LISTENING TO YOUR CUSTOMER

THE ART AND SCIENCE OF CUSTOMER SURVEYS

IGNITE
Your *Passion* For Performance Excellence

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May 1, 2019

Outline...

- *a few resources*
- *listening posts*
- *definitions and concepts*
- *The four errors*
- *the customer survey process*
 - *plan*
  - *do*
  - *study*
  - *act*

RESOURCES....

BOOKS:

- <u>HOW TO CONDUCT YOUR OWN SURVEY</u> by Priscilla Salant & Don A. Dillman John Wiley & Sons, inc.

- <u>MEASURING CUSTOMER SATISFACTION: SURVEY DESIGN, USE, AND STATISTICAL ANALYSIS METHODS</u> by Bob E. Hayes McGraw-Hill

- <u>STATPACSURVEY DESIGN TUTORIAL</u>
https://www.statpac.com/surveys/index.htm#toc

- American Statistical Association <u>WHAT IS A SURVEY?</u>
https://psr.iq.harvard.edu/american_statistical_association_what_a_survey

LISTENING POSTS..

- Online reviews

- Unsolicited complaints and compliments

- Regular meetings with clients or customer representatives

- Informal observation

- Web tracking / social media
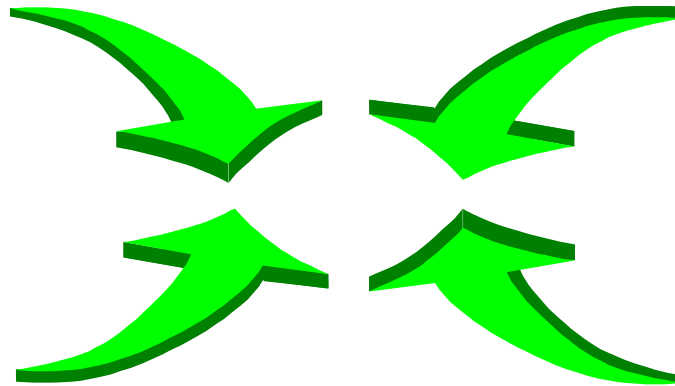
- Focus groups

- Mystery shopping

- Surveys
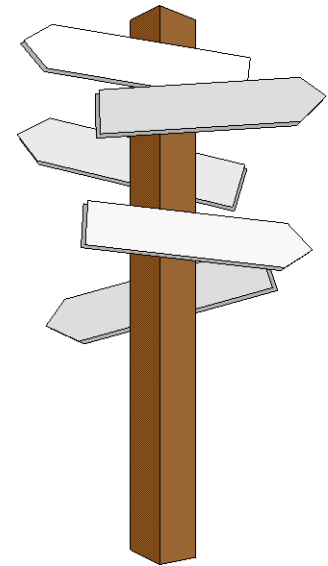
Most listening posts, such as focus groups, are for learning; surveys are for testing and measuring.

BEFORE WE BEGIN...

A COUPLE OF DEFINITIONS

A **RELIABLE** MEASURE IS CONSISTENT, STABLE, DEPENDABLE, PRECISE, AND EXHIBITS LITTLE RANDOM ERROR

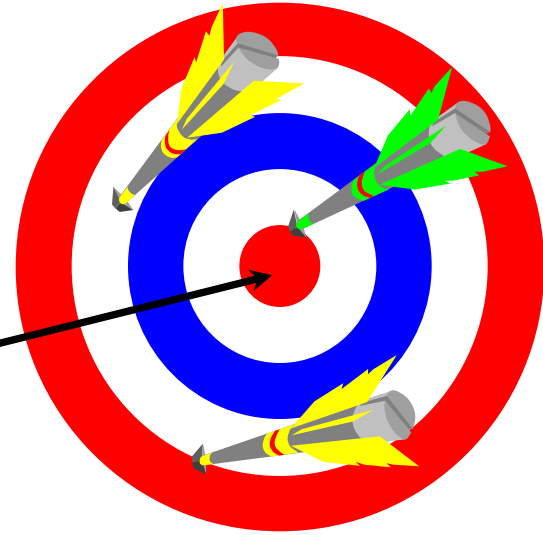WE HAVE A **VALID** MEASURE WHEN WE ARE MEASURING WHAT WE INTENDED TO MEASURE

RELIABLE -- NOT VALID

NOT RELIABLE -- NOT VALID

RELIABLE -- VALID

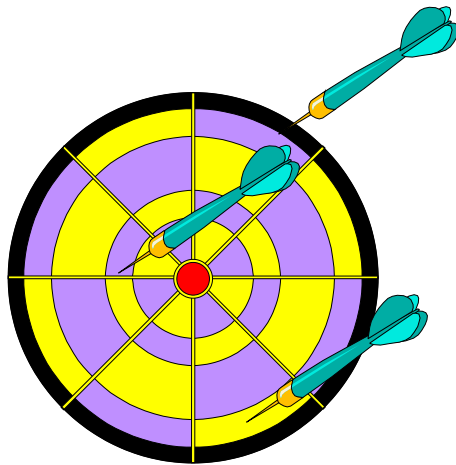THE "TRUTH"

NOTE:

NOT RELIABLE ⇒ NOT VALID

an example of

a reliability

issue...

How might these

Questions lead

To lack of

Reliability?

PATIENT SURVEY

is reviewing its nursing attire policy and would appreciate your input. Please review the following pictures and answer the questions below. Thank you for participating.

1. Which nurse looks the most professional and why?

2. Which nurse looks the least professional and why?

3. Which nurse would you like to take care of you and why?

Additional comments are welcome.
Please use reverse side.

A FEW MORE DEFINITIONS AND CONCEPTS...

THE FOUR ERRORS

1. *SAMPLING ERROR*

2. *COVERAGE ERROR*

3. *NON-RESPONSE ERROR*

4. *MEASUREMENT ERROR*

A FEW MORE DEFINITIONS AND CONCEPTS...

THE FOUR ERRORS

1. *SAMPLING ERROR*-- when the sample is too small to determine precise statistical inferences.

Polls Given Too Much Credence

WE ARE BEING bombarded daily with the results of the polls alleging 70 percent of the people favor dropping charges against President Clinton.

The polls we are being sold are the results of interviewing 1,000 or fewer people out of a population exceeding 200 million. (In other words by contacting one person out of 200,000.) ...

The truth of the matter is that any result can be obtained depending upon what questions are being asked and the manner in which they are asked. The method of polling — who's contacted and questions asked — is a carefully guarded secret known only to the pollsters. ...

The truth of the matter is that the great uninformed are being brainwashed. They accept anything the news constantly repeats as fact. The motives for pushing biased information are never questioned.

Albuquerque

1. SAMPLING ERROR-- (cont.)

THE GOOD NEWS IS THAT WE CAN MEASURE SAMPLING ERROR. HERE IS WHERE WE TALK ABOUT MARGIN OF ERROR

95% of possible results lie within 5% of the "truth"

95% of possible results lie within 3% of the "truth"

truth - 5%   truth   truth + 5%

truth - 3%   truth   truth + 3%
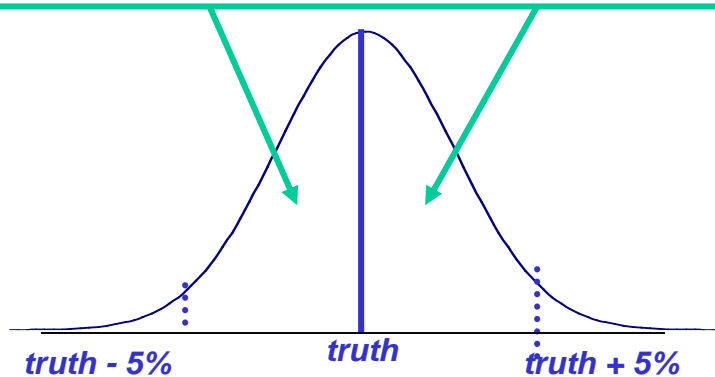
n = 386

n = 1067

"Margin of error is at most 5% with 95% confidence"
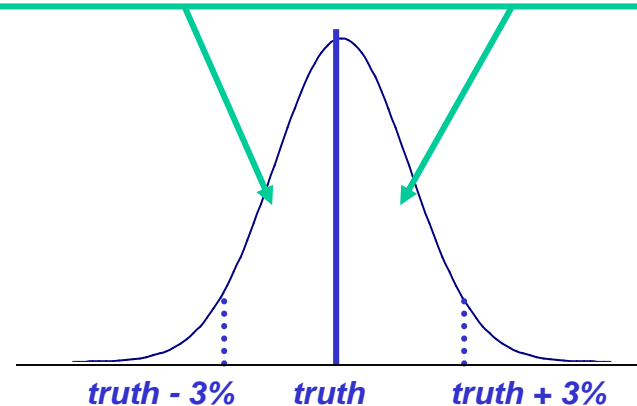
"Margin of error is at most 3% with 95% confidence"

There are a few ways to decrease the necessary sample size… including finite population correction, stratification, and/or knowledge of previous survey results---> beyond the scope of this talk.

2. COVERAGE ERROR-- when the target population is not accurately represented by the survey population.

▸ Sample is drawn from an inaccurate list of the population.

▸ Telephone surveys will exclude those with no phones.

▸ Online surveys only cover those with online access.

▸ Written surveys may not be written in the necessary language.

▸ Written mail surveys may miss those with new or bad addresses.

3. *NON-RESPONSE ERROR--* when a significant proportion of the sample does not respond to the survey AND the non-respondents' opinions are different from the respondents' opinions. This could involve whole surveys or individual questions.
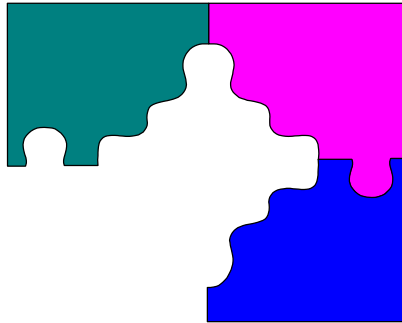
4. *MEASUREMENT ERROR--* when we are not measuring what we intended to measure, i.e., a lack of validity. Examples include acquiescence, biasing introductions, question order effects, formatting issues and more.

SURVEY PROCESS

PLAN

- Identify the survey team & resources
- Clarify the purpose and scope of the survey
- Determine methodology
- Identify important aspects of cust. service to be surveyed

DO

- Develop a survey tool
- Run a pilot
- Make refinements
- Create database and data entry tool

STUDY

- Administer the survey
- Analyze results
- Communicate results

ACT

- Determine conclusions, recommendations and action plans

SURVEY PROCESS

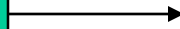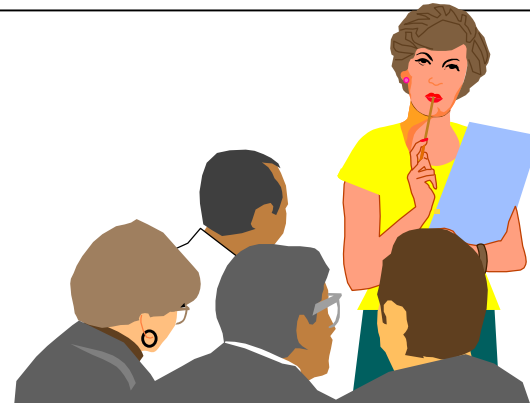**Identify the survey team & resources**

•Who is on the survey team?

•What are their duties and responsibilities?

•Who's paying for this? What can we afford?

•Will a third party vendor or consultant be needed?

•Who will be accountable for action plans based on the results?

PLAN

```
┌─────────────┐       ╭──────────────────╮
│ Identify    │       │ Clarify the      │
│ the survey  │──────▶│ purpose and scope│──────▶
│ team &      │       │ of the survey    │
│ resources   │       │                  │
└─────────────┘       ╰──────────────────╯
```
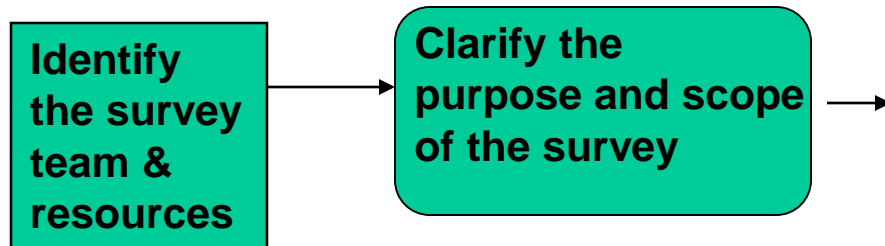
•Identify the purpose and the information you would like to gather. Be as specific as possible -this statement will act as a guide to the tool development

•Who exactly is the target population?

•What is the time period of interest, i.e., customers during what time period?

•Are there customer segments (strata) to consider?

•Will this be recurring-ongoing? How often will we want reports?

PLAN

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┌─────────────┐      ╭──────────────────╮      ╭──────────────╮
│ Identify    │      │ Clarify the      │      │ Determine    │
│ the survey  │ ───▶ │ purpose and scope│ ───▶ │ methodology  │
│ team &      │      │ of the survey    │      │              │
│ resources   │      │                  │      ╰──────────────╯
└─────────────┘      ╰──────────────────╯
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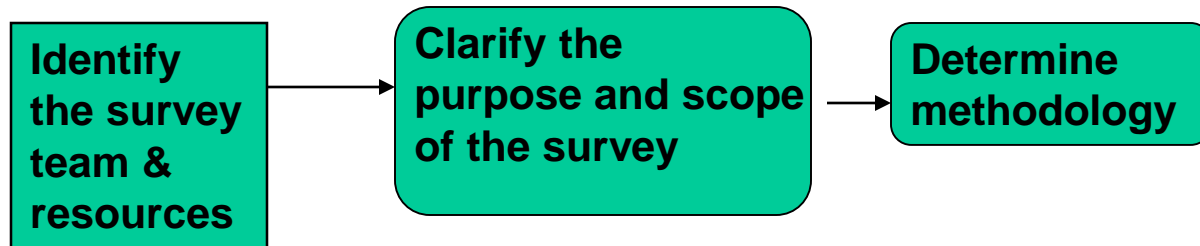
VARIOUS SURVEY METHODOLOGIES

- TELEPHONE or FACE-TO-FACE INTERVIEW

- SELF-ADMINISTERED

    - MAIL

    - ONLINE

    - SLOP (self-selected opinion poll)

PLAN

TELEPHONE SURVEYS or FACE-TO-FACE INTERVIEWS

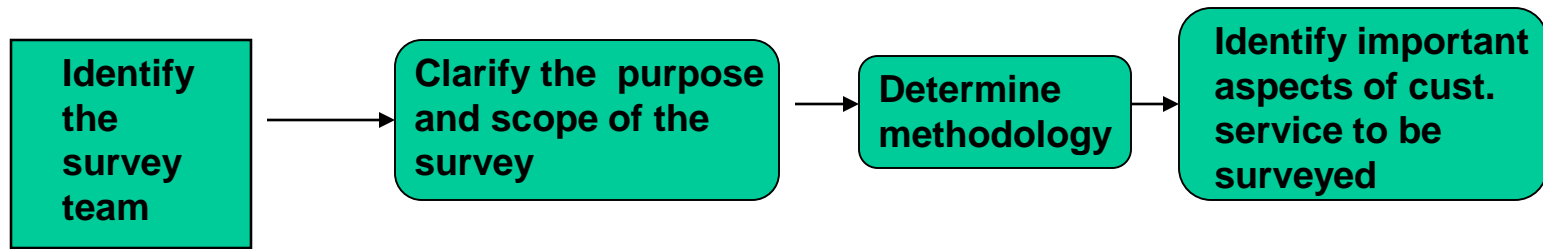| ADVANTAGES	DISADVANTAGES
•easy to generate random sample •can achieve high response rates •conducted in relatively short time frame •able to explain questions •Branching, piping and skip sections are transparent to respondent	•relatively expensive •respondent may acquiesce due to lack of anonymity--especially face-to-face •telephone surveys miss those without a phone •telephone surveys bias against those who don't stay home or who don't answer unknown phone numbers •response categories must be kept short--no "choose all that apply" lists

PLAN

SELF-ADMINISTERED SURVEYS

ADVANTAGES	DISADVANTAGES
•most anonymous methods (especially paper mail)	•SLOPS are likely to be answered only by those with strong opinions
•time allowed for more thoughtful answers	•mail surveys require weeks to wait for response
•can be filled out at respondent's convenience	•online biased against those with no computer access
•large lists of choices can be displayed	•online respondents may have an issues with anonymity
•least expensive method (especially online)	•Paper surveys may lead to problems with "skip" sections. Respondents may answer questions they are supposed to skip
•Online surveys means data are automatically entered into a data file	

PLAN

| Identify the survey team | → | Clarify the purpose and scope of the survey | → | Determine methodology | → | Identify important aspects of cust. service to be surveyed |

- If you have no previous surveys, or few ideas of what's important to your customer, you may want to start with a focus group.

- If you have previous survey data, customer service aspects may be grouped into 'factors'

- With any new survey, it is important to start with several open-ended questions. Over time the survey tool can be made more efficient and close-ended, but it should always contain a place for open-ended comments

- For small customer groups, a more informal, open-ended tool may be most effective

- Information to obtain will be about both attitudes and attributes, i.e., both opinions and demographics

PLAN

SURVEY PROCESS

THERE ARE 3 MAJOR PARTS OF A QUESTIONNAIRE TO CONSIDER

- the overall format or layout of the survey-- especially with written self-administered surveys

- the wording of individuals items

- the response categories

PROBLEMS WITH ANY OF THESE CAN CONTRIBUTE TO MEASUREMENT ERROR AND NON-RESPONSE ERROR

FORMAT

‣ Is there a cover letter or paragraph explaining the purpose of the survey and some instructions? Written surveys must be pleasing to the eye, lots of empty space, and easy to follow. For example, skip sections are indented and/or boxed, and include clear, short instructions. Also, get your most important questions at the beginning.

‣ Does the survey appear too long and/or daunting to read? ("order-effect")

Compare this..   *To this..*

Left survey ("Compare this..") — numbered items 49–63 with a 1–6 scale from "Strongly Disagree" to "Strongly Agree":

49. Diverse opinions, ideas and perspectives are encouraged and respected at our company 1 2 3 4 5 6 (59)
50. My manager/supervisor treats me with respect ... 1 2 3 4 5 6 (60)
51. My manager/supervisor actively encourages ideas and suggestions for improvement 1 2 3 4 5 6 (61)
52. I actively suggest new ideas to improve the way we perform our work 1 2 3 4 5 6 (62)
53. ____ seeks to include and fully use the talents of all employees 1 2 3 4 5 6 (63)
54. I feel ideas and suggestions for improvement are actively encouraged by our company 1 2 3 4 5 6 (64)
55. People are shown respect even when differences in opinions occur 1 2 3 4 5 6 (65)
56. ____ encourages and values a diverse workforce (minorities, women, physically-challenged, nationalities, etc.) 1 2 3 4 5 6 (66)
57. I see positive leadership by example from ____ senior management 1 2 3 4 5 6 (67)
58. My department's senior management provides positive leadership by example 1 2 3 4 5 6 (68)
59. I see positive leadership by example from my manager/supervisor 1 2 3 4 5 6 (69)
60. My department actively encourages ideas and suggestions for improvement 1 2 3 4 5 6 (70)
61. My manager/supervisor involves me in decisions that affect my work 1 2 3 4 5 6 (71)
62. My manager/supervisor is available to me when needed 1 2 3 4 5 6 (72)
63. My manager/supervisor provides timely and constructive feedback about my performance 1 2 3 4 5 6 (73)

Right survey ("To this.."):

Management
Remember, "Management" means management in general-those above your immediate supervisor.

		Strongly Agree	Agree	Partly Agree / Partly Disagree	Disagree	Strongly Disagree	Does Not Apply or No Opinion
M1.	Management treats me with respect and dignity.	5	4	3	2	1	6
M2.	I can generally believe the information I get from management.	5	4	3	2	1	6
M3.	Management does a good job of involving employees in decisions that affect them.	5	4	3	2	1	6
M4.	Decisions made by management are made in a timely manner.	5	4	3	2	1	6
M5.	Decisions made by management are clearly communicated.	5	4	3	2	1	6
M6.	Management is available to me in a timely manner.	5	4	3	2	1	6
M7.	In my opinion ____ well managed overall.	5	4	3	2	1	6

In what ways could management improve to help you perform your duties? Please list up to three answers. Be as specific and brief as possible:

A_____

B_____

C_____

Quality Culture and Customer Service

		Strongly Agree	Agree	Partly Agree / Partly Disagree	Disagree	Strongly Disagree	Does Not Apply or No Opinion
Q1.	Quality is a top priority at ____.	5	4	3	2	1	6
Q2.	My department performs high quality work.	5	4	3	2	1	6
Q3.	I have the authority I need to resolve quality related problems in my own work.	5	4	3	2	1	6

SURVEY ITEMS

- If a question <u>can</u> be misinterpreted, it <u>will</u> be misinterpreted.

- Some common wording problems with survey items:

    1 vagueness/ambiguity---avoid phrases that may mean totally different things to different people---->"Rate your satisfaction with the hours you work".

    2 Multi-barreled---If you get a negative response will you know what to fix?--> "Please rate the timeliness and accuracy of your claims payment, on the following scale…"

    3 Biased introductions---"ABC corporation sends its new customer service employees through 3 weeks of training every year so that they may better meet your needs. Please rate the knowledge level your customer service representative on the following scale…" The last part is sufficient.

    4 Too hard to answer--"Please estimate how many gallons of gasoline you purchase for each vehicle per year."

RESPONSE CATEGORIES--TYPES

- **OPEN-ENDED**

    ▸ "How could this seminar have been improved?"

    ▸ "What was the most pleasant part of your stay at the hotel?"

  some suggestions---> avoid several rows of dizzying lines

  avoid "please write any comments on the back of this page"

  outline a special box, or place for valued comments

- **PARTIALLY OPEN-ENDED**

  ___truck   ____car   ____bus

  ____other, please specify_____

CLOSE-ENDED UNORDERED---single choice only or multiple choice

☐ White
☐ Black or African-American
☐ Asian
☐ Native Hawaiian or other Pacific
   Islander
☐ American Indian or Alaska Native

☐ magazine
☐ billboard
☐ newspaper
☐ television
☐ friends/family

RESPONSE CATEGORIES--TYPES (CONT)

- **CLOSE-ENDED ORDERED--**choose only one

    "never--sometimes--usually--always"

    "0 times--1 to 4 times--5 to 10 times--over 10 times"

    "very dissatisfied--dissatisfied--neutral--satisfied--very satisfied"

    "strongly disagree--disagree--neutral--agree--strongly agree"

    "very unlikely--somewhat unlikely--unsure--somewhat likely--very likely"

some suggestions---> the response categories should be equally spaced and balanced

- for phone surveys there should be no more than 5 labeled categories offered

- responses should fit the question

- all possibilities should be covered

RESPONSE CATEGORIES-

LET'S PRACTICE IMPROVING QUESTIONS AND/OR RESPONSES ON SOME REAL EXAMPLES

1. Please rank how important the following attributes are to you. Label each 1, 2, 3 etc. to 20, where 1 is most important and 20 is least important:

_____ Creative	_____ Tolerant	_____Curious	_____ Perseveres
_____ Generous	_____ Resourceful	_____ Sense of humor	_____ Independent
_____ Leader	_____ Autonomous	_____ Assertive	_____ Kind
_____ Loyal	_____ Self-confident	_____ Energetic	_____ Compassionate
_____ Patient	_____ Ambitious	_____ Adaptable	_____ Risk taker

Problem: Too hard. Would also be hard to analyze.

Solution:

1. Please read the following attributes. Check the <u>three</u> attributes that are most important to you:

_____ Creative	_____ Tolerant	_____Curious	_____ Perseveres
_____ Generous	_____ Resourceful	_____ Sense of humor	_____ Independent
_____ Leader	_____ Autonomous	_____ Assertive	_____ Kind
_____ Loyal	_____ Self-confident	_____ Energetic	_____ Compassionate
_____ Patient	_____ Ambitious	_____ Adaptable	_____ Risk taker

RESPONSE CATEGORIES-

2. Overall, how satisfied are you with the service provided by Jones and Smith Electrical Service?

_ Very Satisfied   _ Mostly Satisfied   _ Somewhat Satisfied   _ Just Satisfied   _ Not Satisfied

Problem: Unbalanced Scale

Solution:

2. Overall, how satisfied are you with the service provided by Jones and Smith Electrical Service?

_ Very Satisfied   _ Satisfied   _ Neither Satisfied nor Dissatisfied   _ Dissatisfied   _ Very Dissatisfied

What do you think of this solution?:

2. Overall, how satisfied are you with the service provided by Jones and Smith Electrical Service?

        _ 5   _ 4   _ 3   _ 2   _ 1

  Very Satisfied   **Very Dissatisfied**

How Might These Be Improved?

7. How would you describe your overall experience with The XYZ Group?

1. *I am always satisfied with services.*

2. *I am somewhat satisfied with services.*

3. *I am rarely satisfied with services.*

4. Do the training topics offered meet your organization's needs?

1. *Always*

2. *Almost always*

3. *Sometimes*

4. *Rarely*

5. *Never*

6. *Not applicable*

RESPONSE CATEGORIES-

3. If you attended the Data Mining Lecture, how would you rate the speaker's knowledge of the subject?

_ **Excellent** _ **Very Good** _ **Good** _ **Fair** _ **Poor**

Problem: What do non-attendees do?

Solution:

3. If you attended the Data Mining Lecture, how would you rate the speaker's knowledge of the subject?

_ **Excellent** _ **Very Good** _ **Good** _ **Fair** _ **Poor**   ___ **I did not attend this lecture**

A Better Solution:

3. Did you attend the Data Mining Lecture?   ___yes   ___no (if "no" please skip #4)

> **3a. If you answered "yes" to question 3, above, how would you rate the speaker's knowledge of the subject?**
>
> _ **Excellent** _ **Very Good** _ **Good** _ **Fair** _ **Poor**

This makes it clear who is to answer the question, and it allows for easy cross-tabulation when analyzing results

RUN A PILOT

- Ask for input from co-workers who have not been involved with the project.

- If practical, administer the survey to about 20 real customers. Check to see that all questions were filled out, and if open-ended questions seem to be understood. Get feedback from the customers as to whether some questions are vague or difficult.

- Remember you are piloting both the survey tool and the methodology.

DATABASE

- Remember to include a date of service on the tool so you can track over time

- Written surveys should have questions and responses numbered to ease data entry

- For paper surveys consider scannable surveys if appropriate

Develop a survey tool

Run a pilot

Make refinements

Create database and data entry tool

Administer the survey
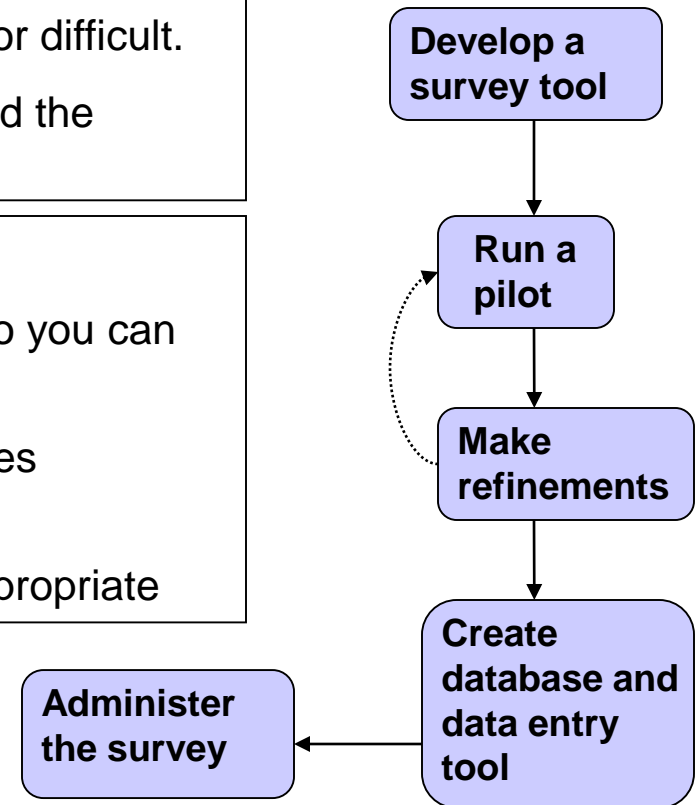
SURVEY PROCESS

ANALYZE RESULTS

▸ TABLES OF COUNTS AND PERCENTAGES--

1/17/19--Simons	Strongly Agree		Agree		Neither Agree nor Disagree		Disagree		Strongly Disagree		TOTAL
1. The seminar met my expectations.	23	67.6%	10	29.4%	1	2.9%	0	0.0%	0	0.0%	34
2. The speaker presented the topic well.	23	69.7%	9	27.3%	1	3.0%	0	0.0%	0	0.0%	33
3. I think it would be a good idea to invite this speaker back.	23	67.6%	10	29.4%	0	0.0%	1	2.9%	0	0.0%	34
4. The meeting room provided a good environment for the seminar.	18	54.5%	15	45.5%	0	0.0%	0	0.0%	0	0.0%	33
5. Overall, attending to this seminar was a good use of my time.	22	64.7%	11	32.4%	1	2.9%	0	0.0%	0	0.0%	34

Communicate results ← **Analyze results**
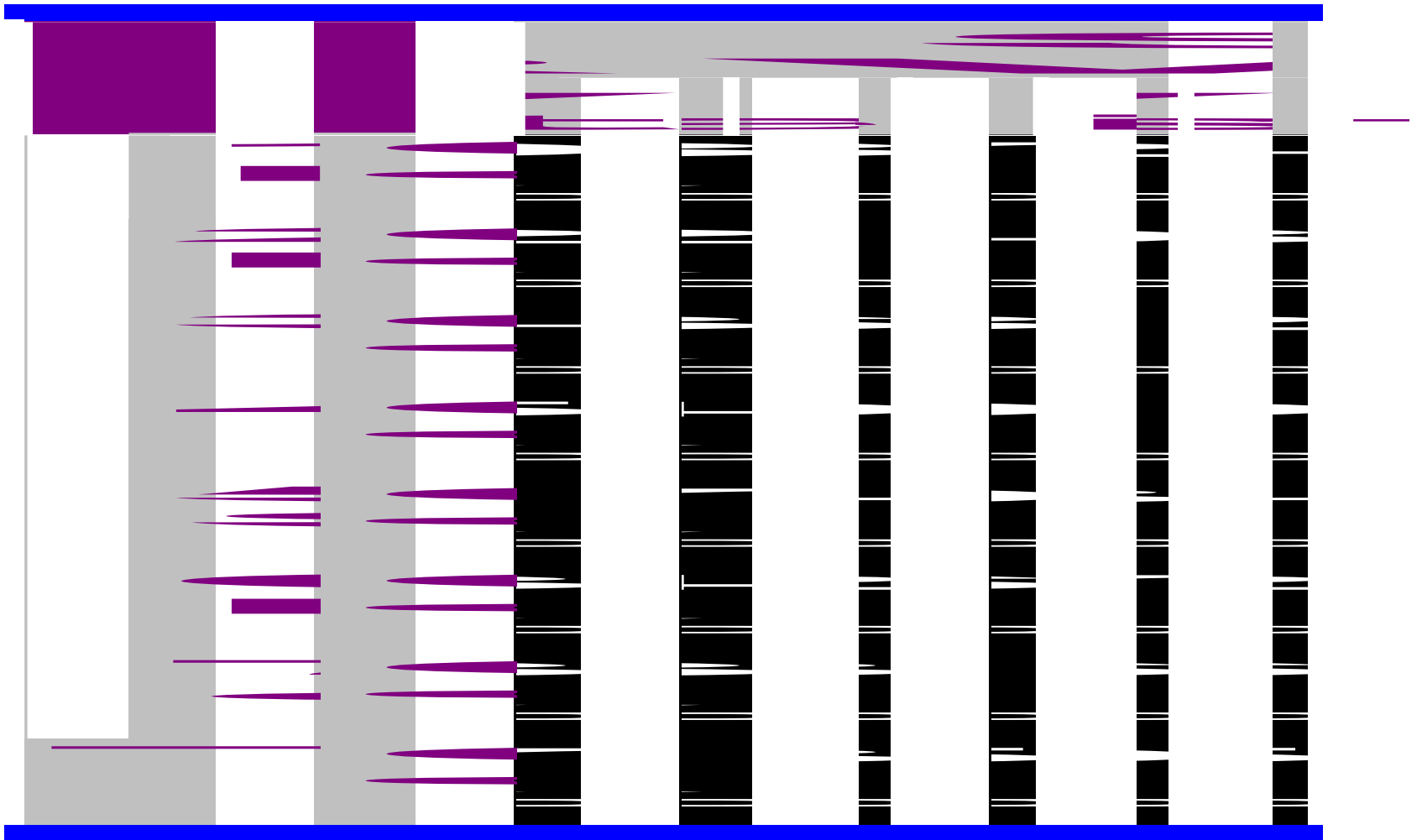
STUDY

AQN Seminar January 19, 2019
Percent "Strongly Agree"
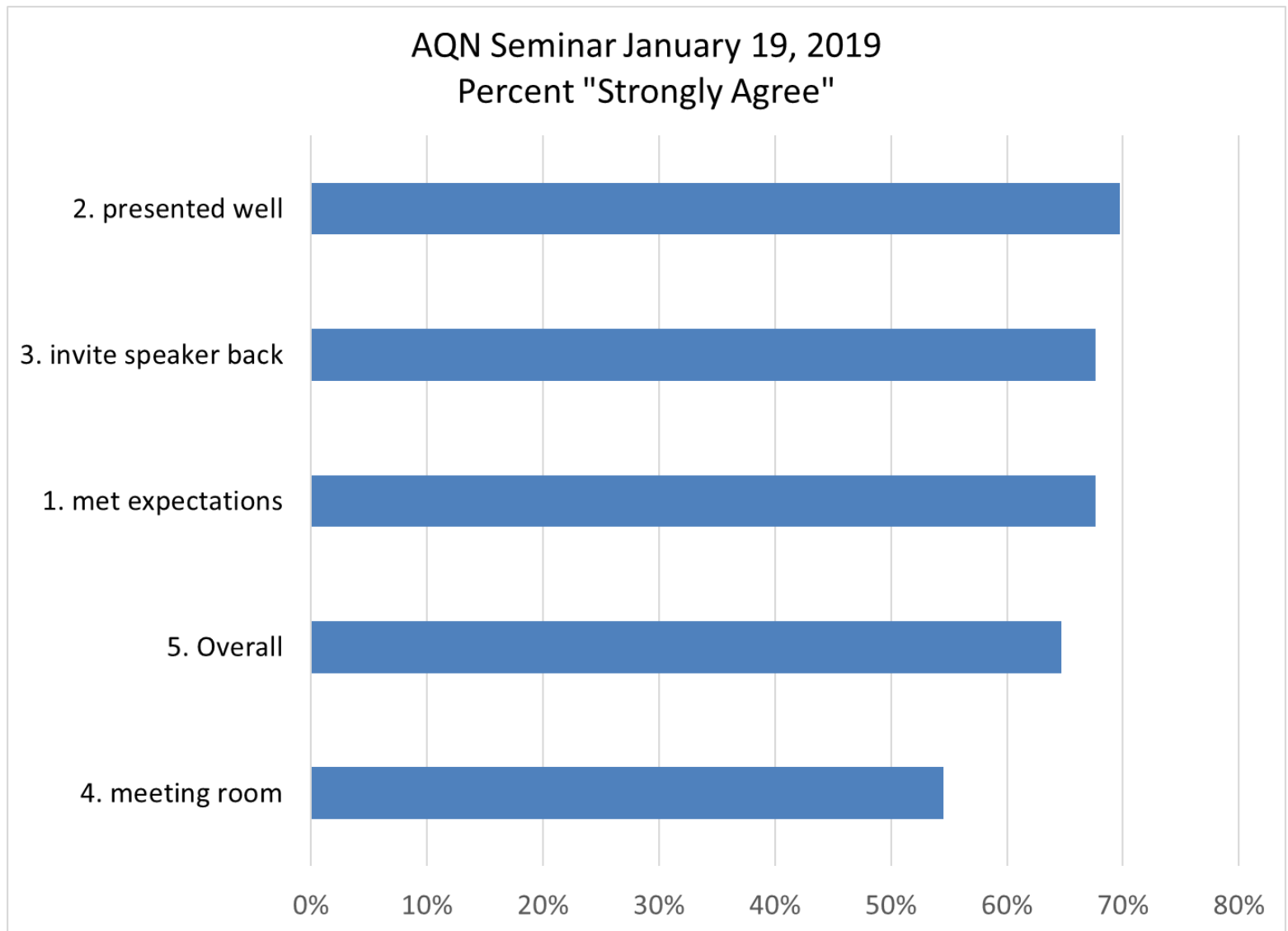
ANALYZE RESULTS

▸ CROSSTABS SEGMENT CUSTOMER TYPES

suggestion--->rows are attributes, columns are attitudes

ANALYZE RESULTS

▸ CROSSTABS SEGMENT CUSTOMER TYPES

Banner Presentation Style

Rating of Brand "A" on Overall Quality — **Table title**

Banner points

Banner →

		GENDER			AGE	
Stub	TOTAL	MALE	FEMALE	18-24	25-34	35+
TOTAL	500 100%	212 100%	288 100%	182 100%	170 100%	148 100%
NO ANSWER	53 11%	21 10%	32 11%	14 8%	15 9%	24 16%
Excellent (4)	182 36%	92 43%	90 31%	73 40%	39 23%	70 47%
Good (3)	170 34%	65 31%	105 36%	55 30%	72 42%	43 29%
Fair (2)	60 12%	22 10%	38 13%	25 14%	32 19%	3 2%
Poor (1)	35 7%	12 6%	23 8%	15 8%	12 7%	8 5%
NET HIGH (3+4)	352 70%	157 74%	195 68%	128 70%	111 65%	113 76%
NET LOW (1+2)	95 19%	34 16%	61 21%	40 22%	44 26%	11 7%

Summary rows (TOTAL, NO ANSWER)

Table cells

Net rows (NET HIGH, NET LOW)

STUDY

ANALYZE RESULTS

▸ CAN TRACK PERFORMANCE OVER TIME VIA RUN CHARTS, CONTROL CHARTS, ETC.
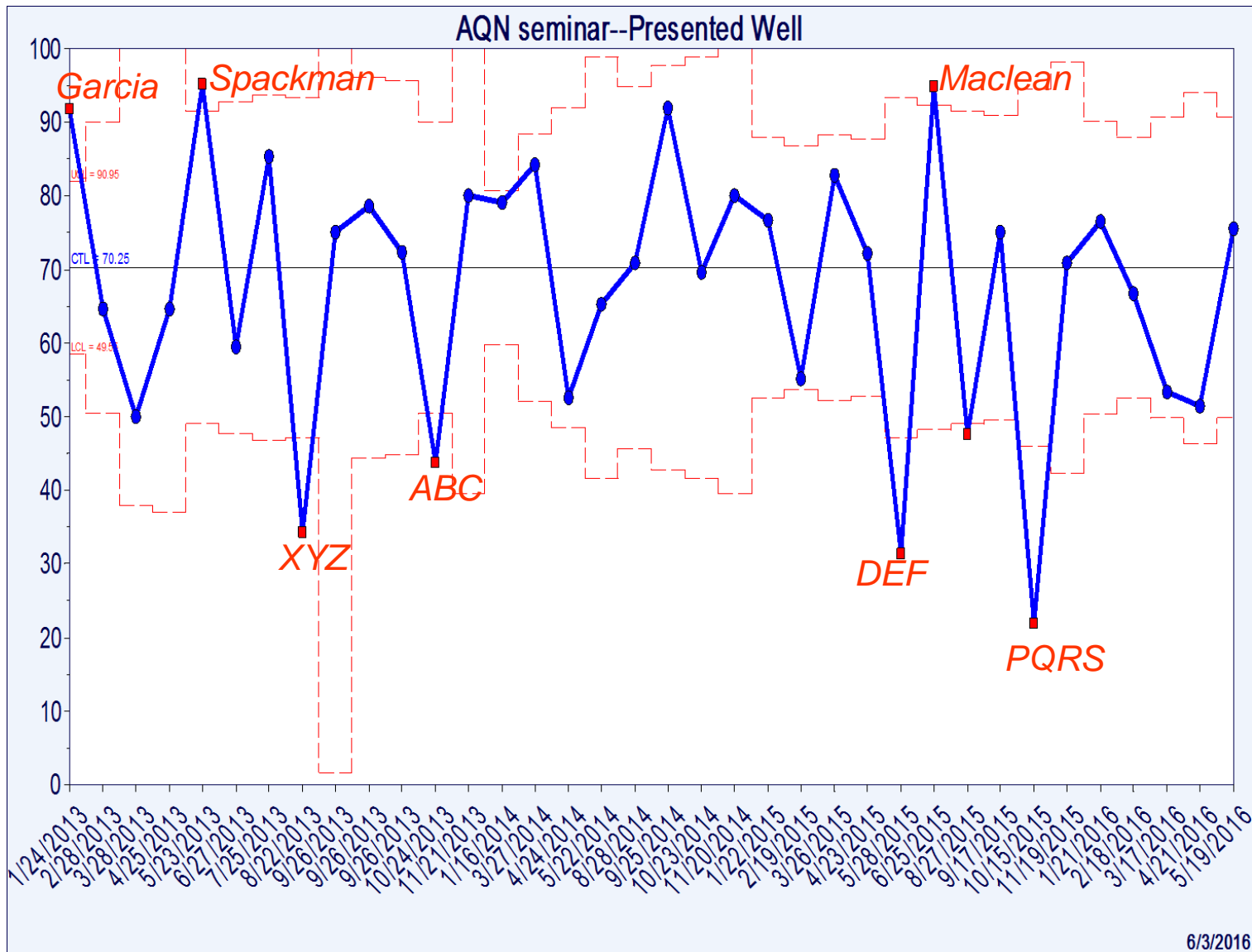
What Is Text Analysis?

Text analysis is a process of parsing multiple documents containing text to find patterns, clusters, and topics and to classify documents.

- *Parsing* is dividing one character string into smaller strings or *terms*.

- *Documents* are samples of text available as a single string of characters.

- *Text* is data in the form of a written language.

- *Clusters* are documents with similar patterns of terms.

- *Topics* represent meaning found in the text.

- *Classify* is assigning a document to one of two or more classes.

STUDY

And much more…
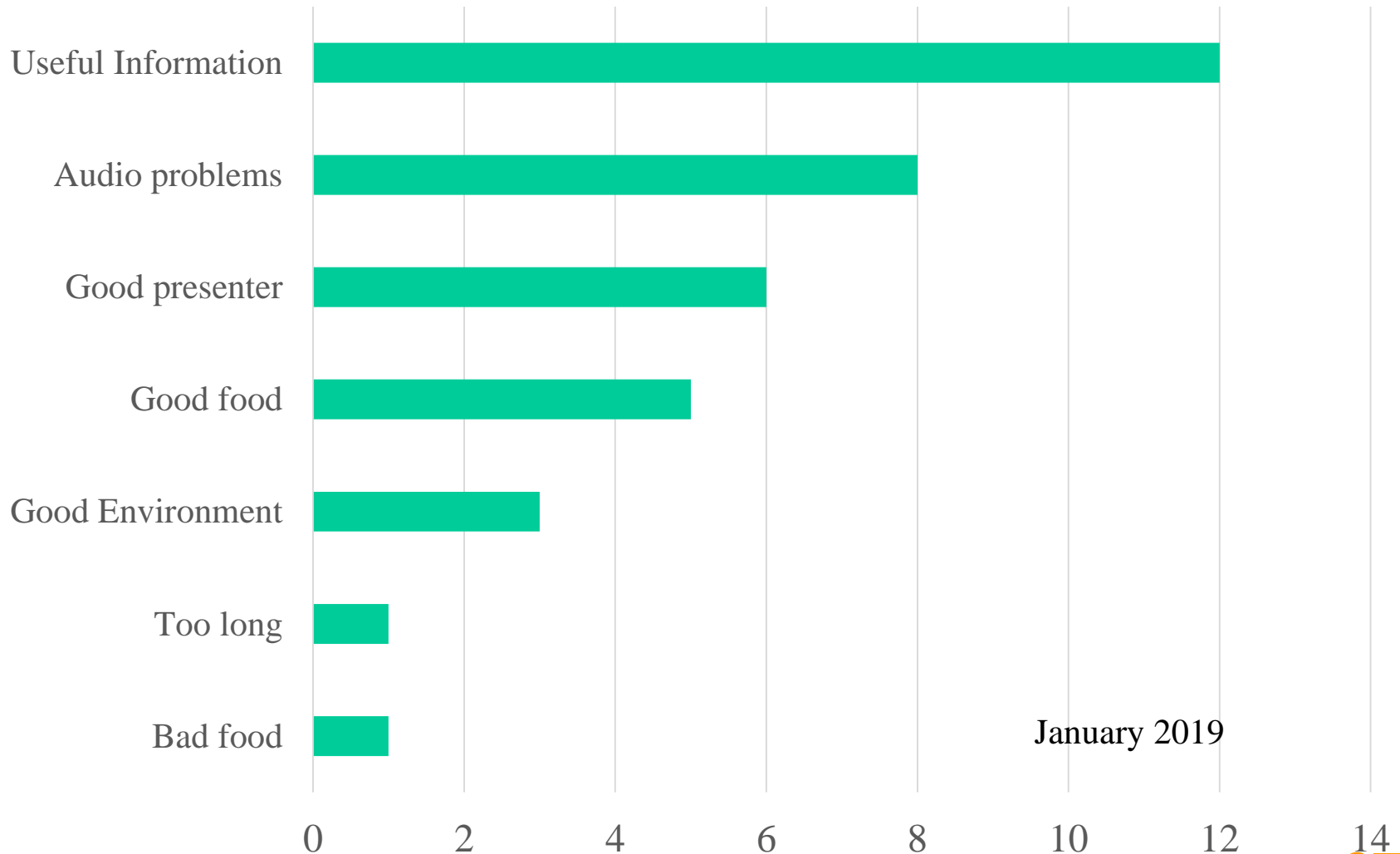
ANALYZE RESULTS

OTHER MORE SOPHSITICATED TECHNIQUES

‣ REGRESSION AND OTHER MORE SOPHISTICATED TECHNIQUES ALLOW YOU TO CORRELATE RESPONSES AND PRIORITIZE IMPROVEMENT EFFORTS

‣ FACTOR ANALYSIS ALLOWS YOU TO GROUP HIGHLY CORRELATED QUESTIONS SO AS TO IDENTIFY COMMON THEMES

‣ CLUSTER ANALYSIS ALLOWS YOU TO SEGMENT CUSTOMERS BASED ON COMMON ATTITUDES--SEGMENTS CAN BE DEFINED BY COMMON ATTRIBUTES

STUDY
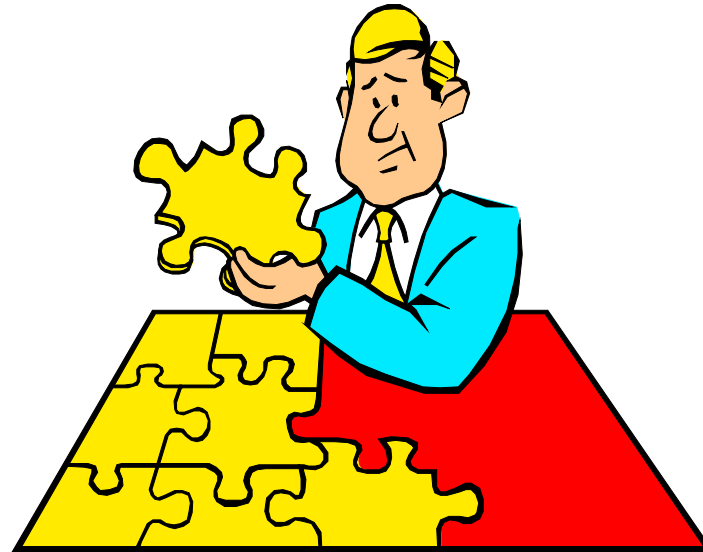
SURVEY REGRESSION
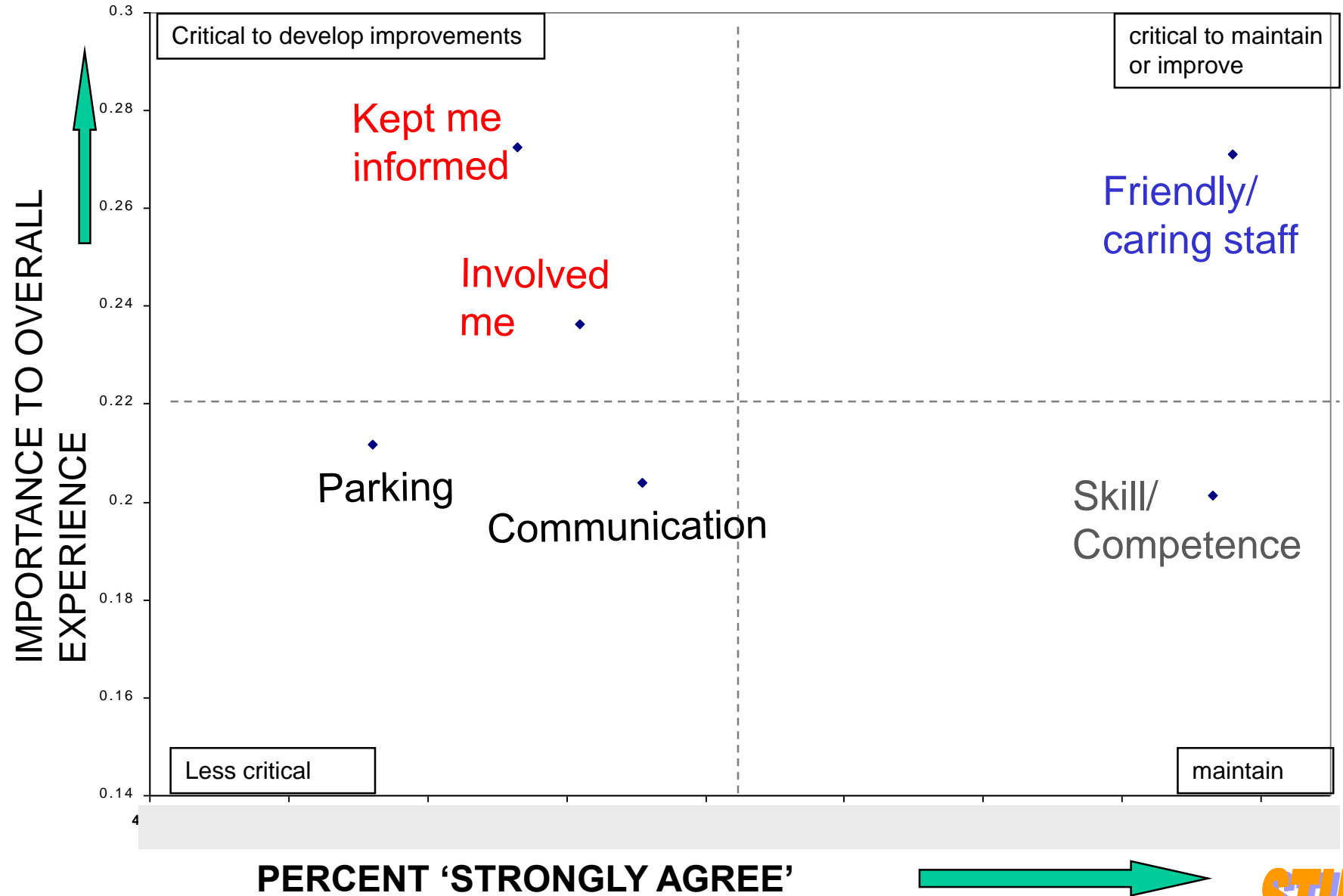
FACTOR ANALYSIS

Certain survey questions can be grouped together based on inter-correlation. These groups can generally be categorized into broad themes called **factors**...

Physician survey

FACTOR ONE QUESTIONS
•nurse availability
•nurse promptness
•radiologist responsive
•DSU hours of availability
•pt ready for surgery on time
•able to schedule patient when desired

The common theme is about the MD as a customer

FACTOR TWO QUESTIONS
•adequate nurses
•nurse friendliness
•nurse clinical/ technical skill
•DSU nurse skills
•senior staff able to lead PHS to its vision

The common theme is about how well the leadership hires, trains and takes care of staff

There were three more themes (factors) but the point is that we now have a better picture of the customer requirements.

STUDY

CLUSTER ANALYSIS

Rather than grouping questions based on inter-correlation, we group respondents based on similar patterns of answering the attitude questions. We can then describe these clusters based on the attribute questions...

Patient Survey of Physician office visit

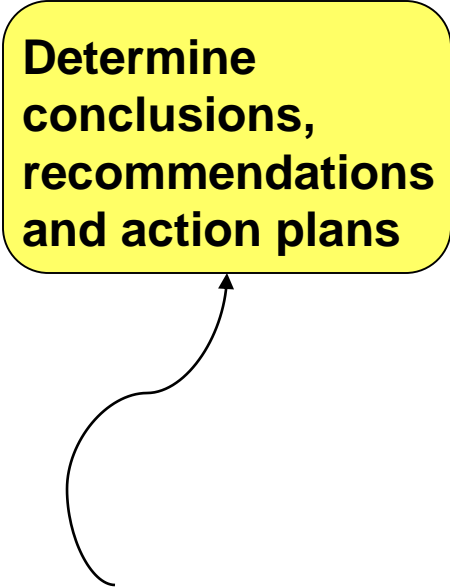| CLUSTER ONE CHARACTERISTICS	CLUSTER TWO CHARACTERISTICS	CLUSTER THREE CHARACTERISTICS
•tend to be very satisfied with all aspects of visit	•tend to be moderately satisfied with most aspects of visit	•tend to be dissatisfied with most aspects of visit
•tend to be older	•tend to be middle age	•tend to be younger
•tolerate longer waiting times	•do not tolerate longer waiting times	•do not tolerate longer waiting times but insist on spending long periods of time with the doctor
•probably has strong relationship with one doctor		•don't care what doctor they see

"There are two kinds of people in the world, those who divide the world into two kinds of people and those who do not."

Astronomy Magazine, Dec. 1998

STUDY

SURVEY PROCESS

Determine conclusions, recommendations and action plans

DETERMINE CONCLUSIONS, RECOMMENDATIONS AND ACTION PLANS

- There is always room for quality improvement.

- If you don't act on the results, there was no reason to perform the survey.

- Executive summary of survey findings helps to narrow the scope of action into a few do-able items.

- One or two areas of concern may require a focused survey or focus group, in which case we re-enter the PDSA cycle.

- How do we know that a change is an improvement? You need to re-enter PDSA and re-measure customer satisfaction on an ongoing basis.

ACT

SURVEY PROCESS

Most industries have organizations that survey nationwide so you can compare your results to others

ADVANTAGES:

- May provide an impetus for action that may not otherwise exist.

- Use tested survey tools.

- Facilitates benchmarking.

- National recognition requires national comparisons

- How do we know that a change is an improvement? Comparative data acts as a "control" group during process improvement interventions

- Provides meaningful stretch targets

DISADVANTAGES:

- Expensive

- Lose flexibility/agility regarding survey tool

HERE IS A BUSINESS THAT LISTENS TO ITS CUSTOMERS

HERE IS A BUSINESS THAT DOES NOT