



IST 722

# FINAL PROJECT PRESENTATION

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# PROJECT CHARTER

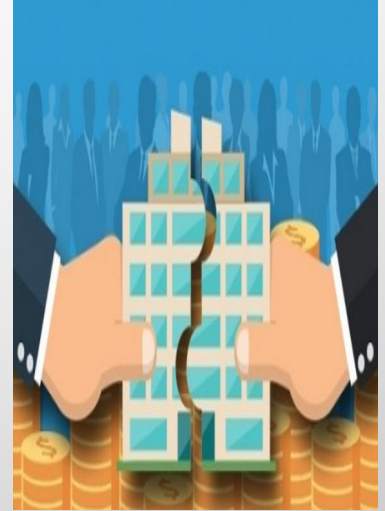
- **OVERVIEW**

FudgeMart, a retail corporation, and Fudgeflix, a movie rental service, have decided to merge into a new company, Fudge Inc.

As a result, management want to consolidate data from the two companies into a single system in order to make informed analysis and business decisions.


- **OBJECTIVE**

To implement an integrated Data Warehouse, bringing together data from both enterprises. Additionally, we will use that data warehouse to create BI reports to meet the needs of our business processes. The project will be deployed for use by late June 2019.




# BUSINESS PROCESSES

## SIMPLE

1. FUDGEFLIX QUEUEING 
  - a. View queues by:
    - i. Day of week
    - ii. Title rating (G, PG, PG-13, etc.)
    - iii. Queue to ship (for physical dvd shipments)
2. FUDGEMART SHIPPING
  - a. View time from order to ship

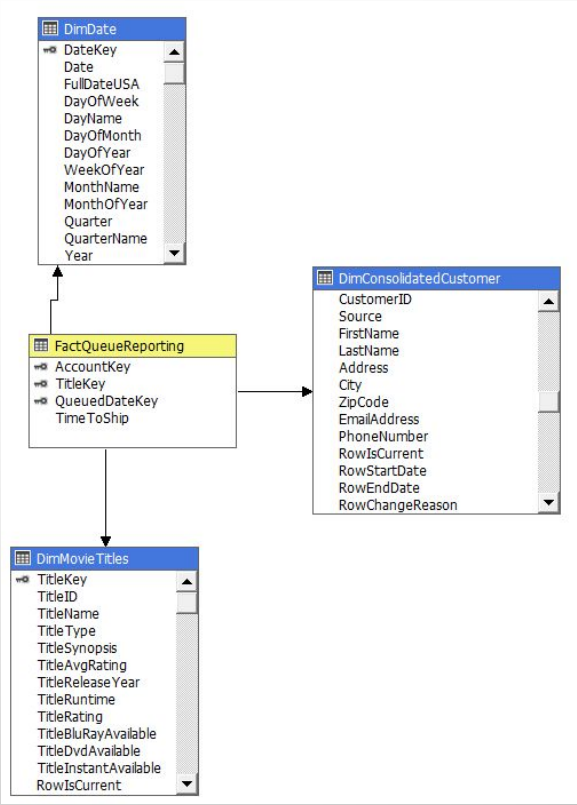
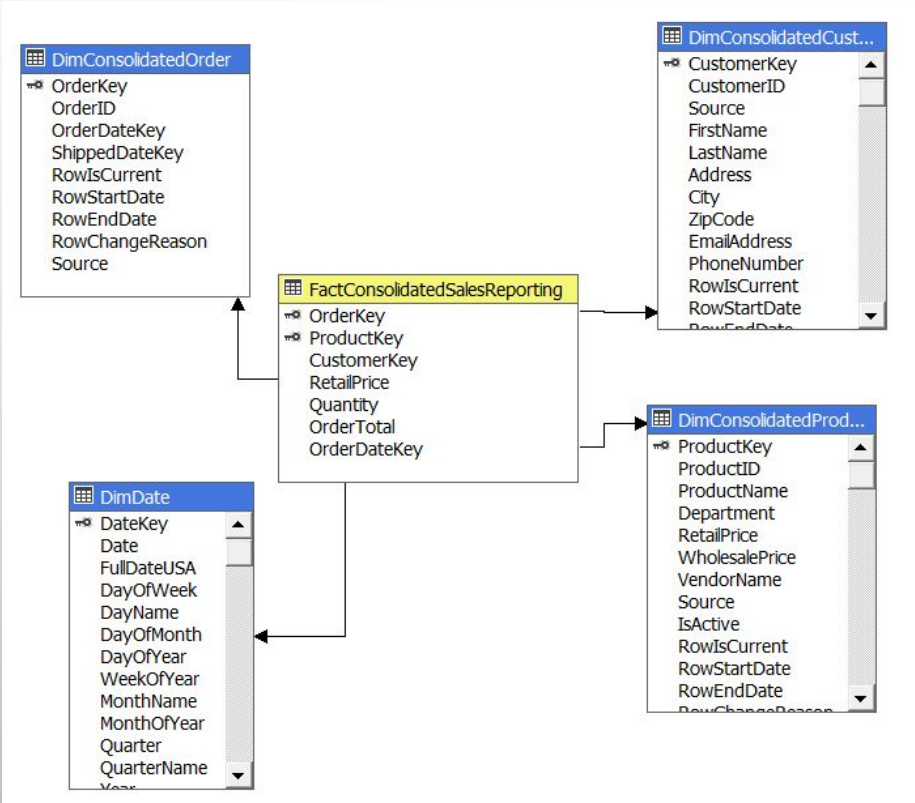
## COMPLEX

1. CONSOLIDATED SALES 
  - a. View sales (quantity, price, and order total) by
    - i. Customer
    - ii. Department and/or product
    - iii. Location (city, zip code, state)
    - iv. Year
2. CONSOLIDATED CUSTOMER SATISFACTION
  - a. View average ratings of products or titles per customer



**INDICATES A FULLY MODELLED PROCESS**

# STAR SCHEMA



# GLOBAL SALES

- SALES NUMBERS HAVE DROPPED FROM 2009 WITH A STEEP DROP IN 2012
  - Definitely a concern for upper management and future of company
- SALES VOLUME IN THE COASTAL STATES ARE HIGHER THAN IN THE MIDDLE OF THE COUNTRY
  - Potential to expand customer base to these areas
- ELECTRONIC PRODUCTS DOMINATE THE SALES (67%)
  - Need to improve sales in other departments through new marketing campaigns and sales promotions

# Global Sales Dashboard

This dashboard shows an overview of worldwide sales for Fudge Inc

On the right is a chart which shows sales by product department/product.

Below from left to right -

Raw Sales report by State/City

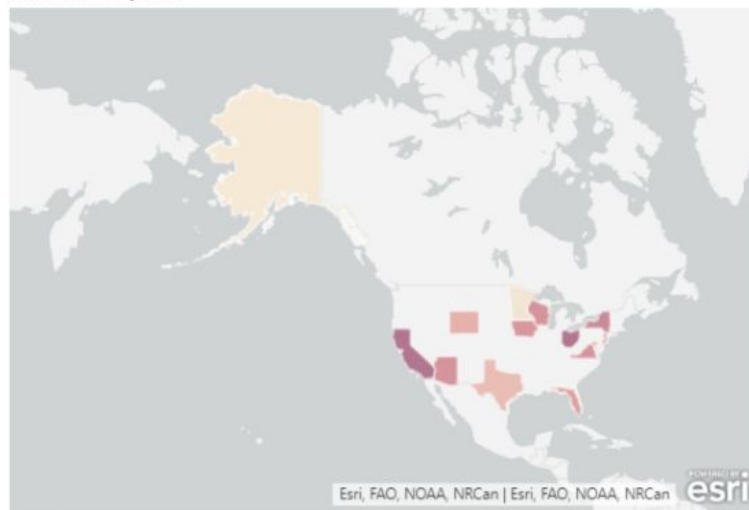
Map of the Sales by State

Sales Volume by Year

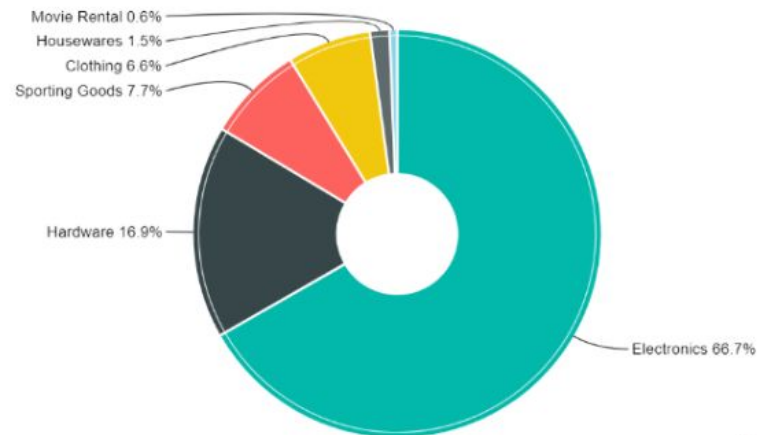
Sales Volume Raw Data

State	City	OrderTotal
CA	FRESNO	\$356,576.20
OH	COLUMBUS	\$342,811.23
CA	LOS ANGELES	\$226,017.68
DC	WASHINGTON	\$220,905.66
NY	NEW YORK	\$151,188.19
CA	ANAHEIM	\$151,017.83
CA	VALENCIA	\$137,796.60
OH	CLEVES	\$136,998.03
CA	MANHATTAN BEACH	\$133,123.78
WI	MADISON	\$132,782.43
AZ	PHOENIX	\$132,575.58
VA	LYNCHBURG	\$130,581.23
NJ	FAIRFIELD	\$118,097.80
NY	TARRYTOWN	\$113,857.05
CA	SANTA ANA	\$113,363.10
CA	SAN FRANCISCO	\$111,065.90
CA	SACRAMENTO	\$101,716.43
IA	FAIRFIELD	\$97,271.13
OH	CINCINNATI	\$88,432.68
Total		\$3,006,200.51

Sales Volume By State



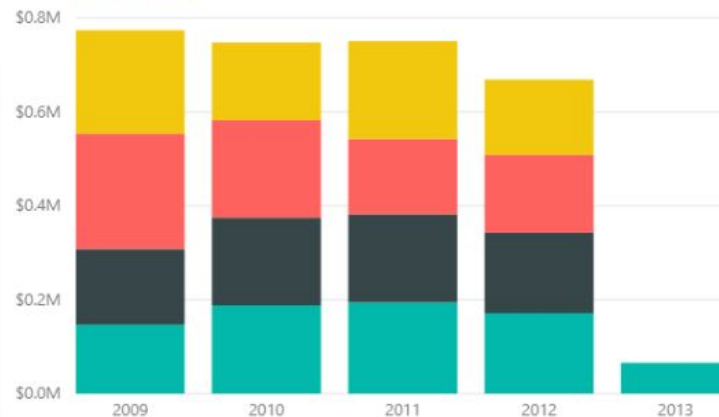
Sales Volume By Department



zoomcharts

Sales Volume by Year

Quarter 1 2 3 4



# QUARTERLY AND STATE DASHBOARDS

- Displays sales per year/quarter AND state
- Provides some different metrics than the global sales dashboard, including average order amount (\$) and order counts
- Matrices provide specific details for visualized data





## Quarterly Dashboard

Pie chart: details sales (\$) per year, quarter

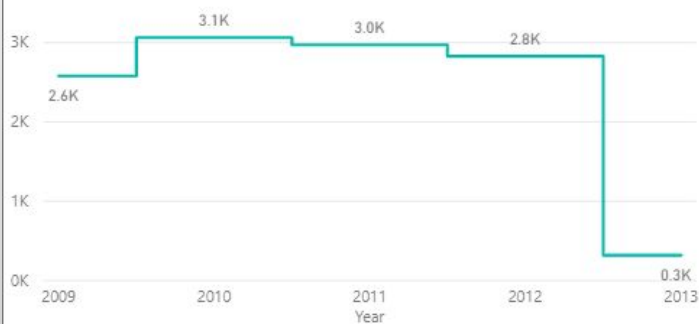
Stepped line chart: details orders (count) per year, quarter

Line chart: details average order amount by year, quarter

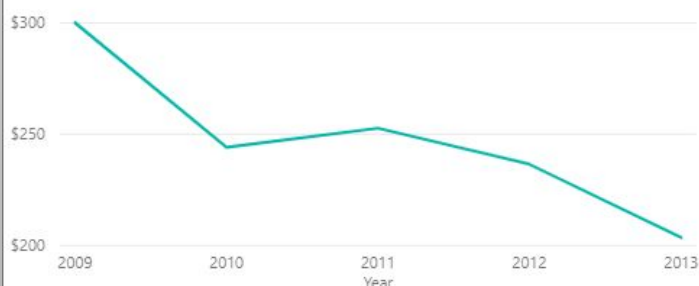
Toggle year and quarter, view details using the bottom right sector

Click charts to narrow view

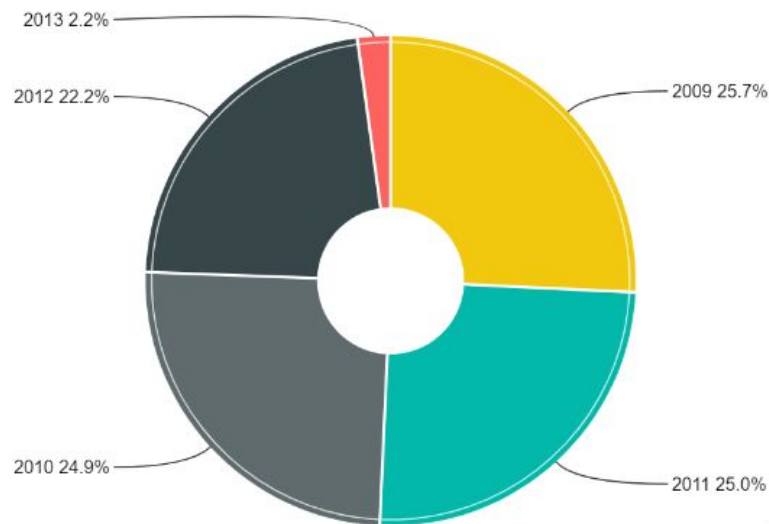
### Order Count by Year



### Average Order Total by Year



### Total Sales per Year, Quarter



zomcharts

Year

2009

2013



Quarter

1

4



Year	Quarter	OrderTotal	Average of OrderTotal	Count of OrderTotal
2009	Qtr 1	\$146,782.35	\$248.78	590
2009	Qtr 2	\$161,149.60	\$266.36	605
2009	Qtr 3	\$245,918.05	\$418.23	588
2009	Qtr 4	\$220,003.35	\$276.39	796
2010	Qtr 1	\$187,834.96	\$254.52	738
2010	Qtr 2	\$186,907.95	\$233.05	802
2010	Qtr 3	\$207,780.50	\$265.03	784
2010	Qtr 4	\$165,036.65	\$223.63	738
2011	Qtr 1	\$194,276.35	\$284.45	683
2011	Qtr 2	\$187,562.10	\$241.39	777
2011	Qtr 3	\$160,540.55	\$217.24	739
2011	Qtr 4	\$208,154.55	\$269.98	771
2012	Qtr 1	\$171,305.20	\$248.27	690
2012	Qtr 2	\$171,366.55	\$249.08	688
2012	Qtr 3	\$165,711.55	\$228.25	726
2012	Qtr 4	\$165,711.55	\$228.25	726
Total		\$3,006,200.51	\$255.63	11760



Total Sales per State

# States Dashboard

Pie chart: details sales (\$) per state

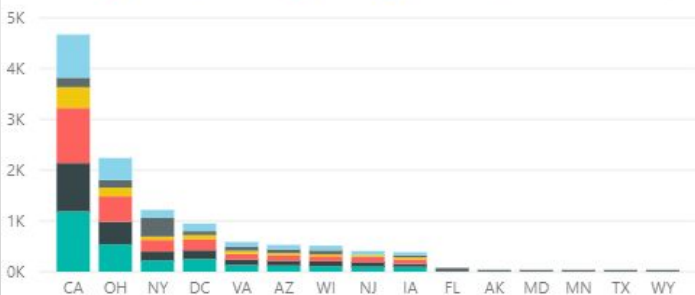
Bar charts: detail orders (count) and average order amount per state

Toggle state, view details using the bottom right sector

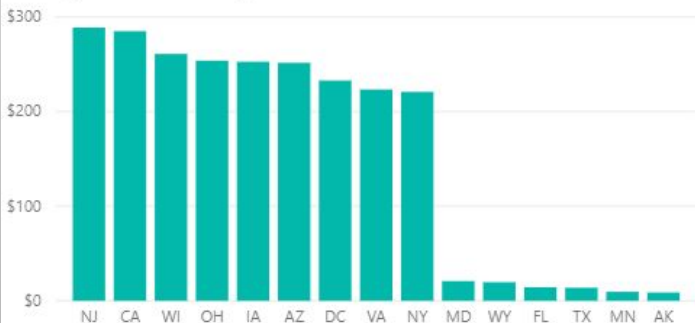
Click charts to narrow view

## Order Count by State

Department ■ Clothing ■ Electronics ■ Hardware ■ Housewares ■ Movie Rental

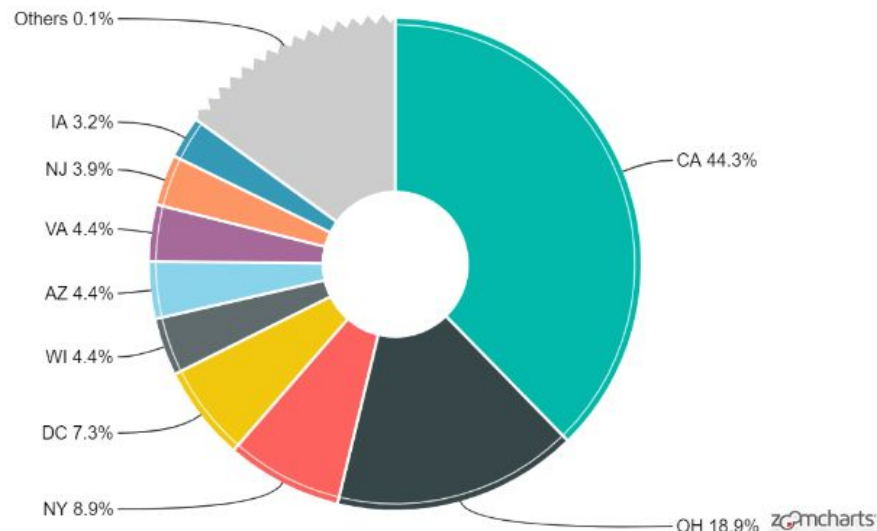


## Average Order Total by State



### State

- ☐ AK
- ☐ AZ
- ☐ CA
- ☐ DC
- ☐ FL
- ☐ IA
- ☐ MD
- ☐ MN
- ☐ NJ
- ☐ NY
- ☐ OH
- ☐ TX
- ☐ VA
- ☐ WI
- ☐ WY



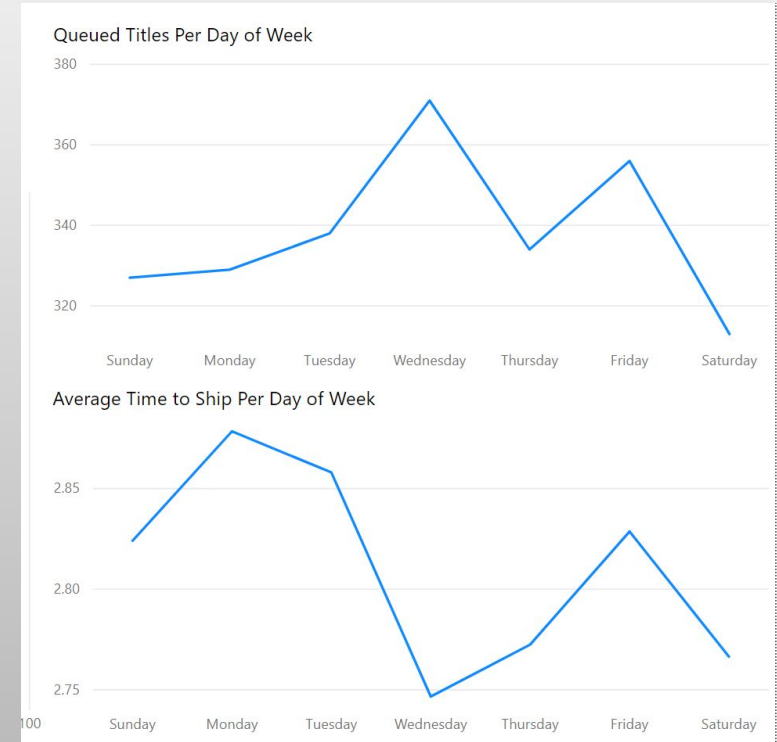
State	OrderTotal	Average of OrderTotal	Count of OrderTotal	Department
AK	\$331.62	\$8.73	2	Movie Rental
AZ	\$9,388.00	\$76.33	33	Clothing
AZ	\$90,057.00	\$958.05	32	Electronics
AZ	\$21,033.95	\$206.22	36	Hardware
AZ	\$2,585.00	\$56.20	14	Housewares
AZ	\$782.26	\$10.57	4	Movie Rental
AZ	\$9,188.00	\$102.09	25	Sporting Goods
CA	\$90,007.00	\$75.76	56	Clothing
CA	\$900,929.00	\$947.35	45	Electronics
CA	\$216,459.00	\$199.32	52	Hardware
CA	\$18,060.00	\$43.94	18	Housewares
CA	\$2,008.15	\$10.85	4	Movie Rental
CA	\$103,538.00	\$121.81	44	Sporting Goods
DC	\$17,442.00	\$69.49	46	Clothing
DC	\$145,710.00	\$847.15	35	Electronics
Total	\$3,006,200.51	\$255.63	142	

# QUARTERLY AND STATE DASHBOARDS - TAKEAWAYS AND RECOMMENDATIONS

- The average order total in 2012 dropped to about \$236. If this trend continues into 2013, marketing should consider promotions and incentives that will boost the average order amount. Possible incentives include free shipping for orders over \$250 or BOGO deals
- The number orders per year is also down slightly from 2011 to 2012. If trend continues, marketing can also create incentives for customers to make future orders. Possible incentives include discounts on the next order or implementation of a points program where customers earn points for each order.
- California, Ohio, and New York are states with the top sales in both dollar amount and order count. Fudge Inc has several up and coming states however. Management needs to boost sales in these states and states not currently represented by our customer base.

# FUDGEFLIX MOVIE QUEUE

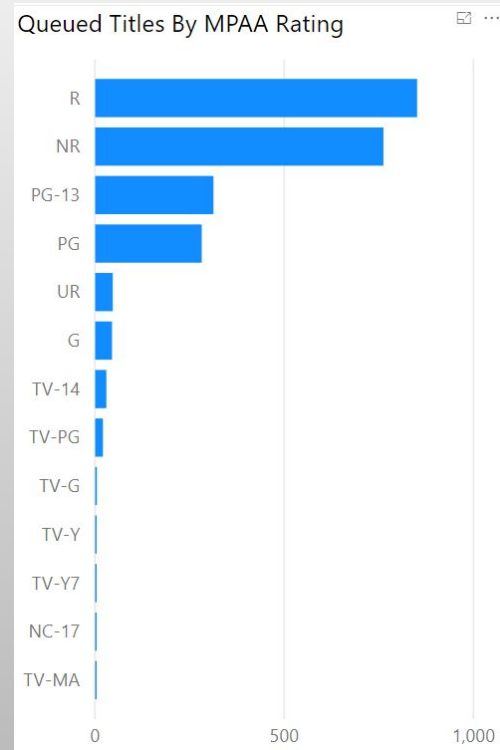
- Time To Ship
  - Days between a movie being queued and a movie being shipped
- Most popular days for queuing are Wednesday and Friday
  - Perhaps prepping for the weekend
- Time to Ship suffers on Monday and Tuesday
  - Approximately .1 days longer than average of other days
  - 1 out of every 10 queued movies takes 1 day longer than average.
- Recommend increasing warehouse staffing on Monday and Tuesday to alleviate issues.
- Increase inventory of popular movies



# FUDGEFLIX MOVIE QUEUE

- R-rated movies are most popular
  - Followed by PG-13, PG, G
- Must continue to ensure sufficient stock of R-rated movies to meet demand
- Many good PG and PG-13 rated movies exist
  - 5 of top 10 movies of 2018 on Rotten Tomatoes<sup>[1]</sup>
  - Need more marketing around family-friendly content
  - Potential to appeal to new customers

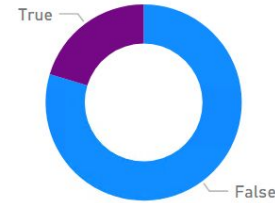
[1] - <https://www.rottentomatoes.com/top/>



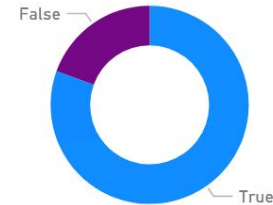
# FUDGEFLIX MOVIE QUEUE

- Current Inventory is in line with demand
    - Inventory and Orders are within 1% of each other across all media types
  - Over 4,000 movies available instantly
  - Over 17,000 movies available on DVD
  - Over 2,500 movies available on Blu-Ray
- 
- Movie Streaming is becoming more popular over time
    - Need to monitor this report to ensure we do not fall behind demand

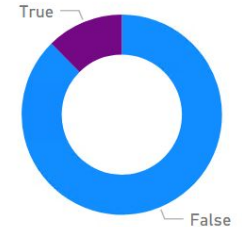
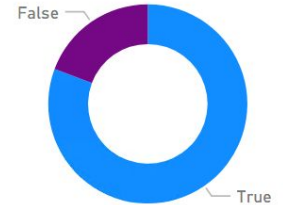
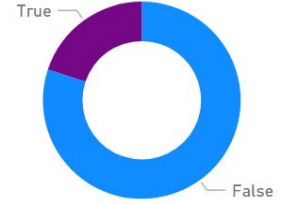
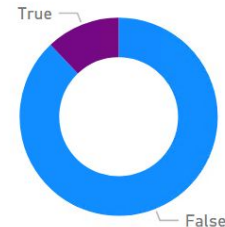
Instant Available



DVD Available



Blu-Ray Available



# RECOMMENDATIONS - Fudgeflix

- Increase staffing on Monday and Tuesday in the warehouse to improve time to ship
- If delays are caused by movies needing to be returned from the weekend, increase stock of more popular movies
- Market towards families to increase demand for PG and PG-13 movies
- Continue to monitor streaming trends to ensure we are meeting customer needs

# RECOMMENDATIONS - Fudge Inc.

- Sales numbers have dropped since 2009, indicating a need to expand customer base. The target area is middle states (where we currently have no customers) and up-and-coming states, where we have a few customers, but can easily build more.
- Our BI layers also indicate a need to promote sales in lower performing product departments like housewares, clothing, and sporting goods, which currently comprise less than 35% of total sales volume.
- Order count and average order amount were down in 2012. Customer incentives to purchase more per order and place higher order counts are needed.



Questions/Comments?