

Voice of the Customer (VOC)

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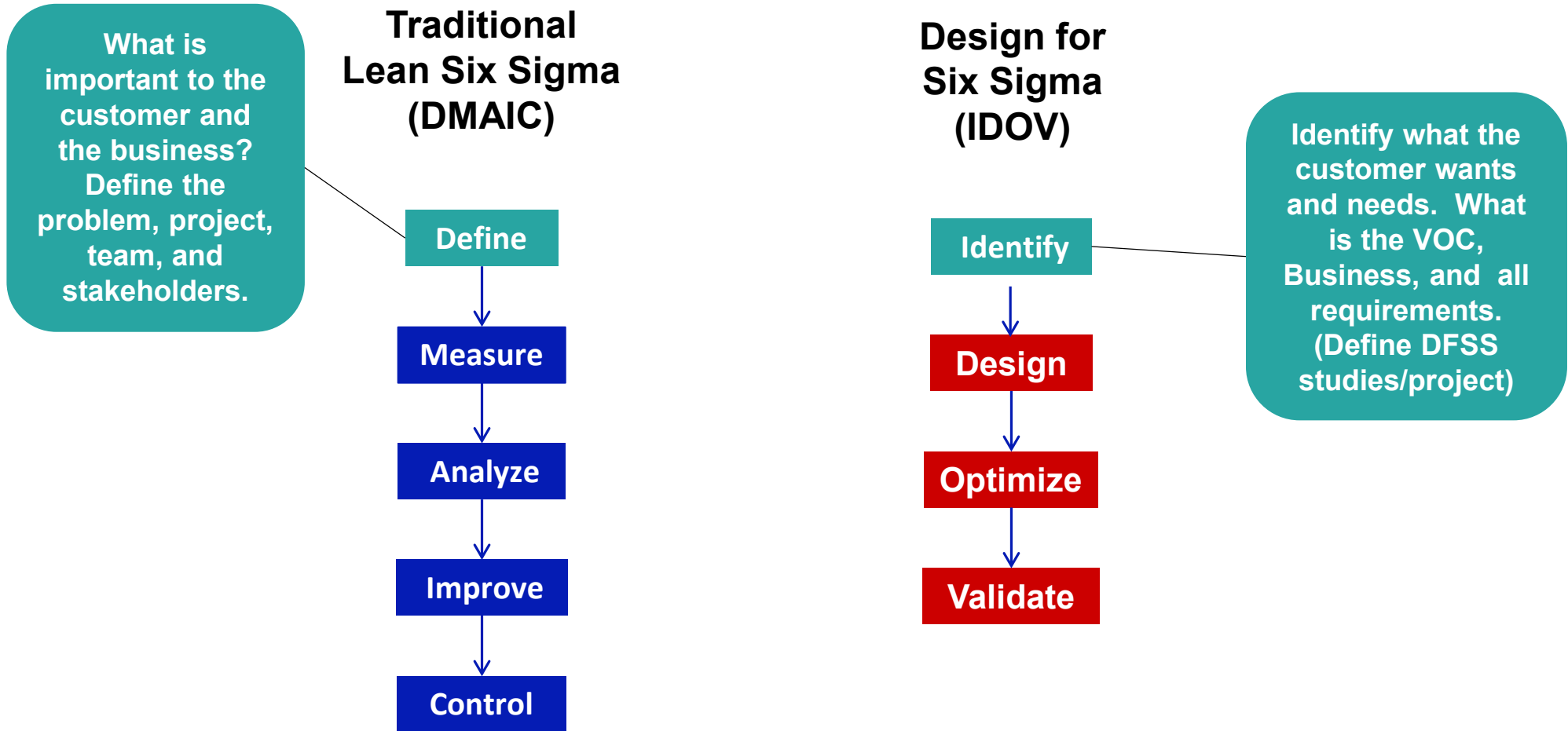
Voice of the Customer

- In this session, we will discuss:
 - Importance of understanding the voice of the customer (VOC)
 - Steps for gathering and analyzing VOC
 - Introduction to Quality Function Deployment (QFD)
 - Translating the Voice of the Customer using QFD and generating House of Quality #1



- A list of supplemental material and additional practice/review questions for this session are provided at the end of this presentation
- You can download the pdf of this presentation, along with any supporting data files, on the site where you are accessing this course

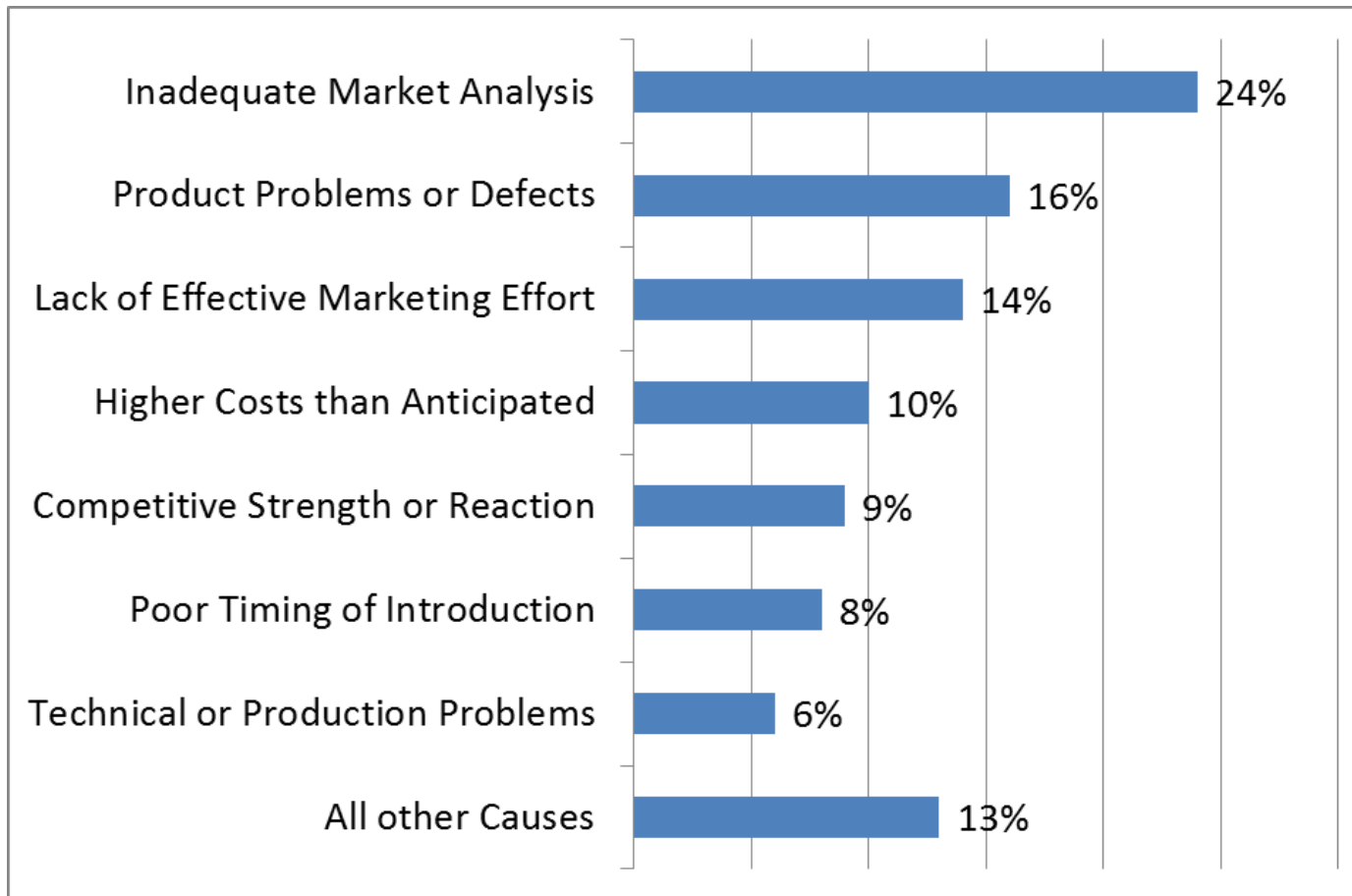
The LSS and DFSS Methodologies



Identifying Customers and their Requirements is the Foundation!

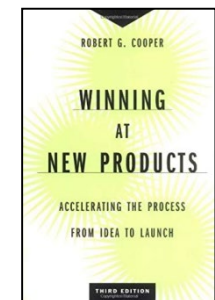
From: "I think" To: "I know"

Reasons for New Product Failure



% of Companies Citing

**Source: *Winning at New Products (Accelerating the Process from Idea to Launch)*, Third Edition (2001)
Robert G. Cooper**



Understanding the Voice of the Customer (VOC)



Suddenly, a heated exchange took place between the king and the moat contractor.

Source: *The Far Side*
The Far Side Millennium Off-the-Wall Calendar
Far Works, Inc., 2000.

A Couple of Real Life Examples – Poor VOC

- Microsoft Kin One and Kin Two

- Target demographic: people ages 15 – 30
- Focused on social networking
- 2 years development time; \$1billion investment; Launched in May 2010
- Verizon stopped selling within two months
- Eventually discontinued completely in August 2011
- Lots of problems (no apps or games allowed on the phone, limited Facebook capability, etc.)



Photo: Wikipedia

- Twitter Peek

- Idea: Product to tweet and read tweets anywhere, anytime, without WiFi
- Launched in Nov. 2009
- Discontinued in Feb. 2012
- Only showed 20 character previews of tweets
- Made reading tweets a nuisance (slow and annoying process to open and navigate through tweets)
- Didn't solve any customer needs/problems

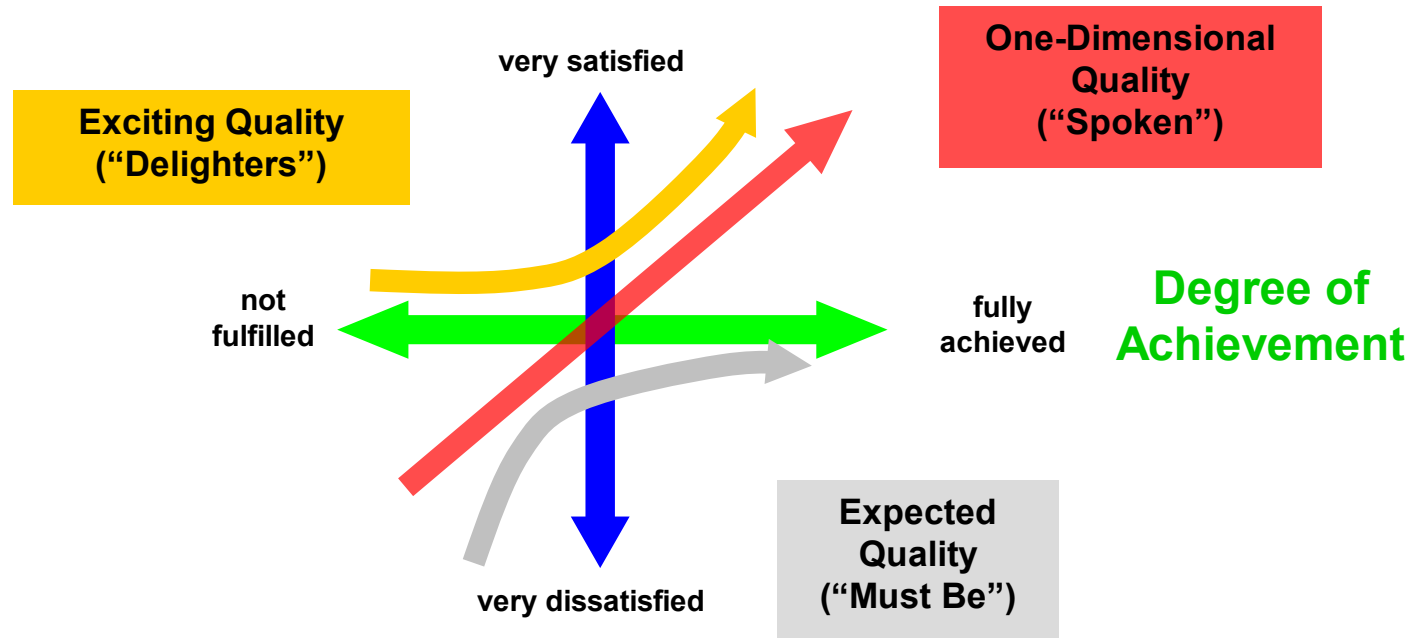


Photo: Wikipedia

Not understanding the Voice of the Customer can result in wasted time, resources, etc.

Kano Model

Customer Satisfaction



NEEDS

Expected Quality (unspoken; basic)

- Not specifically requested; assumed to be present
- If present, customer is neither satisfied nor dissatisfied; If absent, customer is very dissatisfied

WANTS

One-dimensional Quality (spoken; satisfiers)

- Specifically requested items; stated wants; directly proportional with customer satisfaction
- If present, customer is satisfied; If absent, customer is dissatisfied

DELIGHTERS

Exciting Quality (unexpected)

- Unknown to the customer; Most difficult to define and develop
- If present, customer is very satisfied; If absent, customer is neither satisfied or dissatisfied

Other Types of Customer Requirements

- Indifferent
 - Customer is indifferent to whether this feature is present or not
 - Feature does not affect satisfaction level

- Reverse
 - Feature causes dissatisfaction

- Note: It is important to identify these features in order to avoid waste and high costs as well as lost customers

Steps for VOC Gathering and Analysis



1. Identify customers
2. Segment the customers and prioritize the segments
3. Obtain requirements
4. Organize and analyze requirements
5. Prioritize requirements
6. Translate the Voice of the Customer into measurable requirements using QFD - construct House of Quality (HOQ#1)

Identifying Customers and Segments

- List all your customers
 - Internal
 - External

- Segment customers in a way that makes sense for your product or service. Examples include:
 - Industry size
 - Geographic location
 - Product Application
 - Price point

- Examples:
 - Laptop computer (DFSS)
 - Segments might include: Home users, Small business, Medium business, Large corporations
 - Paint manufacturing (LSS process improvement project)
 - Segments might include: process engineers, operators, QC, plant manager

Prioritizing Customer Segments

- Determine prioritization based on business needs, benchmarking, etc.
- Segments are usually rank-ordered using a scale from high to low:
 - 3-point scale: low, medium, high
 - 5-point scale: very low, low, medium, high, very high
- Example: Prioritized customer segments for a laptop computer business:

Customer Segment	Brief Description	Priority
Home users	Individual consumers; personal applications; not affiliated with businesses	Medium
Small Business	Small companies with 1-25 employees; business applications	High
Medium Business	Medium sized companies with 26-1,000 employees	Low
Large Corporations	Large corporations with over 1,000 employees	Low

Prioritization Matrix (Optional)

- A prioritization matrix can be used, if needed, to help identify the highest priority customer segments
- Steps for using a prioritization matrix:
 1. List customer segments
 2. Determine decision criteria and importance rating (on a scale from 1 (low) to 10 (high))
 3. Rate the relationship between each customer segment and each criteria (0=none, 1=low, 3=medium, 9=high).
 4. Calculate weighted sums using cross-multiplication

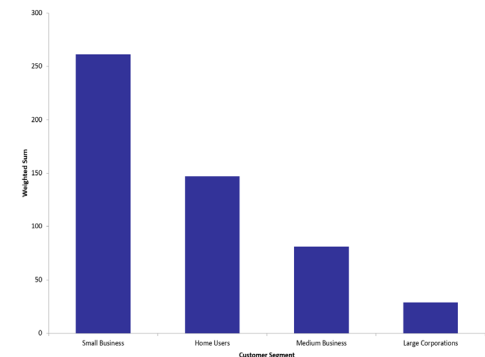
Example Selection Criteria with Importance				
	High Sales Revenue	Low Cost to Support	Strong Track Record (Experience)	Ease of Satisfaction

Importance ratings

Customer Segments	10	8	8	3	Weighted Sum
Home Users	9	3	3	3	147
Small Business	9	9	9	9	261
Medium Business	3	3	3	1	81
Large Corporations	1	1	1	1	29



Data file: *VOC Prioritization Templates.xlsx*



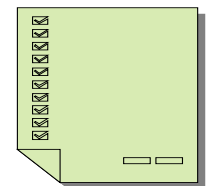
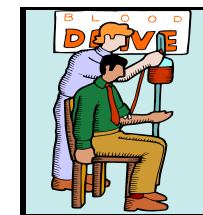
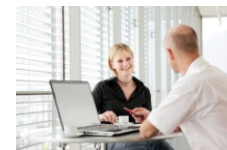
Obtaining Customer Requirements

- Obtain requirements for each desired customer segment
- Realize that customers don't always know what they want, or may not verbalize what they want
- Consider interviewing customers in their own environment, when possible (“walk in their shoes”)



Methods and Sources for Gathering the Voice of the Customer (VOC)

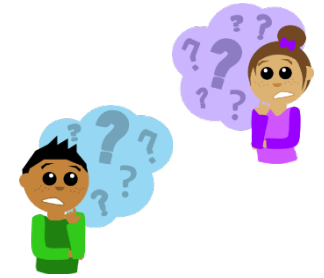
- Interviews
- Questionnaires (Surveys)
- Focus Groups
- Observations / Shadowing
- Users Tests / User Groups
- Customer feedback / problem databases
- Market studies
- Team or individual intuition and assumptions



Gathering Requirements (No Single Best Method)

Method	Some Advantages	Some Disadvantages
One-on-one interviews (phone, in person)	<ul style="list-style-type: none"> • Personal • Ability to ask follow-up questions • Can adapt follow-on questions and get clarification 	<ul style="list-style-type: none"> • Expensive • Time-consuming • Can have interviewer bias
Questionnaires and surveys	<ul style="list-style-type: none"> • Relatively inexpensive • Often get honest opinions • Larger sample sizes 	<ul style="list-style-type: none"> • Low return rates • Difficult to write good questions, which can lead to bias • Only get answers to questions asked
Focus groups	<ul style="list-style-type: none"> • Obtain many opinions • Synergistic • Ability to spur new ideas 	<ul style="list-style-type: none"> • Expensive • Can have personality dominance • Difficult to facilitate
User Tests or User Groups	<ul style="list-style-type: none"> • Ability to gather information about ergonomics and user-friendliness • Ability to observe “dissatisfiers” 	<ul style="list-style-type: none"> • Can be time-consuming and/or expensive • May not be feasible
Existing customer data (feedback, comment cards, problem reports, etc.)	<ul style="list-style-type: none"> • Already exists • Often readily available 	<ul style="list-style-type: none"> • May be biased or incomplete • Can be old and outdated • Generally contains information about problems, not necessarily needs and requirements
Team or individual intuition and assumptions	<ul style="list-style-type: none"> • Free • May come from past direct customer contact • Takes advantage of past experience 	<ul style="list-style-type: none"> • May be biased • Often limited sample size • May be motivated by politics or emotion

Some Comments about Sample Size



- Common questions:
 - “How many surveys should I send out?”
 - “How many customers should I talk with?”
 - “How much data do I need?”
- To determine an appropriate sample size, we need to consider things such as:
 - practical**
 - What is your timeframe?
 - How expensive is data collection?
 - statistical**
 - What type of data are you working with? (variable/continuous or discrete (y/n))
 - What margin of error is desired?
 - What confidence level is desired?
- Refer to the session on Confidence Intervals and Sample Size for more details related to calculating an appropriate sample size. You can also find a sample size calculator in the data files for this session. Talk with your coach for assistance.



Translating the Voice of the Customer

What



How

**WHAT'S IMPORTANT
TO THE CUSTOMER
(in their own words)**

(VOICE OF THE CUSTOMER)



**HOW WILL WE KNOW WE'VE
SATISFIED THE CUSTOMER?
HOW ARE WE GOING
TO MEASURE IT?**

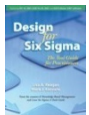
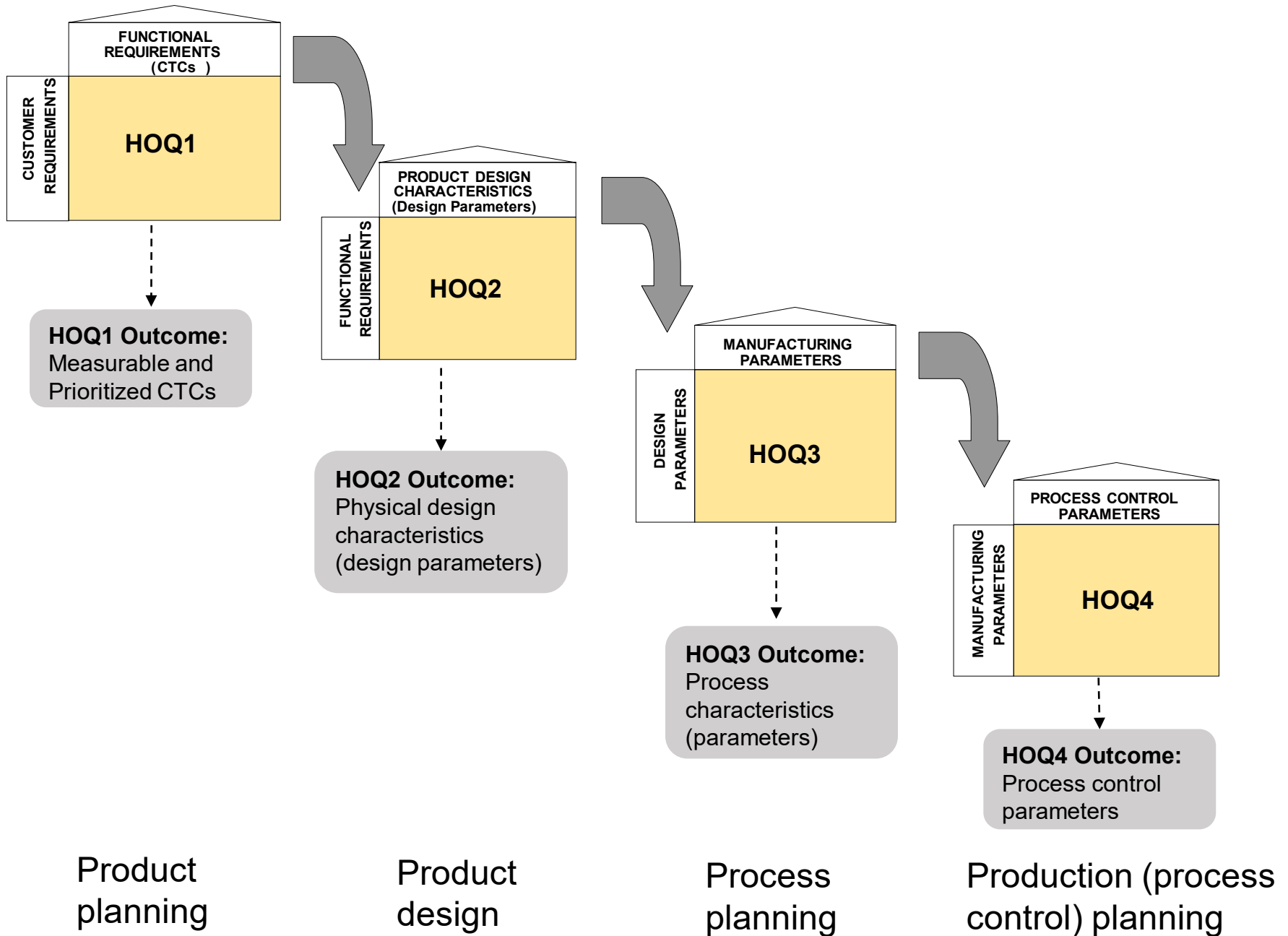
(MEASURABLE CHARACTERISTICS)

Customer Service

- “I don’t want to wait on hold a long time.”
- “I don’t like getting bounced around to multiple people.”
- “I want to have good customer service.”

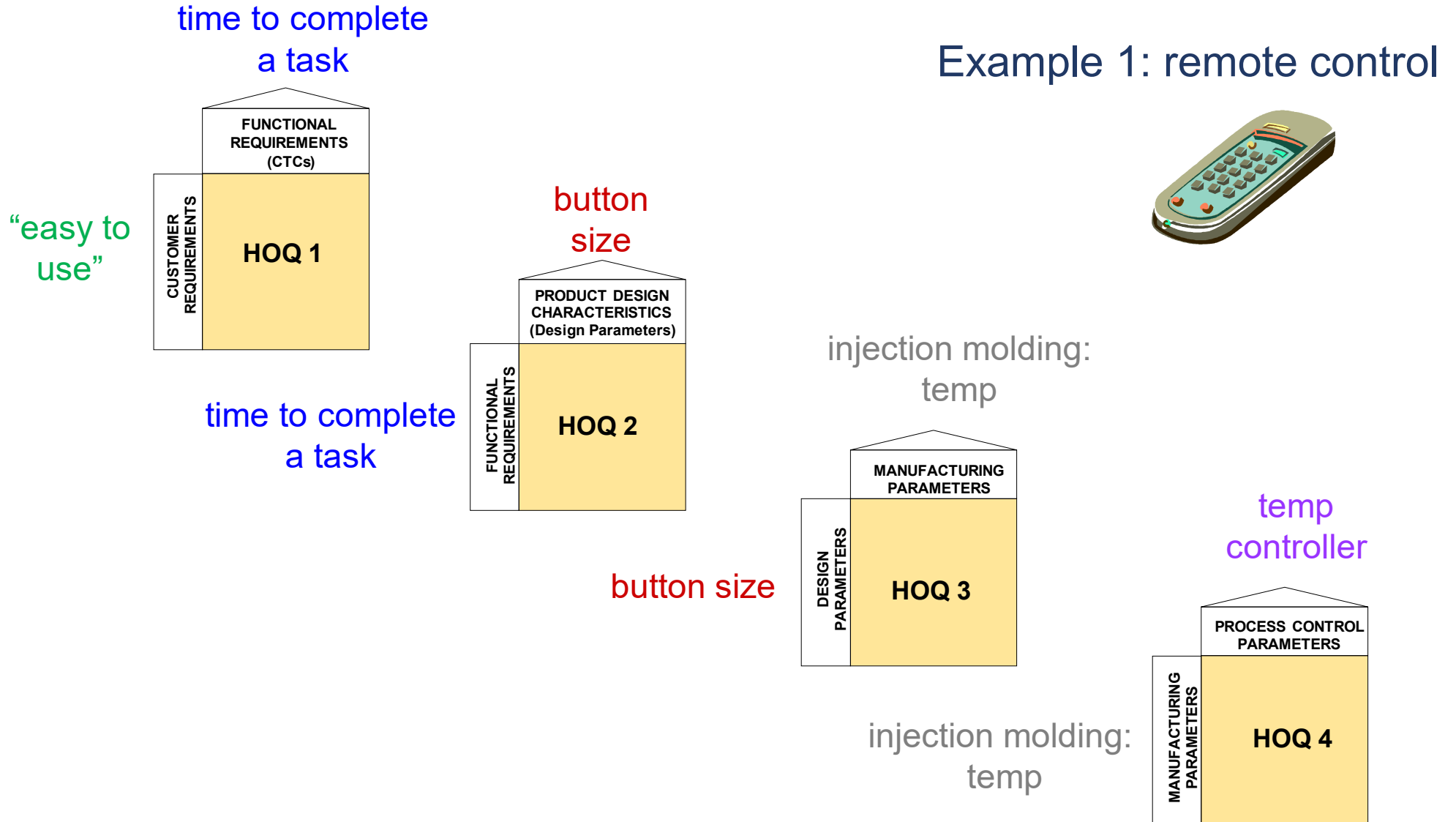
- hold time (goal: less than 1 minute)
- % of customers routed to the correct person the first time (goal = 100%)
- % of customers surveyed replying “satisfied” or better (goal 99%)
- % of customers greeted by name; % of customers not interrupted when talking (goal 100%)

Quality Function Deployment (QFD) (The Houses of Quality)

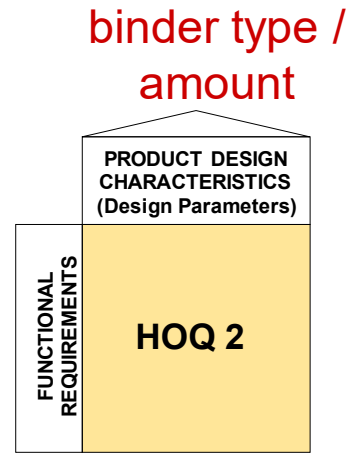
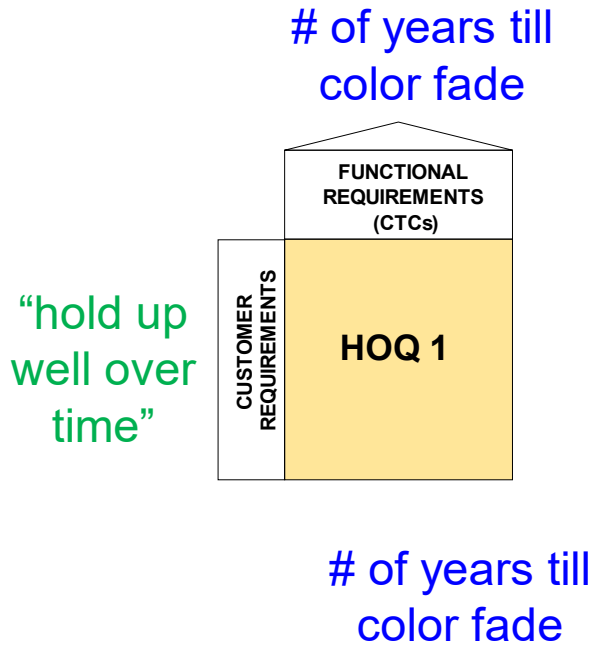


Quality Function Deployment

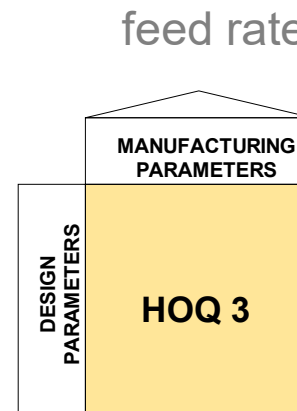
Quality Function Deployment (QFD) (cont.)



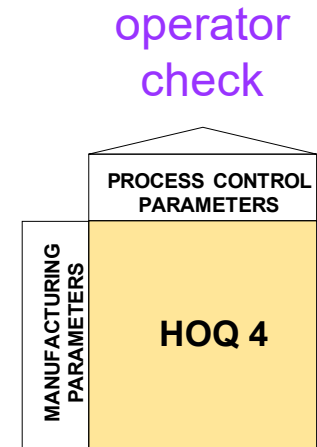
Quality Function Deployment (QFD) (cont.)



binder type / amount



feed rate



Example 2: exterior paint



Example: Refrigerator

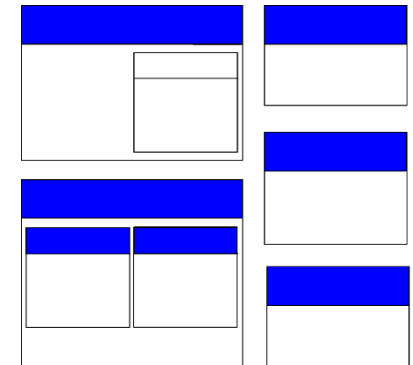
- Suppose we are designing (or re-designing) a refrigerator
- A partial listing of customer requirements, gathered from interviews and surveys are as follows:
 - “Should last a long time”
 - “Needs to preserve food”
 - “Want it to be quiet”
 - “Would like it to match my kitchen”
 - “Needs to fit”
 - “Want to be able to easily reconfigure the shelves”
 - “Want to fit large, bulky items”
 - “Want it to be energy efficient”
 - “Want it to be inexpensive to service”
- An Affinity Diagram can be useful when dealing with long lists of requirements. It helps us reduce duplicate/similar requirements and identify missed requirements.



Steps for Creating an Affinity Diagram

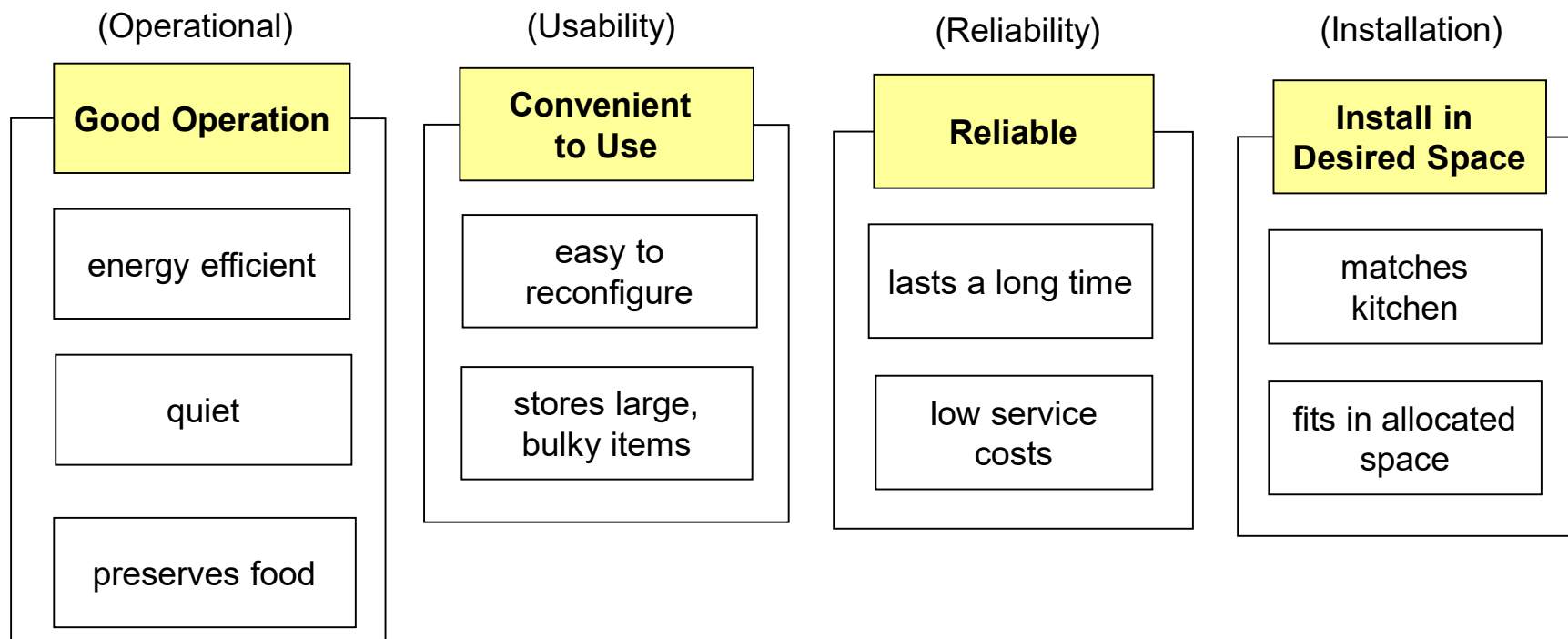


- Gather and write all qualitative customer requirements on sticky notes.
 - Don't use long descriptions like "When I go to the grocery store and buy large gallons of apple cider or stacked pizza crusts, I'd like to be able to find a place to store them in the refrigerator." Instead: "Stores large, bulky items"
- Put all the notes on a wall or desk.
- Sort the notes into logical, related groups
- Identify a short title for the group.
- Complete the affinity diagram by combining any duplicate/similar requirements or identifying any missing/incomplete requirements



Affinity Diagram

- With long lists of requirements, using an affinity diagram can be very helpful
- Group requirements into logical groups. Generate a label for each group.



Creating the First House of Quality

Step 1: Place the Customer Requirements (or affinitized group names) in the first column of the matrix.

Customer Requirements

↓

A: energy efficient											
B: quiet											
C: preserves food											
D: easy to reconfigure											
E: handles large, bulky items											
F: lasts a long time											
G: matches kitchen											

Creating the First House of Quality (cont.)

Step 2: Assign a rating for each requirement (typically on a scale from 1-5), where higher numbers reflect requirements that are more critical (important) to the customer.

	Importance Rating (1-5)										
A: energy efficient	2										
B: quiet	4										
C: preserves food	5										
D: easy to reconfigure	5										
E: handles large, bulky items	3										
F: lasts a long time	4										
G: matches kitchen	1										

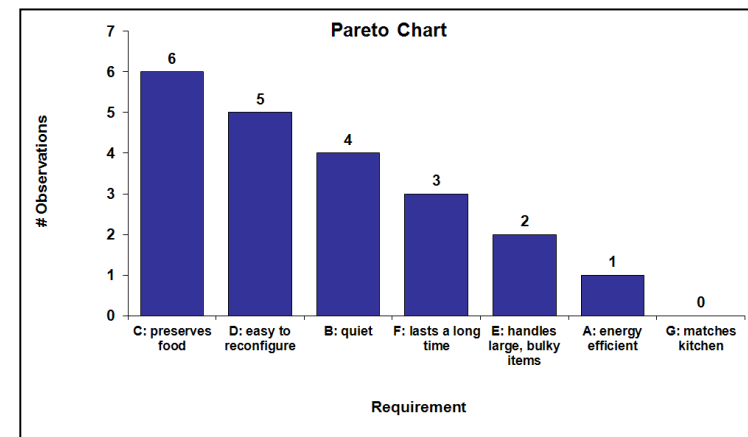
- There are several way to generate the “Rating” score for the different customer requirements. The ratings scores give us a metric to differentiate the relative importance of each item in the list.

Methods for Rating Customer Requirements

- Method 1 – Pairwise Comparison

- Compare each requirement against all other requirements
- For each pairwise comparison, customers determine the “winner” (i.e., which requirement takes priority), indicated by the letter placed in the cell
- The total number of occurrences of each requirement in the matrix is tallied and the results are displayed in a Pareto (bar) chart

		Customer Requirements						
		Energy Efficient	Quiet	Preserves Food	Easy to Reconfigure	Handles Large, Bulky Items	Lasts a long time	Matches Kitchen
A	Energy Efficient	X	X	X	X	X	X	X
B	Quiet	B	X	X	X	X	X	X
C	Preserves Food	C	C	X	X	X	X	X
D	Easy to Reconfigure	D	D	C	X	X	X	X
E	Handles Large, Bulky Items	E	B	C	D	X	X	X
F	Lasts a long time	F	B	C	D	F	X	X
G	Matches Kitchen	A	B	C	D	E	F	X



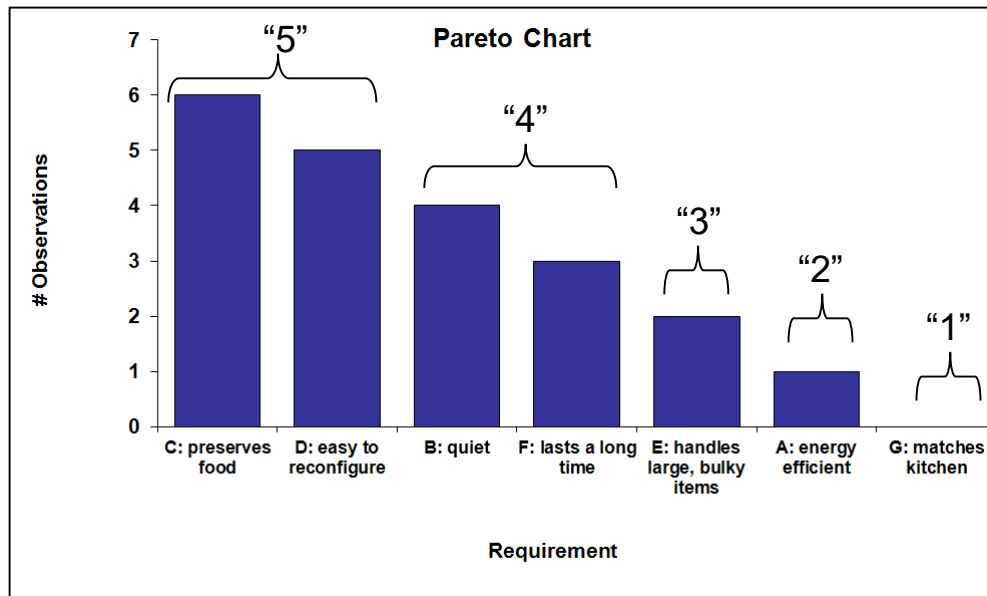
Data file: *VOC Prioritization Templates.xlsx*

- Optional: Open the MS Excel file named VOC Prioritization Templates. The sheet labeled Pairwise Comparison Example shows this example. SPC XL can then be used to generate the Pareto Diagram. For video instruction on generating a pareto go to: <https://airacad.com/our-insights/training-videos/spc-xl/>. Also, Quantum XL software has a pairwise comparison template (QXL Stat Tools / QFD / Pairwise)



Methods for Rating Requirements (cont.)

- Method 1: Pairwise Comparison (cont.)



- Requirements are assigned a rating of 1 to 5, based on the Pareto results and conversations with the customer:

- 5: Must haves (most critical)
- 4: Highly desirable
- 3: Desirable; Important
- 2: Useable; somewhat important
- 1: Nice-to-have, but not critical



Pairwise Comparison

Methods for Rating Requirements (cont.)

- Method 2: Multi-Voting

		Jason	Larry	Kurt	Linda	Sam	Joan	Chris		
	Customer Requirements								Total	Rank
A	Energy Efficient				x				1	6
B	Quiet			x			x	x	3	3
C	Preserves Food	x	x	x	x	x	x	x	7	1
D	Easy to Reconfigure	x		x	x	x		x	5	2
E	Handles Large, Bulky Items	x	x						2	5
F	Lasts a long time		x			x	x		3	3
G	Matches Kitchen								0	7



Multi Voting

- Each person votes for the top ____ requirements (3, in this example)
 - Rule of thumb: # of votes = $n / 3$ (round up, where n = # of items to be voted on)
- Votes are summed for each requirement and ranked by their total
- Requirements receiving the most votes are deemed most critical
- The total number of votes for each requirement in the matrix may be displayed in a Pareto (bar) chart



- Optional: Pause the video and open the MS Excel file named VOC Prioritization Templates. The sheet labeled Multi Voting Example shows this data.



Data file: VOC Prioritization Templates.xlsx

Methods for Rating Requirements (cont.)

- Method 3: Nominal Group Technique (Ranking)

		Jason	Larry	Kurt	Linda	Sam	Joan	Chris		
	Customer Requirements								Total	Rank
A	Energy Efficient	4	5	4	3	6	7	6	35	6
B	Quiet	5	4	2	7	4	2	2	26	3
C	Preserves Food	1	1	1	2	1	1	1	8	1
D	Easy to Reconfigure	2	6	3	1	2	5	3	22	2
E	Handles Large, Bulky Items	3	3	5	5	5	4	5	30	5
F	Lasts a long time	6	2	6	4	3	3	4	28	4
G	Matches Kitchen	7	7	7	6	7	6	7	47	7



Nominal Group Tech.

- Each person in the group rank orders the set of requirements
- Rank orderings are summed for each requirement and ranked by their total
- Note: If a “1” represents the first choice, then the lowest overall total is the most important requirement



- Optional: Pause the video and open the MS Excel file named VOC Prioritization Templates. The sheet labeled Nominal Group Technique Example shows this data.



Data file: *VOC Prioritization Templates.xlsx*

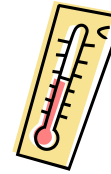
Creating the First House of Quality (cont.)

Step 3: Identify one (or more) CTCs for each customer requirement and place along the top row.

CTCs →

A: energy efficient	2										
B: quiet	4										
C: preserves food	5										
D: easy to reconfigure	5										
E: handles large, bulky items	3										
F: lasts a long time	4										
G: matches kitchen	1										

Identifying CTCs



- CTCs (Critical-to-Customer) are measurable characteristics that directly relate to the customer requirements ... they tell us how we're doing in meeting a customer requirement
- If it is not measurable, it is not a CTC
- CTCs should have units and an operational definition
- This step takes time, and we may have to invent new methods or ways to measure a requirement. This is done via brainstorming, clarifying requirements with the customer, etc.

Identifying CTCs for the Refrigerator

Example

CTCs →

		energy efficiency rating	noise level (db)	temperature range	cooling speed	% adjustable shelves	disassy / reassy time (sec)	shelf depth and width (in.)	door tray depth (in.)	mean time to failure	# available colors
A: energy efficient	2										
B: quiet	4										
C: preserves food	5										
D: easy to reconfigure	5										
E: handles large, bulky items	3										
F: lasts a long time	4										
G: matches kitchen	1										

Creating the First House of Quality

Step 4: Rate the strength of the relationship between each customer requirement and the CTCs.

9 = strong relationship
 3 = medium relationship
 1 = weak relationship
 Blank = no relationship

		energy efficiency rating	noise level (db)	temperature range	cooling speed	% adjustable shelves	disassy / reassy time (sec)	shelf depth and width (in.)	door tray depth (in.)	mean time to failure	# available colors
A: energy efficient	2	9	1	3	9			1	1	1	
B: quiet	4	3	9	1	3						
C: preserves food	5	3		9	9			1	1	1	
D: easy to reconfigure	5					3	9				
E: handles large, bulky items	3					9	1	9	9		
F: lasts a long time	4	1			1					9	
G: matches kitchen	1										9

Completing the First House of Quality

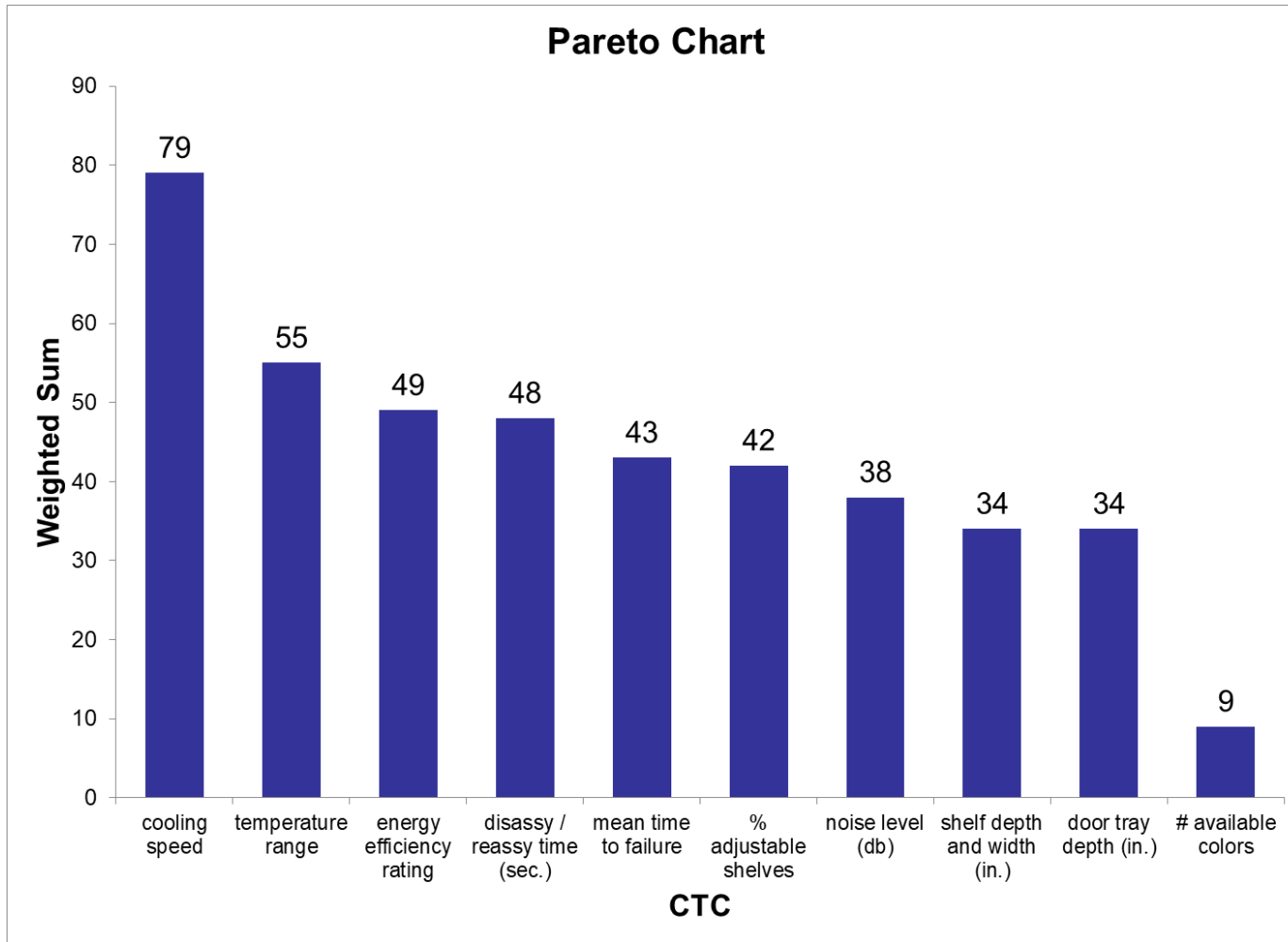
Step 5: Calculate a weighted sum for each column (CTC) by cross multiplying the weight by the rating in each column.

Cross-multiply the requirement rating by the relationship rating


Example: Energy Efficiency
 weighted sum = $(2 \times 9) + (4 \times 3) + (5 \times 3) + (4 \times 1) = 49$

		energy efficiency rating	noise level (db)	temperature range	cooling speed	% adjustable shelves	disassy / reassy time (sec)	shelf depth and width (in.)	door tray depth (in.)	mean time to failure	# available colors
A: energy efficient	2	9	1	3	9			1	1	1	
B: quiet	4	3	9	1	3						
C: preserves food	5	3		9	9			1	1	1	
D: easy to reconfigure	5					3	9				
E: handles large, bulky items	3					9	1	9	9		
F: lasts a long time	4	1			1					9	
G: matches kitchen	1										9
		49	38	55	79	42	48	34	34	43	9

Pareto Chart of the CTCs (Weighted Sums)



HOQ1 Summary

- HOQ1 transforms “what” the customer wants/needs into “how” we’ll know we’ve satisfied the customer (the critical to customer measures)
- After using VOC tools and completing HOQ 1, you and your team should have:
 - More complete knowledge of the “voice” of the customer (needs, wants, etc.)
 - At least one CTC (Critical to Customer) metric for measuring the “fuzzy” voice of the customer
 - A prioritized list of the CTC’s to assist in the development and design of the product/process, or improvement efforts
- Where are these CTCs used?
 - IPO diagram . . . These are the measurable outcomes 
 - In DFSS, these are items on the performance scorecard

#	Performance	DPU	Qty	Continuous Variable						Sample Size Known		ppm Only	
				Target	Mean	StdDev	LSL	USL	UOM	Sample Size	# Defective	ppm	
1	disassembly time		1					10		sec			
2	noise level		1					50		db			
3	cooling speed		1					6		hours from room temp			
4													
5	etc.												
6													
7													

Templates for Building HOQ1

- The sheet named **Template** in the MS Excel data file HOQ1 Template.xlsx has a simple Microsoft Excel-based template

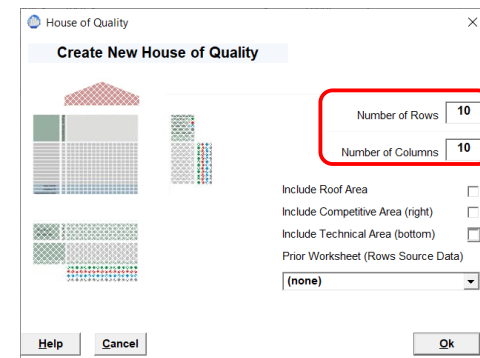
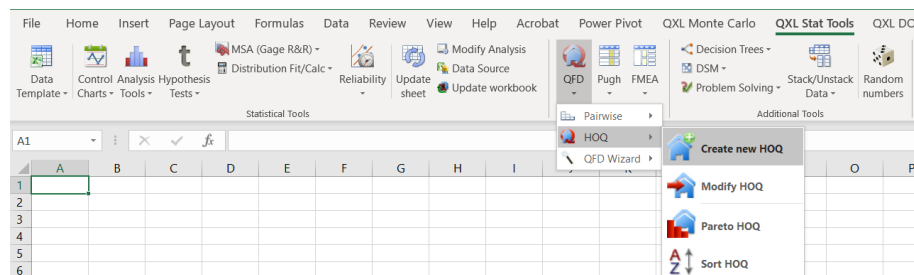


Data file: HOQ1 Template.xlsx
Sheet labeled "Refrigerator HOQ-1" has the completed example

- If you have Quantum XL software, you can construct a House of Quality one of two ways

– **Method 1:** Start with a blank template

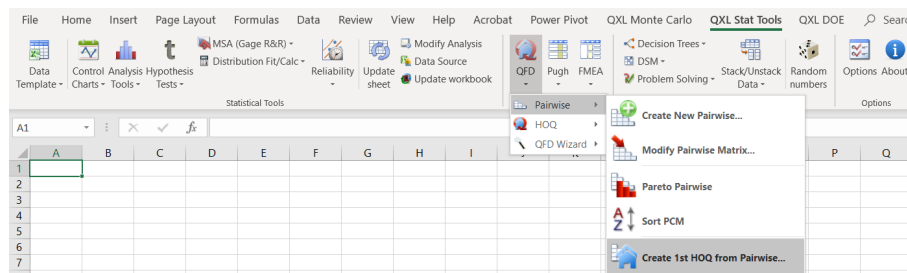
QXL Stat Tools > QFD > HOQ > Create new HOQ



specify the number of rows and columns for HOQ1

– **Method 2:** From a completed pairwise comparison matrix

QXL Stat Tools > QFD > Pairwise > Create 1st HOQ from Pairwise



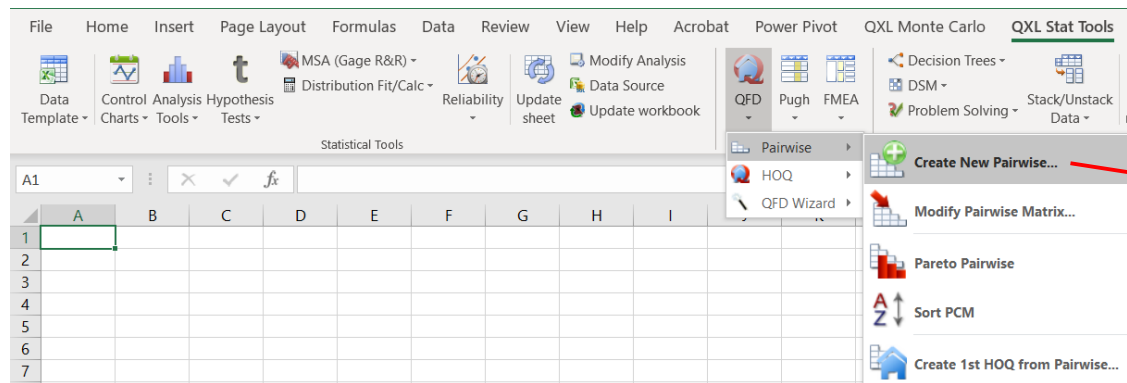
Using Quantum XL to Construct a House of Quality (Optional)

- Demonstration of building HOQ1, starting with a pairwise comparison (refrigerator example)

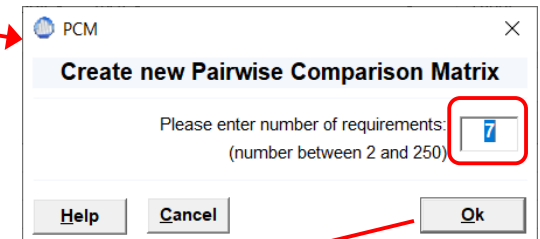


Data file: Refrigerator HOQ in QXL.xlsx

QXL Stat Tools > Pairwise > Create New Pairwise

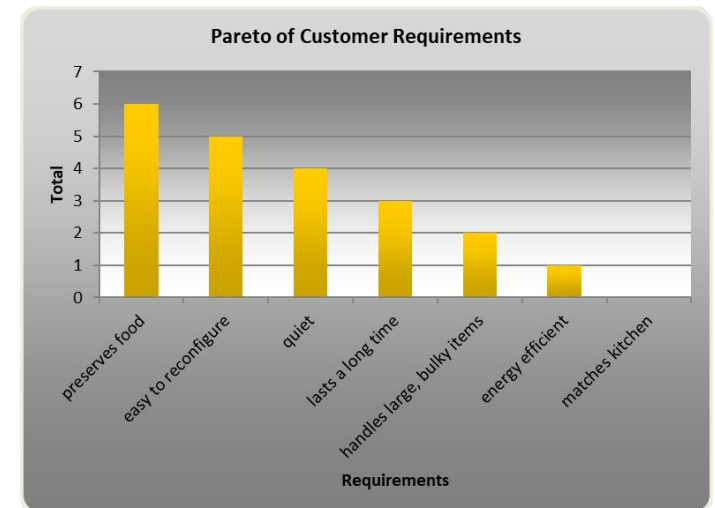


specify the number of requirements



- Complete the pairwise comparison matrix

Pairwise Comparison Matrix		A	B	C	D	E	F	G	Total
		energy efficient	quiet	preserves food	easy to reconfigure	handles large, bulky items	lasts a long time	matches kitchen	
A	energy efficient								1
B	quiet	B							4
C	preserves food	C	C						6
D	easy to reconfigure	D	D	C					5
E	handles large, bulky items	E	B	C	D				2
F	lasts a long time	F	B	C	D	F			3
G	matches kitchen	A	B	C	D	E	F		0
	Total	1	4	6	5	2	3	0	
	Importance Rating	2	4	5	4	2	3	1	



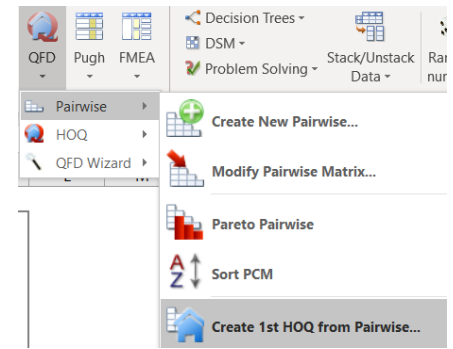
Using Quantum XL to Construct a House of Quality (Optional) (cont.)

- With a completed pairwise comparison matrix

QXL Stat Tools > Pairwise > Create 1st HOQ from Pairwise

Specify number of rows (requirements) and columns for the CTCs (can be modified later)

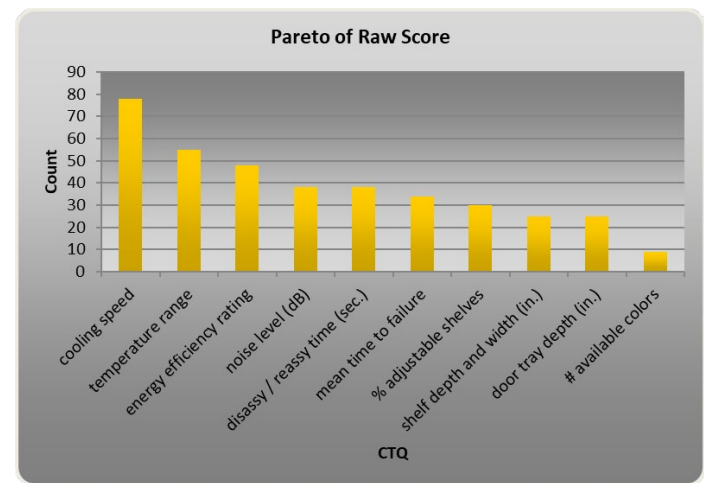
Source data



- Complete the House of Quality and create a pareto of results using QXL Stat Tools > QFD > HOQ > Pareto HOQ

Importance Rating:
 1 = Low Importance
 3 = Moderate Importance
 5 = High Importance

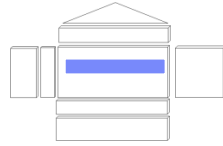
	Importance Rating	energy efficiency rating	noise level (dB)	temperature range	cooling speed	% adjustable shelves	disassy / reassy time (sec.)	shelf depth and width (in.)	door tray depth (in.)	mean time to failure	# available colors
energy efficient	2	9	1	3	9			1	1	1	
quiet	4	3	9	1	3						
preserves food	5	3		9	9			1	1	1	
easy to reconfigure	4					3	9				
handles large, bulky items	2					9	1	9	9		
lasts a long time	3	1			1					9	
matches kitchen	1										9
Raw score		48	38	55	78	30	38	25	25	34	9
Relative %		13%	10%	14%	21%	8%	10%	7%	7%	9%	2%
Importance Rank		3	3	4	5	2	3	2	2	2	1



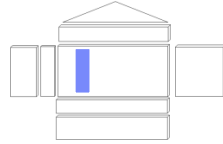
QFD Analysis (Things to Watch For)



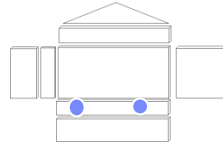
- Blank / weak rows



- Blank / weak columns



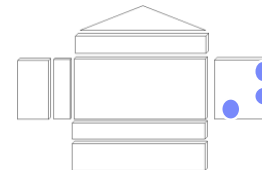
- High Priority CTCs



- If additional “rooms” are completed:

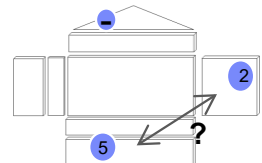
- “Eye Openers” / Opportunities

- Where are our competitors doing better?
- Where are we all doing poorly?



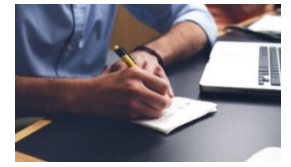
- Conflicts

- Technical assessment in conflict with customer competitive assessment
- Key design tradeoffs and opportunity for innovation / resolution (“roof”)





Key Takeaways



- As a review, you may want to pause the video at this point and summarize the key learnings from this session, at least from a high-level view. When you are finished, resume the video.

Key Takeaways

- The purpose of the Voice of the Customer tools is to:
 - Identify exactly what the customer needs/wants in the product/process
 - Prioritize the needs/wants of the customer
 - Identify how the needs/wants of the customer will be measured
 - Move from “I think” to “I know”
- Tools that can be used to prioritize the voice of the customer are:
 - Pairwise Comparison Matrix
 - Nominal Group Technique
 - Multi Voting Technique
- House of Quality 1 is a tool to:
 - Organize, document and prioritize customer requirements
 - Translate the customer requirements into measurable characteristics (and specifications)
 - Generate a prioritized list of CTC’s (for IPO diagrams and in DFSS for the performance scorecard and rows in HOQ2)
- Kano’s Model helps us to identify the needs, wants, and delighters.
 - Customers are usually good at identifying the wants
 - Customers commonly don’t explicitly state the needs (don’t overlook these!)
 - Finding the delighters can be difficult, but very valuable in terms of customer loyalty, market share, etc. (we need to constantly be innovating!)
 - Indifferent or reverse quality can also be concerns when dealing with customer wants

Supplemental Material



- Suggested Reading:
 - **Basic Statistics – Tools for Continuous Improvement** by Kiemele, Schmidt and Berdine, 4th edition (pp. 11-1 through 11-37)
 - **Design for Six Sigma – The Tool Guide for Practitioners** by Reagan and Kiemele, 1st edition (pp. 169 – 172, pp. 195 – 203, pp. 243 – 250, pp. 311 – 313)
 - **Lean Six Sigma: A Tools Guide** by Adams, Kiemele, Pollock and Quan (pp. 23 – 27, 231 – 253)
 - Air Academy's app: **Six Sigma Quick Tools**



- Recommended software from sixsigmaproductsgroup.com:
 - SPC XL™ DOE PRO XL™ Quantum XL™ Pro-Test™
- SPC XL™ software training tutorials:
 - <https://airacad.com/our-insights/training-videos/spc-xl/>
- The data files for this session can be downloaded from the site where you are accessing this course

Additional Practice / Review Questions



- 1) Choose a project/process from your workplace. Generate HOQ 1 for this product/process. As much as possible, try to use an actual customer and their requirements. If necessary, use a customer surrogate. Make sure to use the six steps from slide 8 of these materials.
 - Which of the customer requirements are needs?
 - Which of the customer requirements are wants?
 - What are some potential delighters for your customer?
- 2) Identify some of the ways you could use VOC in your organization.
- 3) What is the purpose of segmenting customers?
- 4) What are some methods for gathering the voice of the customer? Which is best?
- 5) If there are rows and/or columns in the HOQ 1 that are empty, what does that tell you about your process/product? What action(s) should you take?

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There's an app for that!
Six Sigma Quick Tools

