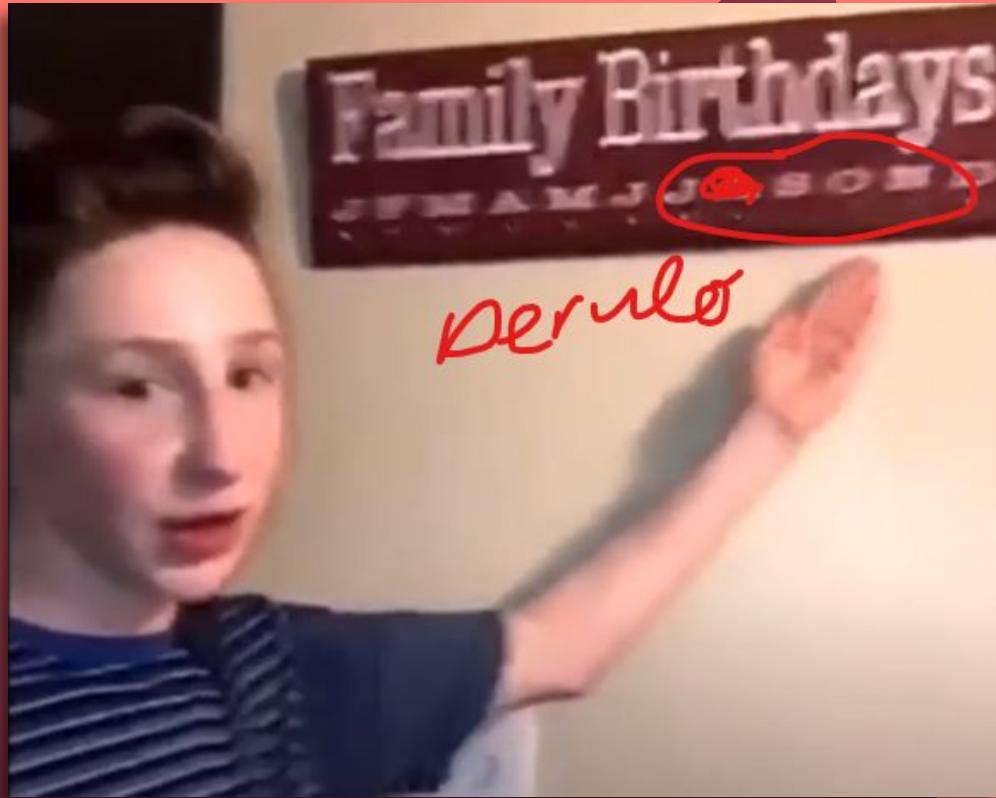
- Collect unstructured data about Nike (i.e Twitter mentions) for more actionable recommendations
- Use visualization tools such as Tableau or PowerBI to more clearly convey findings
- Conduct simple statistical analysis on data to learn how tools learned in different courses can be combined





# Questions?





JSON  
Derulo