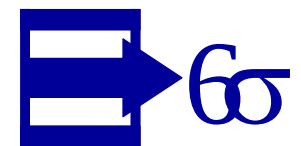
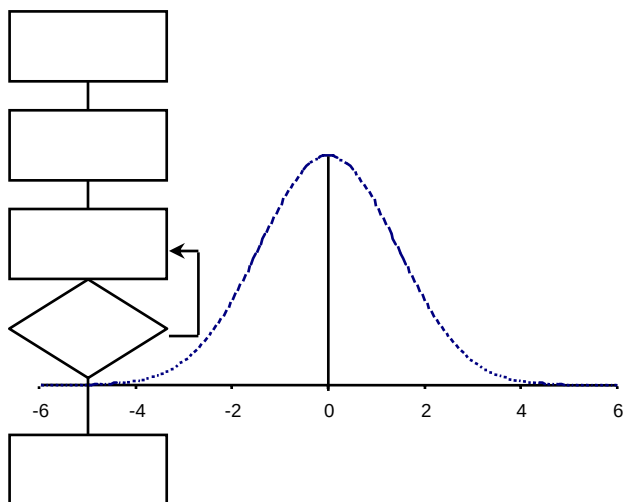


Design for Six Sigma (DFSS) - Overview for Black Belts



Briefing Outline

- **Define:** What is Design for Six Sigma (DFSS)?
- **Describe:** Some Key DFSS Tools & Methods
- **Discussion:** Learning/Application Needs/Objectives for MBBs
- **Conclusion:** Next Steps

What is Design for Six Sigma (DFSS)?

Core Product/Service Development Functions

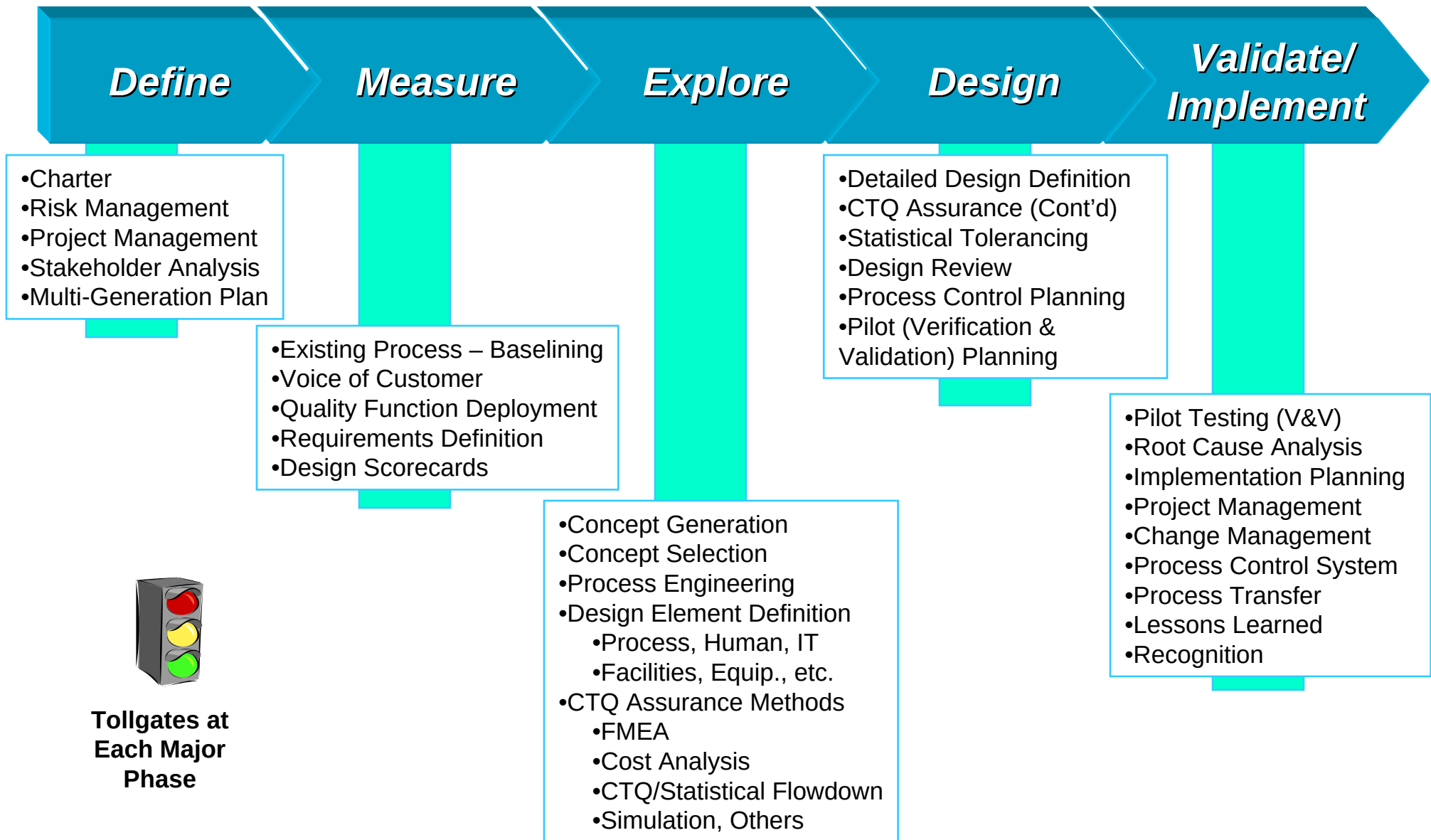
Core Product Development Functions:

- Selecting Development Opportunities
- Defining & Resourcing the Project
- Understanding Customers' Needs
- Developing a Feasible Approach
- Developing a Producing Approach
- Designing the Production System
- Verifying & Validating the Design Output
- Launching and Selling the New Product/Service

- A **Methodology** for Designing Services & Processes that Consistently Satisfy Customers (“SS” Part of DFSS), *Profitably*
- Project Management, Voice of Customer, Process Design, and Statistical **Tools** to Support Application of the Methodology



- **Define** – Define and Plan the Design Project (Assumes GO-Decision Made)
- **Measure** – Gather Customer Needs, Define & Prioritize Service Requirements
- **Explore** – Develop Service Conceptual Design, High-Level “Systems” Design
- **Design** – Develop Detailed Design & Production Processes, Predict Design’s Sigma Capability, Develop Control & Pilot Plans
- **Validate/Implement** – Perform Pilot Testing; Implement & Transfer Process

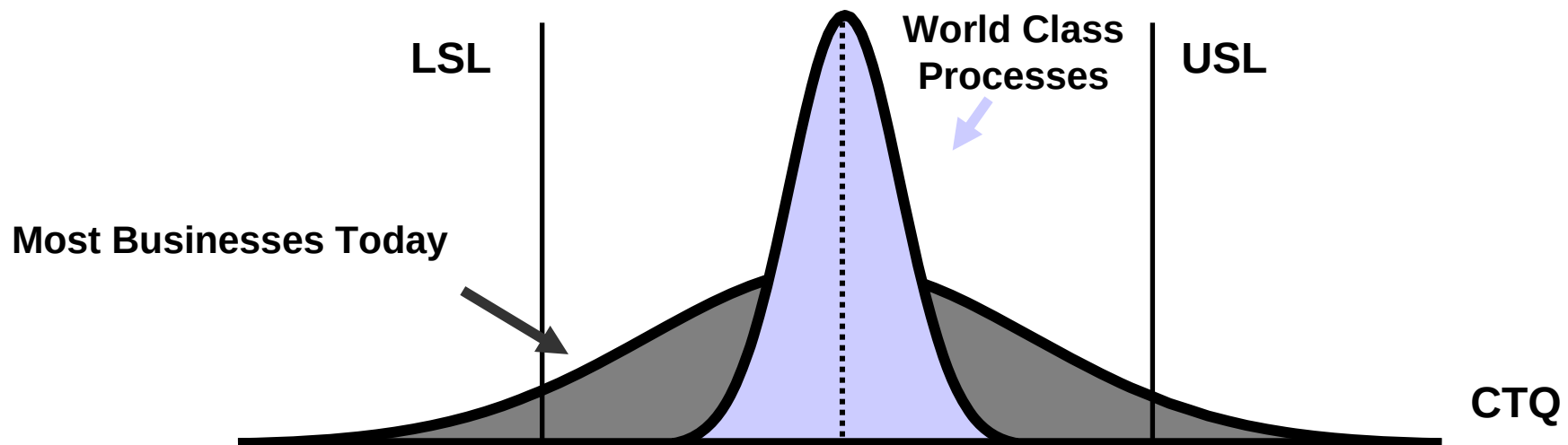


Why DFSS?

What are the Benefits of DFSS?, Costs & Challenges?

Is This Our Goal?

- Typical new business process designs perform in the 2-3 Sigma Range
- The Goal: Develop designs that can be produced on-target with minimum variation, operating at customer defined performance levels

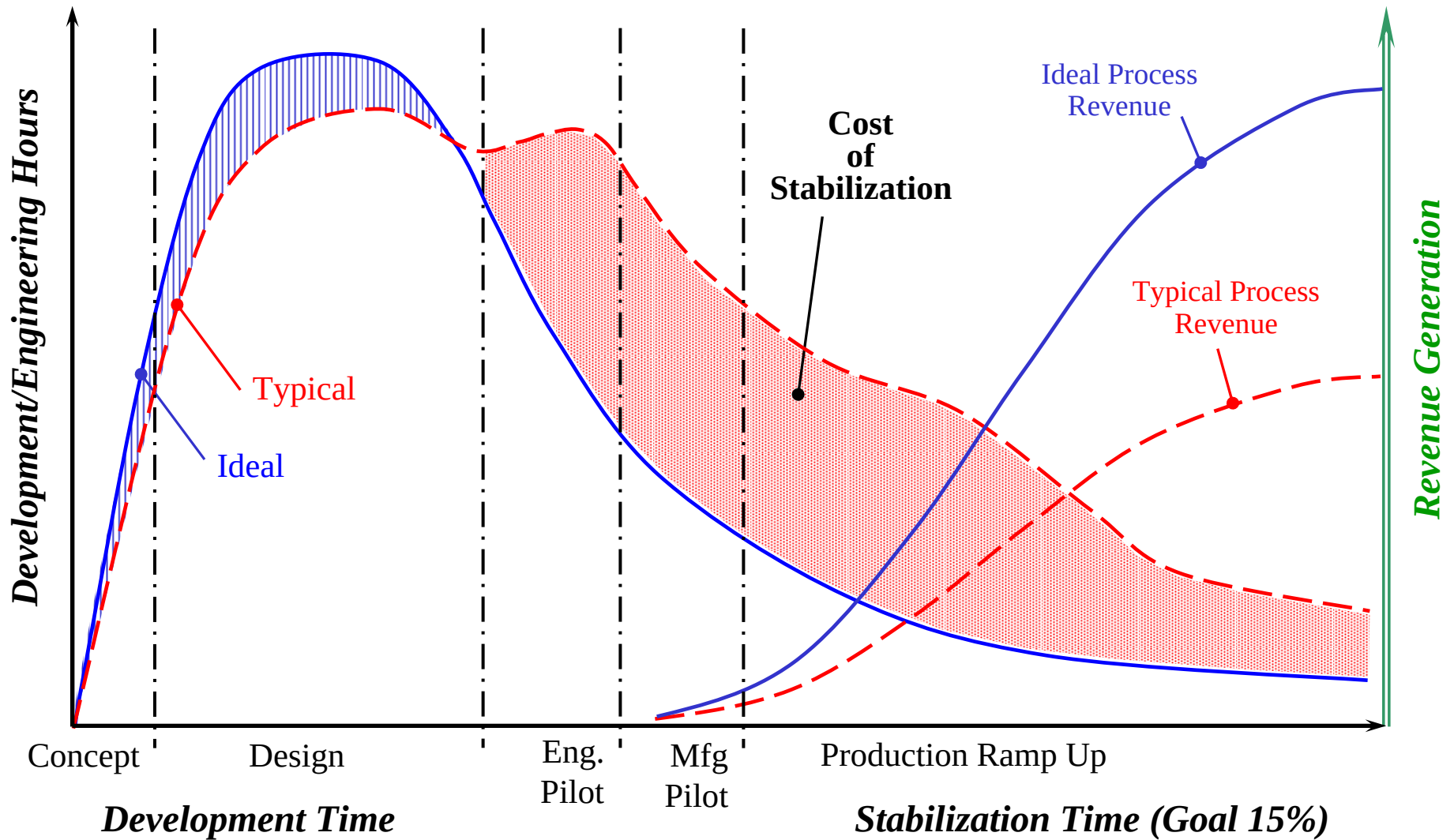


In A Study (de Brentani, 1993) Of The Approach Used To Develop New Services In The Financial Sector:

“...Companies Tend To Use A Hit-And-Miss Approach When Planning New Services Where: Ideas Are Generated And Defined In A Haphazard Fashion; Limited Customer Research Is Carried Out Prior To Planning The Design; Service Designs Often Lack Creativity And Precision And Do Not Incorporate The Appropriate Technology; Testing For Possible Failure Points Is Rarely Done, And Market Launch Is Often Characterized By Trial And Error”

How Do New Service Launches Work In Your Business?

The Need for Change in Design



Benefits – Depends on Your Business Needs!!!

- **DEFINE** – *Better, Bigger Ideas for New Products, Project Alignment – Management, Team & Stakeholders, MGP - “Eye on the Future,” Faster Execution, Risks Managed “Early & Often”*
- **MEASURE** – *Better Understanding of Customer (vs. User) Needs, Fewer Technology “Push” Products, Quantifiable Success Measures*
- **EXPLORE** – *Stretch Design Concepts, Holistic, “Systems” Design Approach, Failure Mode Identification & Elimination*
- **DESIGN** – *Detailed, Implementable Designs, Critical Parameter Management (“X & Y”), Quality & Cost Predictions*
- **VALIDATE/IMPLEMENT** – *Pilot Tests Before Full-Scale Implementation, Shorter Start-Up Time, Stakeholder Buy-In to Solution, Explicit Transfer to Process Owners, Process Controls – Accountability, Metrics, Response Planning, Fewer “DMAIECs” Post-Launch*

Above – NOT a Sales Pitch – Specific Reasons Companies are Pursuing DFSS!

DFSS "Costs" & Challenges

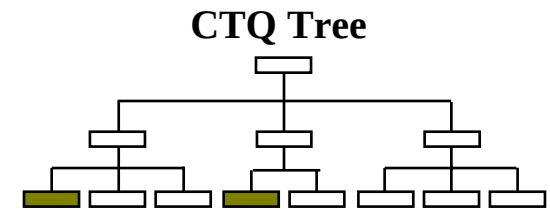
- Service Design – Easier to "Slap Something Together" Than For Products – "Can Always Change It Later"
- "Fast-to-Market" vs. "Fast-to-Profitability" Mindset and Practice
- DFSS Learning Curve ("I Had to See it 3 Times . . ." – Bev Lampp, GE MBB)
- Discipline of Obtaining Voice of Customer for Business Processes
- Discipline of Metrics, Process Performance Accountability (Design and Operations)
- Discipline of Identifying/Addressing Failure Modes Up-Front, Predicting CTQ Performance

When to Use DFSS vs. DMAIEC

DMAIEC vs. DMEDVI

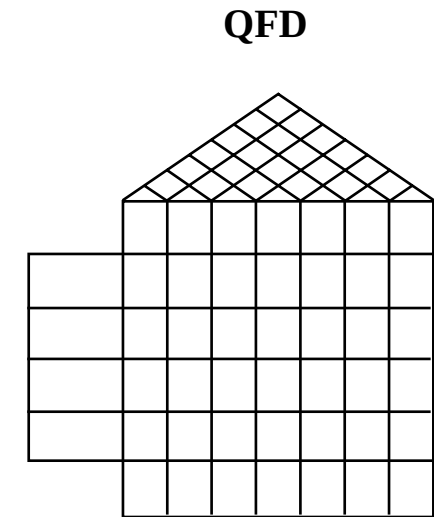
DMAIEC

- Process improvement project
Focus on root causes that drive CTQ performance



DMEDVI

- Process design project
Optimize design across CTQs and sub-processes

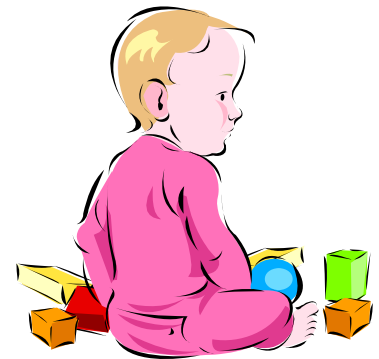


When to Choose DMEDVI

- Service/Process doesn't currently exist

New Service introduction

Multiple fundamentally different versions of the process are in use



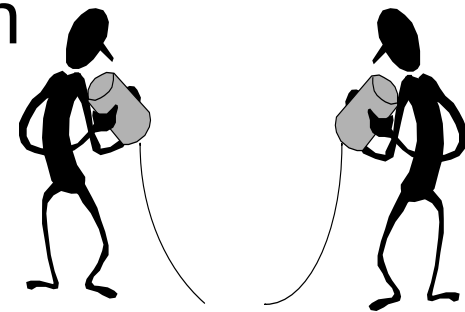
OR

- When incremental improvement isn't enough

Process broken or does not exist

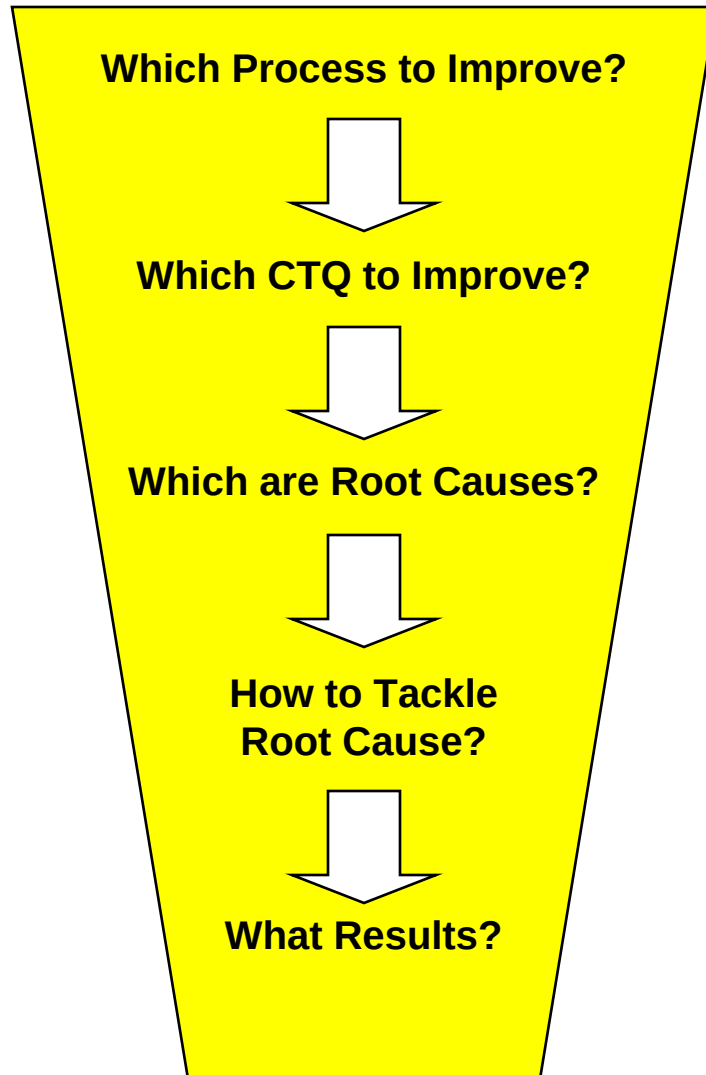
Process has reached entitlement

Information technology implementation

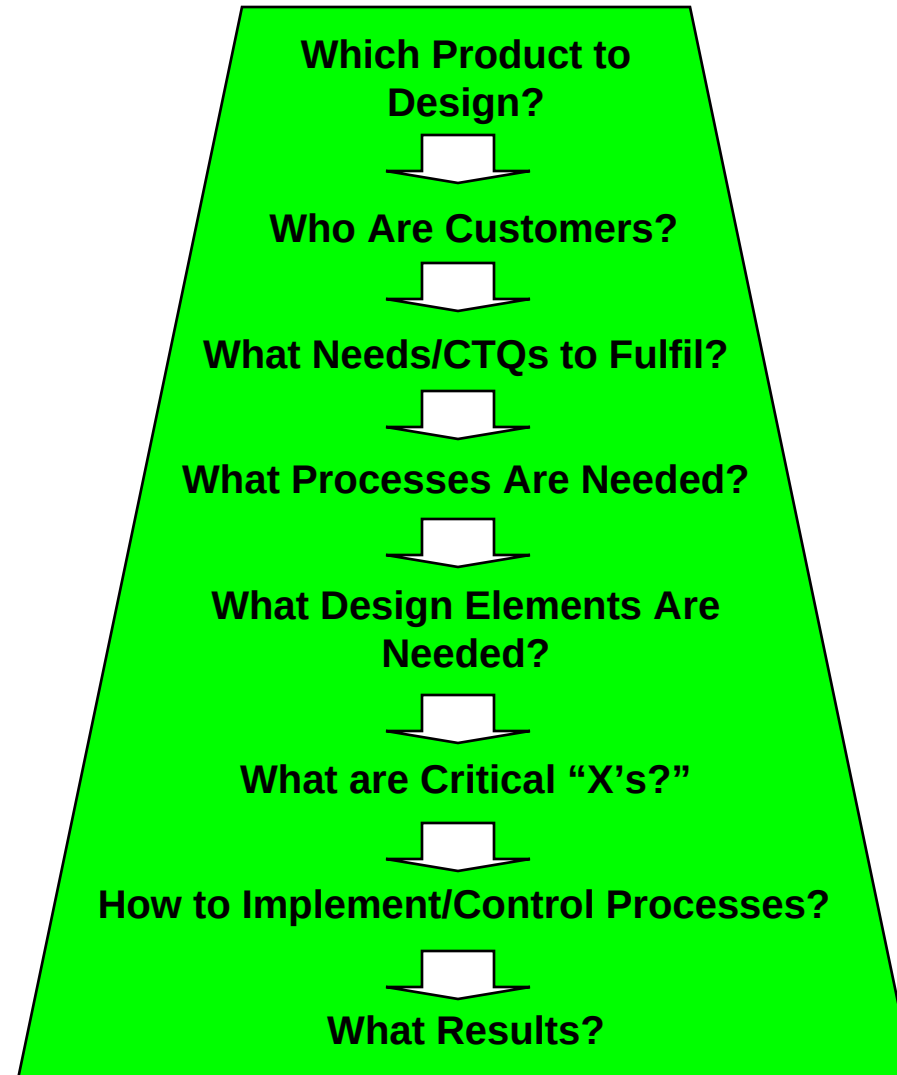


DMAIEC vs DFSS "Thinking"

DMAIEC - Narrowing

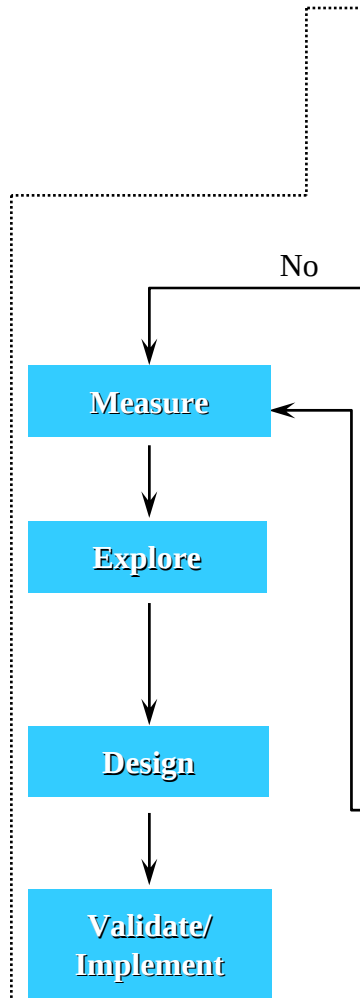


DMEDVI – Broadening (With "Critical" Focus)



DMEDVI

*Steps To
Design A
New
Product/
Service Or
Redesign
Existing
Product/
Service*

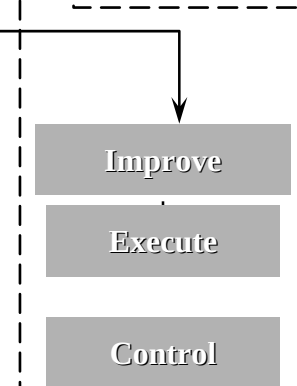


- Also Consider:
- Customer Impact
- Competitive Environment
- Cost/Benefit Analysis
- Project Prioritization

DMAIEC

*Steps To
Improve An
Existing
Process*

**"DMA-MA"
Projects
Possible!**



What Approach Would You Employ to Address These Business Opportunities?

- Market Studies indicate an opportunity to develop a new hair care product, to give young consultants that desirable “*gray beard*” look.
- A large auto manufacturer has experienced problems with separation of tire treads on one of their popular sport-utility vehicles.
- Customer feedback indicates low satisfaction with the cycle time for a company’s complaint resolution.
- A rapidly expanding medical products company has had limited success with the acquisition and integration of small biotech outfits.
- The IT department has been charged with converting the current purchasing system to one based on Internet e-procurement.

DFSS – 10,000 Meter View

Define

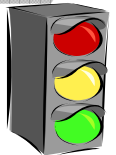
**Charter
The Project**

**Scope the
Project**

**Develop
Project Plans
& Controls**

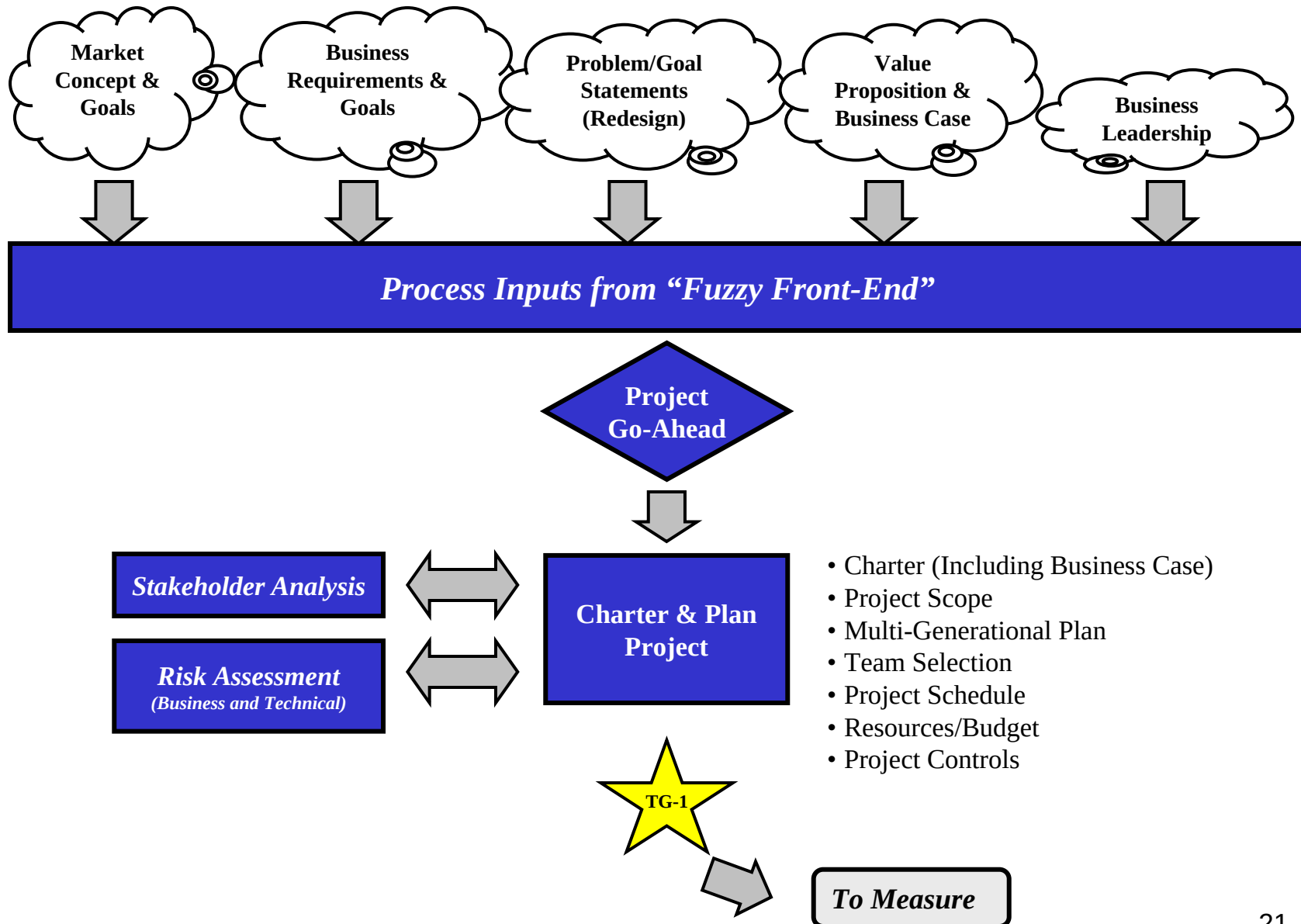
Key Deliverables:

- Draft Project Charter
 - Service Concept
 - Problem/Goal Statement
 - Project Scope Definition
 - Service Multi-Generation Plan
- Team & Design Resources
- Project Plan
- Design Process Controls
- Change Management Plan



**Define
Tollgate**

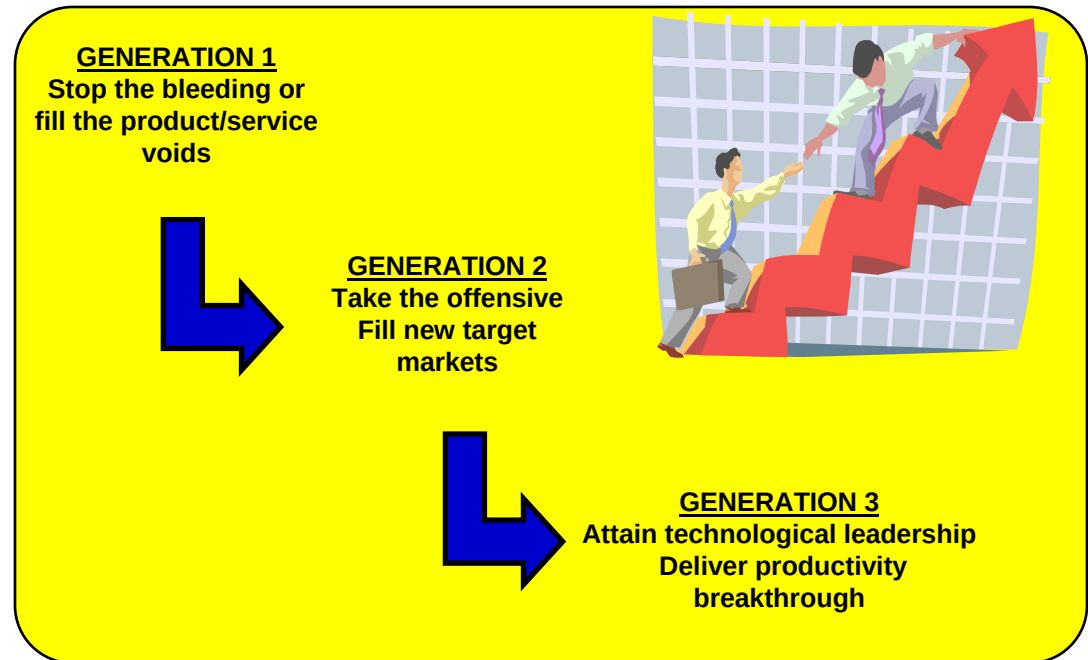
Define Step Schematic



Charter/Multi-Generational Plan (MGP)



Project Charter - Elements



Multi-Generational Plan (MGP)

Service Design Charter Example

Business Case

Automobile loan sales through the direct-to-consumer channel represent a new and significant growth opportunity for LDB. The market potential for automobile loans sold through direct-to-consumer channels is estimated at \$640M annually in North America. Currently, this market is under-served. Less than 10% of the \$640M opportunity has been captured by traditional and new LDB competitors.

Opportunity Statement

Utilize the current sales and service processes to develop the "direct-to-consumer" channel for sales and issuance of automobile loans at LDB.

Goal Statement

Design and build direct-to-consumer processes at LBD by 10/1/99. The process developed should be capable of supporting RFDE45 series automobile loan policies sold annually through the direct-to-consumer channel.

Project Scope

The processes to be developed start when a customer directly requests an automobile loan. The end point is when the customer receives loan approval or denial. The products offered are limited to the RFDE45 series of loans. The direct-to-consumer channel is limited to direct mail, Internet, and telemarketing.

Project Plan

Activity	Time			
	mtb 1	mtb 2	mtb 3	mtb 4

Project Team

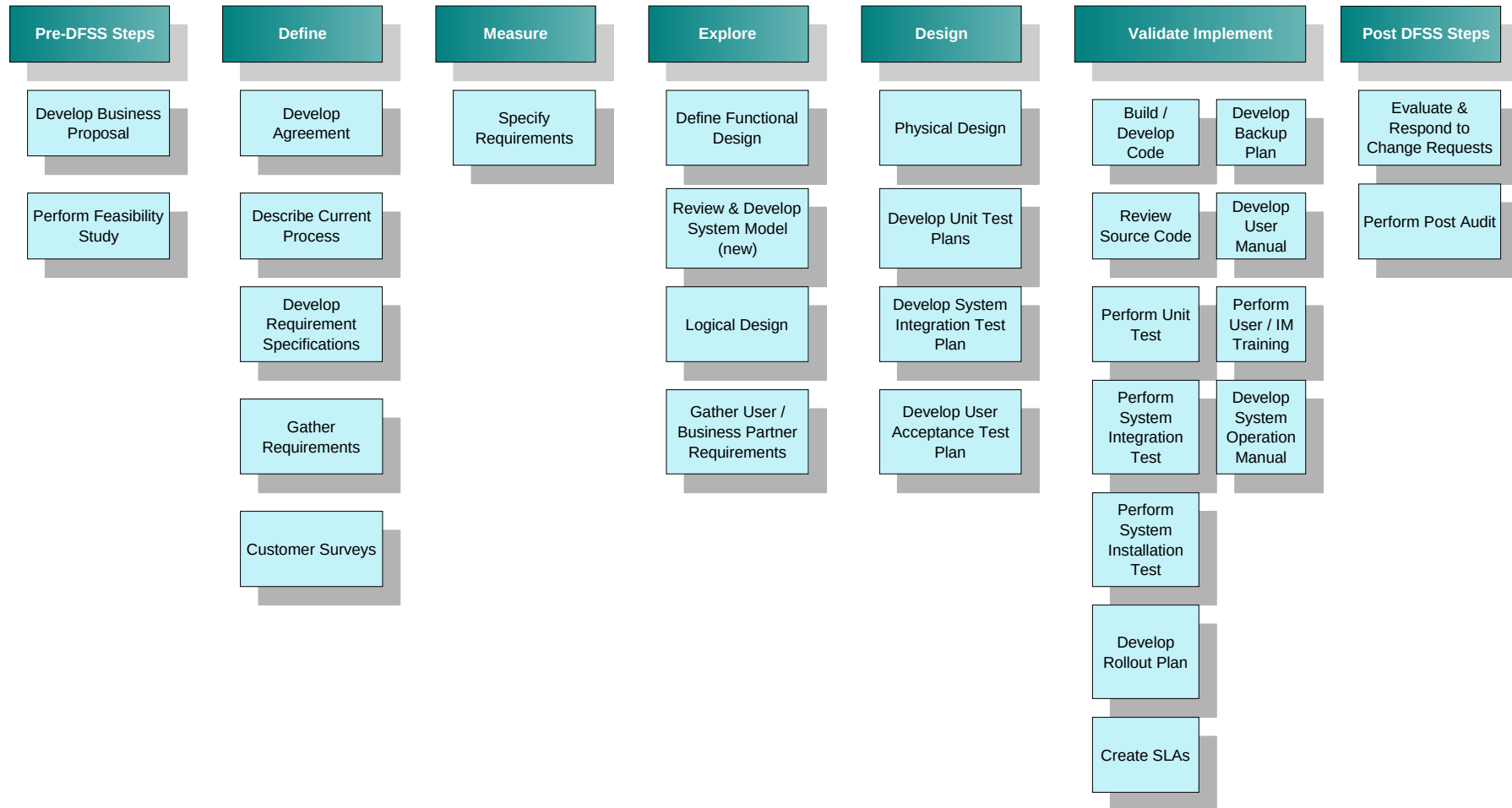
Julie Newmar	Champion	Eric Matterson	Master Black Belt
Karen Winsley	Black Belt	Pete Mitchell	Information Technology
Carol Miller	Sales	Gerry Fokker	Marketing
Edwin Rhew	Operations	Luis Delacruz	Actuary
Liz Iversen	Finance	Mac Markovitz	Claims

MGP Example: Airline Check-in Service

	Generation 1	Generation 2	Generation 3
Vision	- Exceed desired "Customer Service" score per survey (would recommend/use again) - Clean passenger arrival traffic flow - No confusion on where to check in - No customer without a seat	- Separate walk-up and non-guaranteed passenger queue from reserved and guaranteed - Initiate Pre-Arrival check in - Update customer survey	"Hertz Gold" type check-in available via phone in, internet and airport kiosks - Real time seat availability and readiness
Service Generation	- Clear signage/visual queues to guide passengers to check-in - Cross training of all staff on handling of arrivals "AirTeam" incentives tied to their customer sat. score	- Photo ID/Express check-in for those with guaranteed reservations and no changes (e.g. seat or upgrade requests) "Upgrade" features for frequent passengers and Express passengers	All airline staff can perform all check-in procedures
Platforms/ Technology	- Integrated "Windowed" interface for check in staff - instant paperwork & pre-test key - Pre assign seats in system until reservation (guaranteed only) cancelled	- Passenger names called in from curb-side luggage stand - Partner with area hotels for pre-arrival check-in kiosks at hotels	- Link reservation database to travel agent's and airlines/rail/hotels for passenger arrival information and changes (corporate & meetings) "Hertz-like" mobile check in devices (will also generate key) available for airline staff

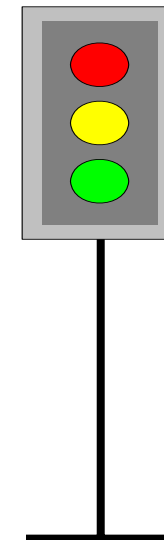
DFSS/IT Integration Workout

MSCC Six Sigma "Belt"



Linking DFSS and Information System Development Life Cycle

		Impact		
		Lo 1	3	Hi 5
Probability	Hi 5	5 <i>Fix Before Production</i>	15 <i>Significant Risk</i>	25 <i>Showstopper</i>
	3	3 <i>Proceed With Caution</i>	9 <i>Fix Before Production</i>	15 <i>Significant Risk</i>
	Lo 1	1 <i>Proceed With Caution</i>	3 <i>Proceed With Caution</i>	5 <i>Fix Before Production</i>

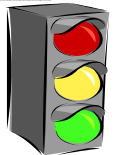


Project Risks – Managed Early and Often!



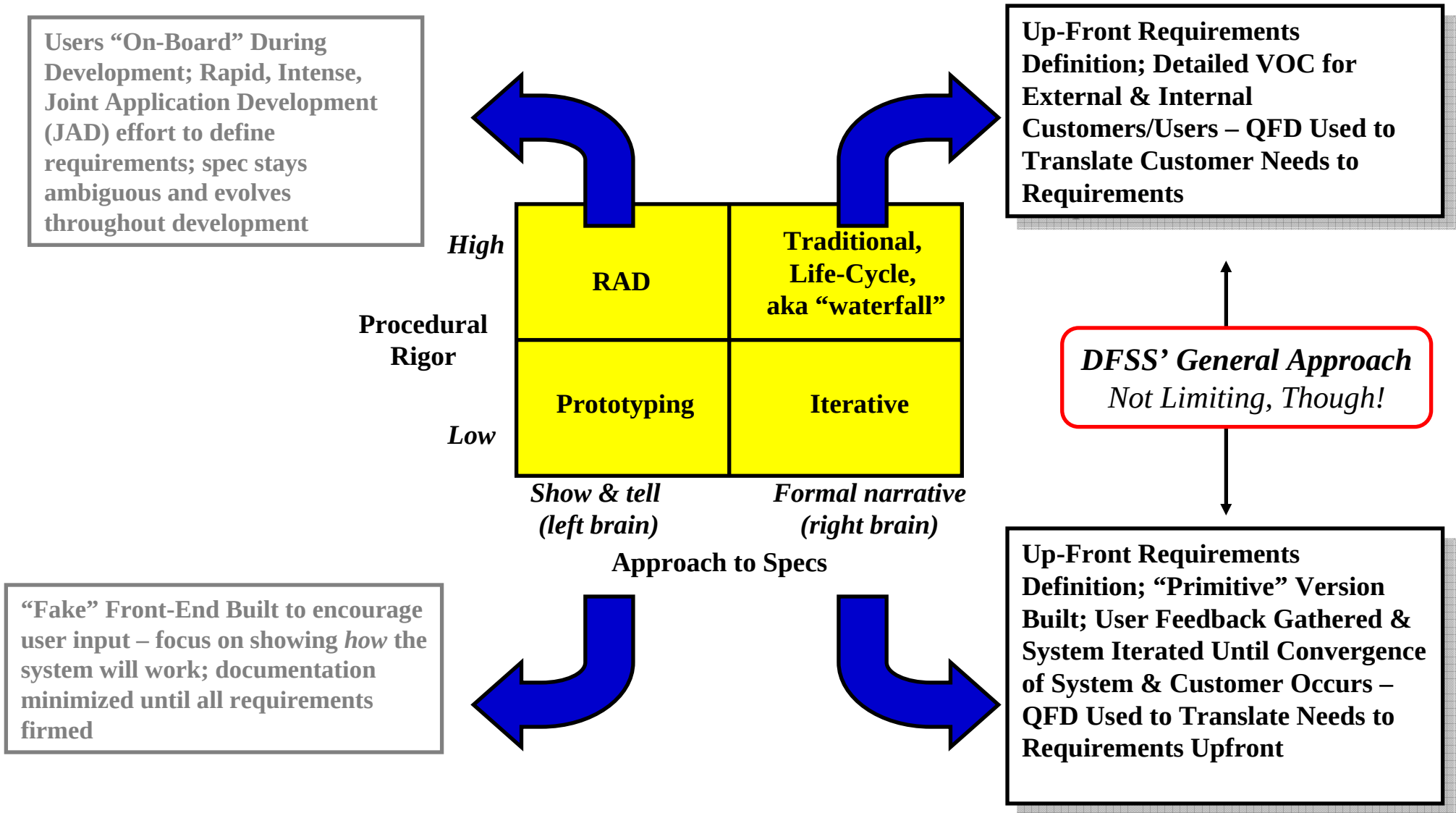
Key Deliverables:

- Voice of Customer/Customer Needs
- Process Baseline (Redesign Projects)
- Competitive Benchmarking
- Service Requirements Definition
- Critical to Quality Requirements (CTQ) Definition
- Design Scorecards

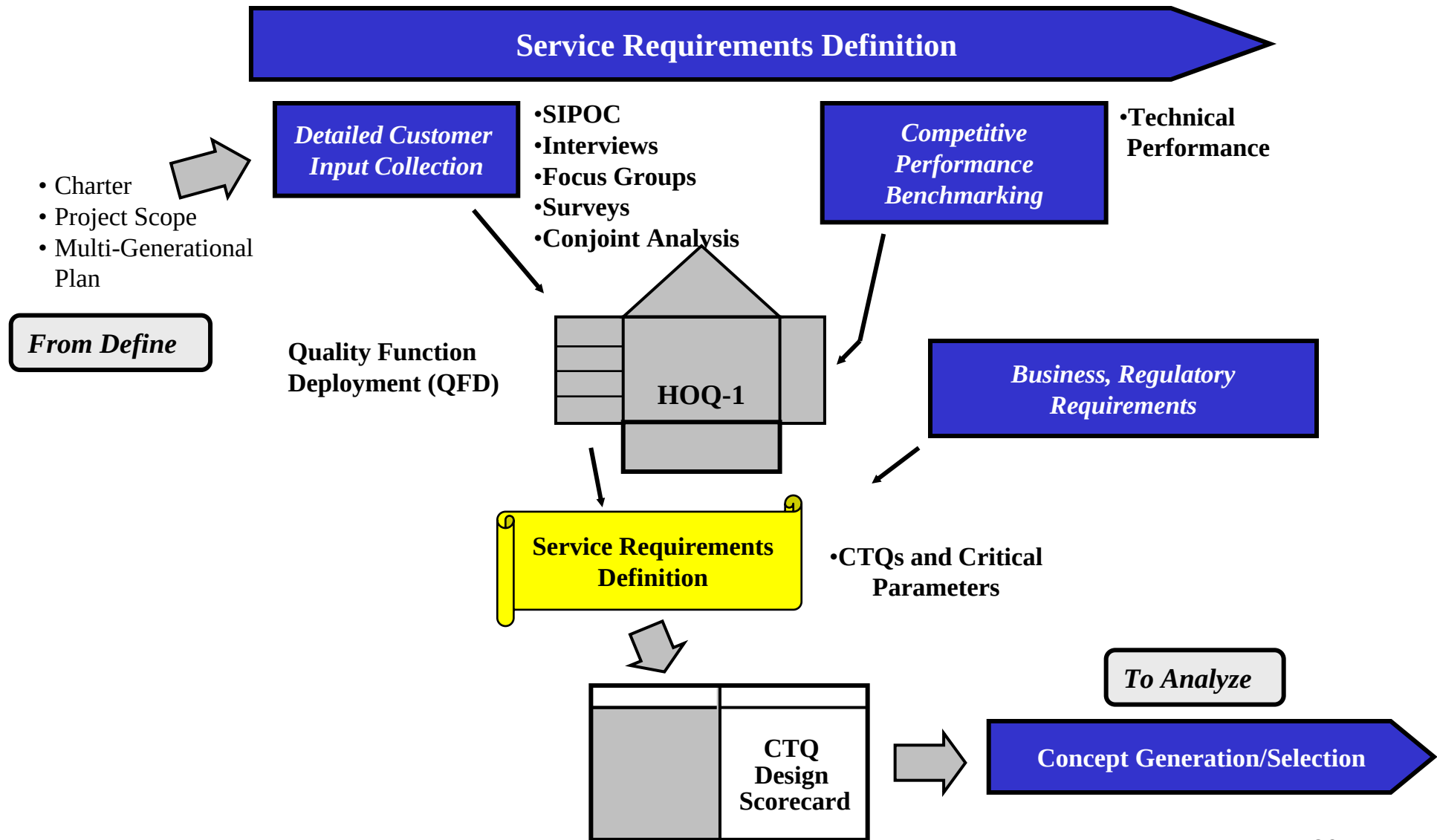


**Measure
Tollgate**

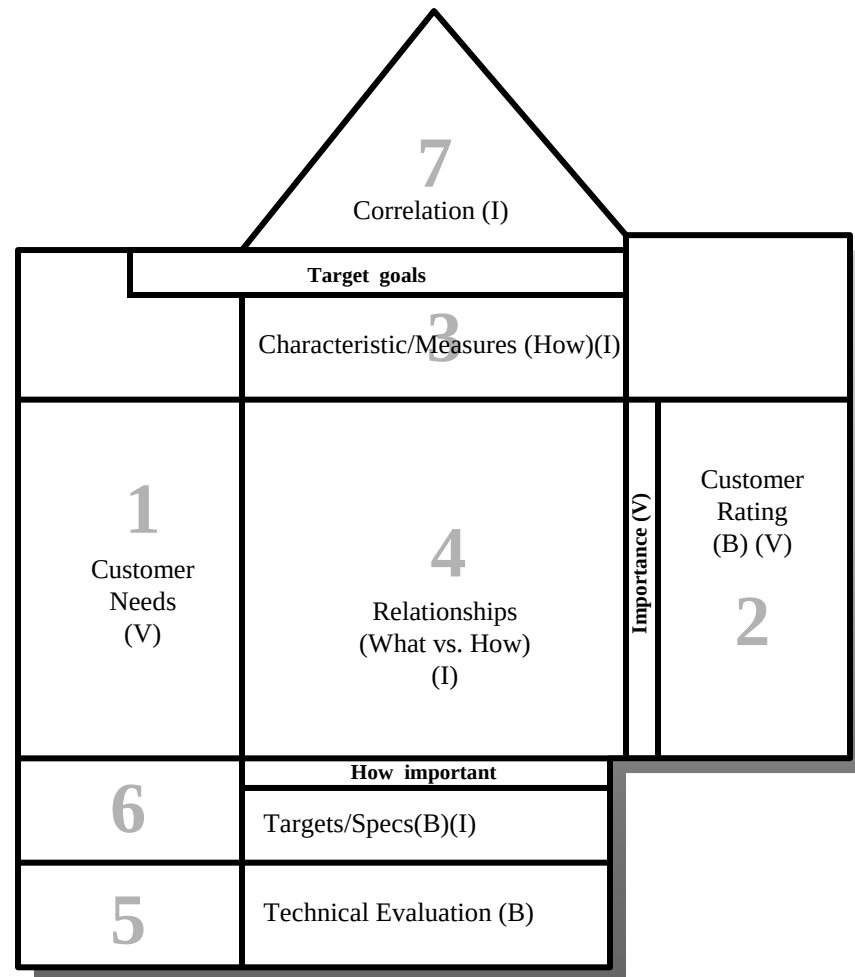
Possible Paths Through Define/Measure Steps



Measure “Tools Schematic”



- What are the rooms and what do they do for you?
- What are the relationships of the rooms in the house?
- Where are the CTQs?
- Buying Flowers – S, R, N



(V) = Comes from VOC information
 (B) = Comes from Benchmarking information
 (I) = Comes from Internal Expertise

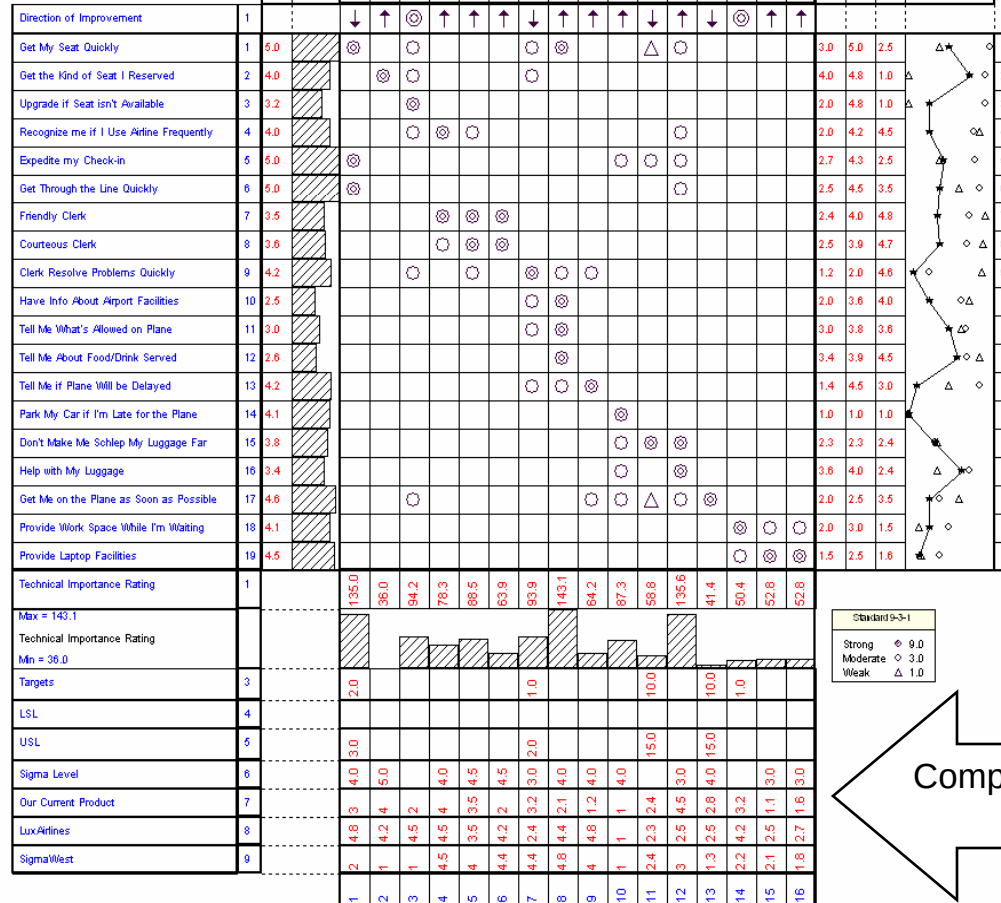
Airline Check-in QFD

Requirements/CTQs Out

Direction of Improvement	
Maximize	↑ 1.0
Target	◇ 0.0
Minimize	↓ -1.0

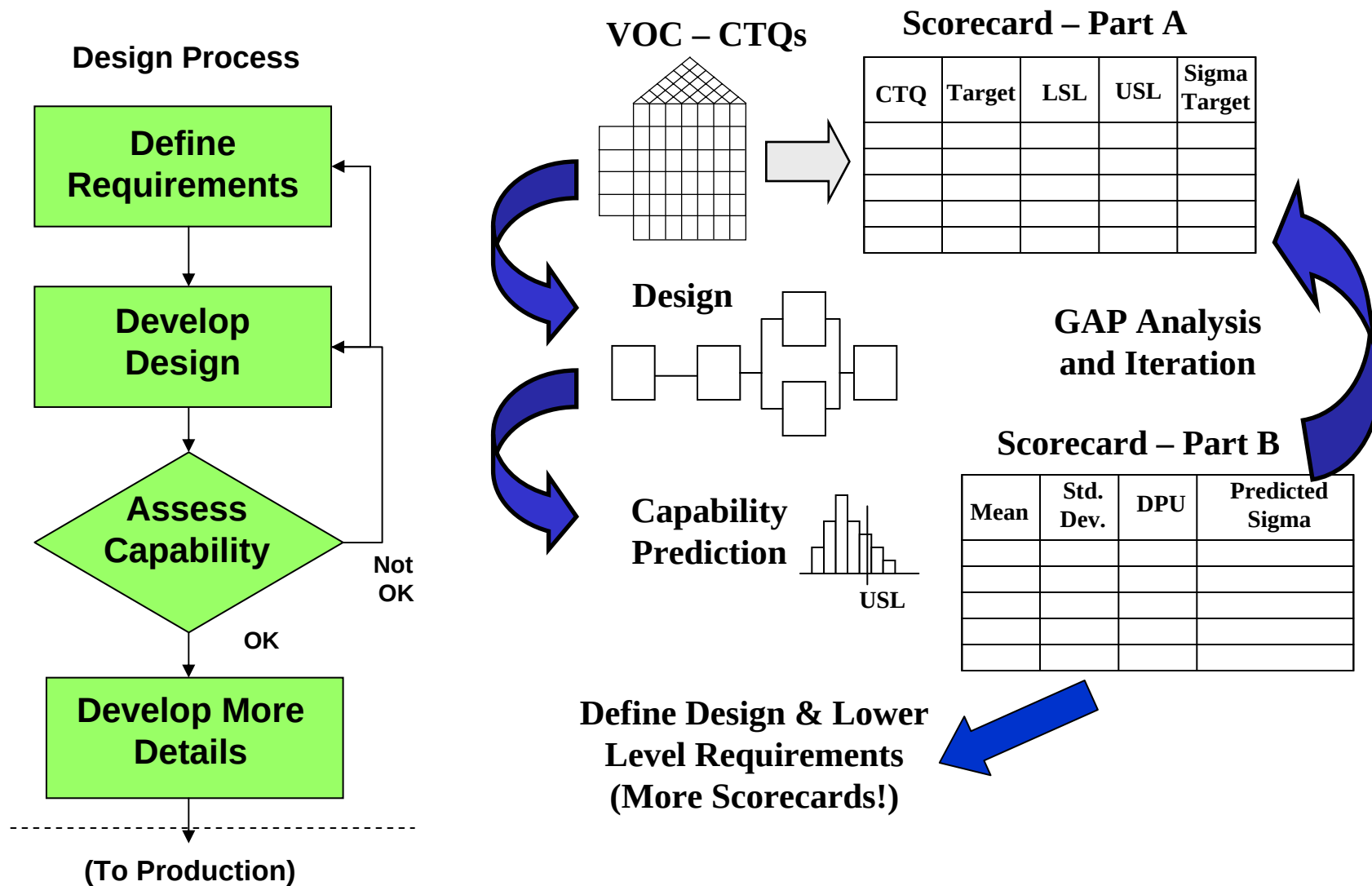
VOC In

Competitive Perception In



Standard 9-3-1	
Strong	⊗ 9.0
Moderate	⊗ 3.0
Weak	△ 1.0

Competitive Performance In



Design Scorecards

MSCC
Six Sigma "Belt"

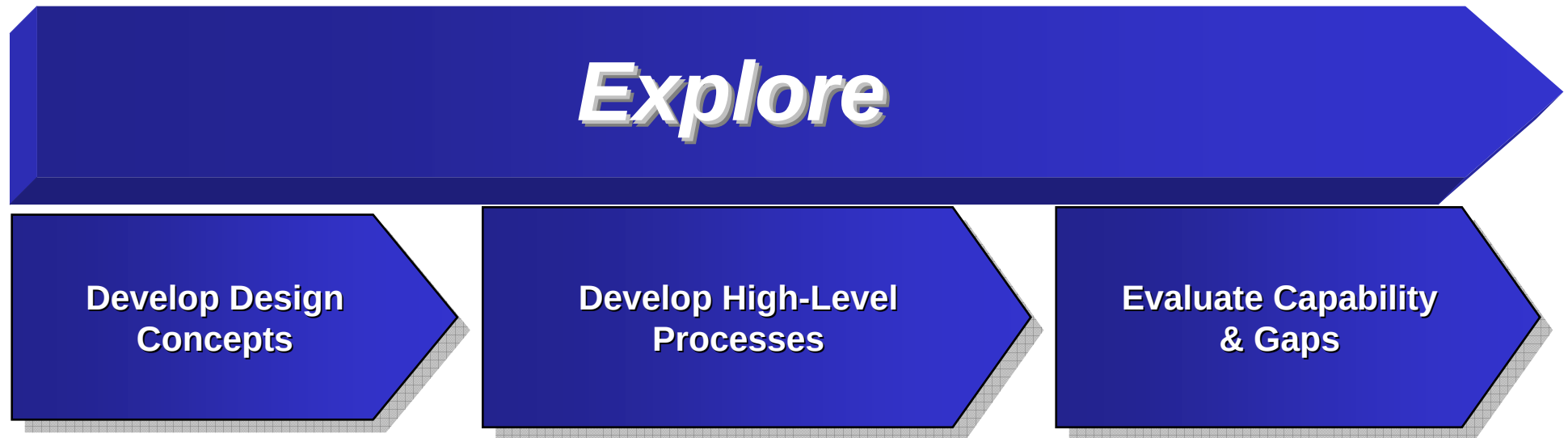
A "Typical" Design Scorecard

Manager Window Help													
1	CTQ Scorecard												
3	Product/System:	Check-in								Date	2/14/2001		
4	Project Leader	Basil Fawltly								Revision:	3		
5	CTQ	Measure	Target/ Nominal	Upper Spec Limit	Lower Spec Limit	Sigma Target (ST)	Mean	Std. Dev.	Short/ Long Term?	DPU (LT)	No. Opps.	DPMO (LT)	Predicted Sigma (ST)
6	Check-in Time	Seconds	6	9		6	5.5	0.7				2.33E+02	5.00
7													
8	Reservation Accuracy	Errors				6				1E-04	4	2.50E+01	5.56
9													
10	Message Delivery Time	Seconds	5	7		4							
11													
12	Bellhop Availability	Seconds	15	20		4							
13													
14	Clerk Smile Width	% Face Width	65		50	3							
15													
16	Customer Name Greeting	% Greeted				4							
17													
18	Valet Parking Availability	Seconds	10	15		5							
19													
20													
21													
22													
23													

Capability
Prediction:
Not OK!

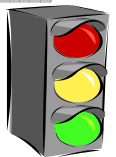
Capability Prediction:
Almost OK!

CTQs Defined



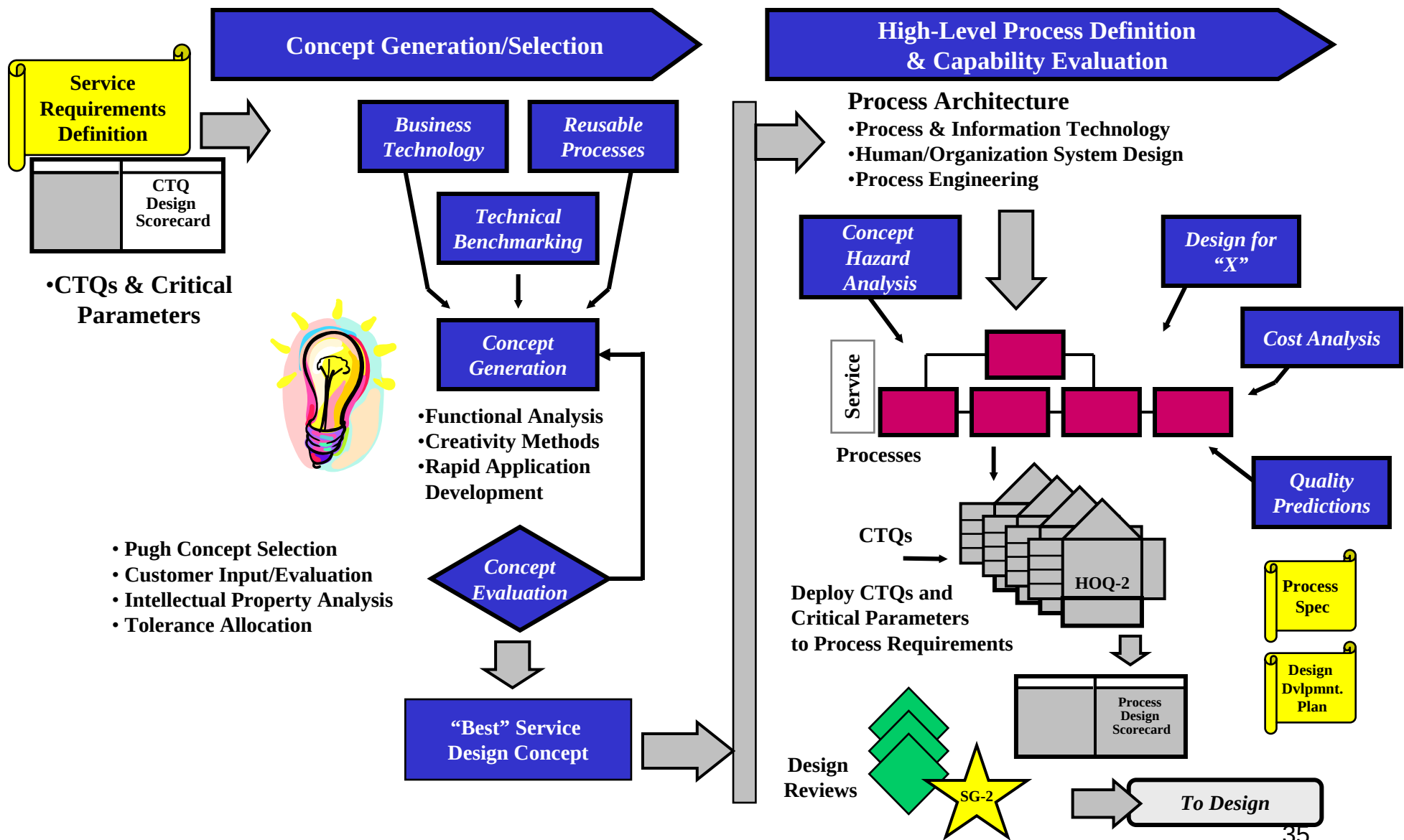
Key Deliverables:

- Service Design Concepts
- “Best-Fit” Concept Selection
- High-Level Production Process Design
- Design Elements Definition
- Functional Capability Assessment
- Performance (Sigma) Capability Assessment

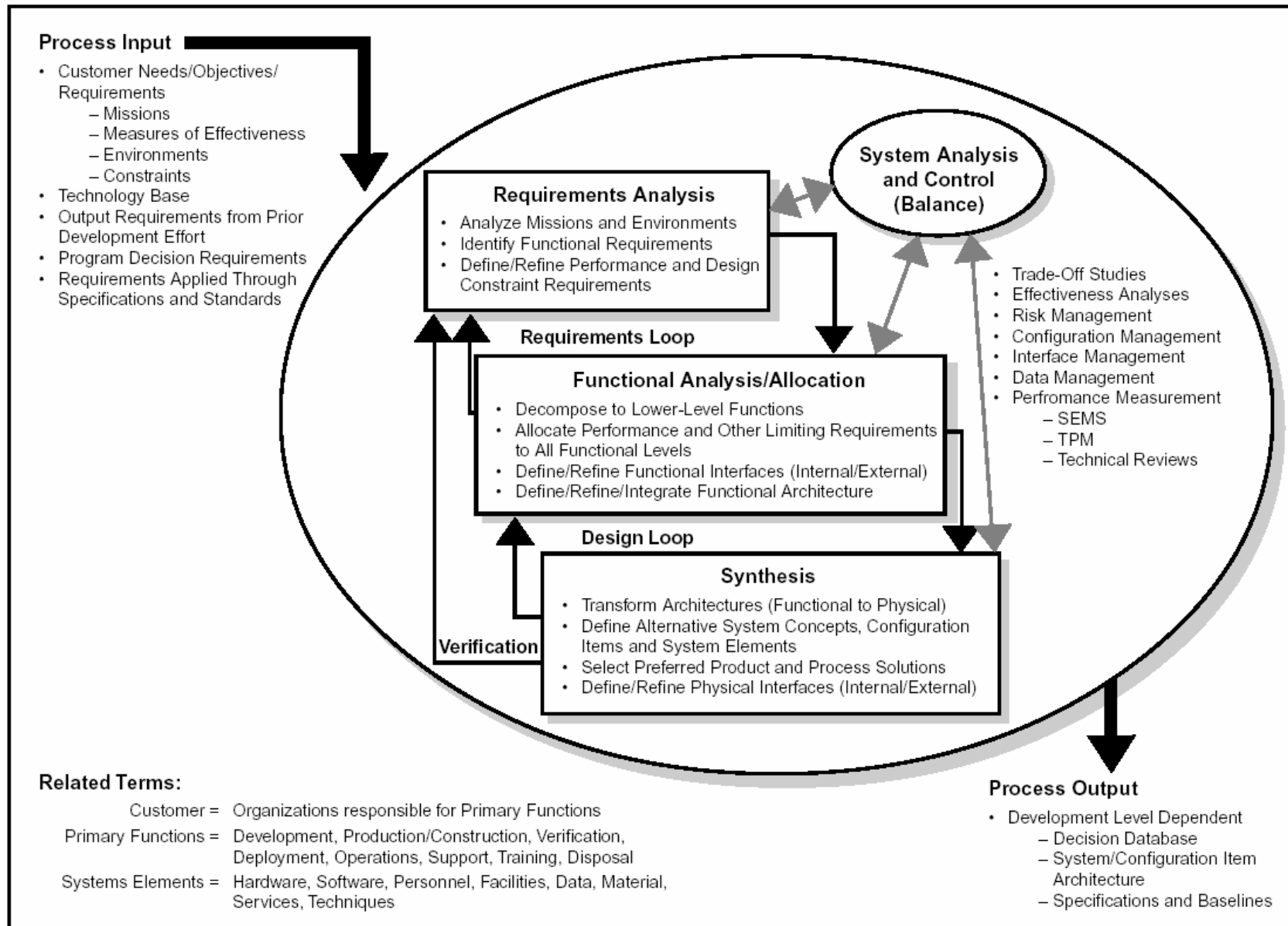


**Explore
Tollgate**

Explore Step “Schematic”

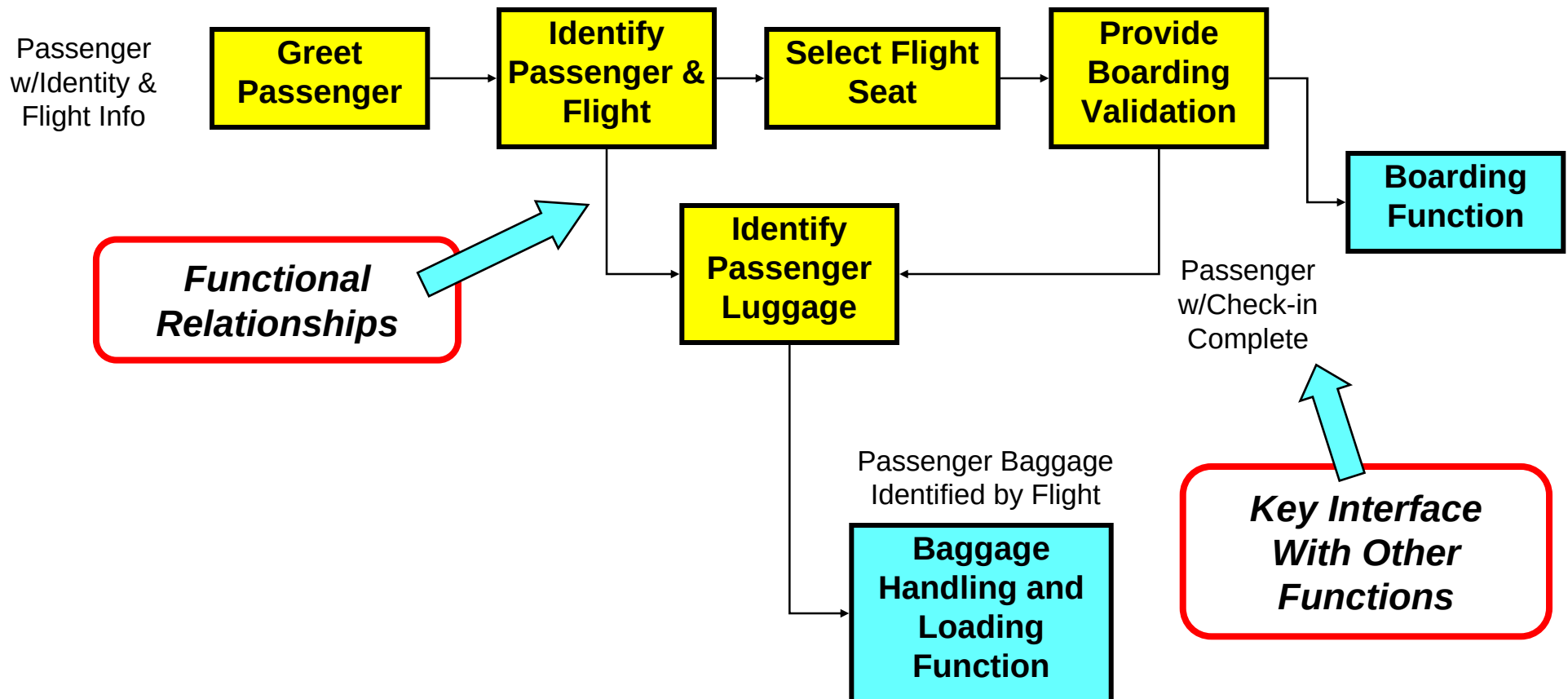


Systems Engineering Approach



Functional Analysis & Interfaces

Functional Block Diagrams Help Identify Functional Relationships & Key Interfaces:



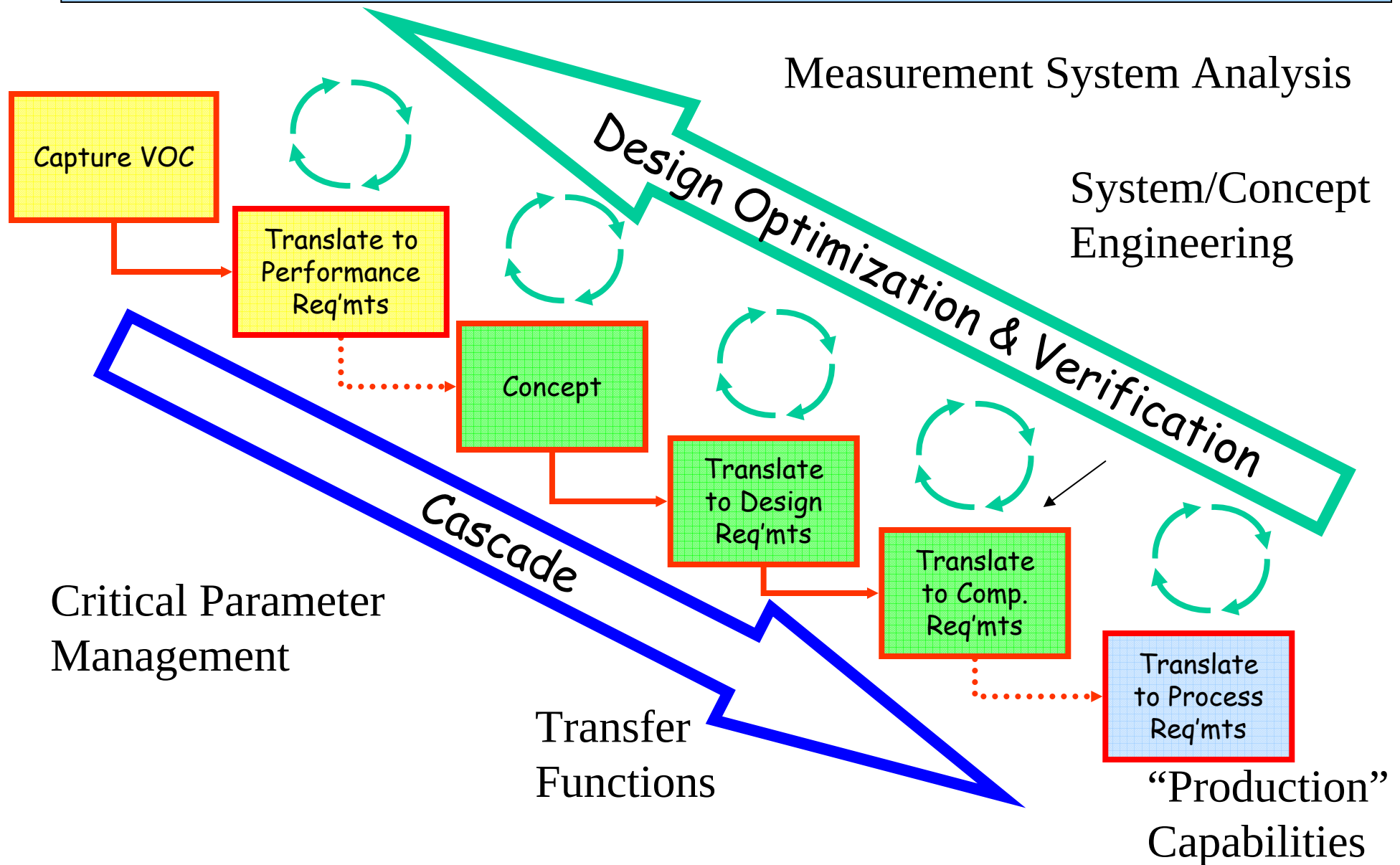
Pugh Matrix Airport Check-in Example

Pugh Concept Selection Matrix		Concepts			
	Importance Rating	0) Frankfurt Airport (Datum)	1) "Upper Class"	2) The Jetsons	3) Homer Simpson
Criteria					
Ease of pass. finding check-in (easily viewable from both entrances)	5	D	+	+	+
Limited confusion within queue	5	A	+	S	S
Minimizes wait times for issues not related to check-in	5	T	+	+	-
Ease of guiding guests to gates	5	U	+	+	+
Time to receive ticket	5	M	+	+	S
Minimize errors in seat assignment	5		+	+	S
Allows for efficient (variable) allocation of staff (VA time) to minimize passen. wait time	4		+	S	S
Minimize time to final build complete	4		+	+	-
Minimizes cost of construction	4		+	+	-
Operational cost	4		-	-	-
Uncluttered layout / appearance	3		S	S	S
Passen. sees other services - ease of getting information	3		S	S	S
Sum of Positives		0	9	7	2
Sum of Negatives		0	1	1	4
Sum of Sames		12	2	4	6
Weighted Sum of Positives		0	42	33	10
Weighted Sum of Negatives		0	4	4	17

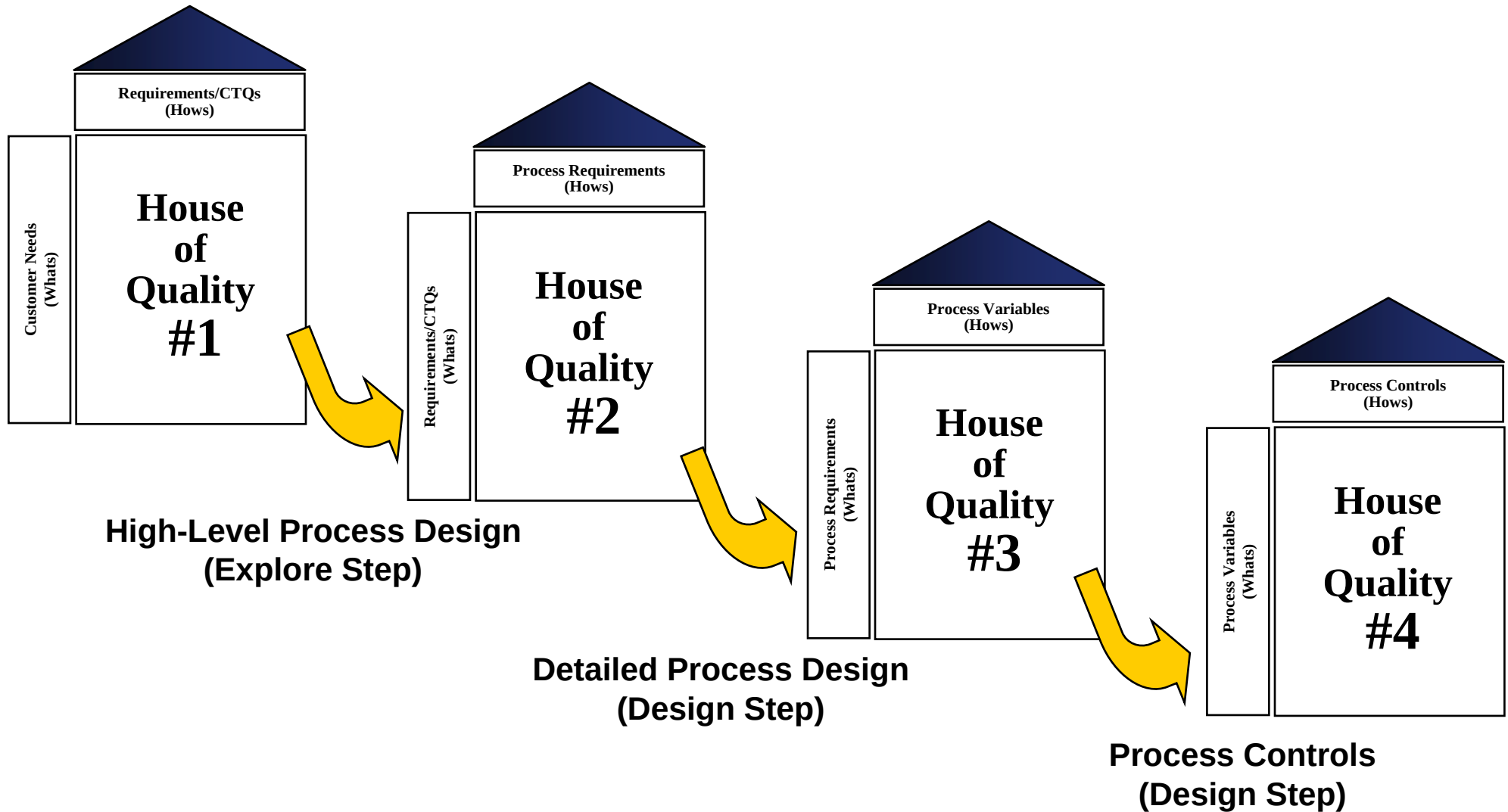
Concept Selection Legend

Better +
Same S
Worse -

New Product Development Cascade: A conceptual view



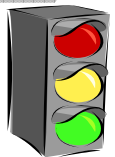
Deploying Quality to the Processes





Key Deliverables:

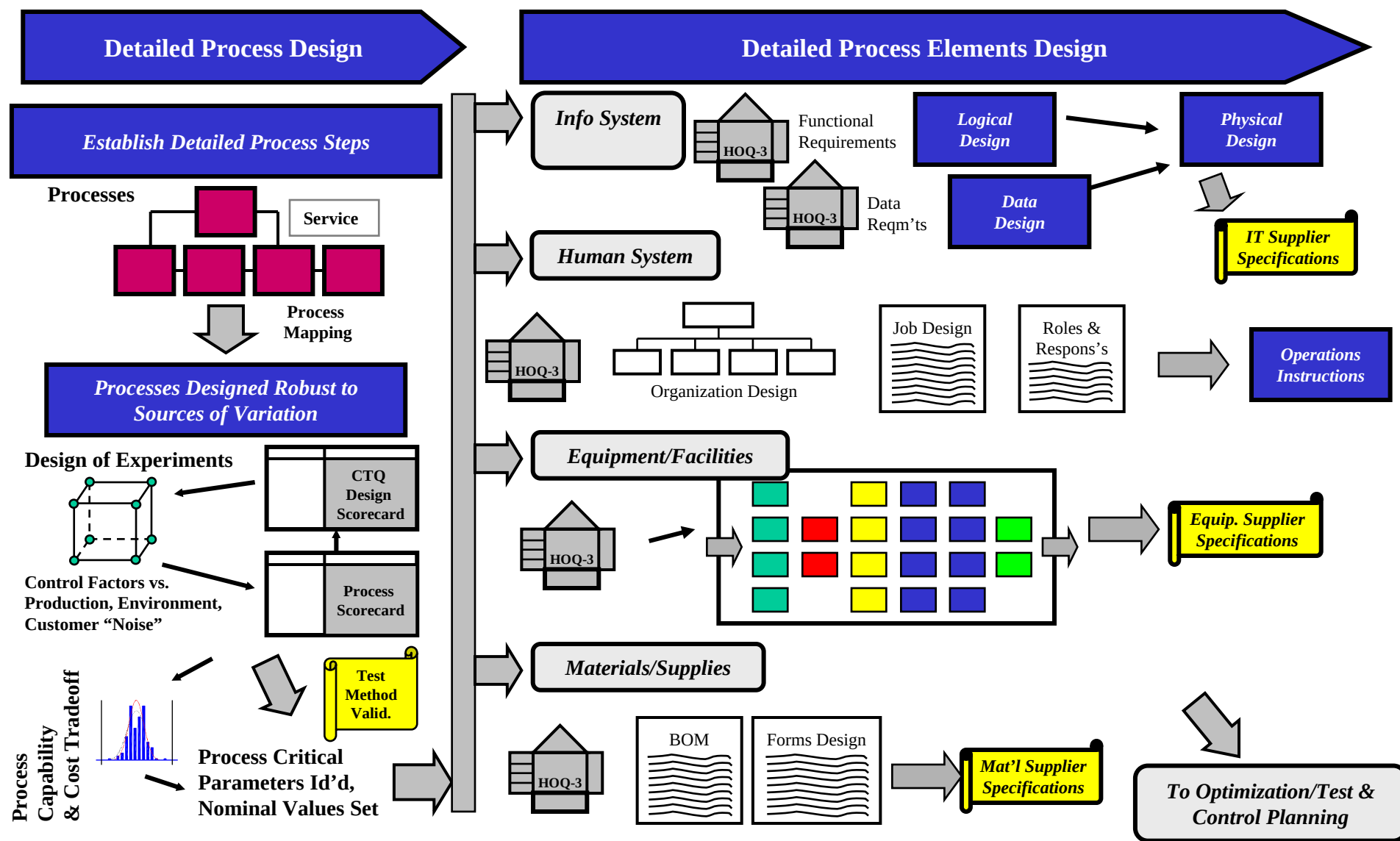
- Detailed Service Design
- Detailed Production Process Design
- Refined Functional Capability Assessment
- Refined Performance (Sigma) Assessment
- Verification & Validation Plans
- Process Control Plan



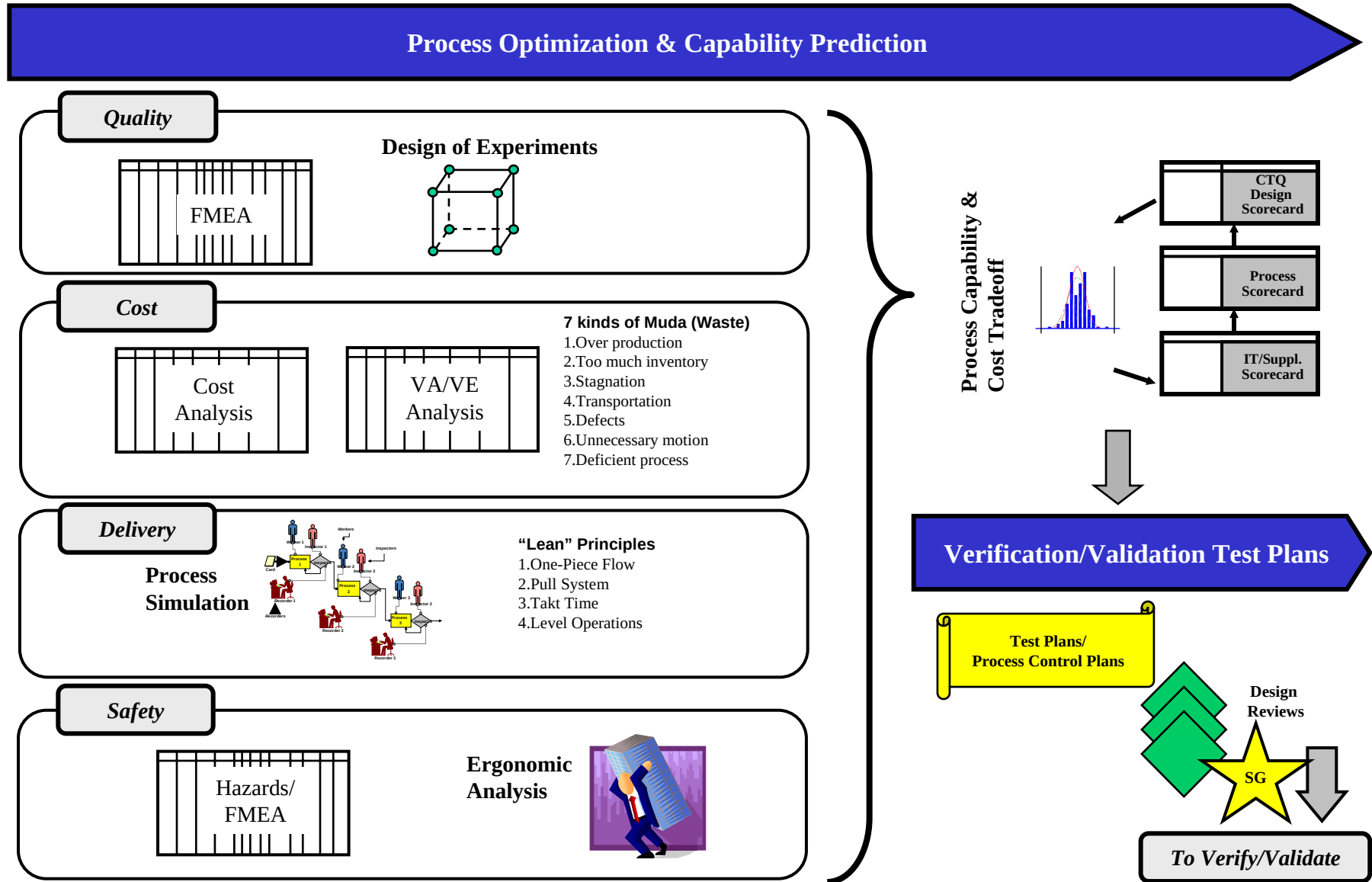
**Design
Tollgate**

Design Step Schematic

MSCC Six Sigma "Belt"



Design Step Schematic (Cont'd)



Failure Modes & Effects Analysis

FMEA Analysis

Project: _____ Team: _____

Date: _____ (original)
_____ (revised)

Item or Process Step	Potential Failure Mode	Potential Effect (s) of Failure	Severity	Potential Cause(s)	Occurrence	Current Controls	Detection	RPN	Recommended Action	Responsibility and Target Date	"After" → Action Taken	Severity	Occurrence	Detection	RPN

**Cause & Effect
Analysis of
System/Process
Potential Failures**

**Pareto Analysis
– Failure
Priorities**

**Countermeasure
Identification and
Impact Assessment**

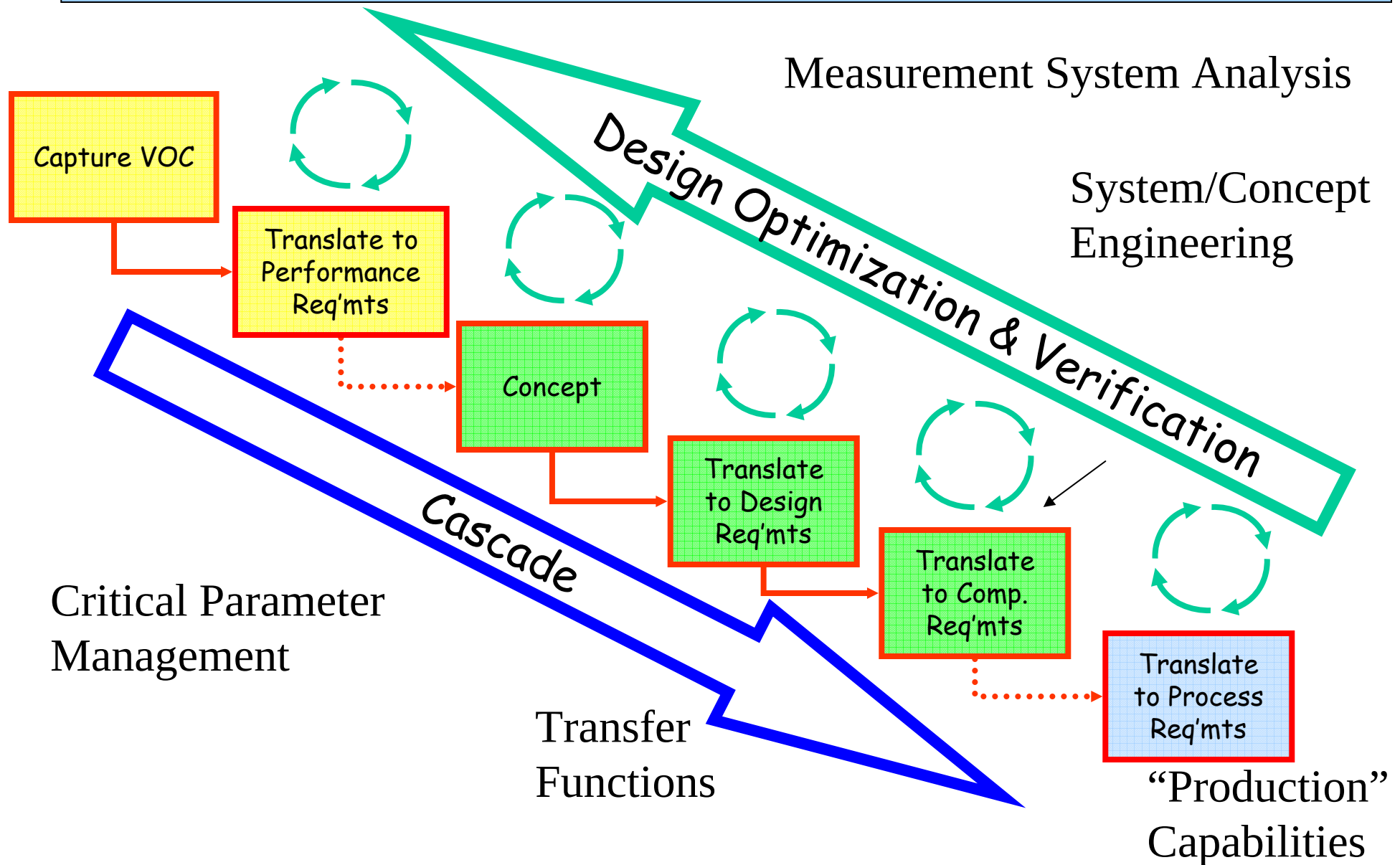
*FMEA is a "Three-for-One" Tool –
Cause and Effect, Pareto, and Countermeasure Matrix!*

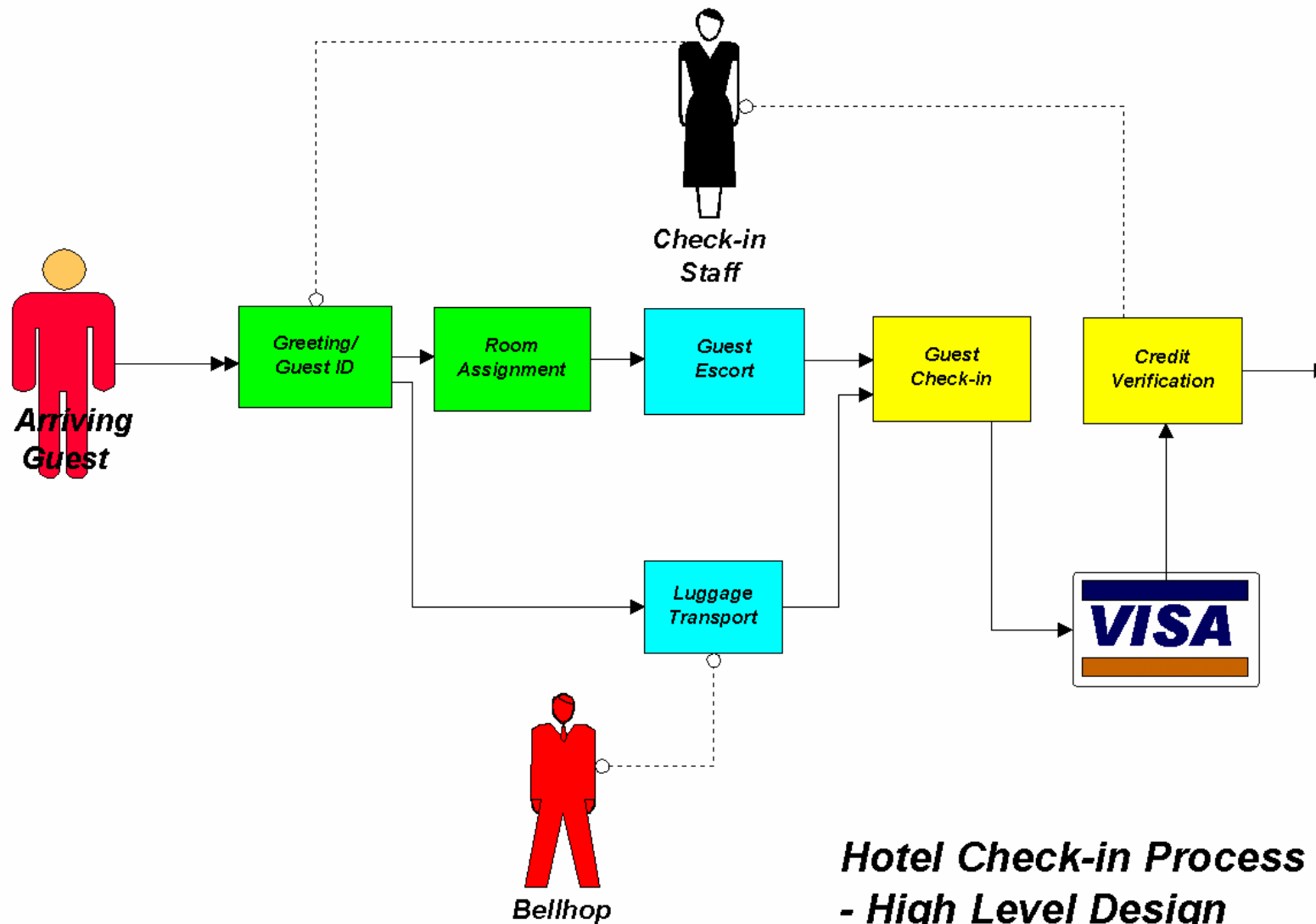
FMEA – Proactive Failure Prevention

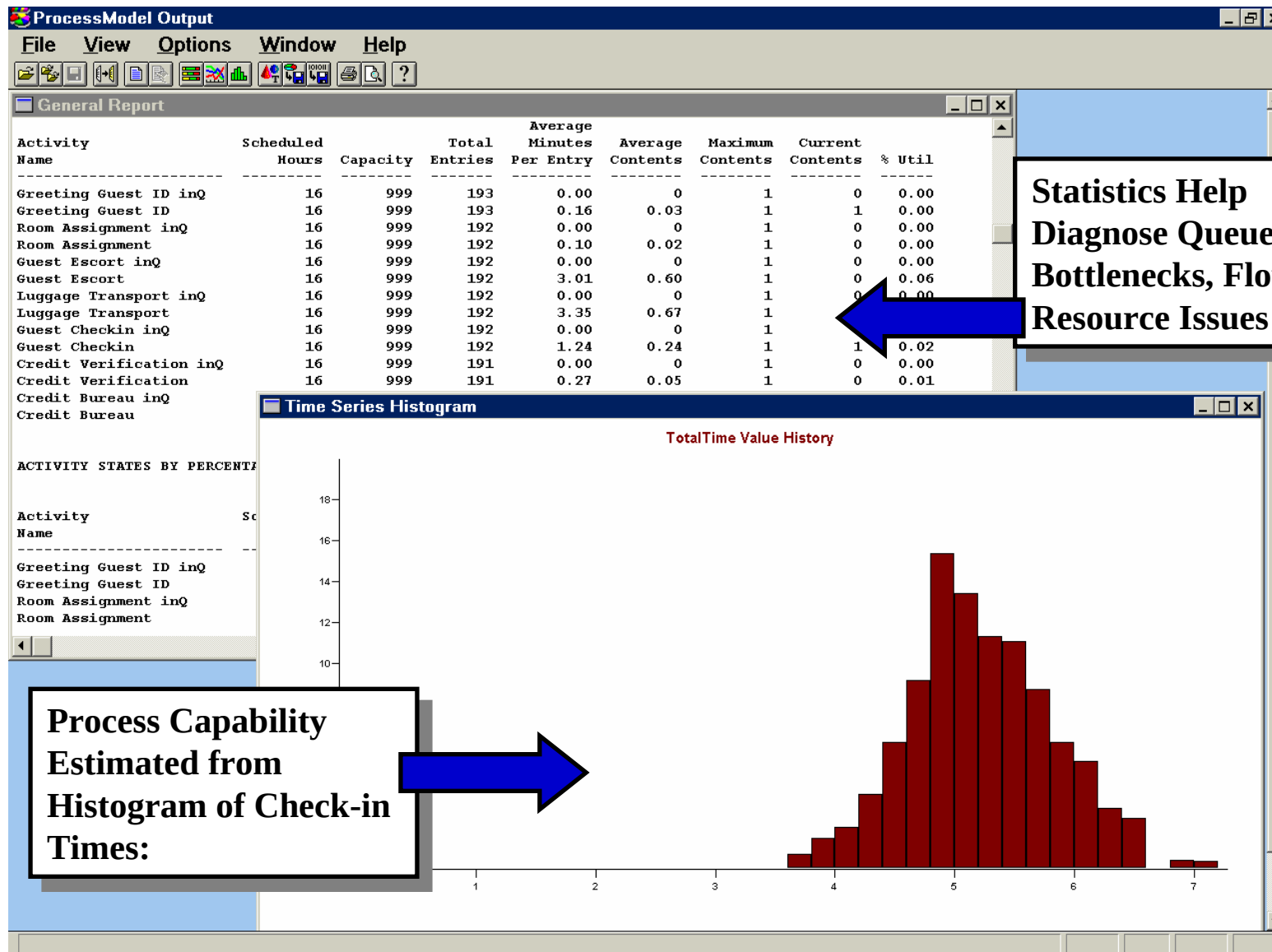
FAILURE MODES & EFFECTS ANALYSIS WORKSHEET														
Process/Product: Airport Check-in		FMEA Date (Original): 7/10/2002												
Black Belt: Student														
FMEA PROCESS										ACTION RESULTS				
Item/ Process Step	Potential Failure Mode	Potential Effect(s) of Failure	Severity	Potential Cause(s) of Failure	Occurrence	Controls	Detection	RPN	Recommended Actions	Responsibility and Target Date Completion	Action Taken	Severity	Occurrence	Detection
Greet/ID Pass.	Hear Wrong Name	Delay - Need to Correct Name	6	Airport Noise	6	Repeat back name to Passenger	2	72						0
Identify Flight	Id Wrong Flight	Potential to Print Wrong Ticket	8	Hear Wrong #; Data Entry Error	4	Repeat back Flight Number	2	64						0
	Can't Find Passenger Record	Delay While Searching for Record	4	Data Entry Error	2	None	7	56						
Assign Seat	Preferred Seat Not Available	Have to Assign Alternate Seat	3	Full Plane; Late Check-in	7	Provide Seat Selection During Reservation	3	63						0
	Assign Wrong Seat	Passenger Upset on Boarding Plane	6	Distracted	4	None	8	192						
Print Ticket	Can't Print Ticket	Delay - Have to Restart Ticketing Process at Kiosk	6	Out of Printer Paper; Printer Failure	2	Blue "End-of-Tape" Strip	2	24						0
	Error on Ticket	Passenger Can't Board Plane	10	Data Entry Error	2	None	8	160						
Direct to Gate	Tell Passenger Wrong Gate	Passenger Travels to Wrong Gate	4	Distracted; Misread Gate Info on AirChk	3	None	5	60						0
								0						0
Totals								886						0

What Actions Could You Think Of To Address High RPN Failure Modes?

New Product Development Cascade: A conceptual view







Validate/Implement

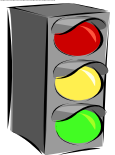
**Perform V&V
Testing**

**Develop Implementation/
Transfer Plans**

**Implement &
Transfer Design**

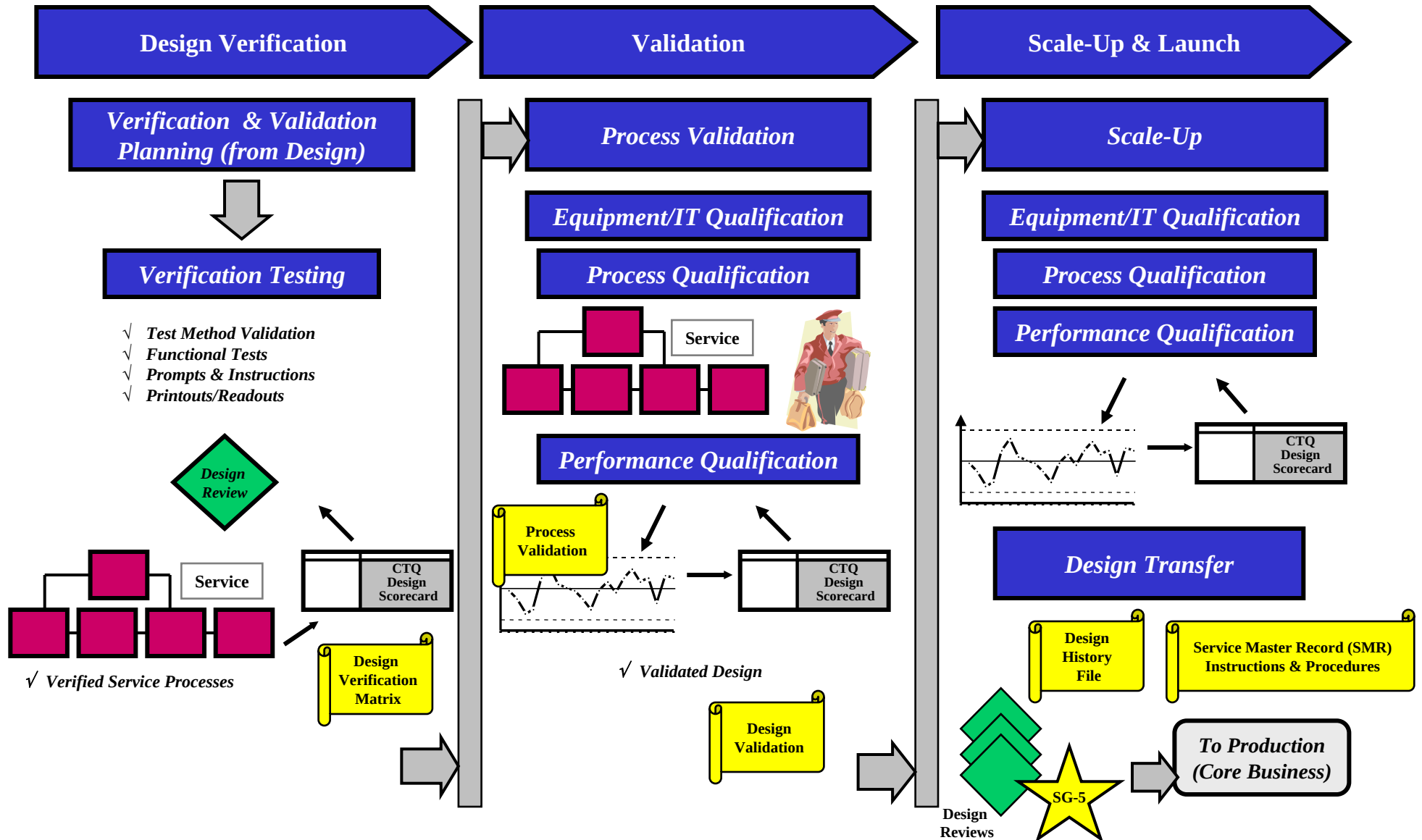
Key Deliverables:

- Verification/Validation Testing Complete
- Gap Analysis/Redesign
- Scale-Up Decision
- Full-Scale Implementation Plan
- Process Owner Transfer Plan
- Build & Control Documentation
- Production Process Implemented
- Design Transferred
- Team Lessons Learned
- Reward & Recognition



**Validate/
Implement
Tollgate(s)**

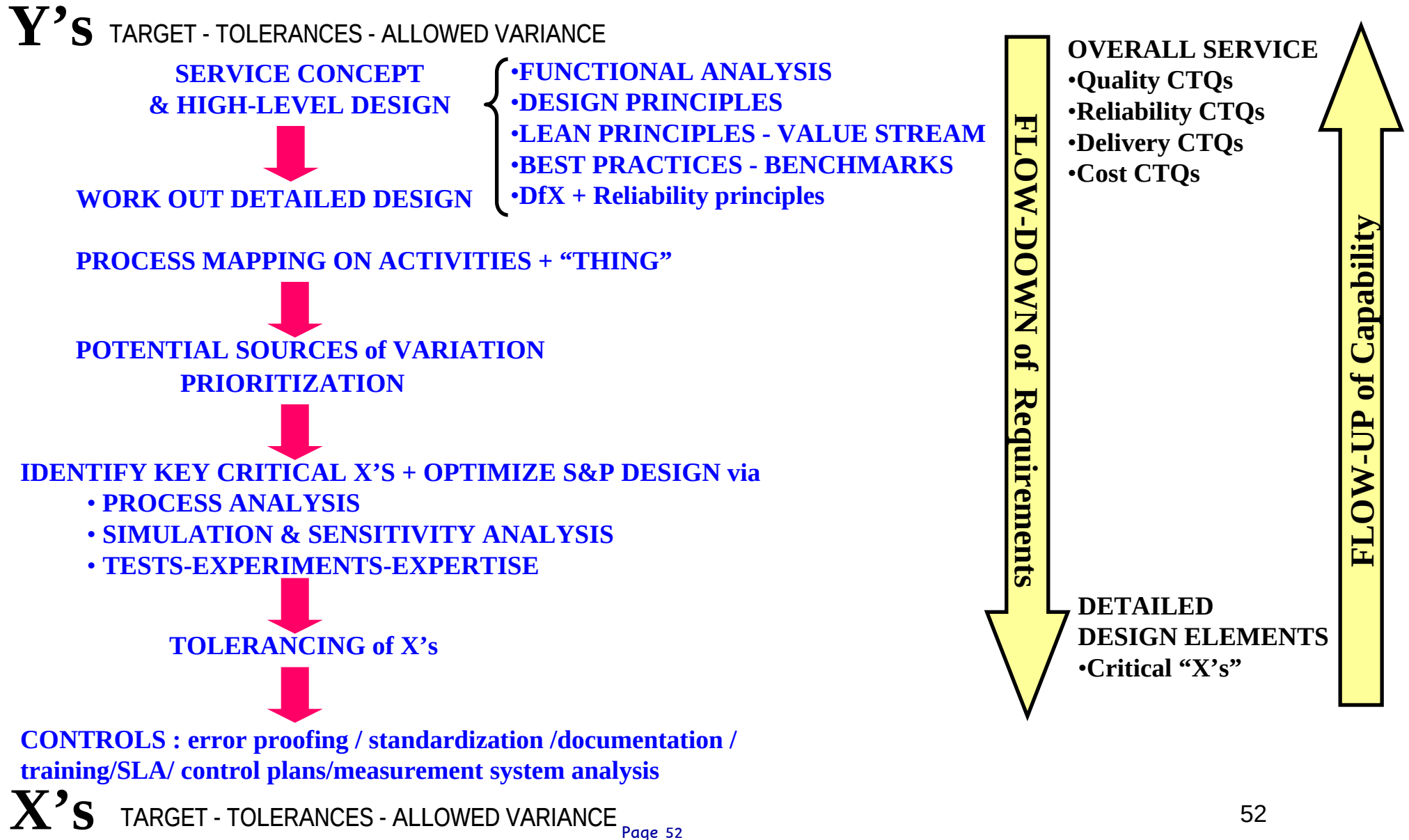
Validate/Implement Schematic



Process Control Systems

Process: _____ Date: _____ Purpose: _____ Rev.: _____		Dept A	Dept B	Dept C	Output Measure	Input/ Process Measures	Standard/ Specification	Method For Sampling/ Recording Data	Immediate Control/Fix	Process/ System Improvement
		Customer Requests Service	Customer Requests Service		Level Of Understanding		100% Of Customers With Full Understanding	Monthly Customer Survey Conducted By Measurements Group		Reviewed Monthly By Reg. SP Comm. And NPA BOM
					Level Of Satisfaction		90% Of Customers In Very Good And Excellent (SQMIS)	Monthly Customer Survey Conducted By Measurements Group SQMIS		Reviewed Monthly By Reg. SP Comm. And NPA BOM
			Issue PC Memo			Time Issuance	POS To Fax Transmittal On Receipt Within 15 Minutes	PC Samples 25 Fax Transmittals Per Day And Plots % Completed Within Standard By Day	Assign Individual To Handle All Fax Transmittals	- Reviewed Weekly By NPA SP Comm. - Reviewed Monthly By Reg. SP Comm, And NPA BOM.
						Quality Issuance	100% Of The PC Memos Are Accurate, Legible And Complete Requiring No Follow-Up With Individual PC Rep.	- PC Exception Reports – Track How Many Times Per Day Follow-Up Is Necessary With PC Rep. By PCI - Graph The Number Of xceptions By Day And Tally Reasons By Week	- Train Individual Rep./Staff - Discuss/Review Suggestions At Scheduled PC Site Meetings	- Reviewed Weekly By NPA SP Comm. - Reviewed Monthly By Reg. SP Comm, And NPA BOM.
		Issue BCRIS Order		Issue BCRIS Order		Timely (PCI Only) Issuance	100% Of The Fax Transmittals Are Input To BCRIS Within 45 Min. Upon Receipt	PCI Samples BCRIS Orders Per Day And Plots % Completed Within Standard By Day		- Measures Reviewed Weekly By NPA SP Comm. - Measures Reviewed Monthly By Reg. SP Comm, And NPA BOM.

Summary of DFSS Thinking



Some Real DFSS Case Studies

OEE Measurement System Design

Quick DFSS Simulation

Designing a Six Sigma Lawn Service

Mike's Lawn Service - Charter

Service Description •Cutting Lawns in the Neighborhood •Preliminary Customers: Barton's Creek Homeowners •Preliminary Needs: Reliable, quality lawn maintenance. •Market: 500 Houses	Business Case •Mike wants to earn money to buy a car when he is 16. His dad will pay half. Mike figures he needs to earn \$7000 over the next two summers.
Project Goals •Achieve a Customer Satisfaction Index of 4.9 on the Satisfaction Survey •Cost/Maintenance Event of \$10 US •Design/Build Budget of \$1,250	Project Scope •The project includes design and implementation of the lawn maintenance service •Cutting season starts in March; Marketing activities to begin in January.

Project Plan

•Activity	•Time
	•Dec

Team Members:

Mike and His Friend Cliff

Stakeholders:

Mike's Mom and Dad

Multi-Generational Plan Template

	Generation 1	Generation 2	Generation 3
Vision			
Service Generation			
Technologies/ Platforms			

Mike's QFD

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W
1	QUALITY FUNCTION DEPLOYMENT - CORRELATION MATRIX																						
3	Needs Heirarchy		Characteristics/Measures																Competitive Comp.				
4	Primary	Secondary	Rating																Rocko's	Lawn's R Us	Mike's		
5	Conven. Payment	Different Payment Forms	2																2	3	5		
6		Easy to Transmit Payment	3																4	5	5		
7		Regular Bill	3																4	5	2		
8	Pre-Schedule	Don't Wake Me	3																5	3	2		
9		No Debris Flying (I'm in Yard)	4																5	2	2		
10		Schedl & Prepare for Cut	5																1	2	2		
11	Good/Neat Appearance	Cut When Needed	5																2	3	3		
12		Sidewalk & Beds Neat	4																4	2	2		
13		Look Manicured	5																4	4	2		
14		Healthy Lawn Appearance	4																4	4	3		
15		Regular Cuts	3																4	4	3		
16		Even Lawn	4																4	3	4		
17		Manicured Around Shrubs/Trees	4																4	3	5		
18	No Damage	Don't Cause Damage to Lawn	5																4	5	3		
19		Don't Cut too Low ("Burning")	4																4	2	4		
20		Don't Disturb Garden	4																4	3	4		
21	Disposal	Get Rid of Clippings in Mulch	3																1	3	4		
22		No Clippings Left Behind	5																5	1	3		
31		Importance		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	Red - CTQ				
32																							

Functional Analysis/Concept Generation

- What are the Functions Necessary for Mike’s Lawn Service to Meet the CTQs?
- Brainstorm Design Concepts for a “Few” Functions

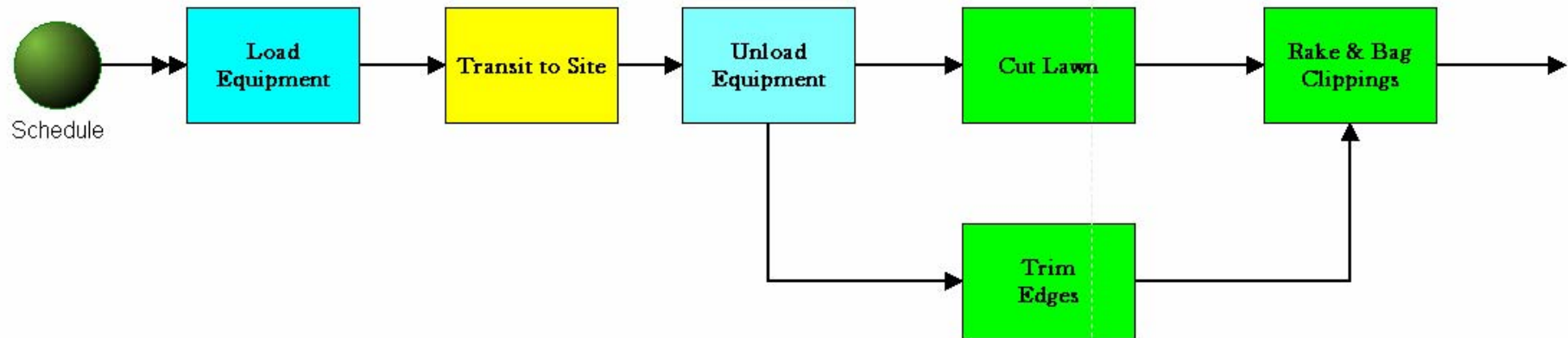
Pugh Concept Selection Matrix

	A	B	C	D	E	F	G	H	I	J	
1	Pugh Concept Selection Matrix										
2											
3					Concepts						
4	<i>Note: Pick one concept as the "Datum" or Baseline Concept</i>									Concepts	
5	Criteria	Rating	1	2	3	4	5	6	7	1	
6										2	
7										3	
8										4	
9										5	
10										6	
11										7	
12											
13											
14											
15											
16											
17											
18											
19											
20											
21											
22											
23											
24											
25											
26	Sum of Positives		0	0	0	0	0	0	0	0	
27	Sum of Negatives		0	0	0	0	0	0	0	0	
28	Sum of Sames		0	0	0	0	0	0	0	0	
29	Weighted Sum of Positives		0	0	0	0	0	0	0	0	
30	Weighted Sum of Negatives		0	0	0	0	0	0	0	0	
31											

High-Level Design

- Develop the Selected Concept to a High-Level Design. Consider Design Elements of:
 - Process
 - Human
 - Information
 - Facilities
 - Equipment
 - Materials/Supplies

Mike's Lawn Service



Lawn Service FMEA

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
2	Process/Product:			FMEA Date (Original):												
3	FMEA Team:			(Revised):												
4	Black Belt:			Page:												
5	FMEA PROCESS												ACTION RESULTS			
	Item/ Process Step	Potential Failure Mode	Potential Effect(s) of Failure	Severity	Potential Cause(s) of Failure	Occurrence	Current Controls	Detection	RPN	Recommended Actions	Responsibility and Target Date Completion	Action Taken	Severity	Occurrence	Detection	RPN
6									0							0
7									0							0
8									0							0
9									0							0
10									0							0
11									0							0
12									0							0
13									0							0
14									0							0
15									0							0
16									0							0
17									0							0
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27									0							0
28									0							0
29									0							0
30									0							0
31									0							0
32									0							0
33									0							0
34									0							0
35									0							0
36									0							0
37									0							0
38									0							0

Process Control Plan

	A	B	C	D	E	F	G	H	I	J	K	L	M
1	Process Management Chart												
2	Process Description: Lawn Service				Process Owner: Mike O'Neill		Process Customer(s):			Critical to Quality (CTQs):			
3	9.0 Operations												
4	Process Flowchart						Monitoring				Response Plan		
5							PROCESS MEASURES	MEASUREMENT SYSTEM	PROCESS PERFORMANCE GOALS	"AS IS" PROCESS PERFORMANCE	SPECIAL CAUSE	COMMON CAUSE - CHARTERED IMPROVEMENTS	
6													
7													
8													
9													
10													
11													
12													
13							Approved:			Date:			
14													

Mike's Lawn Service – Process Management Contract

1. Commitment Statement

As the Champion and/or Process Owner of this Quality Project, I hereby agree to and take responsibility for the following:

- Within two weeks of date below, review this transition contract with the Quality Leader and execute the immediate and ongoing responsibilities outlined in the Verify/Implement Phase of the project.

Process Management Responsibilities

- Lead the transition of this Quality Project to a Process Management System by 1) adhering to the established process, 2) overseeing monthly root cause analysis to ensure defects are addressed, and 3) launch future quality improvement projects to address sustained common cause variation.
- Lead ongoing reward and recognition for continued improvements.
- Update, communicate, and maintain the Project Management Dashboard measures on a monthly basis.

3. Project Management Dashboard Measures

CTQ Listing
Process Control Measures Listing

Cost of Quality

Plan: _____ %V: _____ Date: _____

Actual: _____ Date: _____

Immediate Quality Improvements Identified:

IMPLEMENT

2. Process Management Responsibilities

<u>What</u>	<u>When</u>	<u>Who</u>
Process Step	Prior to Launch,	
Ownership & Deployment	After Tollgate 2	
CTQ Validation	At Launch	
Phone Surveys	Month/Year for current launch	
Written Surveys	Quarterly	
Reason Codes	From Written Surveys	
Control Chart	From Survey Data	
Monitoring Plan	From Survey Data	
Project Dashboard	Monthly	
Launch GB Projects	Quarterly Review	

4. Agreements

Champion:

Title:

Name: _____

Date: _____

Process Owner:

Title:

Name: _____

Date: _____