

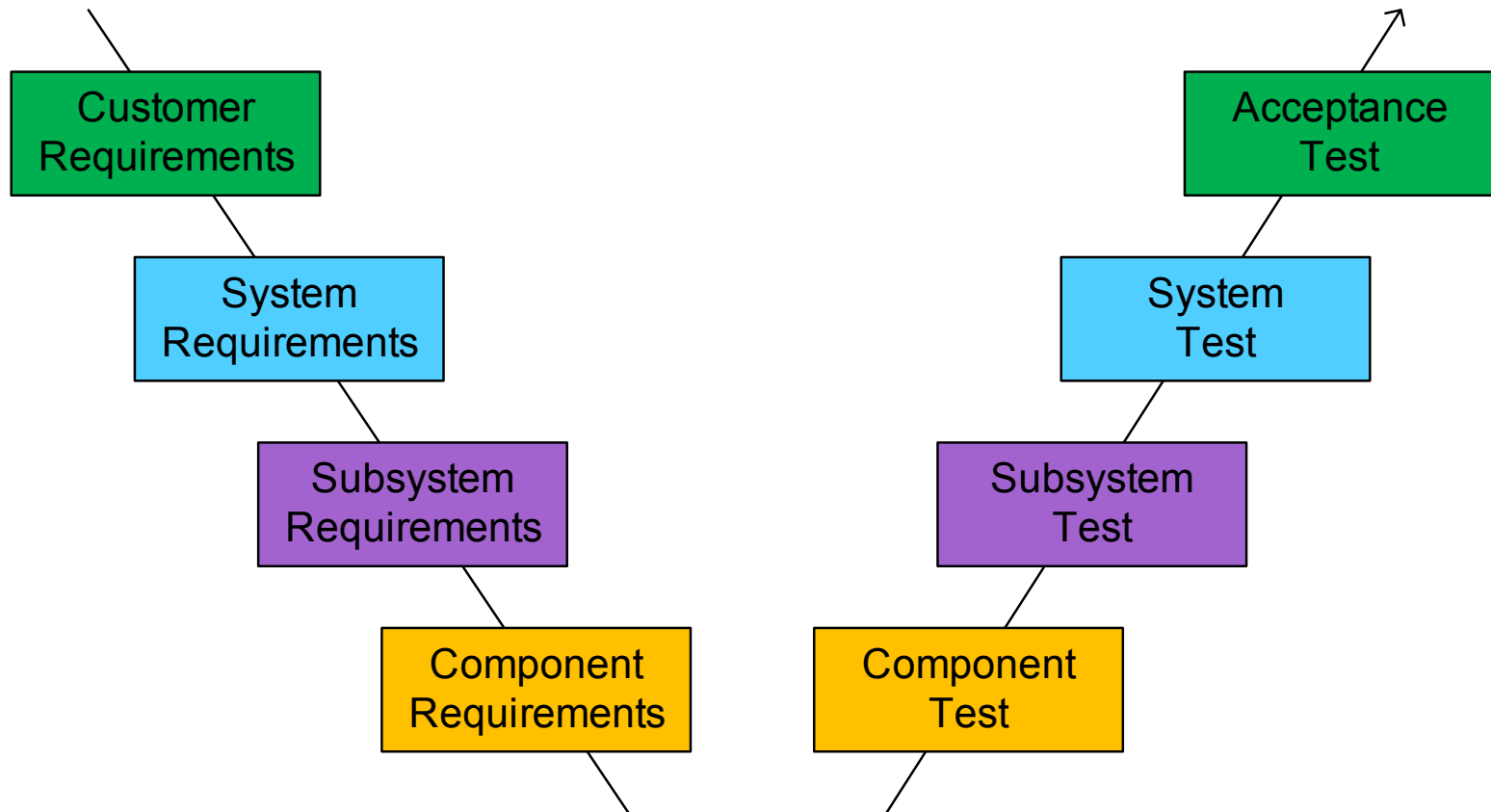
ETLS 509 - Validation & Verification

University of St. Thomas

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Fall 2016

ETLS 509 - Session 13

- System Test & Evaluation - Putting it all together



Businesses Compete on Quality

Winners

- Emphasized real customer expectations
- Researched customer needs
- Used customer-based quality performance measurements
- Formulated QC systems for all functions

Losers

- Downgraded the customer view
- Made high quality synonymous with tight tolerances
- Tied quality objectives to manufacturing flow
- Expressed quality goals as number of defects per unit
- Formulized QC systems only for manufacturing

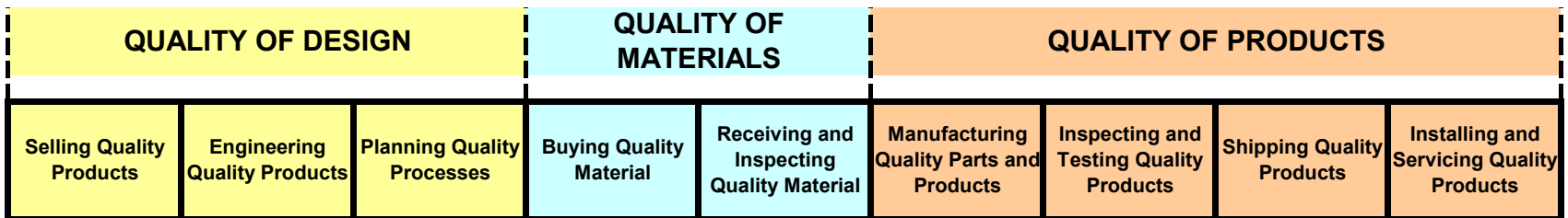
The Two Views of Quality

- **Internal:** Company -perceived Quality
 - Quality control, conformance to specifications (linked to manufacturing productivity)
 - **Traditional:**
 - Do the thing right
 - Note things gone wrong
- **External:** Customer-perceived quality
 - Linked to value and customer satisfaction
 - **Forward focused:**
 - Do the right thing
 - Note things gone right

The Value Concept

1. Customers choose between competing offerings based on **Satisfaction** with **Value**
2. **Value** = Quality Package relative to Price
3. Quality Package includes all non-price attributes
 - Product/Service
 - Information
 - Support
4. Price includes all non-Quality Package attributes:
 - Money, Time and Effort:
 - Initial purchase, training, installation, conversion, running, maintenance, upgrade, compatibility, disposal, switching, servicing, down time, ...

THE RANGE OF QUALITY



The Eight Dimensions of Product Quality

Reference: David A Garvin, “Competing on the Eight Dimensions of Quality”, *Harvard Business Review*, November-December 1987, pp. 101-109.

#	DIMENSION	DEFINITION	EXAMPLE
1.	Performance	The primary operating characteristics of a product.	
2.	Features	The “bells and whistles” of a product (i.e., those characteristics that supplement the basic functions).	
3.	Reliability	The probability that a product will fail within a specified period of time.	
4.	Conformance	The degree to which the design or operating characteristics of a product meet pre-established standards.	
5.	Durability	The amount of use a product can sustain before it physically deteriorates to the point where replacement is preferable to repair.	
6.	Serviceability	The speed, courtesy, competence, and ease of repair.	
7.	Aesthetics	The look, feel, taste, smell, and sound of a product.	
8.	Perceived Quality	The impact of brand name, company image, and advertising.	

The Seven Dimensions of Service Quality

Reference: *Operations Management*, authored by Roberta S. Russell and Bernard W. Taylor III, and published by Prentice Hall.

#	DIMENSION	DEFINITION
1.	Time & Timeliness	Customer waiting time. On-time completion.
2.	Completeness	Customers get all they ask for.
3.	Courtesy	Treatment by employees.
4.	Consistency	Same level of service for all customers.
5.	Accessibility & Convenience	Ease of obtaining service.
6.	Accuracy	Performed correctly every time.
7.	Responsiveness	Reaction to special circumstances or requests.

Review - what stuck with us from last week?

FARs

- [http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?
c=ecfr&sid=092dcd8ea9390965a37b25581430f52f&rg
n=div5&view=text&node=14:1.0.1.3.11&idno=14](http://ecfr.gpoaccess.gov/cgi/t/text/text-idx?c=ecfr&sid=092dcd8ea9390965a37b25581430f52f&rgn=div5&view=text&node=14:1.0.1.3.11&idno=14)