Sales Analysis for Fudgemart & Fudgeflix - Data Warehouse

IST 722 Group 3
Phoebe Sheahan
Mahsa Saadati
Cherngywh Lee
Niki Bawa

Introduction

- Empower Fudgemart, Inc. with cutting edge solutions that maintain the highest quality and cost effectiveness.
- Fudgemart, Inc.'s two subsidiaries; Fudgemart, an online retailer, and Fudgeflix, anonline DVD by mail/video. Both demand a service respectively that require greater knowledge of their customers and their customer's buying habits.
- Fudgemart and Fudgeflix are hoping to gain the ability analyze sales of products, this will improve insight into their customers and what products are most profitable going forward.

Overview

- Questions.
- Business Processes.
- Star schema.
- High-level dimensional worksheet.
- Detail-level dimensional worksheet.
- Datawarehouse and SQL Server.
- Extract, Transform and Load in SSIS.
- Business Intelligence.

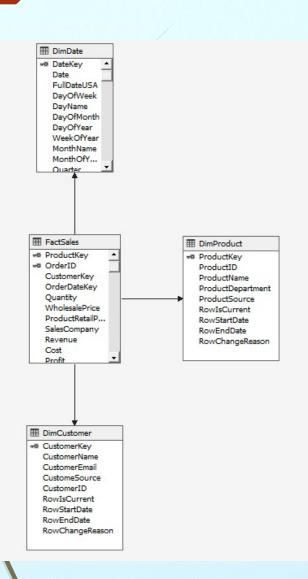
Questions

- Who are the most frequent customers? (Fudgemart).
- What are the most profitable products? (Fudgemart).
- How do sales compare between Fudgeflix and Fudgemart? Profits and revenues. (Fudgemart, Fudgeflix).

Business Processes

- Who are the most frequent customers? (Fudgemart).
 - Business process: Frequency of customer visits (transaction).
- What are the most profitable products? (Fudgemart).
 - Business process: Profit derived from revenue minus cost (transaction).
 - How do sales compare between Fudgeflix and Fudgemart? Profits and revenues. (Fudgemart, Fudgeflix).
 - Business process: Sales (transaction).

Star Schema

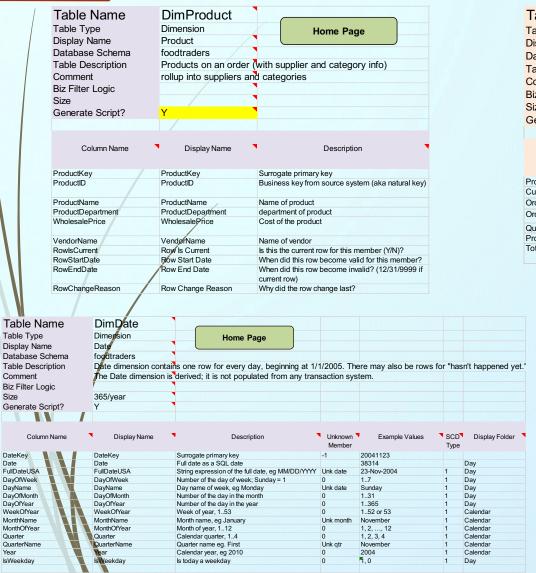


- DimDate. Contains date information.
- •DimProduct. Contains product information from Fudgemart.
- •DimCustomer. Contains customer information from both Fudgemart and Fudgeflix.
- •FactSales. Contains sales information such as cost, revenue, wholesale price and quantity.

High-level dimensional worksheet

oup 3			4/20/2020			,				
			Post					tructions! nension /	Attribute /	•
ısiness		_	Fact					t Table	Fact Name	Description
ocess		Fact	Grain							just fudgeflix account =1, just fudgemart accou
ame		Table	Туре	Granulairty		Facts			Customer Tier	=2, fudgeflix and fudgemart = 3
ost frequen	t customers	Frequent_customers	accumulating snapshot?	one row per order	rs	number of orders,	Dim	n_Time	OrderID OrderDate	
ost ordered	product per customer	top_product_per_customer	accumulating snapshot?	one row per order	r detail	number of products			Account Activation date	
ting of each	•	title_rating	transaction	one row per title		Title, Rating, director				
counts per		accounts_zipcode	Periodic Snapshot	one row per zipco	de	Name, Address, Zipcode, Account Plan	Dim	_subscription_plan	CustomerID	
	dgemart spending	fudgeflix_fudgemart_spending	<u> </u>	row for subscription		Customer, Accounts, total sales,			Fudgeflix_plan	
	omer subscription tier,	fudgeflix_fudgemart_tier_spe	1	TOW TOT SUBSCRIPTION	on or order	customer, Accounts, total sales,			plan_start_date plan_end_date	
-									plan_duration	end date-start date
ending at fu		nding	Accumulating snapshot	row for subscription	on amd order	customer, account, order				
dgeflix cust	omer plan change	fudgeflix_plan_change	slow changing dimesion	one row per plan		customer, account, order	Pro	ducts	ProductID	
							_		ProductName ProductRetailPrice	
							_		FIOUUCINEIAIIFIICE	
	Dimension /	Attribute	/				fud	geflix_plan_change	OrderID	
	Fact Table	Fact Name							Quantity	
	Zipcodes	Zipcode					_		ProductPrice	Contract to the filtren and the second
	Zipcoucs	Zip City		_	D:	And the second			CustomerType Total Spending	Customer has Fudgeflix account or not Order quantity*product price
	/	Zip City Zip State		— Dir	Dimension /	Attribute /			Total Spending	order quantity product price
		zip state		_	Fact Table	Fact Name	Desco	Order	OrderID	
	T'AL-	TitleID TitleName Title Type Runtime			accounts_zipcode				OrderQuantity	
	Title					e Name	Numbe	r of account holder		
W /						Address	Addross	Address of account holder		
11 /						Audress				
11 /						Zipcode	Zipcode	of account holder		
111/		Generes				'	Dl f	h - -		
						Account Plan	Plan of	account holder		
ΛM	Director	DirectorID								
		DirectorN	lame							
					Accounts	AccountID				
						FirstName				
	Dim_Customer	New_CustomerID email_address								
	N.					LastName				
		FirstName	e			Address				
	1	LastName								
	\	Fudgeflix				Zipcode				
		1 5 -				Email_Address				
						New AccountID		nail address = recieves N		

Detail-level dimensional worksheet

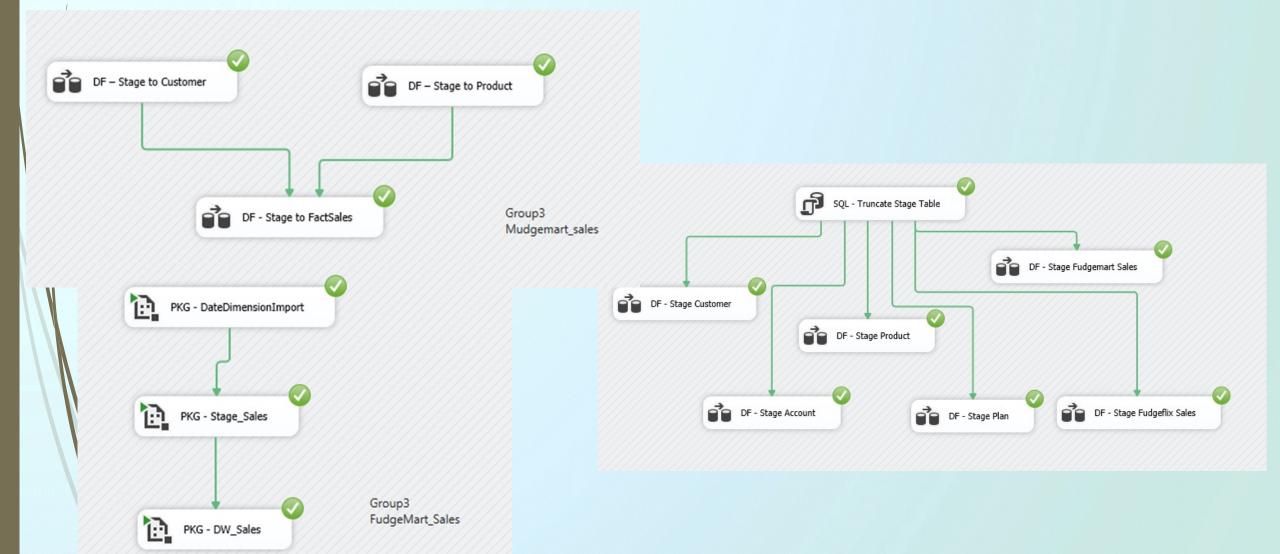


Size

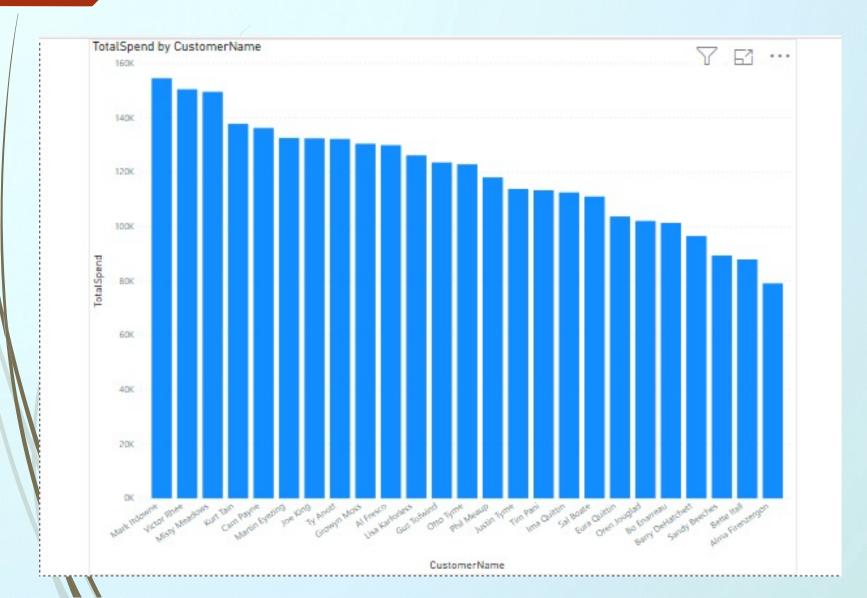
Table Name	Fidgeflix Custo	omer Plan Change		
Table Type	Fact	Home Page		
Display Name	Sales	Tieme rage		
Database Schema	foodtraders			
Table Description	Sales order informati	tion		
Comment	Calco oraci illioittia			
Biz Filter Logic				
Size		1		
	V			
Generate Script?	Υ			
	Makatan Indonesia di Salahan Jakatan Jawa Gusan Indonesia			_
Column Name	Display Name	Description	Example Values	Display Folder
ProductKey	ProductKey	Key to Product	1, 2, 3	key
CustomerKey	CustomerKey	Key to Customer	1, 2, 3	key
OrderDateKey	OrderDateKey	Key to Date (for Orders)	20120108	key
OrderID	OrderID	The natural key for the fact table, if any (eg order	1,2,3	Exclude from cube
Quantity	Quantity	Quantity sold of item on order	3	Amounts
ProductRetailPrice	ProductRetailPrice	price a customer pay for the product	\$10.00	Amounts
TotalSpend	TotalSpend	Quantity * ProductRetailPrice	\$20.00	Amounts

Table Name	DimCustomer						
Table Type	Dimension	Home Page					
Display Name	Customer						
Database Schema	group3						
Table Description	Customers dimension	n					
Comment	comes from custome	ers table in fudgemart					
Biz Filter Logic	Comico mom cuctomo	To table in raagemant					
Size	one for each custom	or					
		U					
Generate Script?	Υ						
Column Name	Display Name	Description	Unknown	Example Values	SCD	' '	ETL Rules
	. ,	·	Member		Туре	' '	ETL Rules
CustomerKey	CustomerKey	Surrogate primary key	Member	1, 2, 3	Type key	' '	ETL Rules
	. ,	·	Member		Туре	' '	ETL Rules
CustomerKey	CustomerKey	Surrogate primary key	Member	1, 2, 3	Type key	' '	ETL Rules
CustomerKey CustomerName CustomerEmail	CustomerKey CustomerName CustomerEmail	Surrogate primary key Name of contact at the company	Member	1, 2, 3	Type key 2	' '	■ ETL Rules
CustomerKey CustomerName CustomerEmail AccountID	CustomerKey CustomerName CustomerEmail AccountID	Surrogate primary key Name of contact at the company	Member	1, 2, 3	Type key 2	' '	ETL Rules
CustomerKey CustomerName CustomerEmail	CustomerKey CustomerName CustomerEmail	Surrogate primary key Name of contact at the company	Member	1, 2, 3	Type key 2 2 2	' '	ETL Rules
CustomerKey CustomerName CustomerEmail AccountID CustomerID	CustomerKey CustomerName CustomerEmail AccountID CustomerID	Surrogate primary key Name of contact at the company	Member	1, 2, 3	Type key 2	' '	ETL Rules
CustomerKey CustomerName CustomerEmail AccountID CustomerID CustomerID	CustomerKey CustomerName CustomerEmail AccountID CustomerID CustomerPlan	Surrogate primary key Name of contact at the company Contact's job title	Member -1 None	1, 2, 3 Pedro Alfanso	Type key 2 2 2 2		
CustomerKey CustomerName CustomerEmail AccountID CustomerID CustomerPlan RowlsCurrent	CustomerKey CustomerName CustomerEmail AccountID CustomerID CustomerPlan Row is Current	Surrogate primary key Name of contact at the company Contact's job title Is this the current row for this member (Y/N)?	Member -1 None 1 1/1/1900	1, 2, 3 Pedro Alfanso	Type key 2 2 2 2 n/a	Exclude from cube	Standard SCD-2

Extract, Transform and Load in SSIS



Highest spending Customers



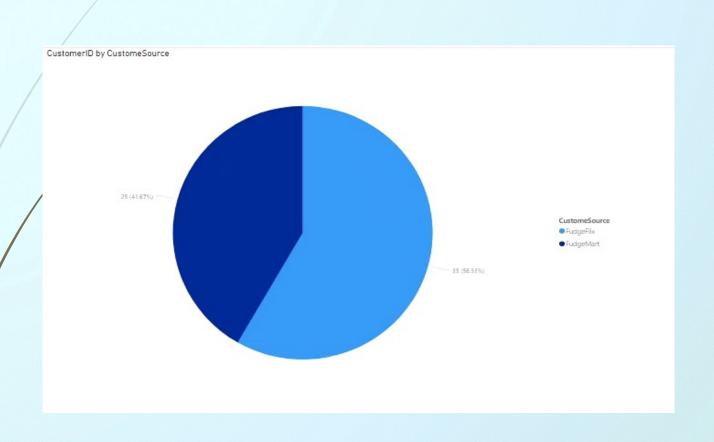
- Customers by name, comparing the total amount spent
- Send the most engaged customer additional incentives

Most Frequent Customers Fudgemart

	CustomerName	ProductName	TotalOrders
1	Al Fresco	Comfor-fit Tee	19
2	Gus Tofwind	Lazer Level	19
3	Growyn Moss	Wool Socks	19
4	Al Fresco	Steam Iron	18
5	Kurt Tain	Soccer Ball	17
6	Al Fresco	Sport Cycle	17
7	Joe King	65" LCD HD TV	17
8	Al Fresco	18v Drill Driver Set	16
9	Kurt Tain	Comfor-fit Tee	16
10	Sal Boate	Steam Iron	16

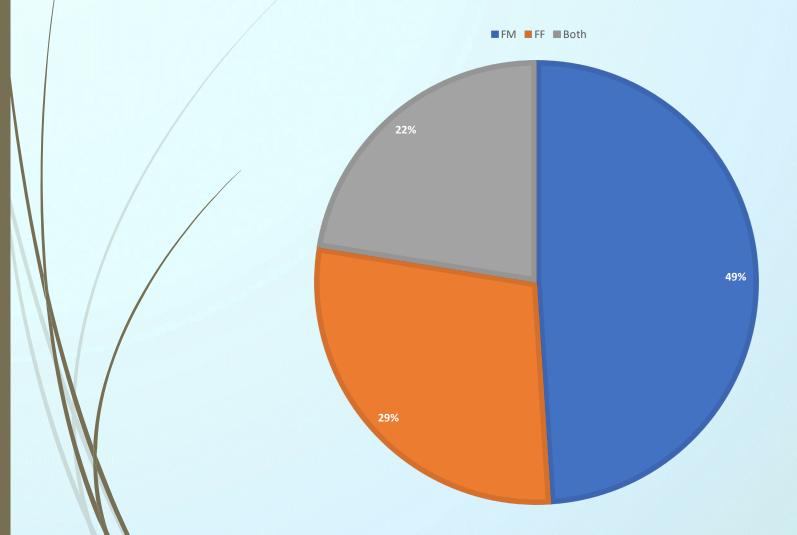
- Customers total number of orders, excluded Fudgeflix based on subscription platform
- Engaged Fudgemart customers, making multiple orders

Customers from Fudgemart and Customer from Fudgeflix



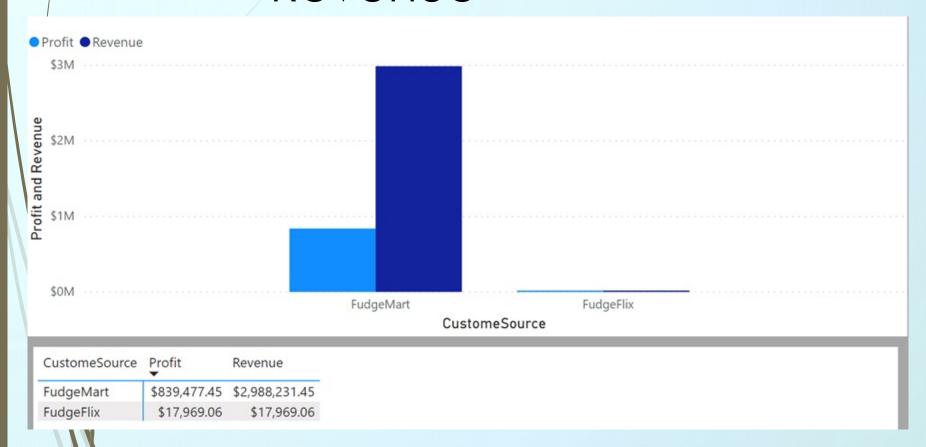
- Customer Breakdown
 - Fudgemart: 25 (42%)
 - Fudgeflix: 35 (58%)

Customers from Fudgemart and Customer from Fudgeflix



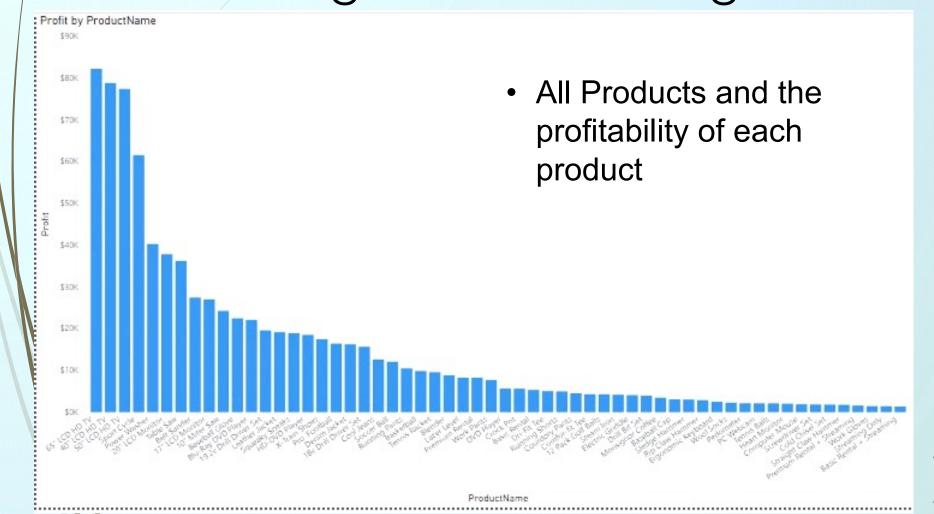
- Customer Breakdown
 - Fudgemart: 49%
 - Fudgeflix: 29%
 - Both: 22%

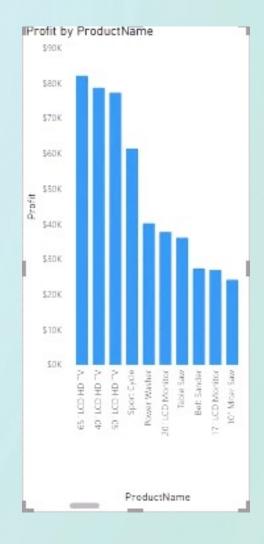
Fudgeflix vs Fudgemart, Profit and Revenue



- Revenue and profit between Fudgemart and Fudgeflix
- Fudgeflix is almost all profit but earning significantly less than Fudgemart

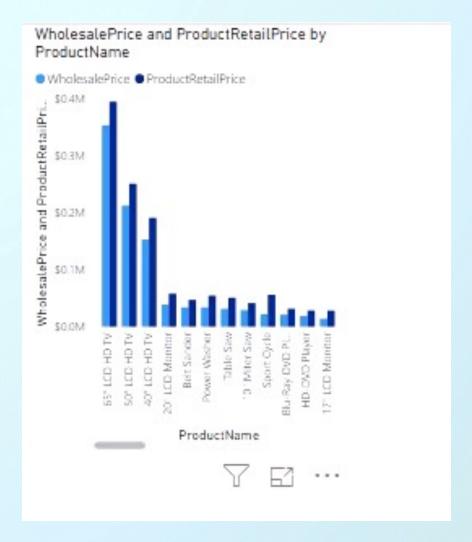
Most profitable products from Fudgemart and Fudgeflix





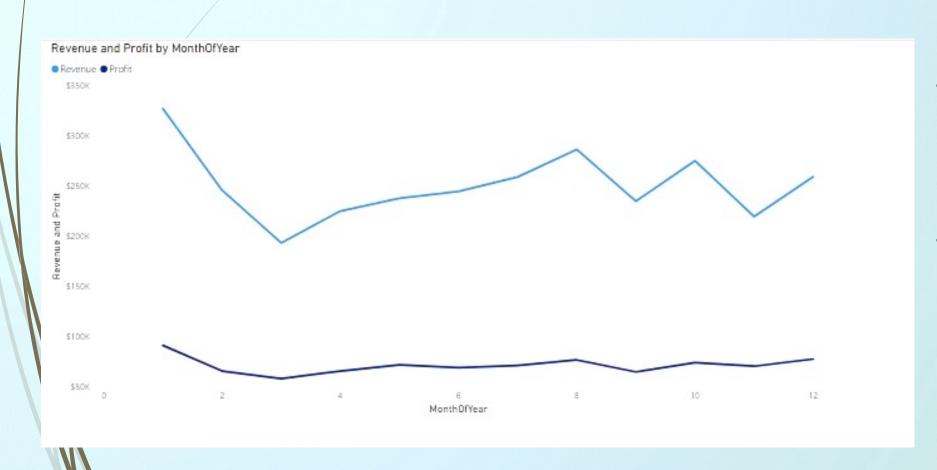
- Top 10 most profitable products
- Top 3 are LCD HD TVS with various sizing's

Products by Wholesale Price and Retail Price



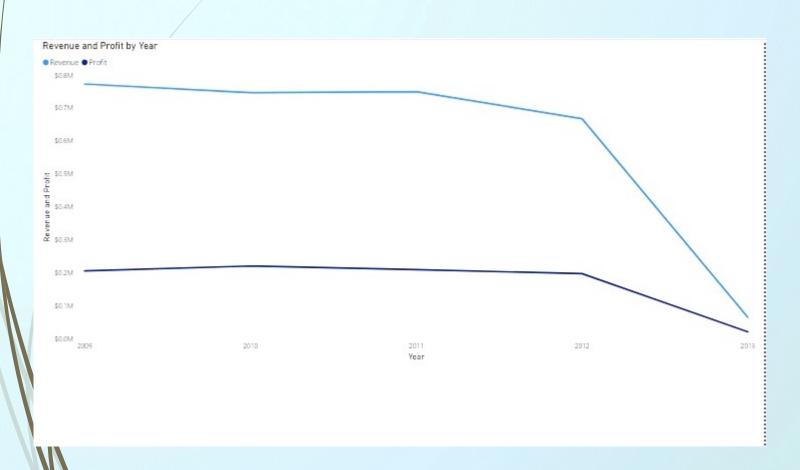
 Breakdown of wholesale price of product vs retail price of product

Projected Seasonality of Profit and Revenue by Month



- Seasonality of revenue and profit
- Shows predicted seasonality going forward

Projected Profit and Revenue based on prior year



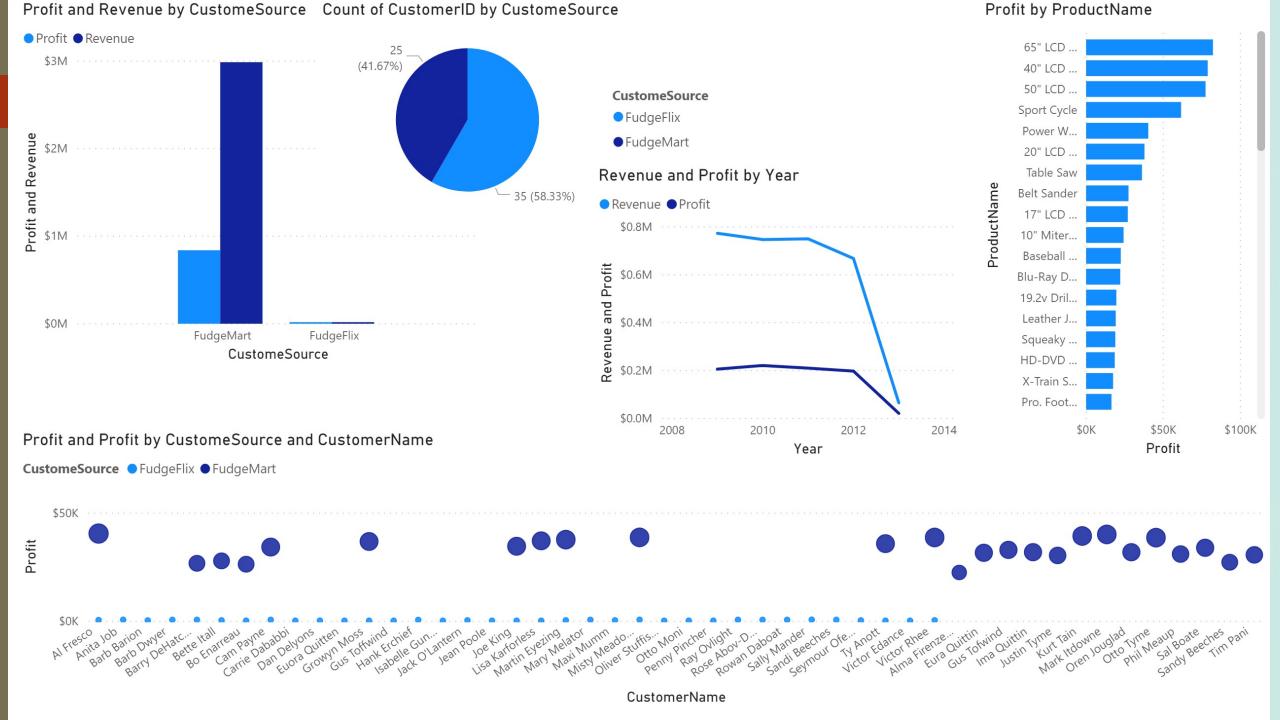
- Revenue and profit have been consistent over the years
- 2013 is low now but over the course of the year, we predict sales to stay on track with previous years

Dashboard

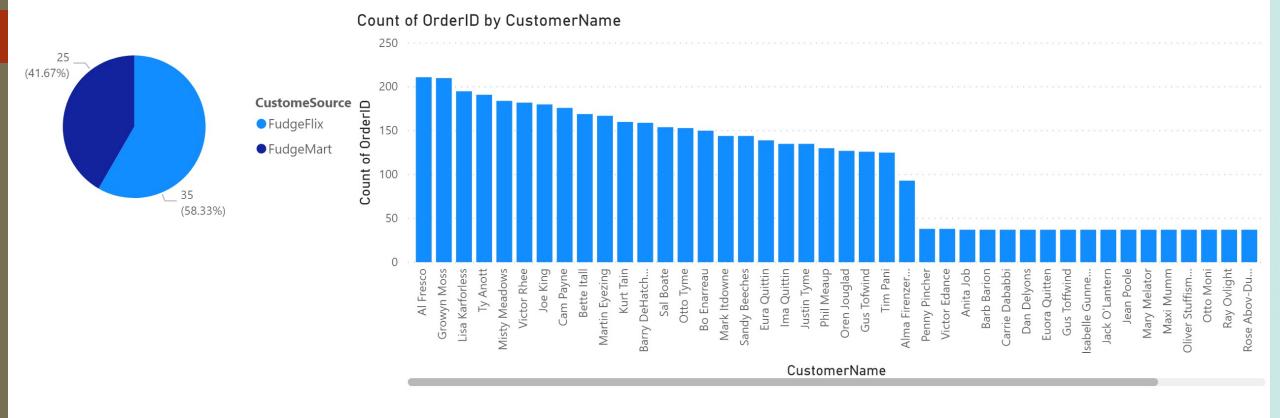


13 Power BI Dashboard.pbix



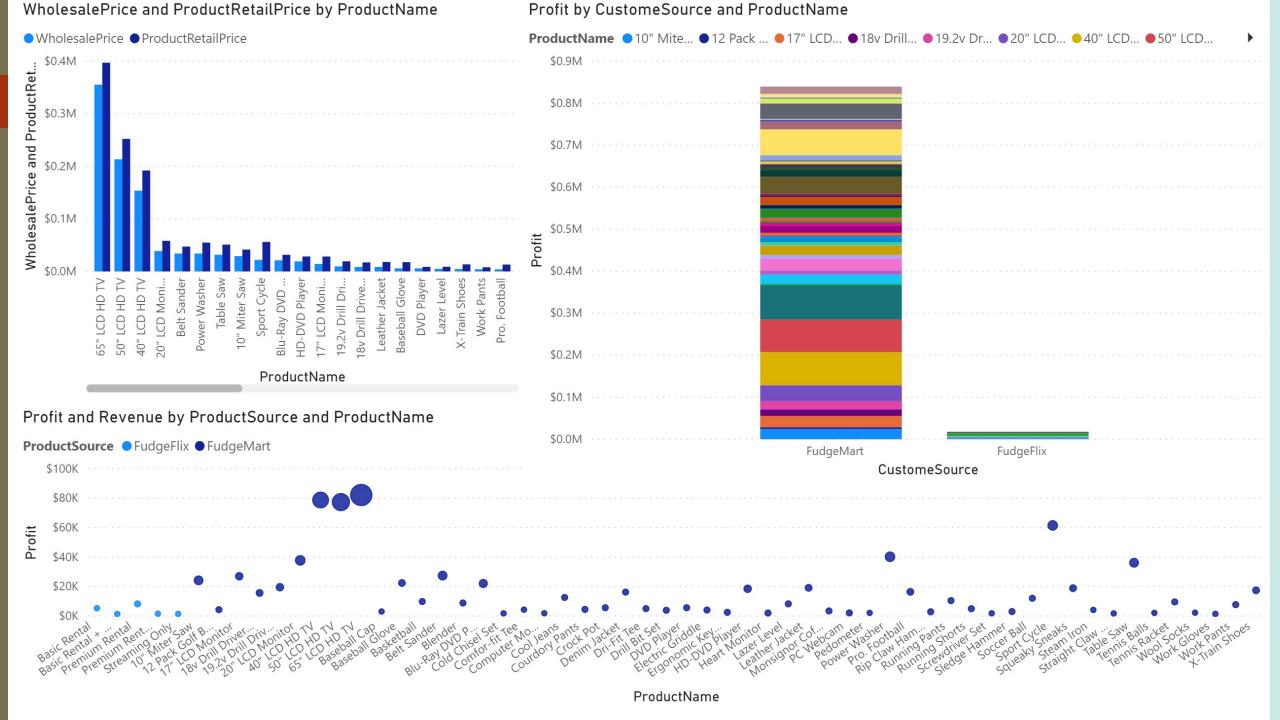


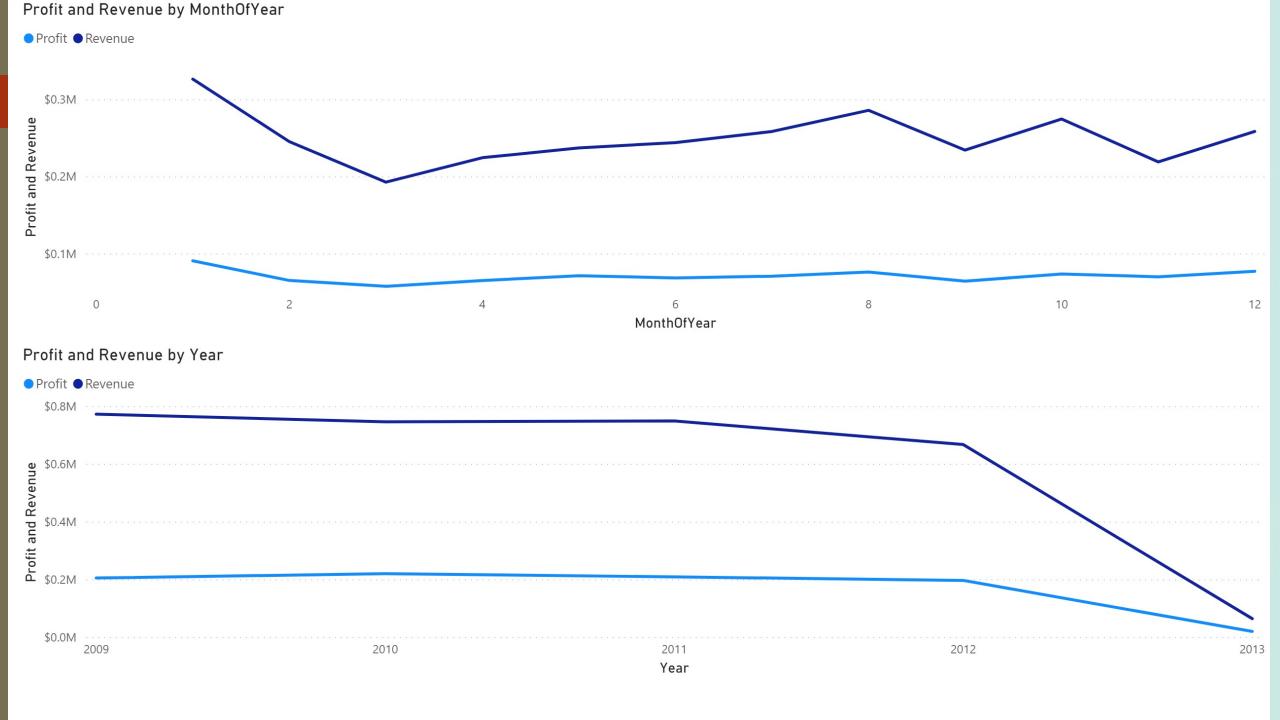
Count of CustomerID by CustomeSource



Profit by CustomeSource and CustomerName







Thank you!

Questions