



NIKE

We did it.



Luke
Bravo



Ram
Kapistalam



India
Lindsay



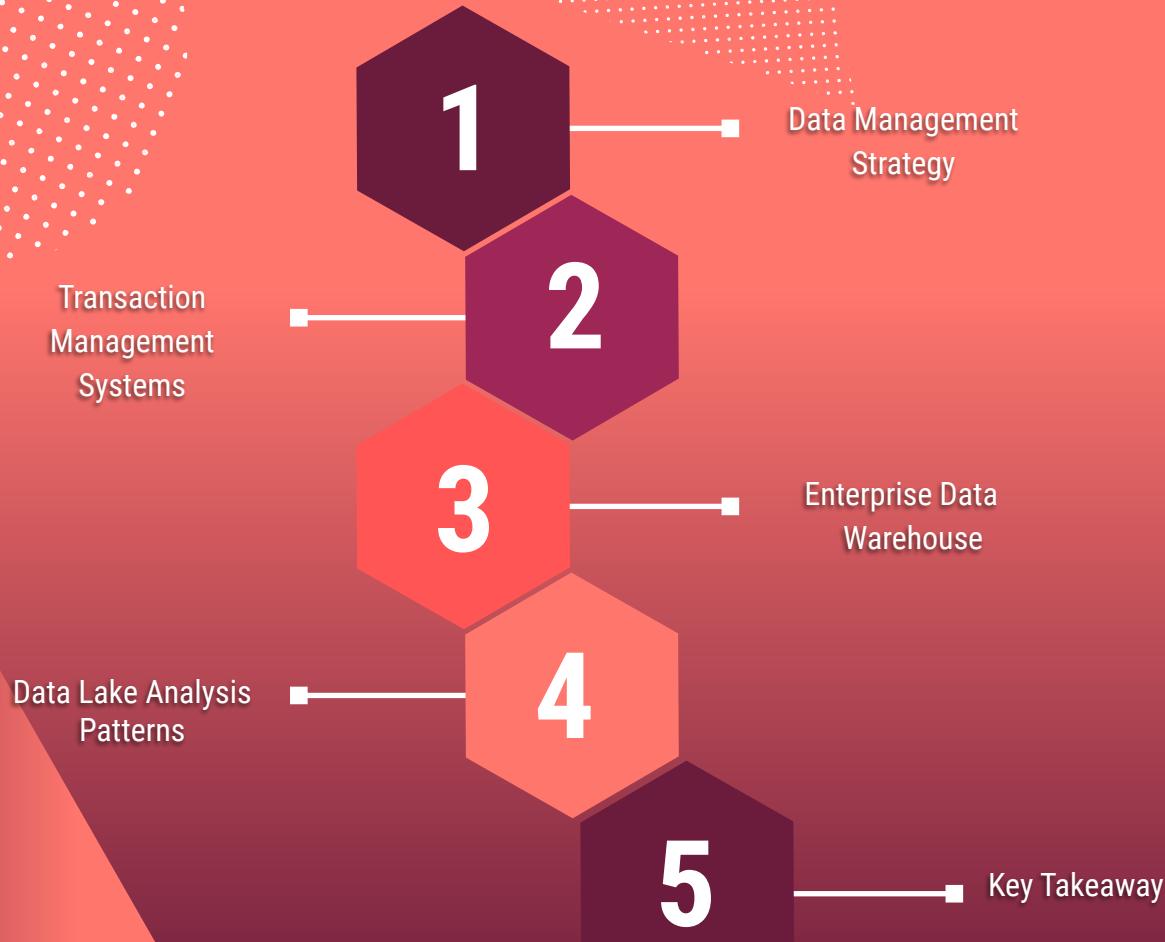
Daniel
Stern



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



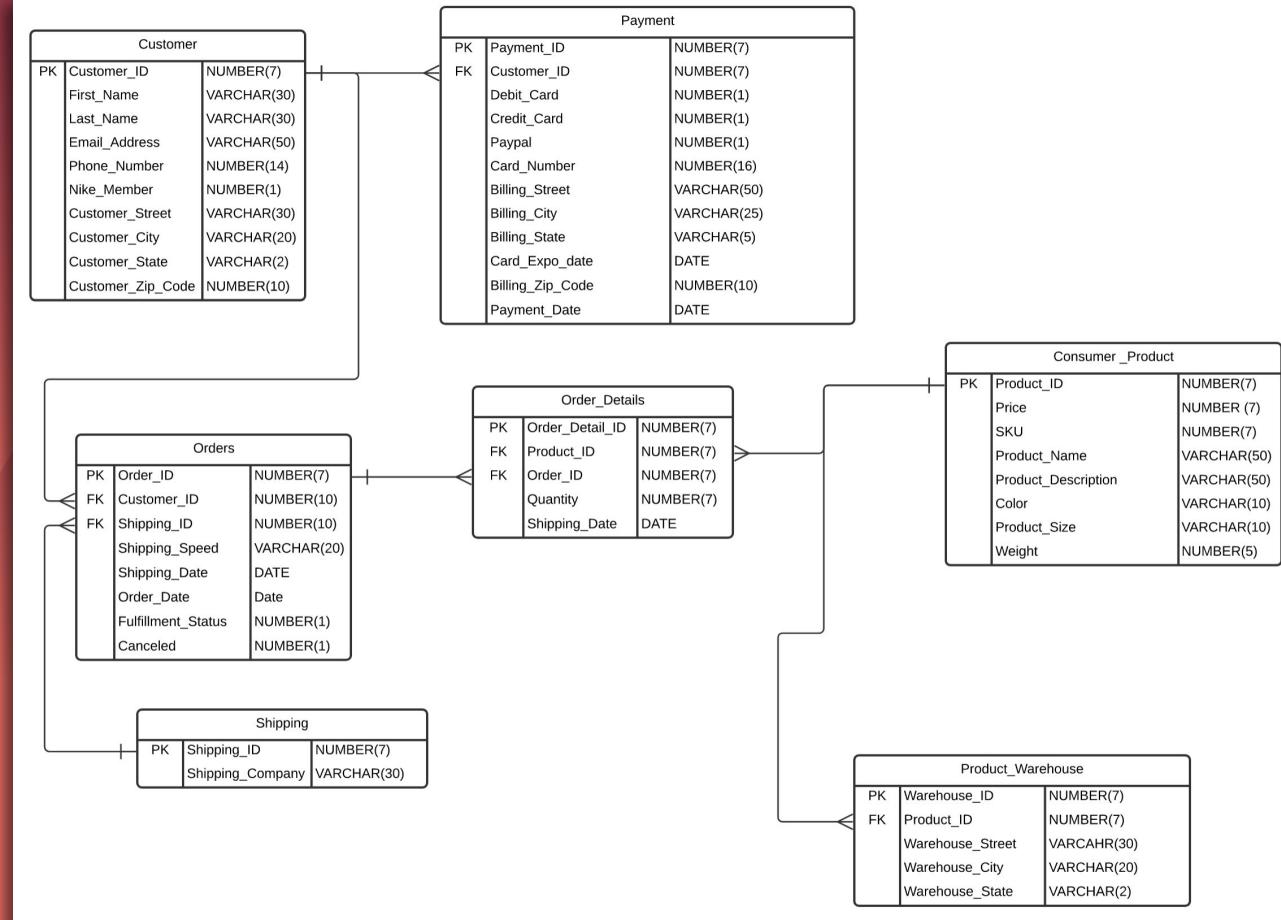
Transaction Management Systems

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



Order Processing

Entity-Relationship Diagram



Order Processing

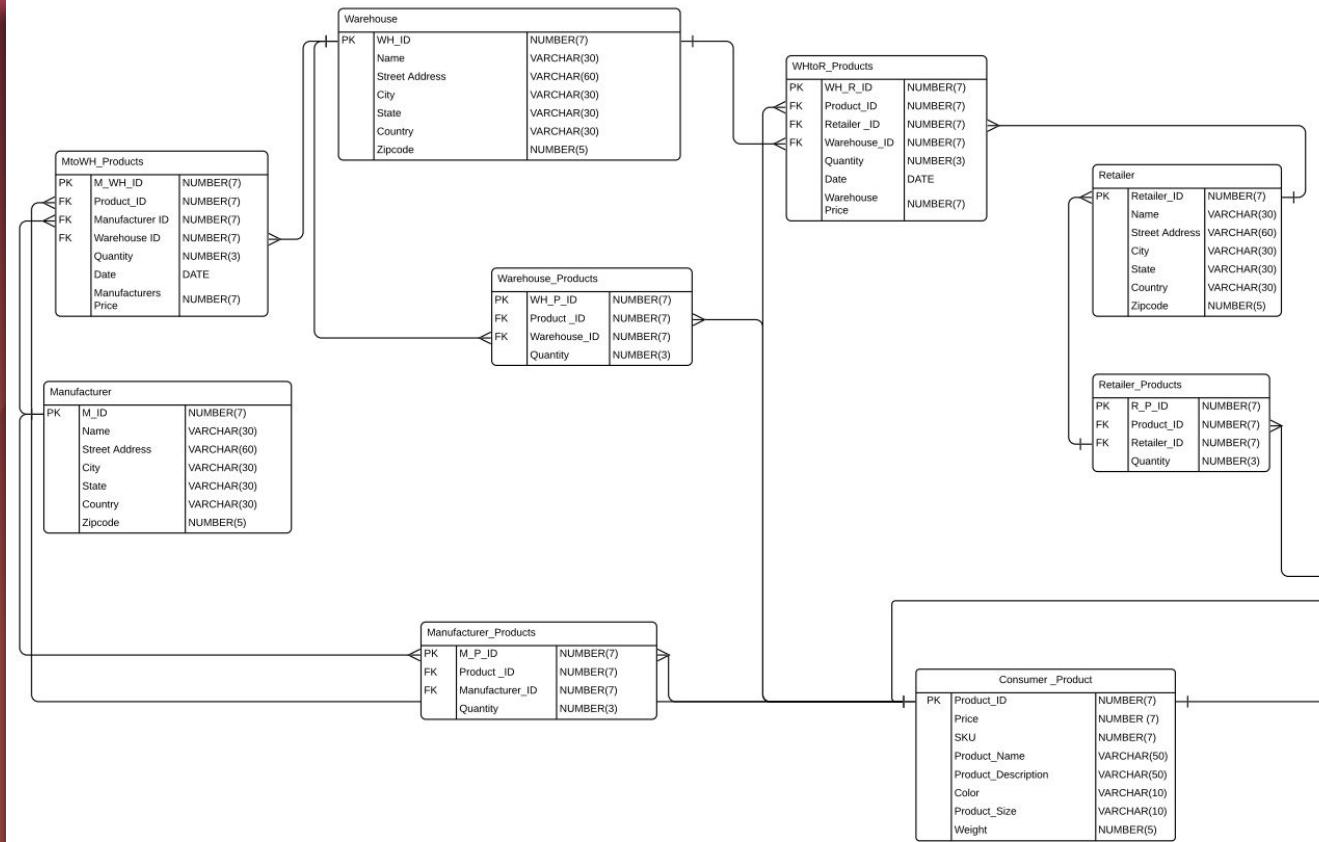
Assumptions

- 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

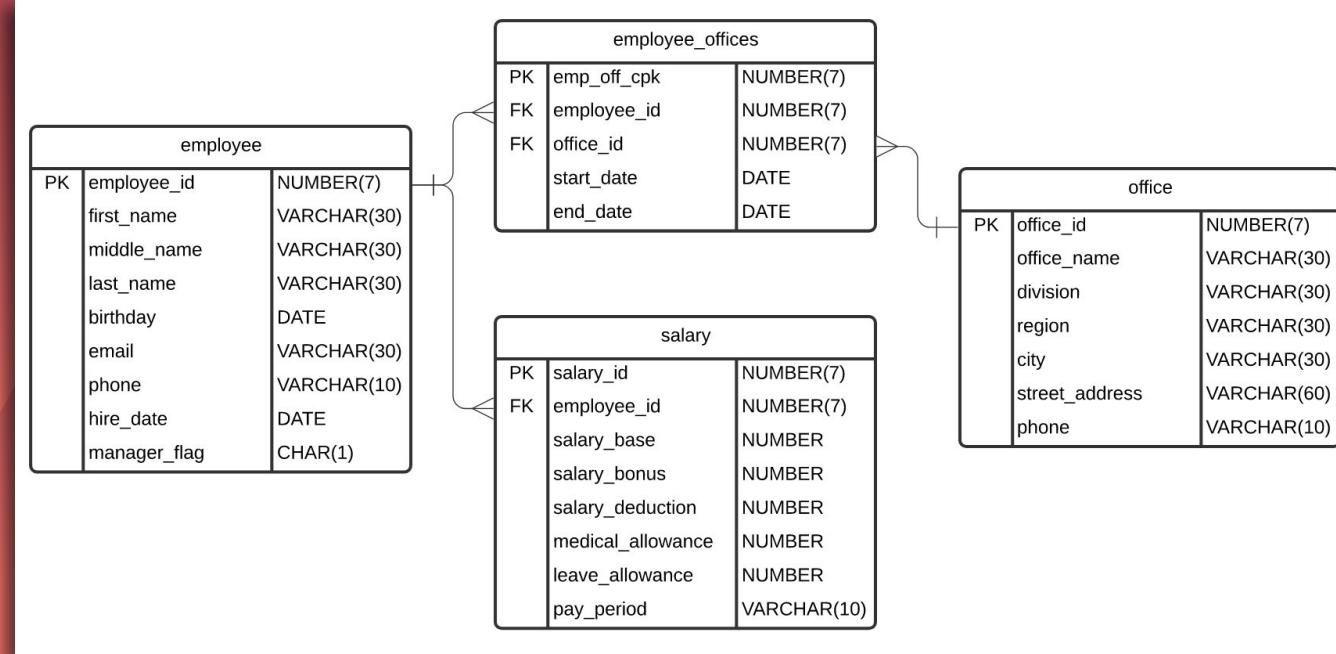
Assumptions

- 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

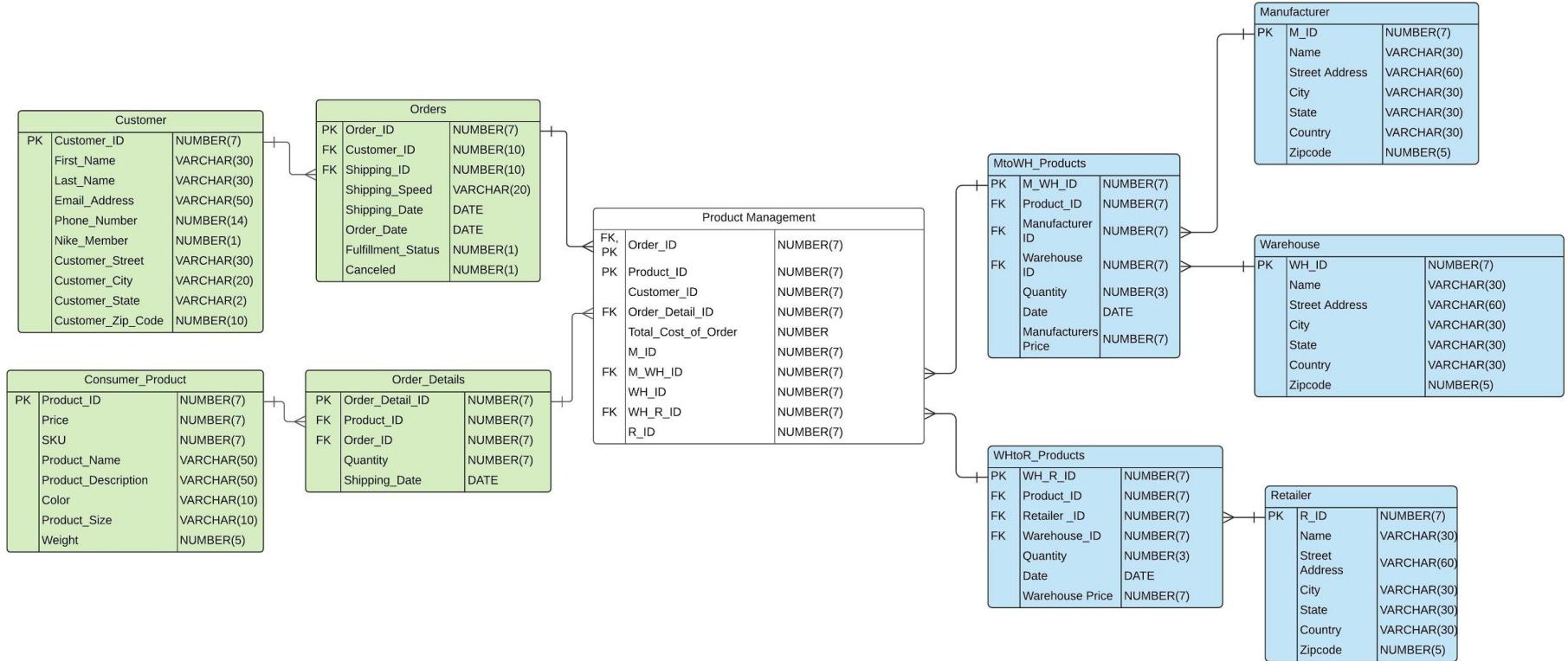


The Enterprise Data Warehouse Assumptions

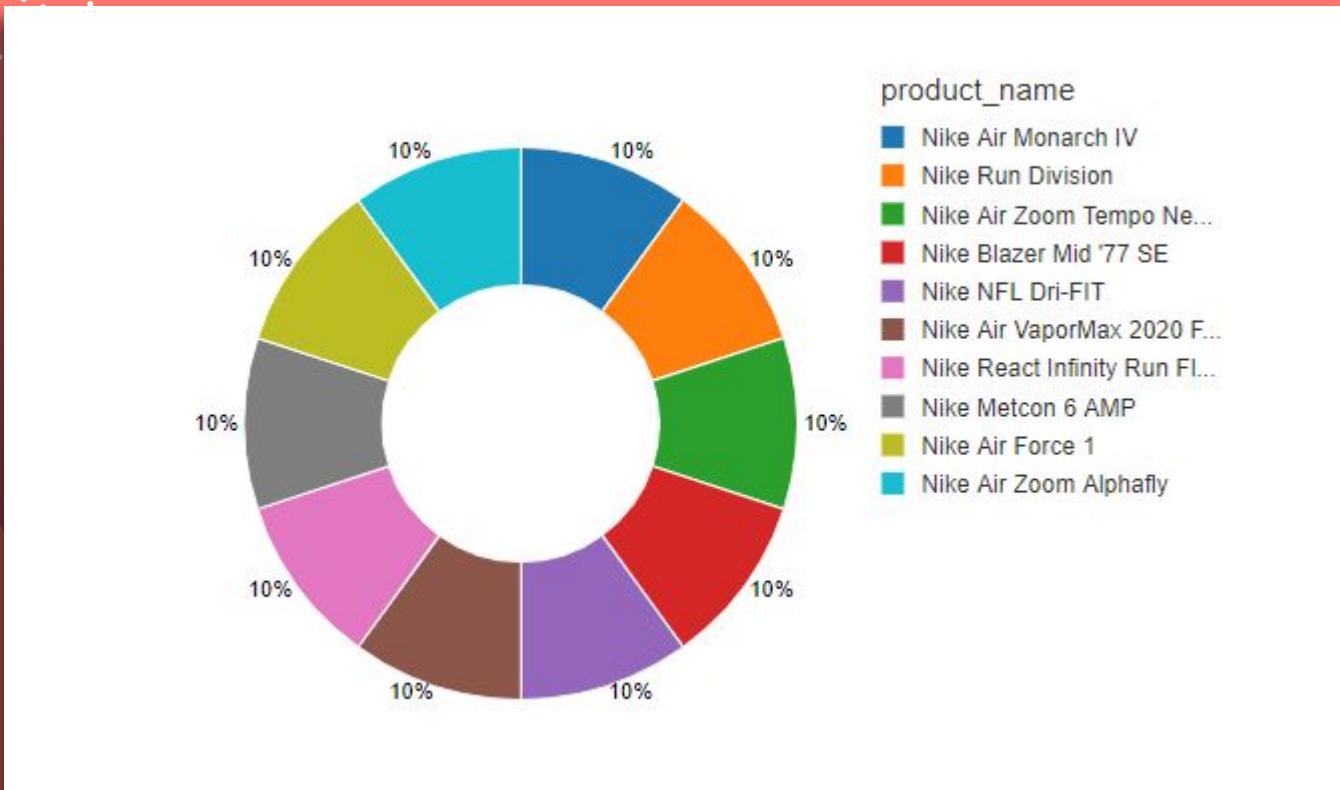
- Left out employee table - not relevant to analysis
- Each row of centralized table is a unique product in an order
- “Total cost of order” is the primary measure, calculated as Quantity of Product * Price of Product
- Outer tables include data about supply chain, products, and orders to allow for filtering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



The Enterprise Data Warehouse Model



Distribution of products



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

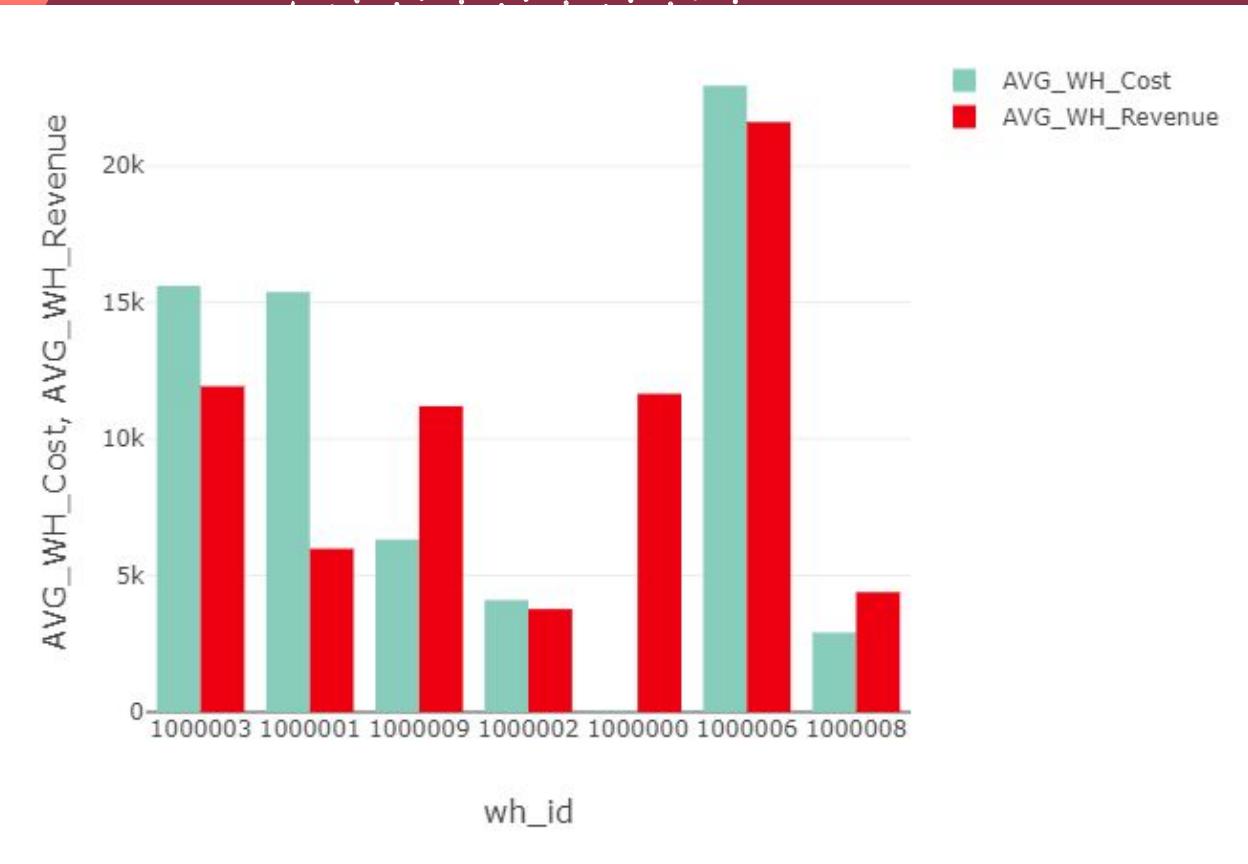


Data Lake Analysis

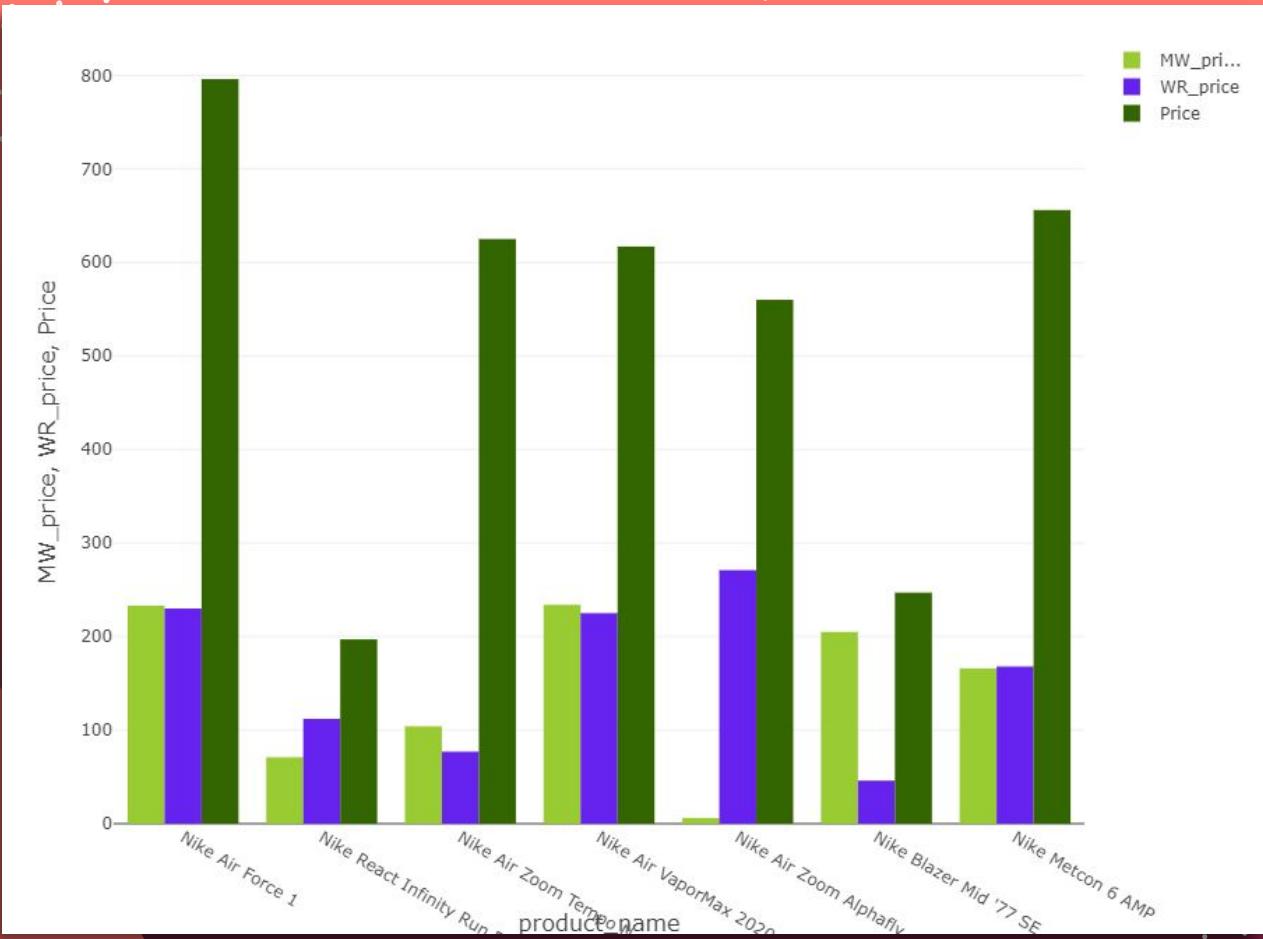
Spark



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?