TGI Friday

Marketing Predictive Analytics Using SAS

Group 2
Bharadwaj Tippavajjula
Demet Metan
Pratik Desai
Yu-Min Wang *

Agenda

- **Executive Summary**
- **Business Objective**
- **Segmentation & Analysis**
- **Pricing Strategy**
- **Market Basket Analysis**
- **Marcom**
- **Financial Impact**

Executive Summary

TGI Friday is an American restaurant chain focusing on casual dining.

❖ We have 4 segments that differ in their shopping habits.

❖ Business objective: To increase total revenue and marcom effectiveness!

1. Diner and Luncher
(Inelastic, uses discount often)

➢ *Gradually reduce discount 16 % to 5%*
➢ *Revenue increase (Discount) = $71,416*

2. Bar Lover
(Elastic and has discount)

➢ *Give additional 12.5% discount to increase revenue by 2.3% = $17,222*

3. Frequent Diner
(Elastic and has discount)

➢ *Offer additional 12.5% discount to increase revenue by 2.4% =14,939*

4. Take out and Breakfast Shoppers
(too small to take action)

Financial Impact: Total Revenue increase of 5% equates to $ 103,577
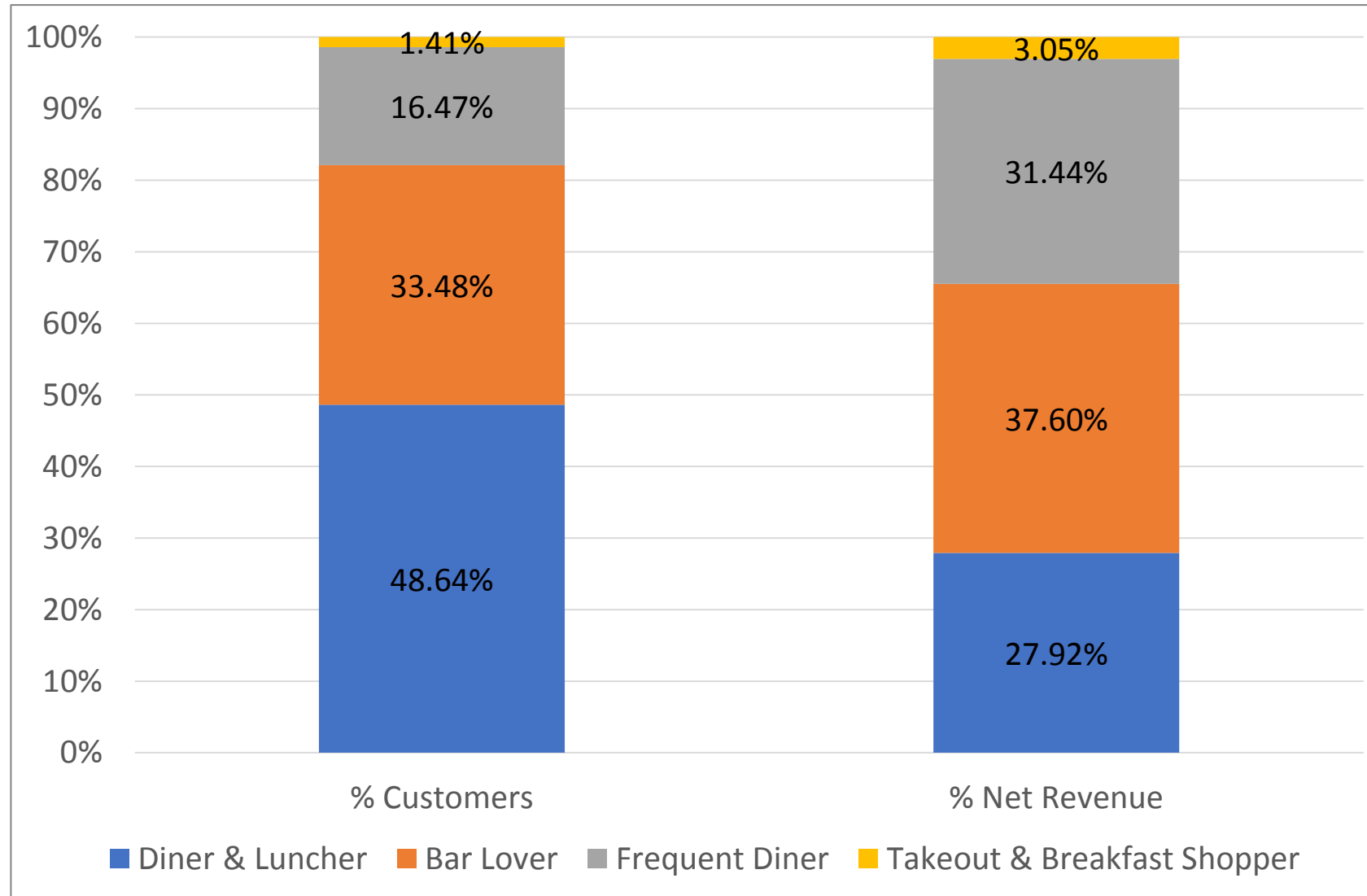
Data Overview

- Types of data
  - 11991 customers
  - Marcom (Email)
  - Discount
  - Time, location, and food category
  - Net sales, total checks
  - Total items, sales per item, …

- Analytical techniques used
  - Segmentation
  - Elasticity
  - Market basket
  - Marcom evaluation
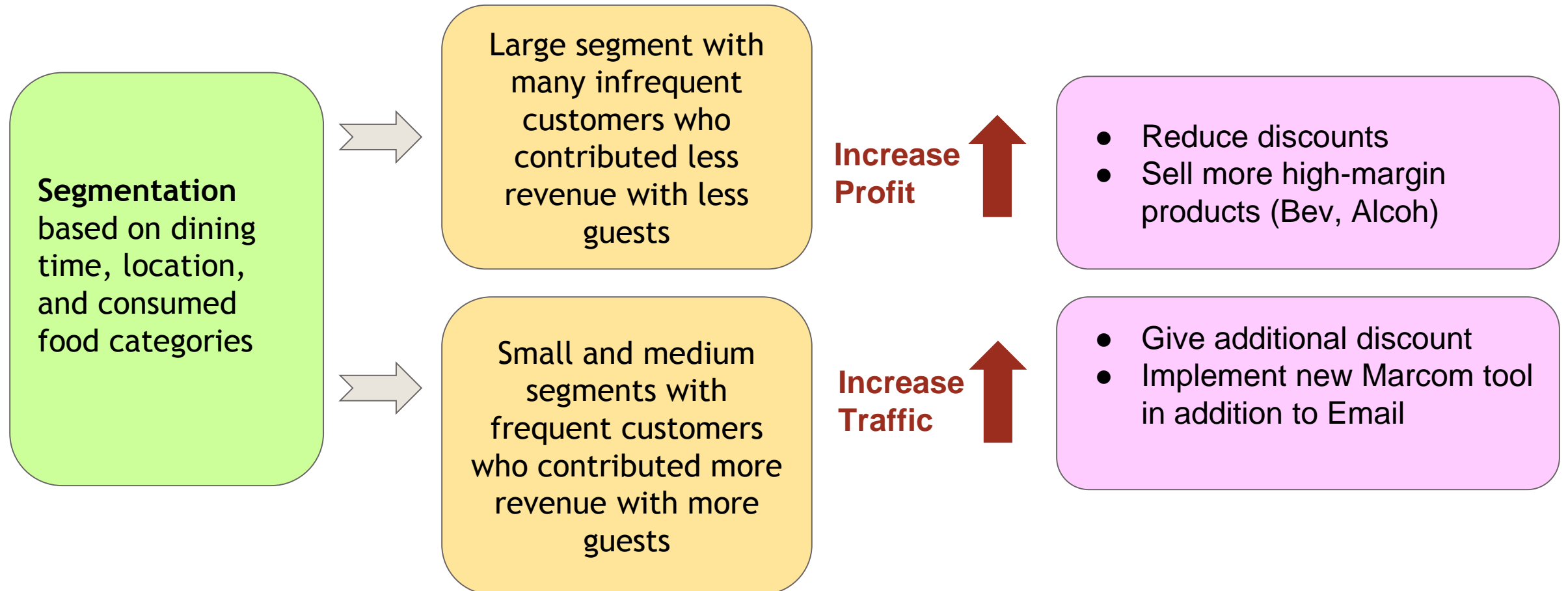
Top Down Comparison

	Cluster 1 - Diner & Luncher	Cluster 2 - Bar Lover	Cluster 3 - Frequent Diner	Cluster 4- Take out & Breakfast Shoppers
% customers	48.6%	33.5%	16.5%	1.4%
% net revenue	27.9%	37.6%	31.4%	3.0%
Discount Rate	15.9%	15.9%	17.2%	12.8%
Elasticity	0.692	1.334	1.348	(not significant)
Items_tot_distinct	9.4	14.2	23.4	18.9
Net_sales	$94	$183	$311	$352
Visit frequency	2.8	6.3	9.4	10.3
% One-time customer	43%	19%	8%	19%
Days between visits	51	43	40	38
Guests_last_12_month	8	11	22	23
% Loc_Bar	0	60%	40%	34%
% Loc_Rest	100%	40%	60%	61%
% Loc_Take_Out	0	0	0	5%
% Time_Breakfast	0	0	0	4%
% Time_Lunch	40%	30%	33%	36%
% Time_Dinner	60%	56%	55%	52%
% Time_Late_Nite	0	14%	12%	8%
% Fd_H_ent	23.3%	16.8%	18.3%	27.8%
% Fd_App	15.4%	17.9%	17.5%	12.1%
% Fd_Alcoh	9.3%	29.0%	18.8%	17.1%
% Fd_Steak	11.9%	8.7%	10.6%	8.6%
% Fd_Burg	9.5%	7.2%	7.4%	6.7%
% Fd_Bev	9.0%	5.3%	6.9%	6.3%
Emai_send	41	41	42	41
Email_open_rate	27.7%	28.7%	30.1%	27.8%
Email_click_rate	1.7%	2.0%	2.2%	1.8%
Age	46.5	43.6	41.9	44.2

5

Marketing Objective and Strategy

Segmentation based on dining time, location, and consumed food categories

→ Large segment with many infrequent customers who contributed less revenue with less guests

Increase Profit ↑
- Reduce discounts
- Sell more high-margin products (Bev, Alcoh)

→ Small and medium segments with frequent customers who contributed more revenue with more guests

Increase Traffic ↑
- Give additional discount
- Implement new Marcom tool in addition to Email

❖ **Biggest Segment**

   ❖ High growth potential in profitability

      ● 49% customers (largest), 28% net revenue (2nd lowest)

   ❖ Highest purchase of lunch and dinner, beverage and soup salad.

   ❖ High user of discounts.

❖ **Marketing Recommendations**

   ❖ Reduce discount rate from 16.6% to 5%.

   ❖ MBA-Bundle up

      ❖ *Offer bundles (hot entrée + beverage, alcohol+ appetizer)*

❖ **Impact –** Increase revenue by 13% through discount reduction and pricing

Diner and Luncher | **Bar Lovers** | **Frequent Diner** | **Take out & Breakfast Shopper**

❖ **Highly profitable Segment**
  ❖ Contribute the highest amount of revenue, second largest customer group
  ❖ 34% customers (2nd largest), 38% net revenue (largest)
  ❖ Late night, alcohol, appetizer

❖ **Marketing Recommendations**
  ❖ Marcom –offer discount
  ❖ MBA-Bundle up
    ❖ *Beverage with Hot entrée/Steak*
    ❖ *Alcohol with Appetizer*

❖ **Impact –** Increase revenue by 2% through discount offers

9

Diner and Luncher **Bar Lovers** **Frequent Diner** **Take out & Breakfast Shopper**

❖ **Most Profitable Segment**

  ❖ Second highest revenue contributor with 31.4% net revenue

  ❖ Significant revenue contribution compared to its market size of 16.47%

❖ **Marketing Recommendations**

  ❖ MBA-Bundle up

    ❖ *Alcohol with Hot entrée/Steak*

    ❖ *Alcohol with Appetizer*

❖ **Impact - Increase revenue by 2% through discount offers**
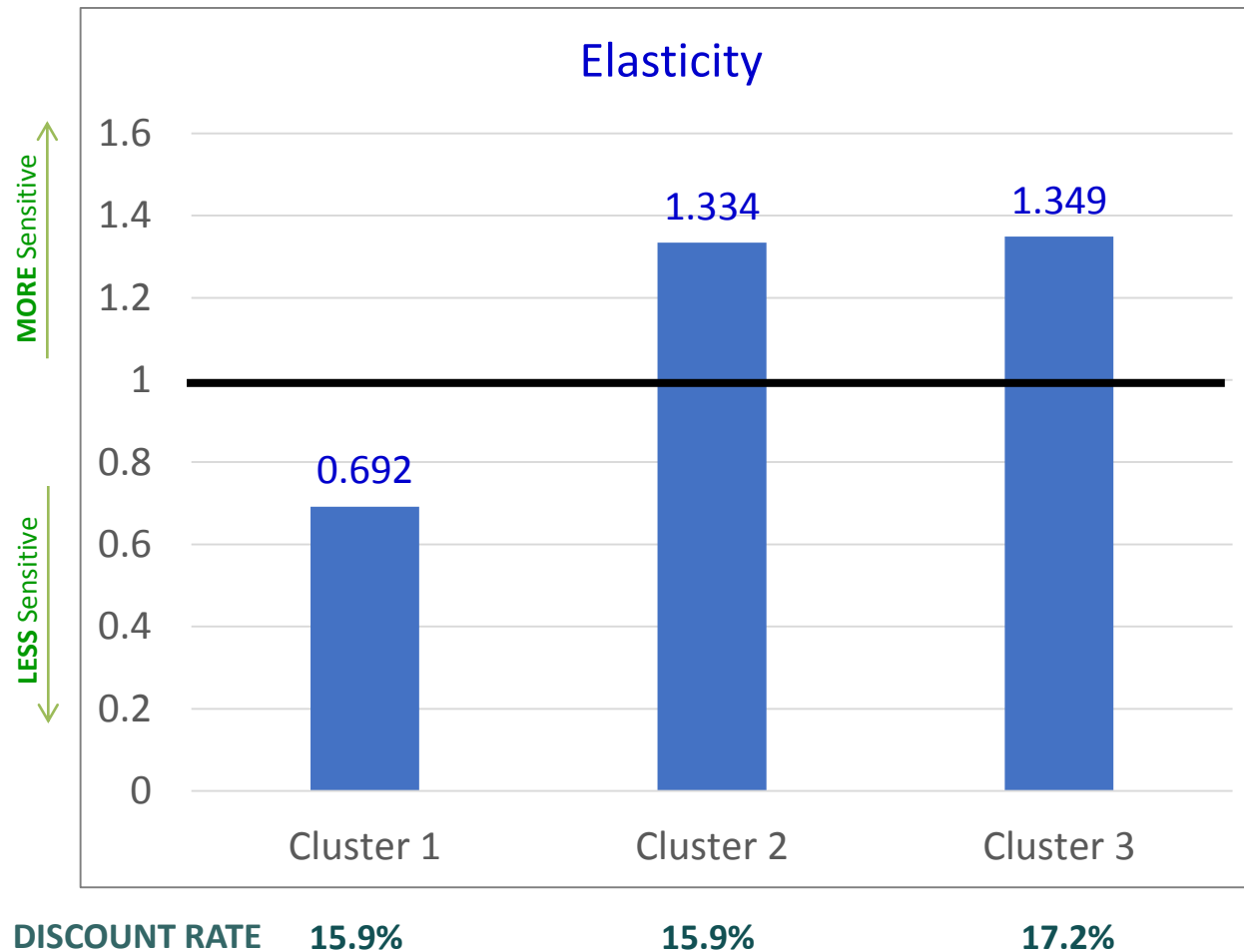
Diner and Luncher	Bar Lovers	Frequent Diner	Take out & Breakfast Shopper

❖ Smallest segment with 1.45% in size to 3.5% revenue contribution

❖ Orders take-out (usually hot entrée, appetizer)

❖ Comes for breakfast and brunch

Price Elasticity

Elasticity

1.6	
1.4	1.334 1.349
1.2	
1	
0.8	0.692
0.6	
0.4	
0.2	
0	Cluster 1 Cluster 2 Cluster 3

MORE Sensitive

LESS Sensitive

DISCOUNT RATE   **15.9%**   **15.9%**   **17.2%**

FINDINGS:

Cluster 1 is inelastic while the other two clusters are elastic, but all offered nearly the same discount rate

ACTIONS:

➔ Cluster 1 : Reduce discount offer from 16% to 5%

⊙ Test discount changes first 10% to 5%

⊙ Revenue will increase by 13%

➔ Cluster 2 & 3: Offer additional discount of 12.5%

⊙ Test additional discount 6% then 12.5%

⊙ Revenue will increase by 2% for each cluster

Total revenue will increase by 5%

Market Basket Analysis

Goal: to increase the sale probability of Bev and Alcoh

Cluster1: the current probability of Bev sale is 9.0% ➔18.5% if bundled with H_ent
the current probability of Alcoh sale is 9.3%➔25.3% if bundled with App

ODDS RATIO	H_ent	App	Steak	Burg
Bev	2.05		1.896	1.892
Alcoh		2.718	1.696	

| Cluster 1's favorites	H_ent	App	Steak	Burg
Bev (9.0%)	18.5%		17.1%	17.0%
Alcoh (9.3%)		25.3%	15.8%	
Cluster 2's favorites	**H_ent**	**App**	**Steak**	**Burg**
Bev (5.3%)	10.9%		10.0%	10.0%
Alcoh (29.0%)		78.8%	49.2%	
Cluster 3's favorites	**H_ent**	**App**	**Steak**	**Burg**
Bev (6.9%)	14.1%		13.1%	13.1%
Alcoh (18.8%)		51.1%	31.9%	
Cluster 4's favorites	**H_ent**	**App**	**Steak**	**Burg**
Bev (6.3%)	12.9%		11.9%	11.9%
Alcoh (17.1%)		46.5%	29.0%	

Offer the combo of
- {H_ent, Bev}
- (App, Alcoh}
- {Steak, Bev}
- {Steak, Alcoh}
- {Burg, Bev}
- {Other, Bev}

13

Email Strategy

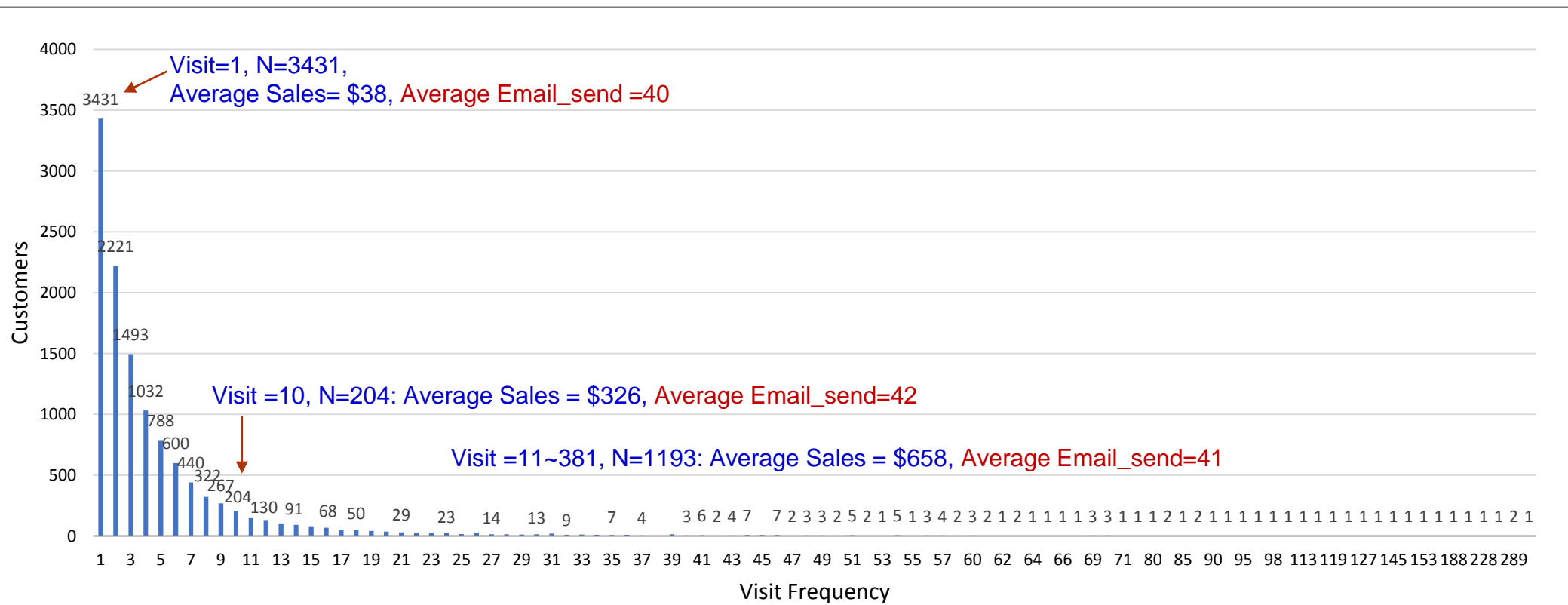**If the customer has received < 3 emails, send more to make 3**
If the customer has received < 33 emails, send more to make 33
If the customer has received > 33 emails, just stop
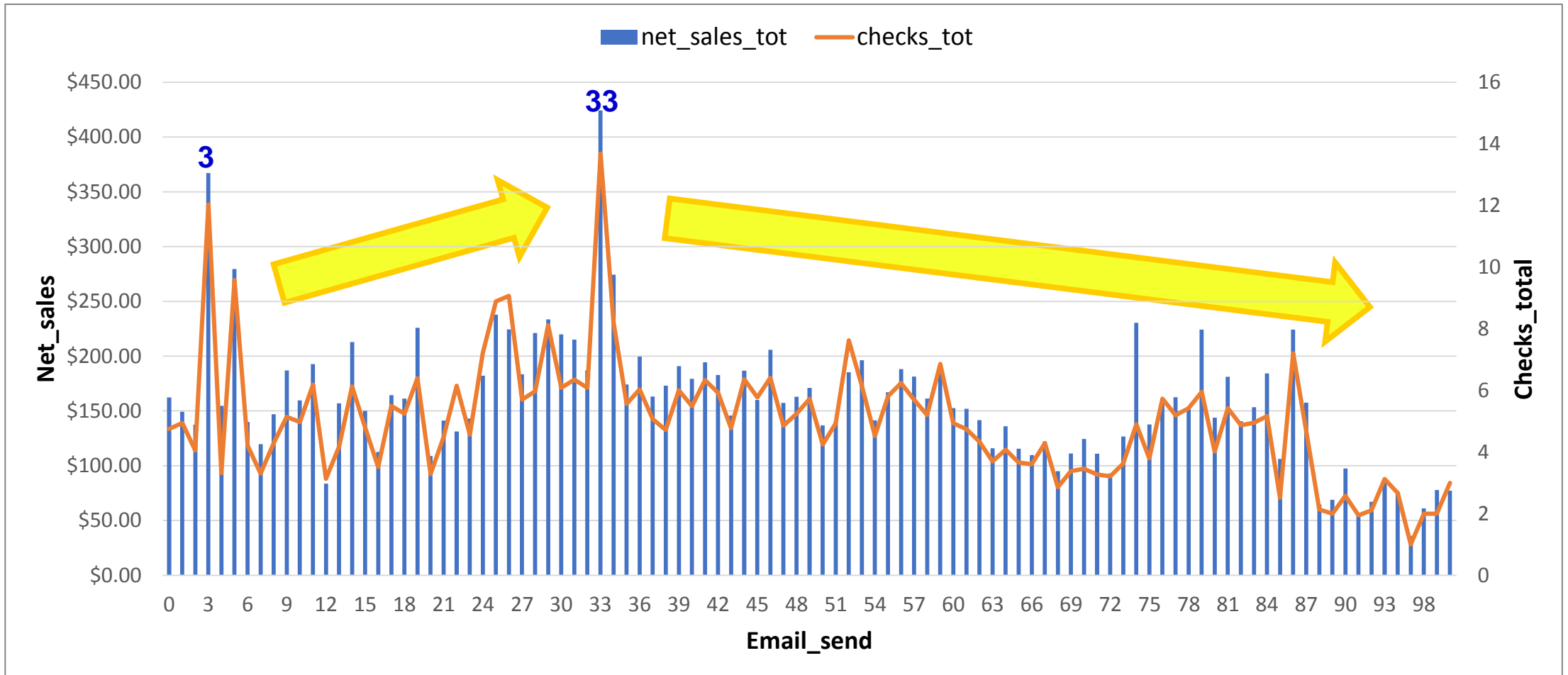
Email Is Not Significant to Net Sales

- P_value = 0.428

Implement another Marcom tool like Social Media in combination with Email to maximize effectiveness

Chart annotations:
- Visit=1, N=3431, Average Sales= $38, Average Email_send =40
- Visit =10, N=204: Average Sales = $326, Average Email_send=42
- Visit =11~381, N=1193: Average Sales = $658, Average Email_send=41

Y-axis: Customers
X-axis: Visit Frequency

15

Financial Implications

	Current Revenue	Estimated Increase by Pricing	New Total Revenue	% Increase
1 - Diner & Luncher	$545,361	$71,416	$616,777	13%
2 - Bar Lover	$734,560	$17,222	$751,782	2%
3 - Frequent Diner	$614,146	$14,939	$629,085	2%
4 - Takeout & Breakfast Shopper	$59,541	-	$59,541	0%
Total	**$1,953,608**	**$103,577**	**$2,057,185**	**5%**

THANK YOU!