Analyzing customer satisfaction

Outline

- The psychology of customer satisfaction
  - □ The concept of customer satisfaction
  - □ Determinants of customer satisfaction and the expectancy-disconfirmation model of customer satisfaction
- Designing a customer satisfaction survey
- Measuring customer satisfaction and related concepts
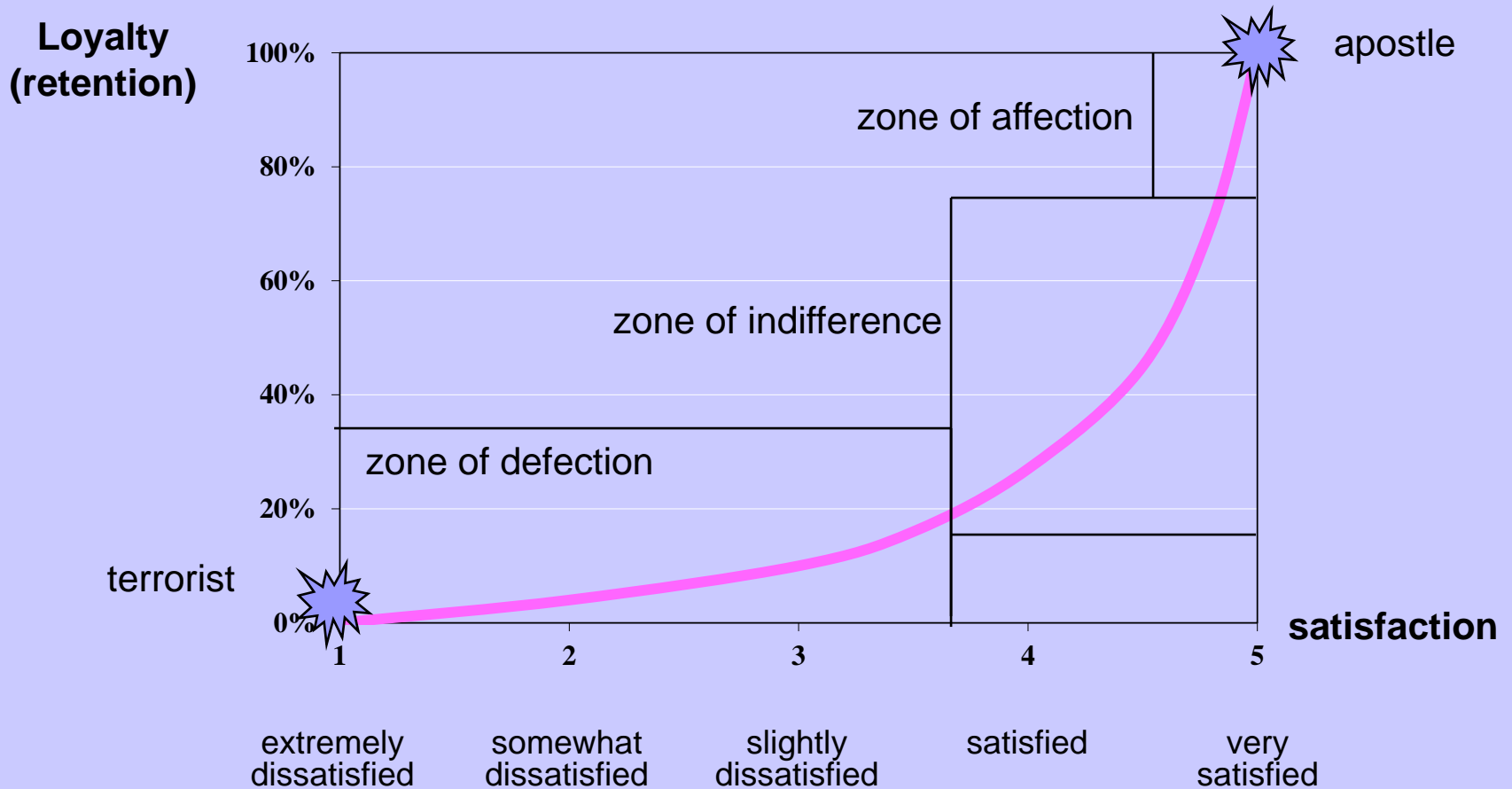- Analyzing customer satisfaction

Learning goals

- Understand what customer satisfaction means and why satisfying customers is important to marketers

- Know what determines customer satisfaction according to the expectancy-disconfirmation model

- Be familiar with both qualitative and quantitative approaches to measuring satisfaction

- Know how to design a quantitative customer satisfaction study and measure satisfaction and its antecedents and consequences

- Be able to analyze satisfaction data and conduct an importance-performance analysis
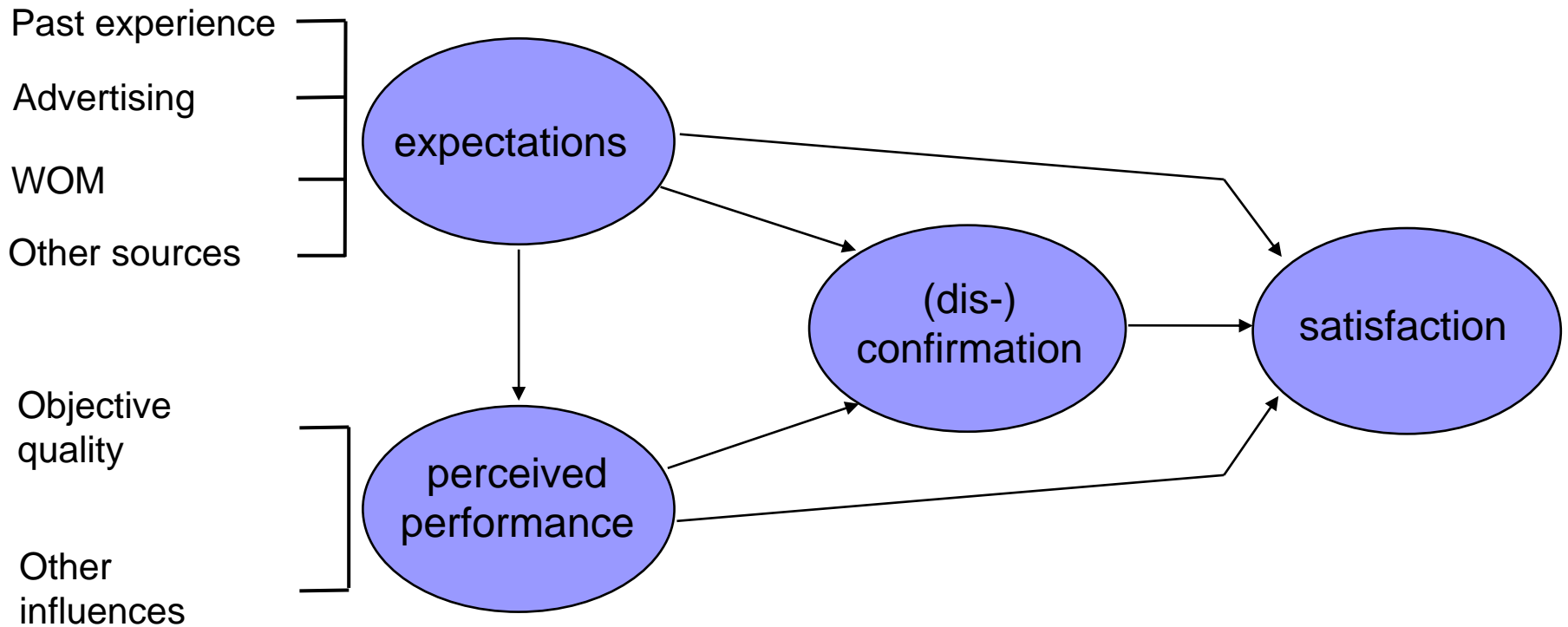
The concept of customer satisfaction/dissatisfaction

- satisfaction refers to a customer's judgment that a product or service (or its features) provided a pleasurable level of consumption-related fulfillment (Oliver 1997);

- distinguish:
  - □ transaction-specific satisfaction
  - □ cumulative satisfaction

- very high levels of customer satisfaction result in customer delight;

# *Satisfaction and loyalty (Heskett et al.)*

A model of the satisfaction process:
The expectancy-disconfirmation framework

Past experience

Advertising

WOM

Other sources

expectations

Objective quality

Other influences

perceived performance
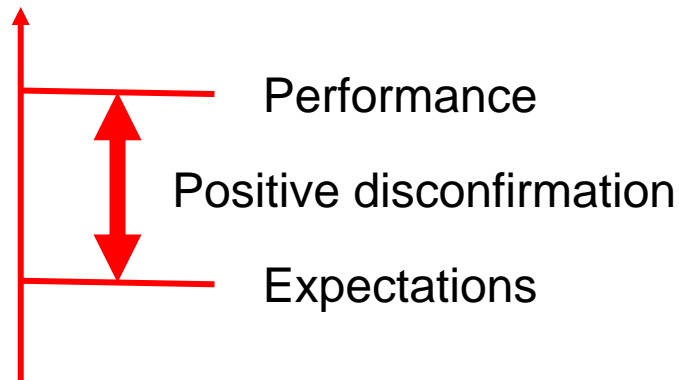
(dis-) confirmation

satisfaction

Determinants of satisfaction

- **Expectations**: anticipation of future consequences
  - □ Will expectations: predicted product performance
  - □ Should expectations: deserved product performance
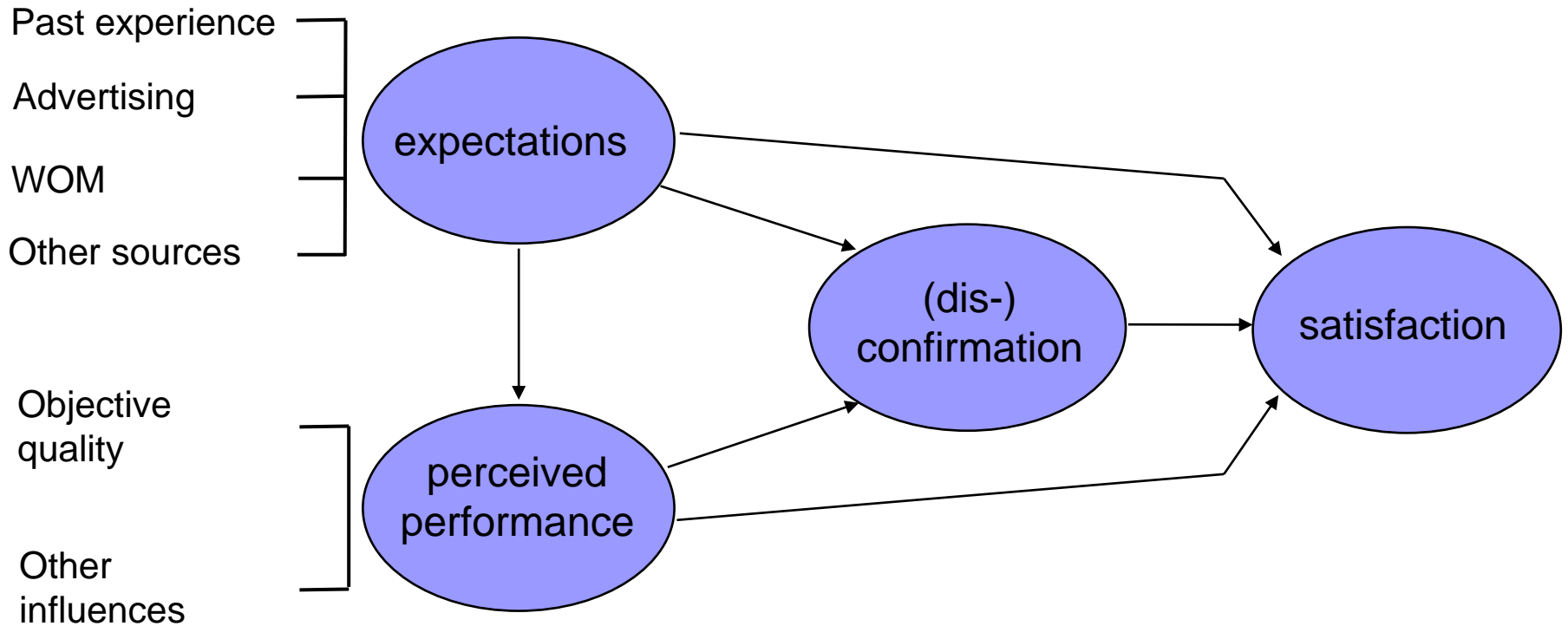 - □ Ideal expectations: optimal product performance

ideal

should

will
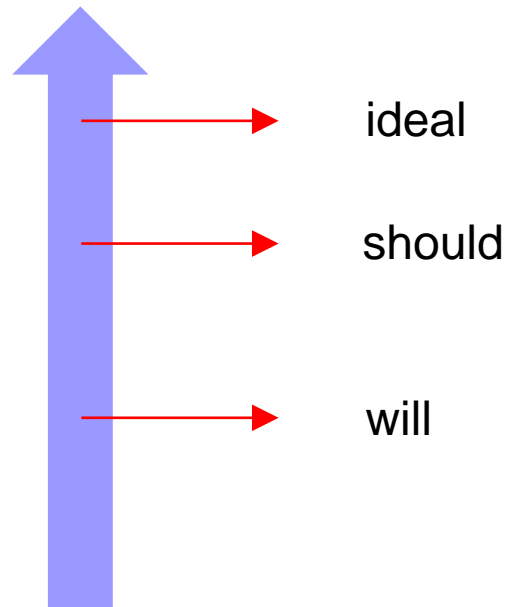
Determinants of satisfaction (cont'd)

- **Product performance**:
  - □ Perceptions of product performance or quality
  - □ May differ from objective product quality

- **Disconfirmation**:
  - □ Comparison of product performance with prior expectations (gap judgment);
  - □ Results in confirmation, positive disconfirmation, or negative disconfirmation

Performance

Positive disconfirmation

Expectations

A model of the satisfaction process: The expectancy-disconfirmation framework

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A model of the satisfaction process: The expectancy-disconfirmation framework
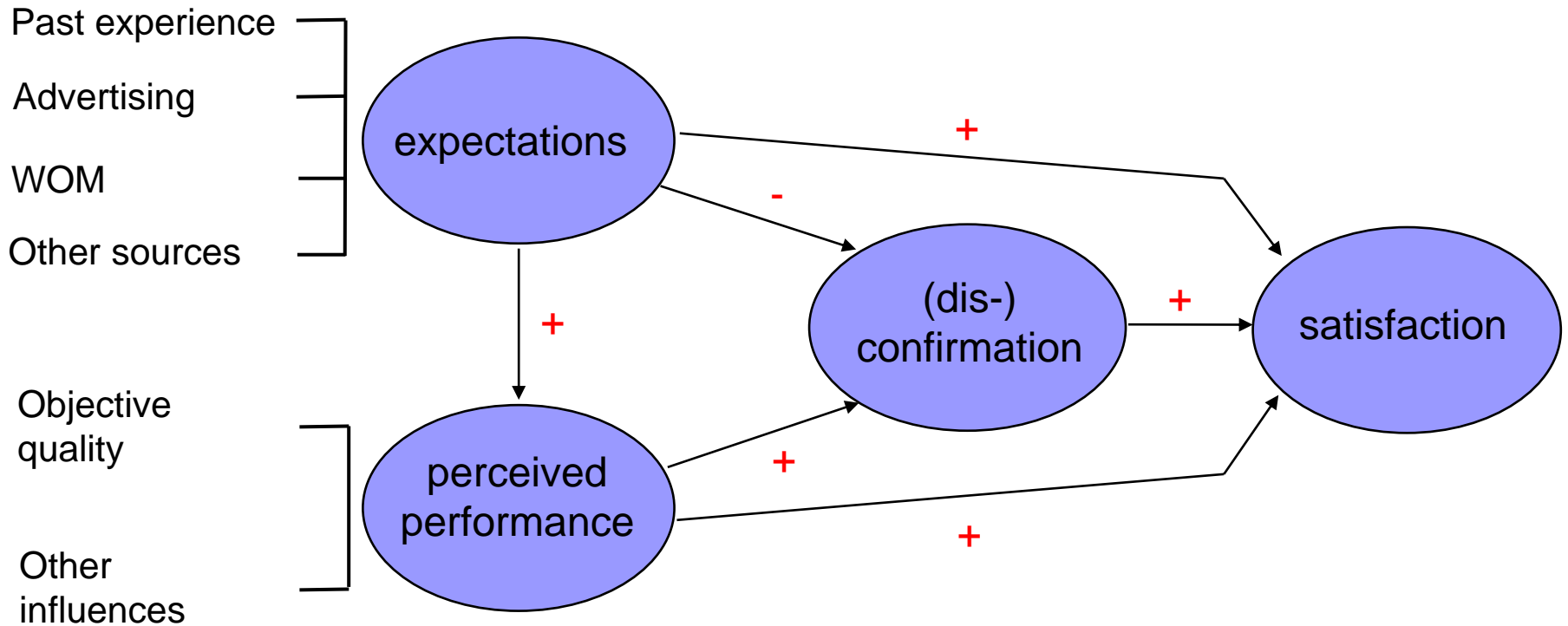
Assessing customer satisfaction

- Various qualitative approaches exist
  - Ghost shopping
  - Complaint and suggestion systems
  - Critical incident method
- Here we will focus on quantitative approaches based on customer satisfaction surveys

The customer satisfaction survey process

- Determine survey objectives (what's the purpose of measuring satisfaction?)
  - □ Transaction vs. cumulative satisfaction
  - □ Tracking satisfaction over time vs. process improvement
  - □ Focus on satisfaction per se or the entire satisfaction process
- Sampling of respondents (who should be asked?)
  - □ Current customers, former customers, prospective customers, competitors' customers
- Designing the questionnaire (what should be asked?)
  - □ Overall satisfaction vs. attribute satisfaction
  - □ Antecedents and consequences of satisfaction
  - □ Structure of the questionnaire
- Analyze the data and implement the findings

Otto's Pub Brewery Feedback Request

How likely are you to recommend Otto's Pub & Brewery to a friend or business associate?

Not likely   0   1   2   3   4   **5**   6   7   8   9   10   Very likely
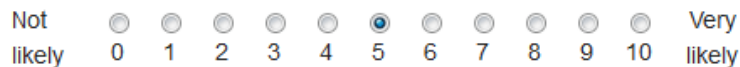
How did we disappoint you and what can we do to fix it?

☑ Do we have permission to contact you about your experience?

Submit

Patient Satisfaction Survey

Your responses will help us provide the best service possible.

How likely is it that you would recommend us to a friend or colleague?

Highly Unlikely   ⊙ 0   ⊙ 1   ⊙ 2   ⊙ 3   ⊙ 4   ⊙ 5   ⊙ 6   ⊙ 7   ⊙ 8   ⊙ 9   ⊙ 10   **Very Likely**

	n/a	Poor	Fair	Good	Very Good	Excellent
1. Convenience of our office hours	⊙	⊙	⊙	⊙	⊙	⊙
2. Ease of making your appointment	⊙	⊙	⊙	⊙	⊙	⊙
3. Promptness with which you were seen by the doctor	⊙	⊙	⊙	⊙	⊙	⊙
4. Thoroughness of care you received	⊙	⊙	⊙	⊙	⊙	⊙
5. Clarity of Doctor's explanations	⊙	⊙	⊙	⊙	⊙	⊙
6. Doctor's friendliness and courtesy	⊙	⊙	⊙	⊙	⊙	⊙
7. Staff's friendliness and courtesy	⊙	⊙	⊙	⊙	⊙	⊙
8. Help with understanding your insurance coverage	⊙	⊙	⊙	⊙	⊙	⊙
9. Selection of eyeglass frames	⊙	⊙	⊙	⊙	⊙	⊙
10. Knowledge/assistance of optical staff	⊙	⊙	⊙	⊙	⊙	⊙

| 11. Comfort and cleanliness of office | ⊙ n/a | ⊙ Poor | ⊙ Fair ⊙ Good | ⊙ Very Good ⊙ Excellent |

11. Comfort and cleanliness of office   ⊙ n/a   ⊙ Poor   ⊙ Fair ⊙ Good   ⊙ Very Good ⊙ Excellent

12. Were your questions answered satisfactorily?   ⊙ n/a   ⊙ Poor   ⊙ Fair ⊙ Good   ⊙ Very Good ⊙ Excellent

13. Will you be returning to see us?   ⊙ Uncertain ⊙ No   ⊙ Yes

14. Would you recommend us to others?   ⊙ Uncertain ⊙ No   ⊙ Yes

Please enter the doctor's name (if you saw the doctor)

Were you happy with the selection of your eyeglasses? If no, why? You have 2000 characters remaining

How can we improve? Please enter any comments or suggestions below: You have 2000 characters remaining

Measuring satisfaction

- At least one and preferably several overall satisfaction scales should be administered (e.g., How satisfied are you with this brand? How satisfied were you with this visit to the restaurant?); four or more response options should be provided (e.g., very satisfied, satisfied, dissatisfied, very dissatisfied);

- To assess the emotional component of satisfaction, a terrible-delighted scale can be useful;

- If process improvement is the goal, satisfaction with various components of the consumption and use experience will provide additional insights (unless performance and disconfirmation are assessed for specific attributes);

Measuring expectations

- Question of which type of expectation is most relevant, or whether multiple expectations should be measured;
- Examples:
    - Medicine X will be easy/hard to swallow
    - Medicine X should be easy/hard to swallow
    - Ideally, medicine X would be easy/hard to swallow
- Usually, expectations are not assessed prior to purchase, so customers are asked to reflect back to the situation prior to purchase and recall what they expected beforehand;
- Expectations are important when performance is ambiguous and difficult to judge (wine, technical products);

Measuring perceived performance

- Overall performance vs. attribute performance;

- Attributes have to be satisfaction drivers rather than choice criteria;

- Issue of specificity of attributes (tradeoff of length and managerial usefulness);

- Measurement of beliefs, evaluations, and importance of attributes:

  - Question whether beliefs (the extent to which a product delivers a certain benefit), evaluations, or both should be measured;

  - Example: carbonation in a soft drink

  - Importance ratings can be useful, but rating importance may be difficult for respondents;

Measuring disconfirmation

- During consumption, expectations can be confirmed or positively or negatively disconfirmed;

- Disconfirmation (of the consumption experience overall or in terms of specific attributes) is usually rated on a much worse than expected-as expected-much better than expected scale;

- Gaps could also be calculated based on the difference between performance and expectations, but subjective disconfirmation ratings usually work better;

- Disconfirmation is salient when customers are involved and outcomes are unambiguous;

Summary of measures

- I expected this product to be excellent-poor
- This product has performed very well-very poorly
- This product (or the performance of this product) has exceeded/met/fallen short of my expectations
- I am satisfied/dissatisfied with the choice of this product
- I intend to repurchase this product
- I have complained to/complimented management about this product
- I have told other people good (favorable)/bad (unfavorable) things about this product

Sequence of measurement

- Overall measures first and then specific measures
  - □ Halo effects
  - □ Summary judgment based on overall impression
- Specific measures first and then overall measures
  - □ Primacy and recency effects
  - □ Summary judgment based on attribute ratings
- The measurement of expectations, performance, disconfirmation, and satisfaction should follow the logic implied by the expectancy-disconfirmation model;
- If possible, consequences of satisfaction should be measured as well;
- Include classification questions if subgroup analyses are to be conducted;

Analyzing customer satisfaction data

- Summarize degree of satisfaction (overall and by subgroups)
- Compare satisfaction (or performance) to some standard
  - Expectations
  - Ratings of competitors
- Analyze determinants of satisfaction
  - Overall satisfaction as a function of satisfaction with particular components of satisfaction
  - Overall satisfaction as a function of expectations, perceived performance, and disconfirmation (overall or for particular attributes of the product)
  - Importance-performance mapping
- Analyze consequences of satisfaction
  - Intentions, complaining/praising, WOM/recommendations

Importance-performance mapping

A 2×2 matrix with Performance on the vertical axis and Importance on the horizontal axis.

Status quo	Leverage
Ignore	Add resources

Performance (vertical axis label)

Importance (horizontal axis label)
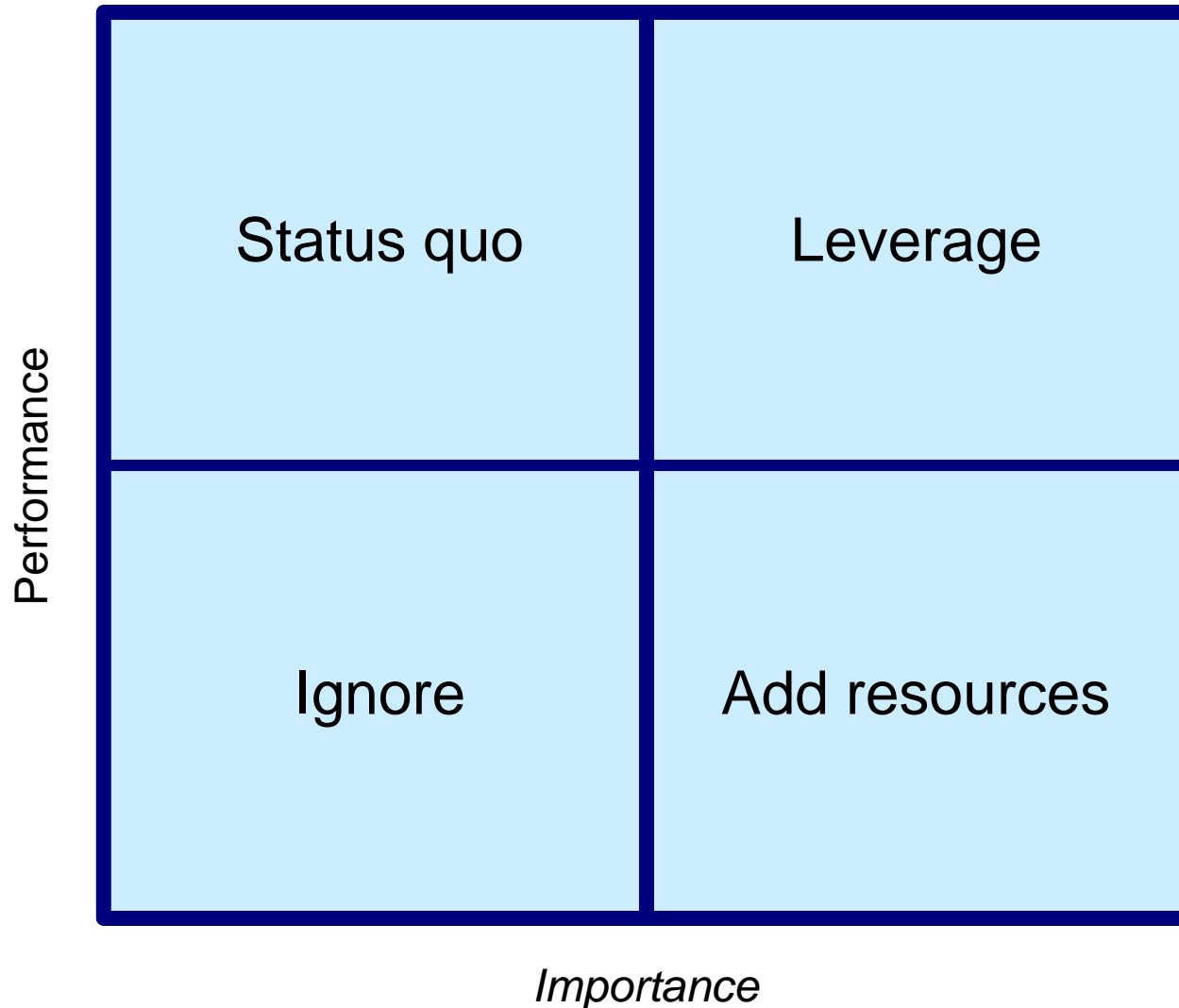
Using regression analysis to analyze satisfaction data

- Regression analysis is used to analyze the relationship between a (metric) dependent (criterion) variable (DV) and one or more independent (predictor) variables (IVs):

$$Y = b_0 + b_1 X_1 + b_2 X_2 + \ldots + b_K X_K + e$$

Interpretation:

- □ b_0 is the predicted value of Y when all the IVs are zero

- □ b_k is the change in Y due to a unit change in X_k when all the other IVs are held constant

Using regression analysis to analyze satisfaction data (cont'd)

- Assessing the statistical significance of the regression:
  - □ To test whether an estimated regression coefficient b_k is significantly different from zero, look at whether the confidence interval around the estimate (which provides a range of plausible values for the estimate) includes zero;
  - □ To test whether the regression coefficients associated with all IVs are simultaneously different from zero, look at the significance of the overall F-value for the regression;
- To assess the "practical" significance of the regression, look at the R^2 of the regression (i.e., the proportion of the variation in Y explained by the IVs);

Example: Satisfaction with a restaurant as a function of food and atmosphere

ID	Satisfaction	Food	Atmosphere
1	4	4	5
2	5	4	6
3	4	4	3
4	5	6	3
5	3	4	2
6	5	4	2
7	5	4	4
8	3	4	5
9	4	4	3
10	3	4	5

Note: Only first 10 respondents are shown; total number of respondents is 200. Ratings are on a 1-7 scale.

Analysis Toolpak -- Regression

Satisfaction example – Analysis Toolpak

Regression Statistics	
Multiple R	0.66
R Square	0.43
Adjusted R Square	0.42
Standard Error	0.79
Observations	200

ANOVA

	df	SS	MS	F	Significance F
Regression	2	92.20	46.10	74.44	0.00
Residual	197	122.00	0.62		
Total	199	214.20			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%
Intercept	1.35	0.29	4.68	0.00	0.78	1.93
Food	0.66	0.06	11.31	0.00	0.54	0.77
Atmosphere	0.10	0.05	1.75	0.08	-0.01	0.20

Predictive Modeling ⊗

Perform a regression analysis on a target discrete, continuous, or discrete-continuous target variable

Target variable

○ Choice between 2 alternatives (0/1)

○ Choice between multiple alternatives (A/B/C)

◉ Continuous (X)

○ Discrete-continuous (0/X)

Calibration data

Calibration data	Satis-RegressionExample ▾
Target variable	Satisfaction ▾

☐ Box-Cox transform the predictors

☐ Log transform the target variable

Cross-validation	None ▾

Out-of-sample predictions

☐ Apply predictive model to out-of-sample data

Out-of-sample data	Satis-RegressionExample ▾

ⓘ Help   **■ Cancel**   **X▤ ∨ | Run**

Satisfaction example – Enginius

Model statistics			
	Parameters	**Standard deviations**	**P-values**
Intercept	1.355	0.289	0.000
Food	0.66	0.06	0.00
Atmosphere	0.10	0.05	0.08

Model statistics	
	Values
R-squared	0.43
Adjusted R-squared	0.42

Satisfaction exercise 1: What determines satisfaction with personalized envelopes?

- Do consumers' pre-experience expectations influence their post-experience quality ratings? What are the managerial implications of your findings?

- Do expectations and performance evaluations influence perceived disconfirmation as predicted by expectancy-disconfirmation theory?

- Do expectations, performance, and disconfirmation influence ratings of satisfaction as predicted by expectancy-disconfirmation theory? Which variable is the strongest predictor of satisfaction? What are the implications of your findings for satisfaction management?

- Does satisfaction influence future product purchase (choice)?

- If you wanted to improve consumers' satisfaction with First Class, which attributes should you focus on?

[See the file EnvelopeSatisfactionMeasurement.pdf for details on this assignment.]

Satisfaction exercise 2: Importance-performance mapping for a luxury sport cruiser

- How satisfied are customers with the company's product?

- What are the company's strengths and weaknesses? Conduct an importance-performance analysis to answer this question.

- What recommendations would you make to the management of this company in order to improve customer satisfaction?

[See the file PleasureBoatSatisfactionMeasurement.pdf for details on this assignment.]

Consequences of satisfaction

- Repurchase and repatronage intentions:
  - □ Likelihood of (re)purchase
  - □ Usually overstated and have to be adjusted
- Complaining and praising
  - □ Whether or not a customer complained, to whom, how many times, and why
- WOM and recommendations
  - □ How many other people a customers talked to, whether they mentioned mostly positive or negative things about the product, and whether they recommended that the other person buy or not buy a product;

American Customer Satisfaction Index (ACSI)

market-based performance measure for firms, industries, economic sectors, and national economies; assessment of overall customer satisfaction as well as its antecedents and consequences; can be used for benchmarking over time and cross-sectionally;
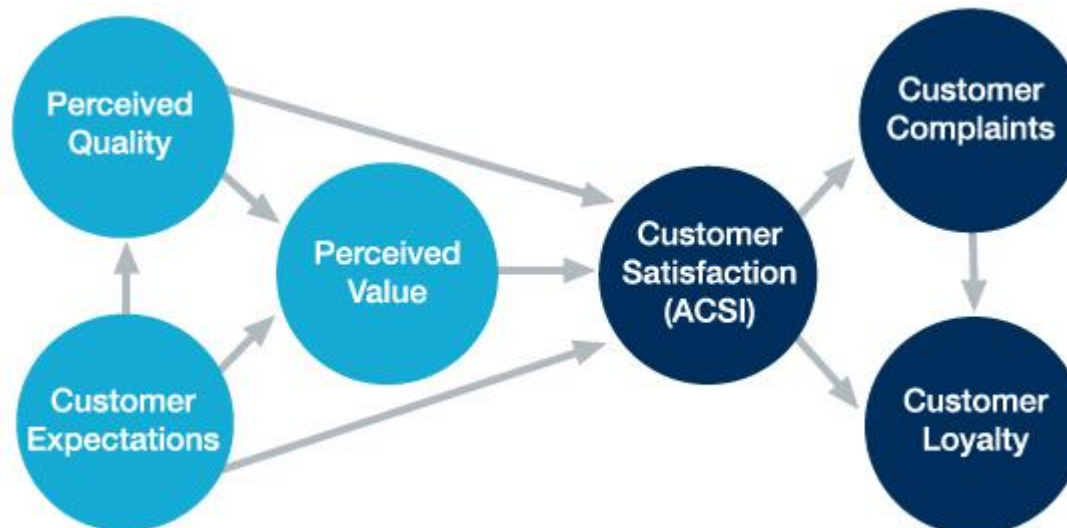
The American Customer Satisfaction Index (ACSI) 2000 – 2022

ACSI

Q2 2022
73.1

Next classes

- Monday:
  - □ Review of material covered so far
- Wednesday:
  - □ Satisfaction measurement exercises