OFFICE CORPORATION PRESENTATION

AGENDA

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BACKGROUND

- Office Corporation is a Business to Business office supplier which operates both domestically and internationally.

- Additional Key Details
    - Competitive advantage is "Service with competitive price"
    - 1,100 retail locations in the southeast of the United States
    - Sales of approximately $16 million per location
    - The goal is to migrate customers to direct sales versus visiting brick and mortar

- Marketing/Sales Strategy
    - Sells Online for both Domestic and International Markets
    - Has established brick and mortar business domestically

CAMPAIGN DETAIL

- Office Corp has tested a telemarketing campaign targeting existing domestic business customers with a random selection of products

- Approximately 16,000 customers were targeted

- The products being marketed are Desk, Executive Chair, Standard Chair, Monitor, Printer Computer, Insurance, Toner and Office Supplies

- We would like to leverage the knowledge gained from this test for future campaigns

OBJECTIVES

- Profile the customers that responded to the campaign to understand the characteristics of customers who made purchases.

- Develop models using the campaign results to target responsive, profitable customers for future campaigns.

- Summarize the profitability of the various marketing segments which may be used to optimize future campaigns.

METHODOLOGY

- We built two predictive models with test and validation sets.
  - Developed a logistic regression model to estimate the probability of responding to this campaign
  - Developed a linear regression model to estimate the size ($) of the transaction
- Calculated the expected profit from the logistic and linear regression model results
- Evaluated the contribution to profitability associated with our models versus random targeting through use of a gains chart

# LOGISTIC REGRESSION - TO DETERMINE SALE OR NO SALE

Model Setup

- Regression model built using 50/50 split on existing campaign customers

- Data transformation was applied to bin continuous variables and normalize resulting distributions

- Validation data set was used to score resulting model

Model Evaluation

- The model accurately predicted a purchase / no purchase 75% of the time

Variable Coefficients by Importance
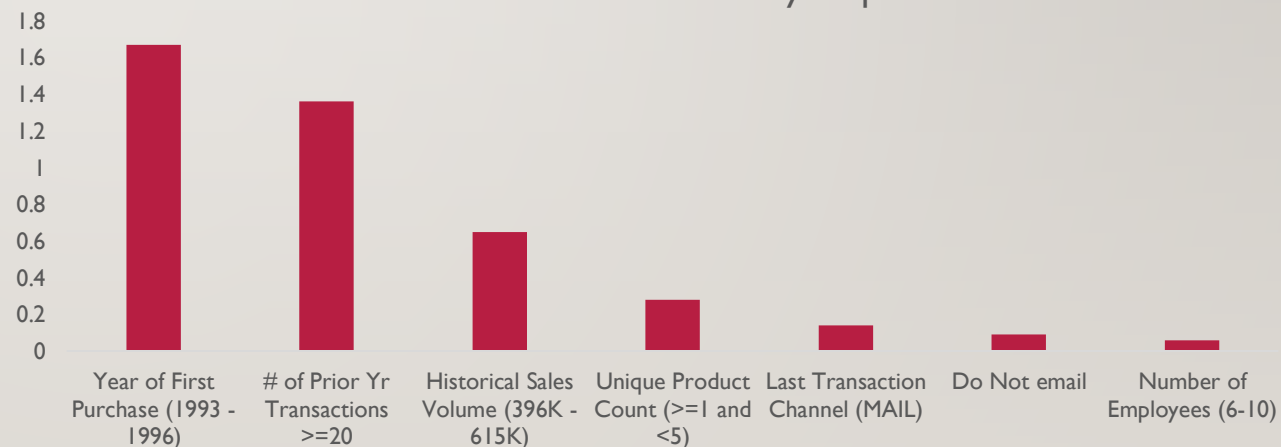
LINEAR REGRESSION – DETERMINE EXPECTED SALES DOLLARS

Model Setup

- Customers with actual sales during campaign period were selected as input (Test) for the linear regression model.

- 50% of data was used for test and the remaining 50% was used for validation

- Validation data set from the logistic regression model was used to score the linear model.

Model Evaluation

- Larger companies purchased higher margin products as compared to smaller companies

Variable Coefficient
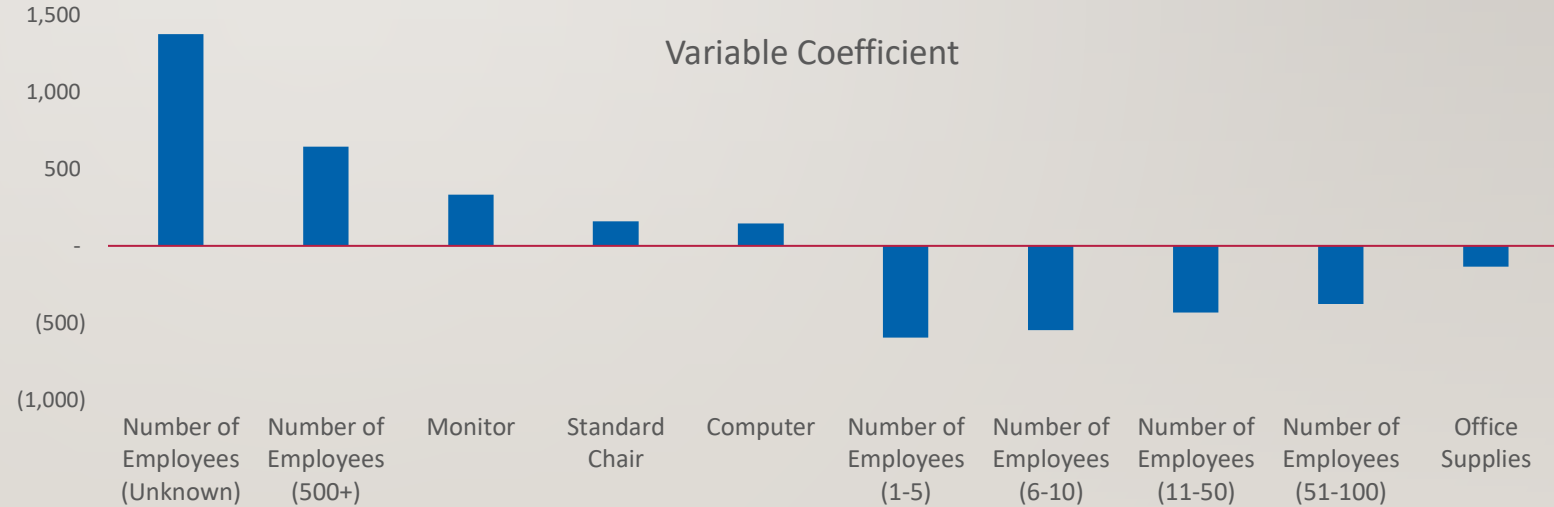
PROFITABILITY CONSIDERATIONS

- Campaign profitability was determined utilizing the following financial metrics:
  - Gross margin on sales is expected to be 22%
  - The campaign cost is estimated to be $45.65 per customer contacted by the sales force
  - The transaction cost is estimated to be $8.40 per transaction

- Combined the two models along with the cost and margin data to assign a predicted profit to all customers in the validation set.

- Scored customer base and ranked into deciles

GAINS CHART

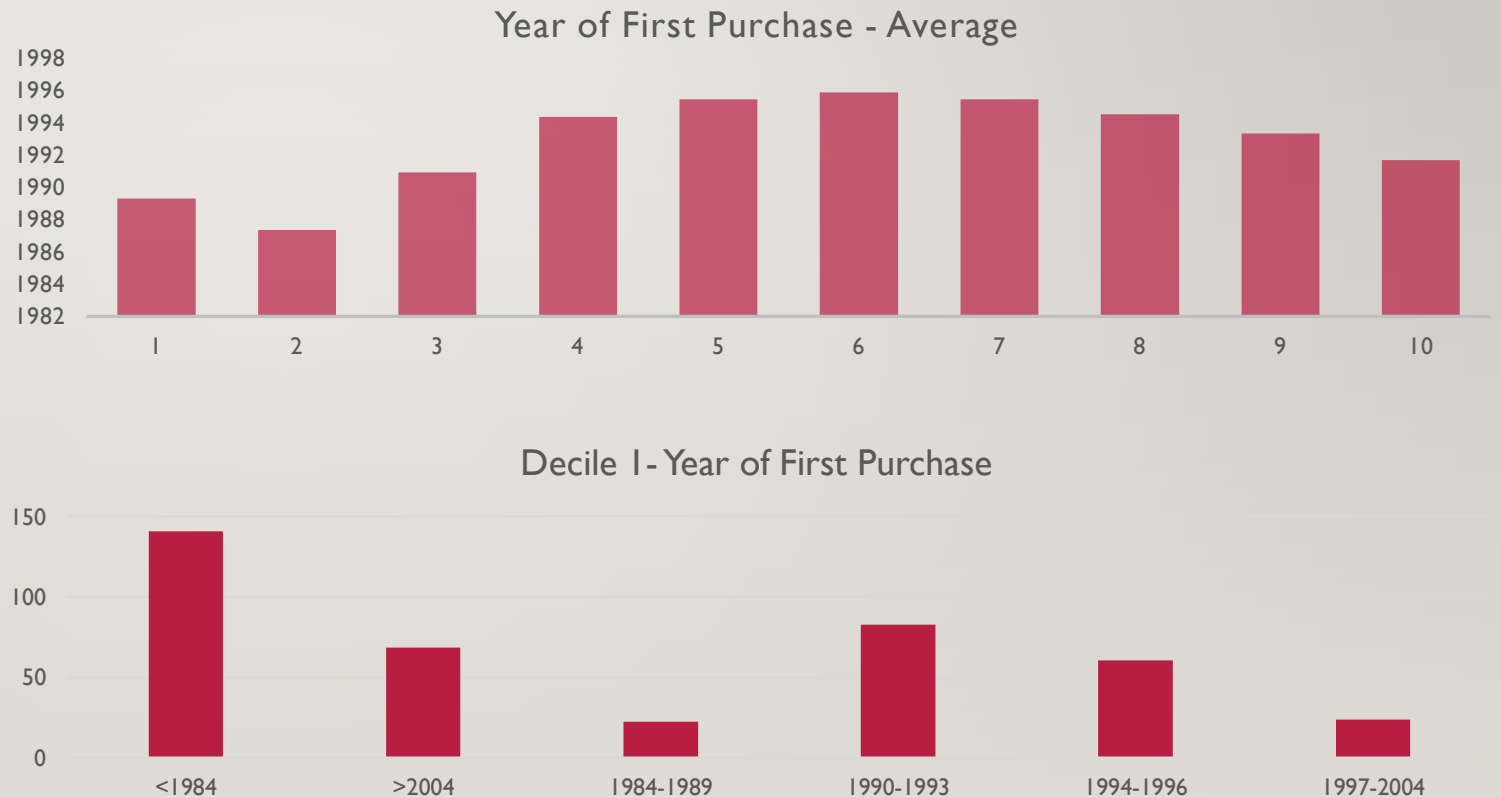| Decile	Number of Customers	Actual Profitability Per Customer	Lift Over Average	Total Profit	% of Profit	Incr Proj Profit 100k Cust Base ($K)
1	809	$ 128	$ 153	$ 103,489	100%	$ 1,531
2	808	$ (8)	$ 18	$ (6,090)	-	$ 176
3	808	$ (23)	$ 2	$ (18,849)	-	$ 18
4	808	$ (34)	$ (9)	$ (27,717)	-	$ (92)
5	809	$ (41)	$ (16)	$ (33,117)	-	$ (158)
6	808	$ (48)	$ (23)	$ (38,951)	-	$ (231)
7	808	$ (52)	$ (27)	$ (42,067)	-	$ (269)
8	808	$ (55)	$ (30)	$ (44,279)	-	$ (297)
9	808	$ (57)	$ (32)	$ (46,295)	-	$ (322)
10	809	$ (61)	$ (36)	$ (49,228)	-	$ (357)
Total	8,083	$ (25)	$ -	$ (203,104)		$ -

ANALYSIS RESULTS

- The marketing campaign generated an overall loss per customer of $25

- Only decile 1 was profitable generating a forecasted profit on 100K customer base of $1.5 million.
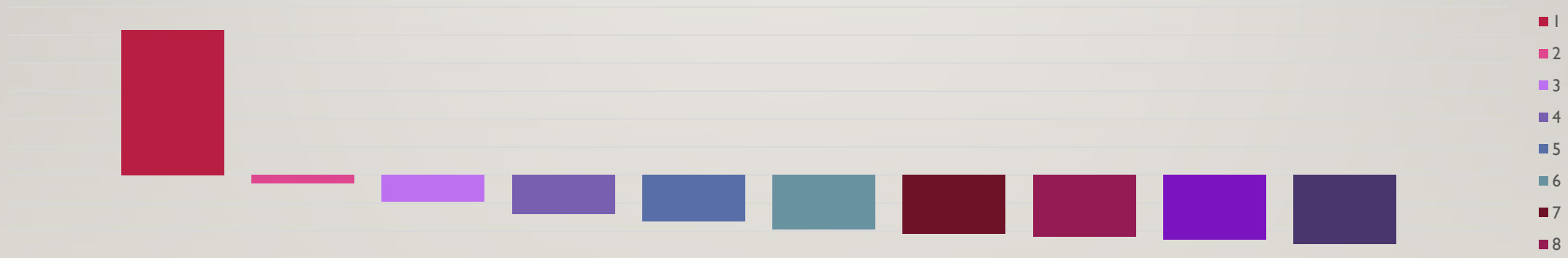

Profitability by Decile

DECILE ANALYSIS – TENURE

- Date of First Purchase
  - Decile 1 had average tenure of 30 years
  - In general longer tenured customers performed much better than average

Year of First Purchase - Average

	1	2	3	4	5	6	7	8	9	10

(y-axis: 1982, 1984, 1986, 1988, 1990, 1992, 1994, 1996, 1998)

Decile 1- Year of First Purchase

	<1984	>2004	1984-1989	1990-1993	1994-1996	1997-2004

(y-axis: 0, 50, 100, 150)

DECILE ANALYSIS - COMPONENTS OF CAMPAIGN

- Decile one makes more purchases of all items in the campaign except office supplies
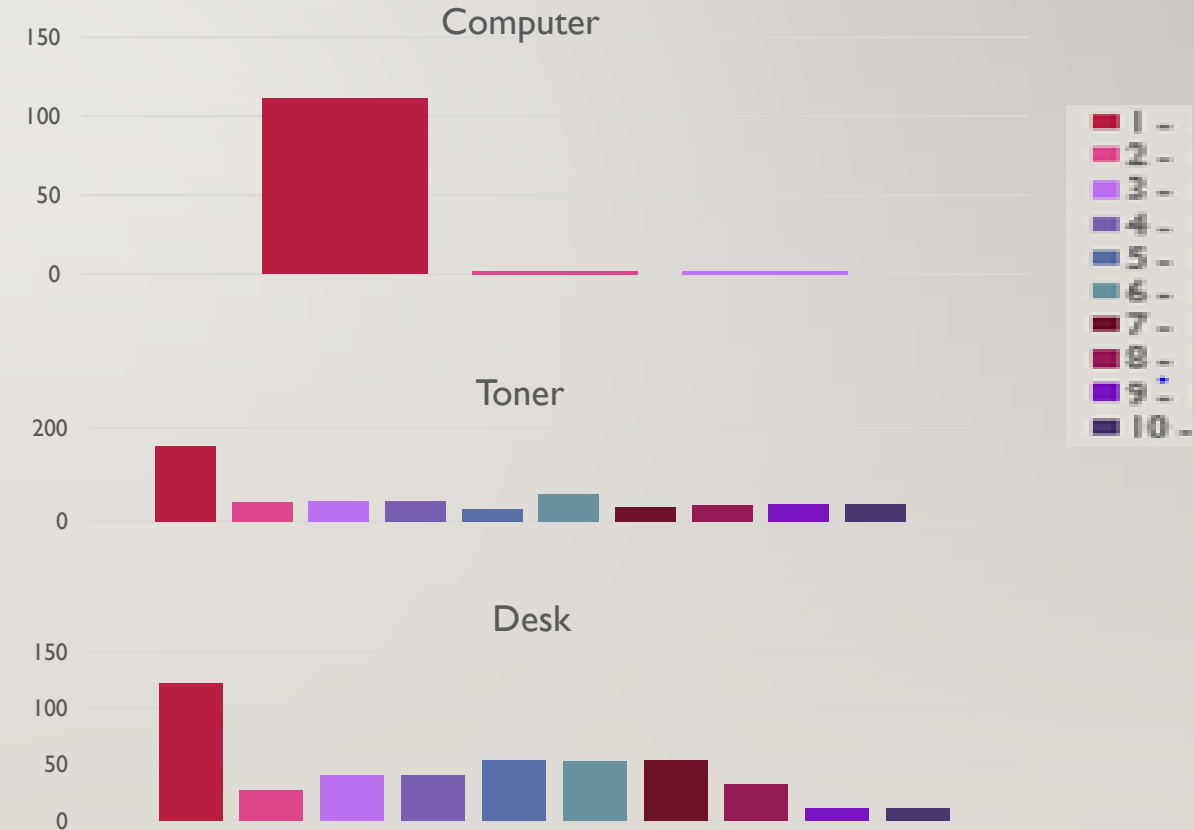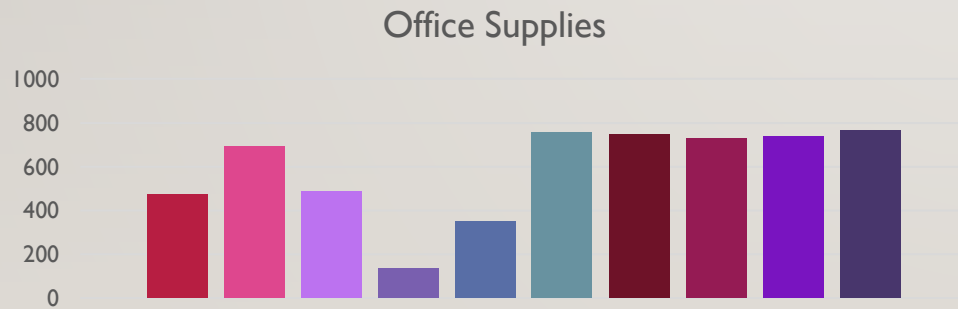
DECILE ANALYSIS - PURCHASE VS NO PURCHASE

- The logistic regression model accurately placed customers who made a purchase in the first decile though it did not always predict that a sale was made.

- More data is needed to discriminate between lower deciles

Logistic Regression Analysis by Decile

Decile	1	2	3	4	5	6	7	8	9	10
Average of Logistic Regression (1.0)	0.49	0.28	0.23	0.19	0.20	0.26	0.26	0.25	0.25	0.26

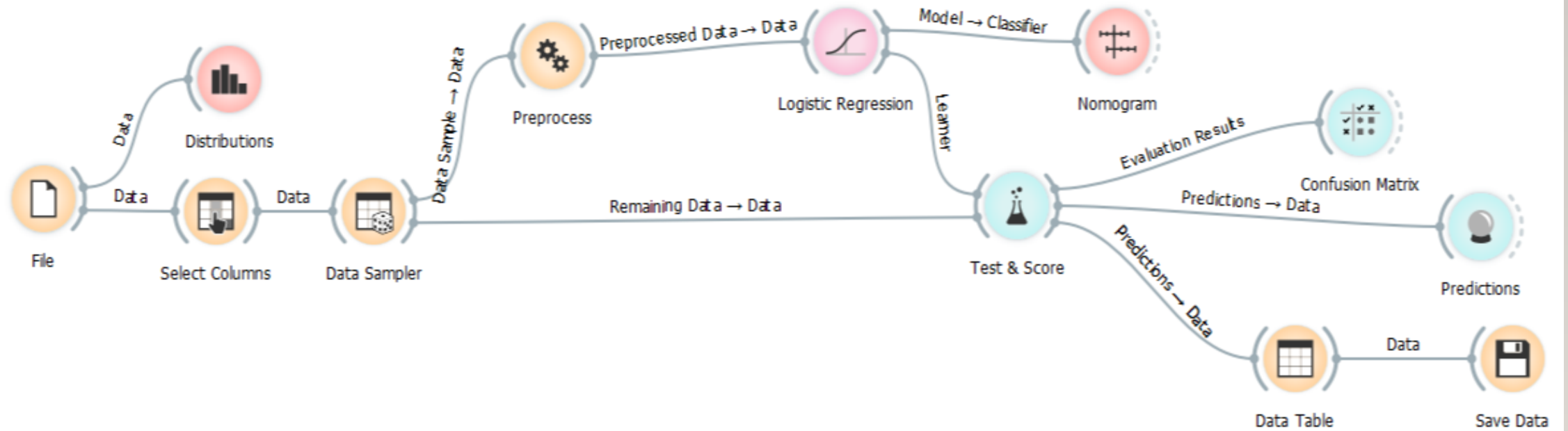■ Average of Logistic Regression (1.0)

RECOMMENDATIONS

- To maximize profitability, customers scoring in decile 1 should be targeted

- Test lower cost methods such as web and email to reduce the cost of contact
  - Additional models may be needed for these methods

- Attempt a new message for the lower deciles including different products and preferred pricing may be considered, since costs should decrease.

- Seasonality should be considered for future campaigns, since diminished response rates are traditionally seen in the 4th quarter

APPENDIX

LOGISTIC REGRESSION MODEL

LINEAR REGRESSION MODEL