
Introduction to Customer Experience Analytics

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Optimizing Channels Workshop II

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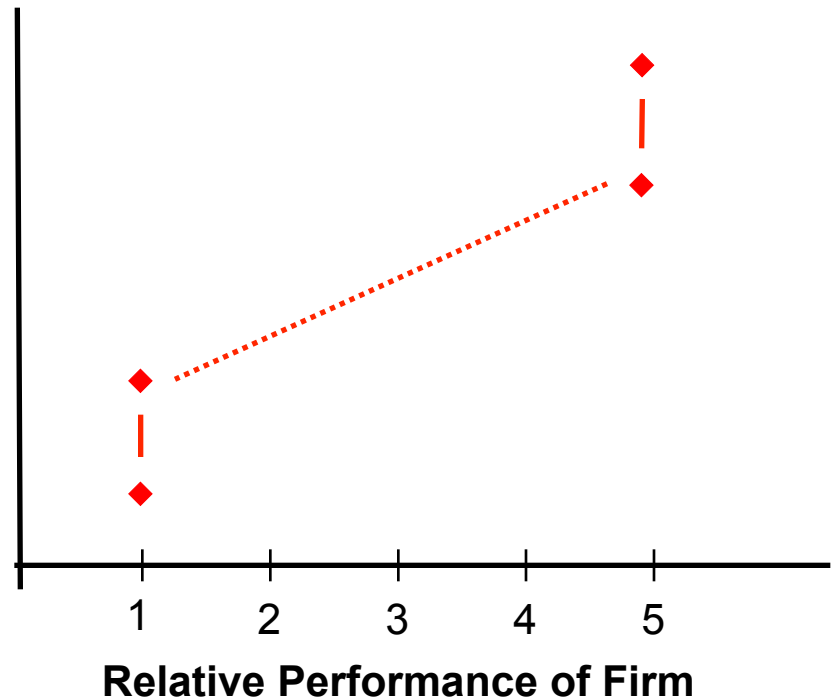
Defining the Experience: The Commerce Bank Attribute Map

*Most important
to target market*

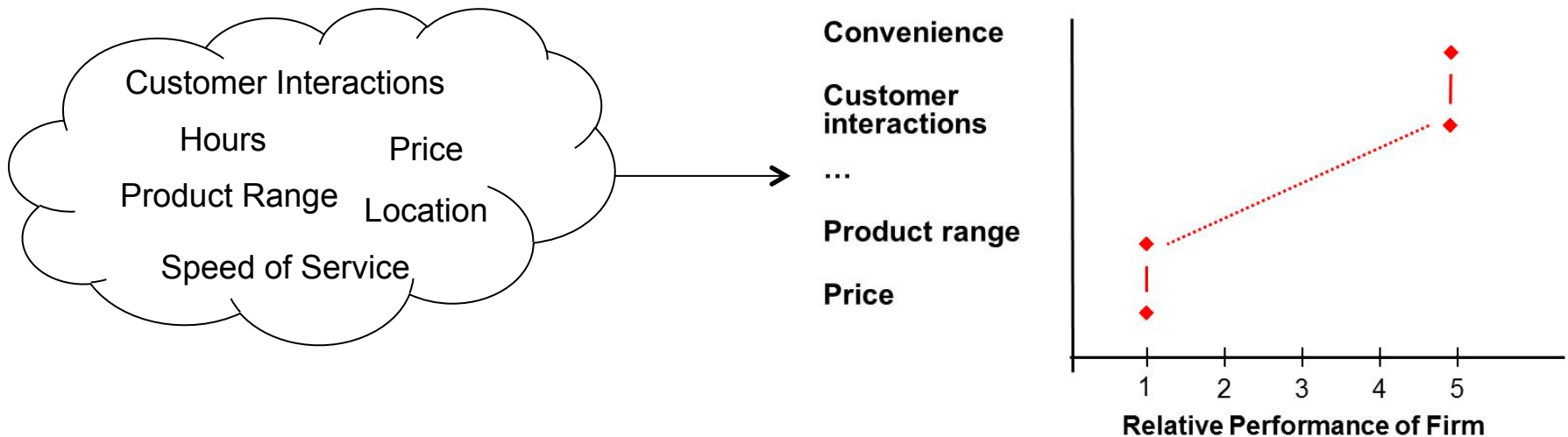


*Least important
to target market*

Convenience
Customer interactions
...
Product range
Price



Defining the Customer Experience



- *Focus groups*
- *“Voice of the customer”*
- *Which attributes most strongly drive consumer choice and behavior?*

Technique 1: Conjoint Analysis

- How do customers value the different attributes that make up a product or service?
- What tradeoffs are they willing to make among the attributes that make up a product or service? e.g.
 - **Credit Cards:** Interest Rate vs. Reward Program
 - **Checking Accounts:** Rate vs. Min. Balance Requirement
 - **Call Center:** Friendly Interactions vs. Fast Service

Experimental Design for Conjoint Analysis

- Attributes versus Levels
 - Attributes for a car: price, color, horsepower, upholstery, presence of a sunroof
 - The level is the specific value of the attribute
 - Color: red, blue, or yellow
 - Presence of a sunroof: yes, no
 - Etc...

Experimental Design for Conjoint Analysis










Attributes ->	Price	Brand	Horsepower	Upholstery	Sunroof
	\$23,000	Toyota	220 HP	Cloth	Yes
Levels	\$25,000	Volkswagen	250 HP	Leather	No
	\$27,000	Saturn	280 HP		
	\$29,000	Kia			

- *The more tangible/understandable the attributes, the more valid the research design*
- *The greater the number of attribute levels, the more data will be needed for testing*

Example from: Wilcox, R.T. A
Practical Guide to Conjoint Analysis,
Darden Business Publishing

Collecting Data for Conjoint Analysis

- Typically via “adaptive” surveys

		Car A				Car B			
		\$25000			\$23000				
		Toyota			Saturn				
		220 HP			250 HP				
		Cloth Interior			Cloth Interior				
		Sunroof			No Sunroof				
Strongly Prefer A	←						→	Strongly Prefer B	
									
1	2	3	4	5	6	7	8	9	

Conjoint Analysis Output

- “Utilities” or “Part-Worths” measure *relative* preferences for different attributes
- Typically measured via regression of preference *ranks* on “dummy variables” representing different attribute levels

Conjoint Analysis Output

Attribute	Level	Utility
Price	\$23,000	2.10
	\$25,000	1.15
	\$27,000	-1.56
	\$29,000	-1.69
Brand	Toyota	0.75
	Volkswagen	0.65
	Saturn	-0.13
	Kia	-1.27
Horsepower	220 HP	-2.24
	250 HP	1.06
	280 HP	1.18
Upholstery	Cloth	-1.60
	Leather	1.60
Sunroof	Yes	0.68
	No	-0.68

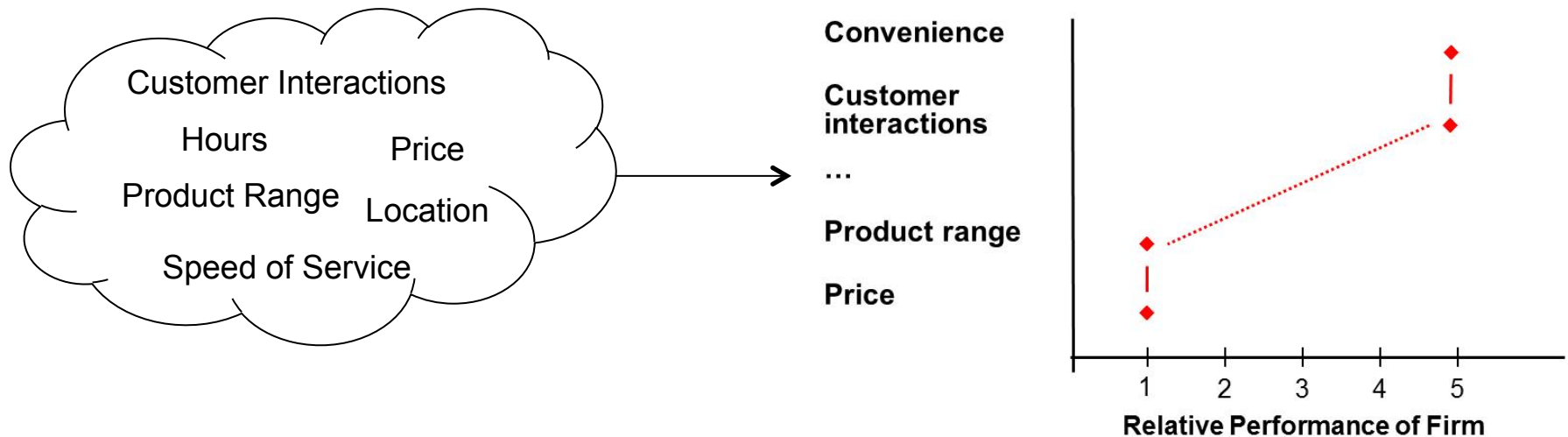
Example from: Wilcox, R.T. A Practical Guide to Conjoint Analysis, Darden Business Publishing

Application: Determining Attribute Importance

$$\text{Importance of Attribute 'i'} = \frac{\overline{Utility}_i - \underline{Utility}_i}{\sum_{j=1}^n \overline{Utility}_j - \underline{Utility}_j}$$

- Difference between highest and lowest utility of an attribute divided by the sum of these differences for all attributes
- Lies between 0 and 1 and is generally interpreted as the “decision-weight” of an attribute in the consumer choice process

Defining the Customer Experience



- *Technique 1: Bridge the gap through conjoint analysis*

Technique 2: Regression



	Measurement At ... Level									
	Branch							Regional	National	
	Year End 2002	Nov'02 to Jan'03	Feb'03 to Apr'03	May '03 to Jul '03	Aug '03 to Oct '03	Year Ending Oct '03	Net ** Change			
	200	50	50	50	50	200		26934	194514	
	%	%	%	%	%	%	%	%	%	
Base: Total # Interviews										
Customer Satisfaction: Percent who give a rating of 6 or 7 on a 7-point numeric scale where 7=Excellent and 1=Poor										
Overall In-Branch	75.7	69.6	79.7	69.3	89.9	77.1	+1.4	81.5	85.6	
At Teller*	76.9	72.3	77.5	70.0	92.9	78.2	+1.3	81.9	85.9	
At Side-Counter+	70.8	58.3	88.9	66.7	77.8	72.9	+2.1	80.2	84.3	
Customer Commitment: † Percent giving 4 or 5 rating based on 5 point scale										
Recommend TD/CT To Friend or Colleague†	68.6	78.0	75.1	65.0	81.6	74.9	+6.3	76.2	79.3	
Continue using TD/CT Over Next 12 Months†	86.0	89.9	86.0	81.5	88.1	86.4	+0.4	88.4	90.6	
Did The Teller/Representative (Side-Counter)...?										
Appreciate your business	86.6	90.2	91.8	85.6	95.6	90.8	+4.2	91.9	93.3	
Process your transaction quickly*	95.0	92.7	95.1	97.4	100.0	96.3	+1.3	96.0	97.3	
Have the ability to handle your request		96.0	98.1	95.7	95.7	96.4		95.8	96.7	
Wait time acceptable	91.0	87.7	87.7	86.2	94.1	88.9	-2.1	84.8	89.9	
Give you his/her individual attention	93.4	91.8	87.7	98.1	97.8	93.8	+0.4	91.6	95.1	
Make you feel like a person not number*		92.5	94.9	94.9	100.0	95.6		92.9	95.1	
Smile	89.1	96.0	92.3	90.0	96.0	93.6	+4.5	91.8	93.6	
Handle accts & transactions accurately+		88.9	88.9	88.9	100.0	91.7		95.0	95.8	
Process your transaction accurately*		97.4	95.1	95.1	97.4	96.2		96.6	97.6	
Appear knowledgeable about services		90.0	89.7	89.9	94.0	90.9		91.6	93.5	
Show interest in you as a person+	88.2	77.8	91.7	88.9	88.9	86.8	-1.4	89.2	92.1	
Promptly acknowledge your presence+	85.4	88.9	69.4	100.0	100.0	89.6	+4.2	84.2	86.7	
Greet you pleasantly	96.6	98.1	100.0	97.9	100.0	99.0	+2.4	96.7	97.8	
Encourage you to ask questions+	86.1	77.8	72.2	77.8	58.3	71.5	-14.6	73.7	75.7	
Explain services ...easy to understand+	84.0	88.9	88.9	88.9	100.0	91.7	+7.7	92.2	93.4	
Treat you in a respectful manner	98.0	97.8	97.8	97.8	100.0	98.4	+0.4	97.8	98.6	
Address you by name	70.9	62.4	63.8	65.6	82.2	68.5	-2.4	71.9	73.2	
Thank you for your business	84.9	90.0	87.5	85.9	90.0	88.4	+3.5	87.6	86.8	
Give advice or...based on your needs+	86.1	77.8	61.1	69.4	69.4	69.4	-16.7	77.6	79.6	
Conduct banking privately	93.6	93.7	91.6	93.8	96.0	93.8	+0.2	92.4	94.6	
Recommend additional services+	72.9	61.1	55.6	77.8	50.0	61.1	-11.8	54.8	53.3	

* Base: Among those who completed a transaction with a teller

+ Base: Among those who completed a transaction at the side-counter. CAUTION: The number of side counter interviews per branch is extremely small - about 10 interviews per quarter.

** Net Change is the Year Ending Oct '03 minus the Year End 2002 results.

Linking the Experience to Customer and Financial Outcomes



- Comfortable
- One on one
- Speed of service
- Privacy
- Main financial institution
- Recommend additional services

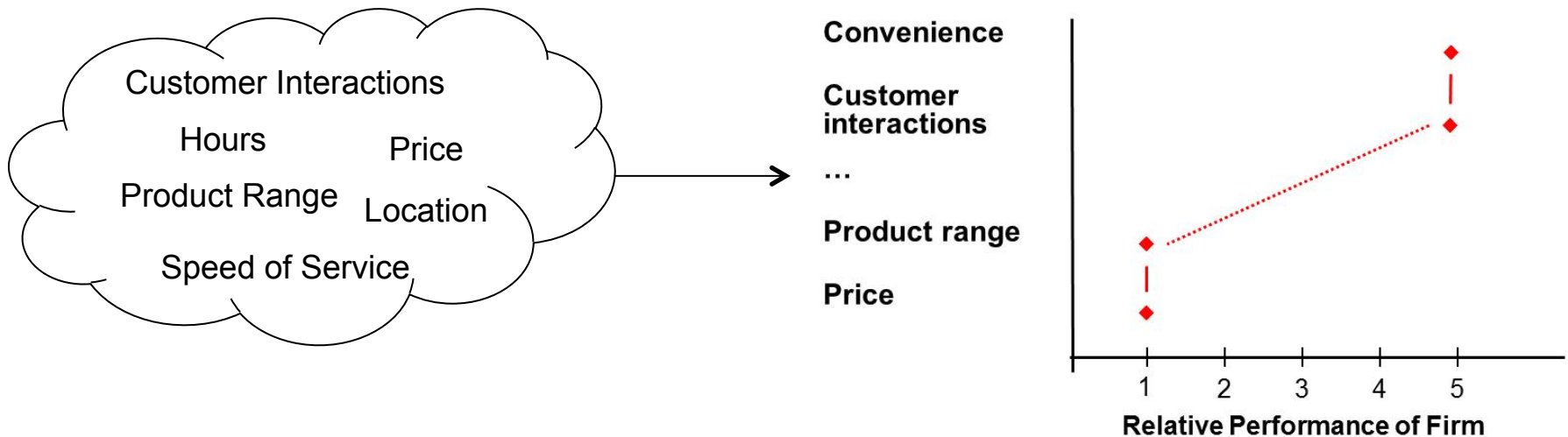
$$SAT_i = \alpha_0 + \sum_{j=1}^6 \alpha_j CSI_i^j + \mu_i$$

Which attributes of the customer experience are most important?

$$PROFIT_i = \beta_0 + \beta_1 SAT_i + \beta_2 CONTROLS_i + \epsilon_i$$

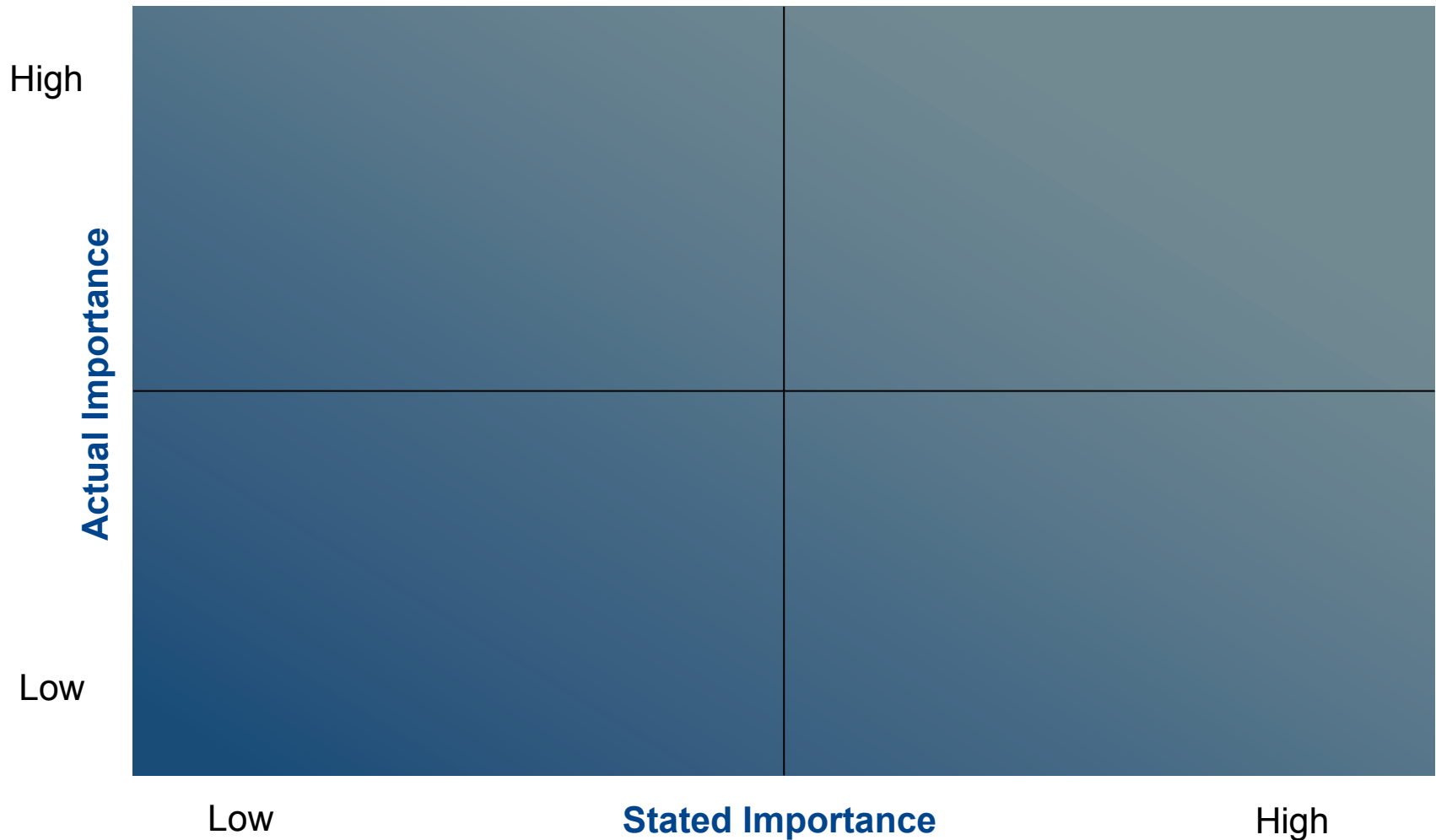
What is the “return on experience”?

Defining the Customer Experience

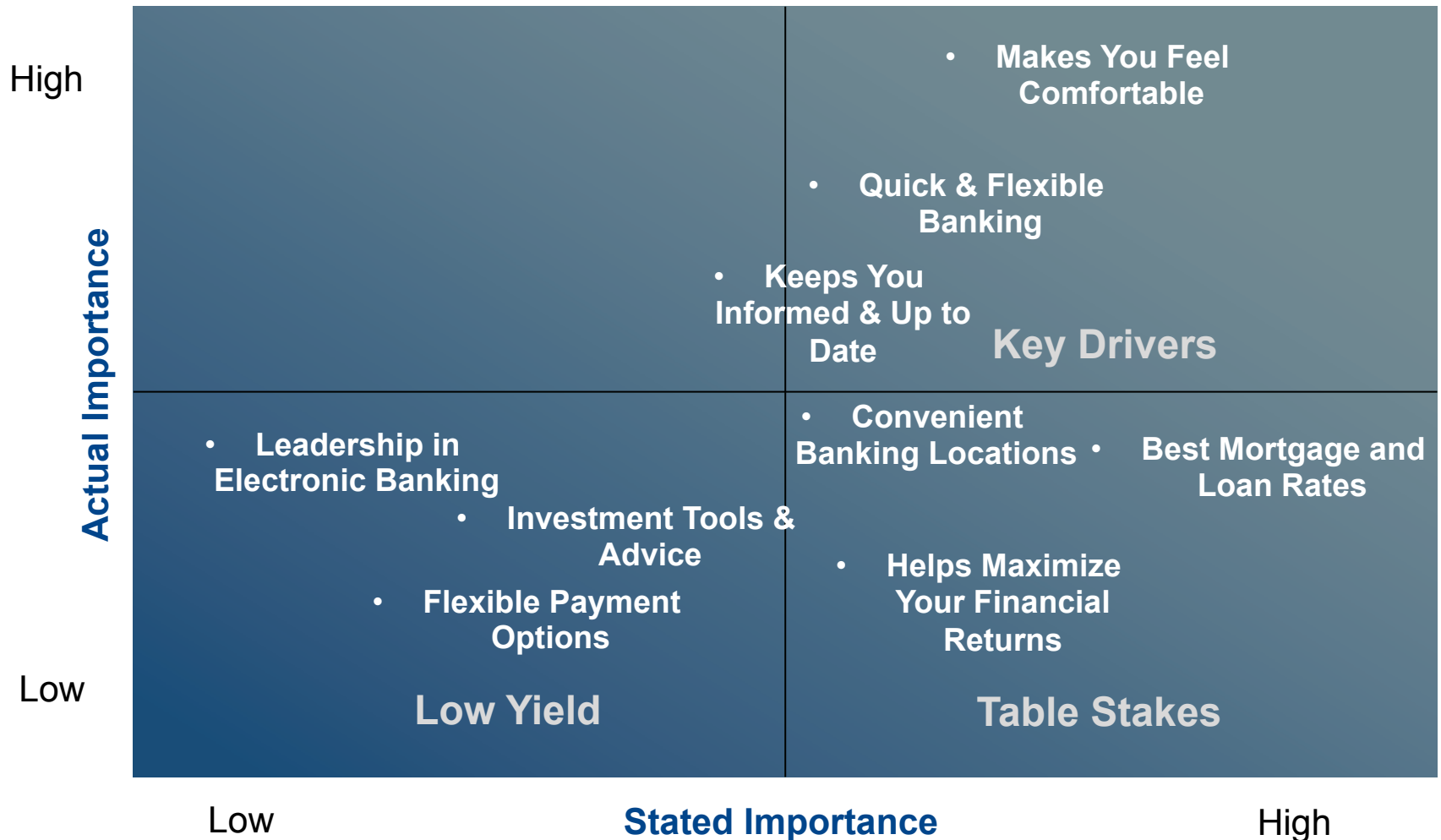


- *Technique 1: Bridge the gap through conjoint analysis*
- *Technique 2: Bridge the gap through regression analysis*

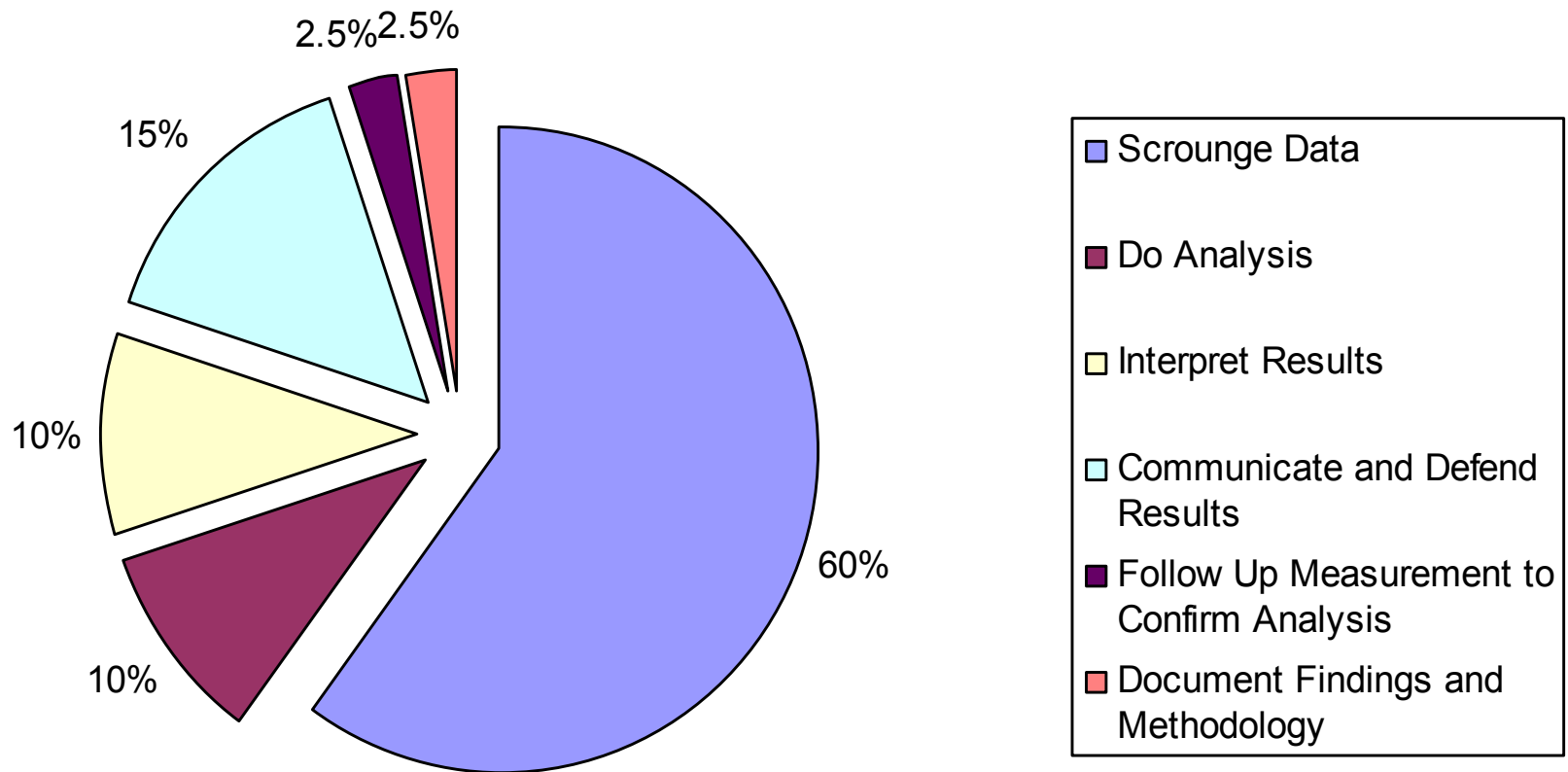
Combining Conjoint and Regression Analyses



Combining Conjoint and Regression Analyses



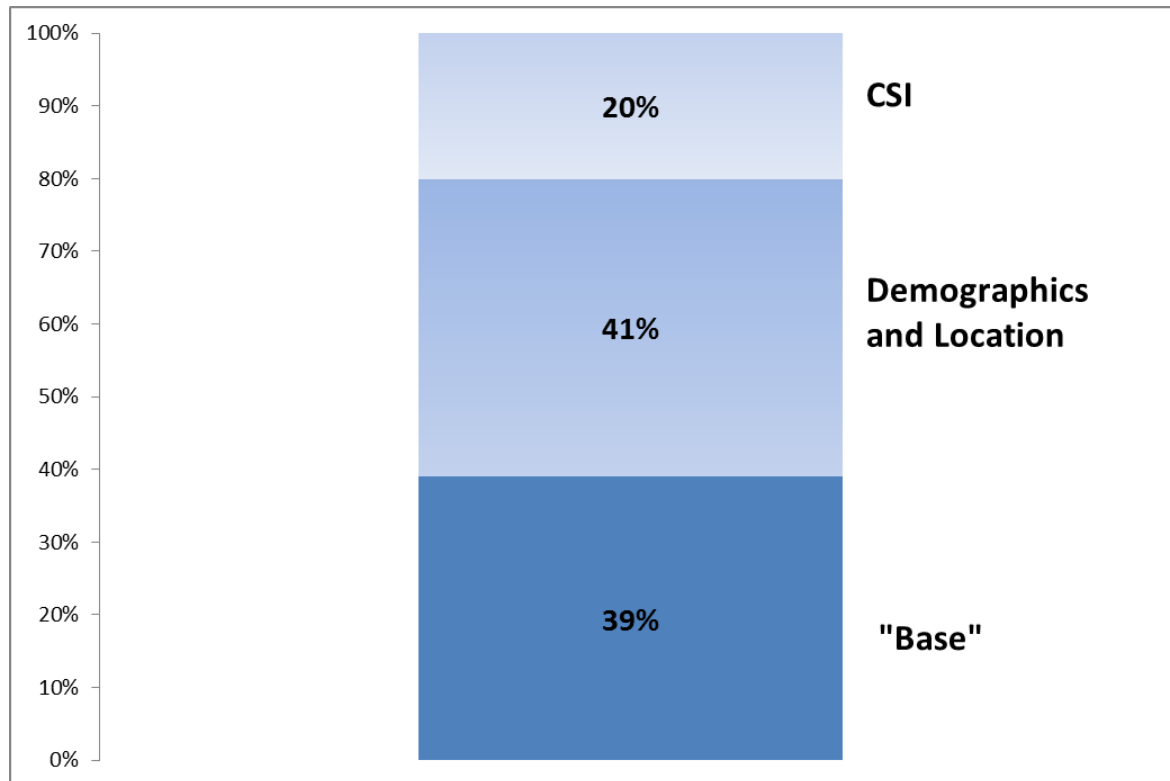
Barrier 1: Do we have the data and is it easy to get to?



Barrier 2: Are imperfect models framed as a problem or an opportunity?



% branch profitability explained by:



Common levels of explanatory power for different levels of data:

- Employee 10%-20%
- Customer: 5%-10%
- Transaction: 1%-5%

Barrier 3: Are data and analytics used primarily for support or for learning?

[Analytics] are like a lamppost to a drunk, used more for support than illumination

-Winston Churchill (modified)

Thank You!