Avoid Failure at Rollout Through "Inclusive" Process Modeling

March 18, 2014

Avoid Failure at Rollout Through "Inclusive" Process Modeling

Have you ever seen a software project fail at the finish line? After numerous sign-offs and approvals? After successful Agile Sprints? Many of these failures happen because it is only when the software is done and in use that users can fully understand that new software doesn't fit their way of doing business.

Fortunately, developing system requirements using "inclusive" process modeling can prevent these failures. Inclusive modeling looks beyond system-focused use cases/user stories/ touch points to understand how the system will fit into the broader business process that the supporting technology.

This presentation will use real-world examples from education, finance, pharma, and healthcare, to show how the inclusive modeling approach can improve the software development process.

The Difficulty of Defining Requirements

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- I shall not today attempt further to define the kinds of material I understand to be embraced within that **shorthand description**
- **<System Requirements>**
- ;and perhaps I could never succeed in intelligibly doing so.

But I know it when I see it!

—Justice Potter Stewart,
concurring opinion in Jacobellis v. Ohio 378 U.S. 184 (1964), regarding possible obscenity in The Lovers.

Objectives

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- Explore **Requirements'** contribution to failure at launch
- Get you thinking about software solutions in an **internal and external business context**
- Get you thinking about software use cases in a **business process context**
- Explore ways to **extend existing methods** to consider the organizational and business process context when defining requirements
- Introduce a **model-based design** approach for capturing, validating, testing, and maintaining requirements

Combating the "**Elephant Test**"
It is difficult to describe, but you know it when you see it

Personal Introduction

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- I'm a **practitioner** (i.e. not an academic)
- I'm a **project manager**, **business analyst**, **solution architect**
- I have **PMP** and **Scrum Master** certifications
- My projects range from new products, integrated systems, and packaged software rollout
- I have a system integration orientation
- Career long interest in **Requirements**
  - I've used lots of tools, in lots of situations
- I'm **aggressively implementation neutral**
- I'm **methodology neutral**

Now Tell Me About You

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- **Your Roles**
  - Developers?
  - System Architects?
  - Business Analysts?
  - Project Managers?
  - Other Roles?
- **Your Projects**
  - Technologies?
  - Market Sectors?
- **Your Organization**
  - Big/Small?
  - Formal Business Requirements Process?
  - Use Business Analysts?
- **Your Methodologies and Tools**

Failures

Projects	Requirement	Technology	Schedule	Market/ Business Case
20 Largest Projects	15%	5%	15%	25%

Epic Fail: Case Management System for NYC

- > $1M project
- 1st iteration got stuck in UAT, never went live
- 2nd iteration (not planned) got stuck in UAT, never went live
- Project canceled

Failure Type: **Requirements** / Technology / Schedule

Your Failures

Your Failure Scorecard

0, < 10%, < 15%, < 37%, < 61% ?

Fail Types

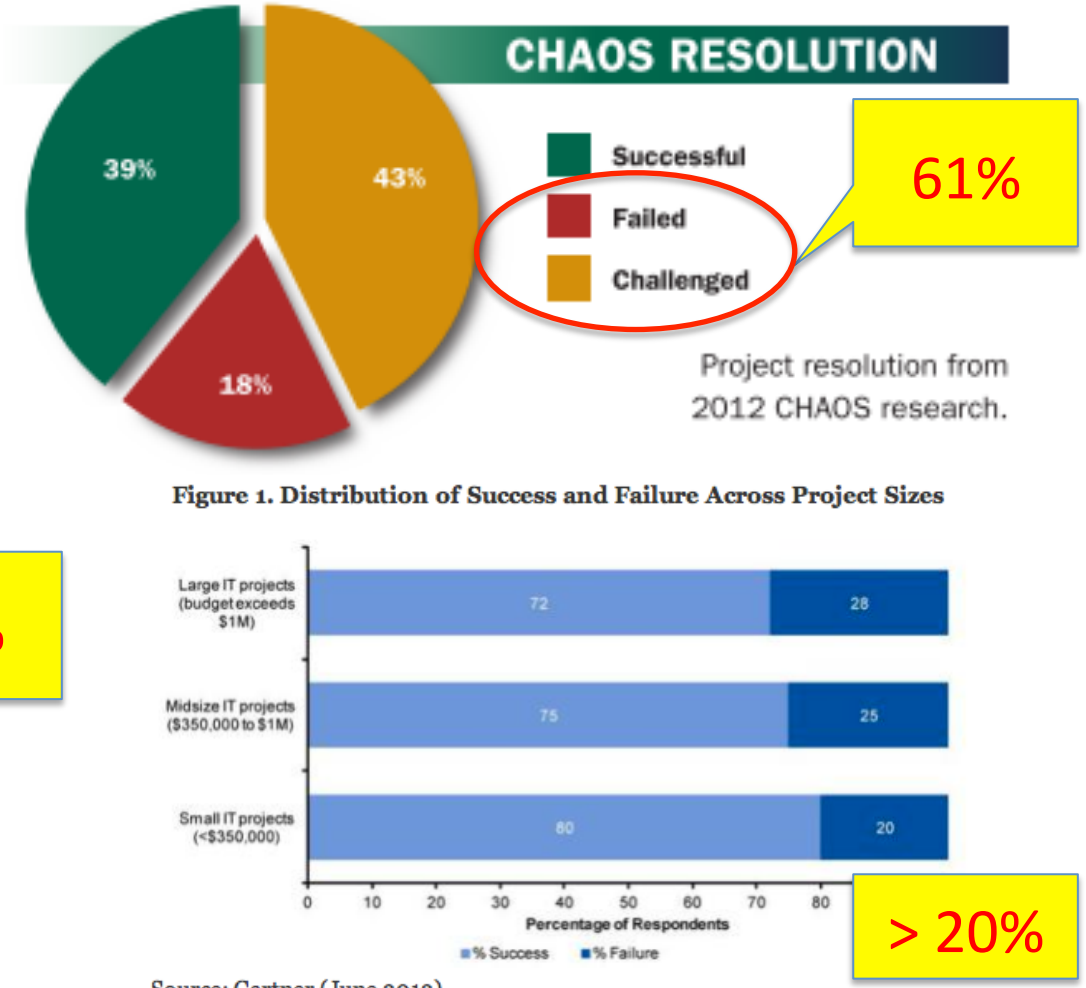
- Requirements?
- Technology?
- Resources?
- Schedule?
- Budget?
- Many or All?

Project Types

I Am Not Alone

Project Failure: All Projects

Project Failure: IT Projects



Reasons / Fixes

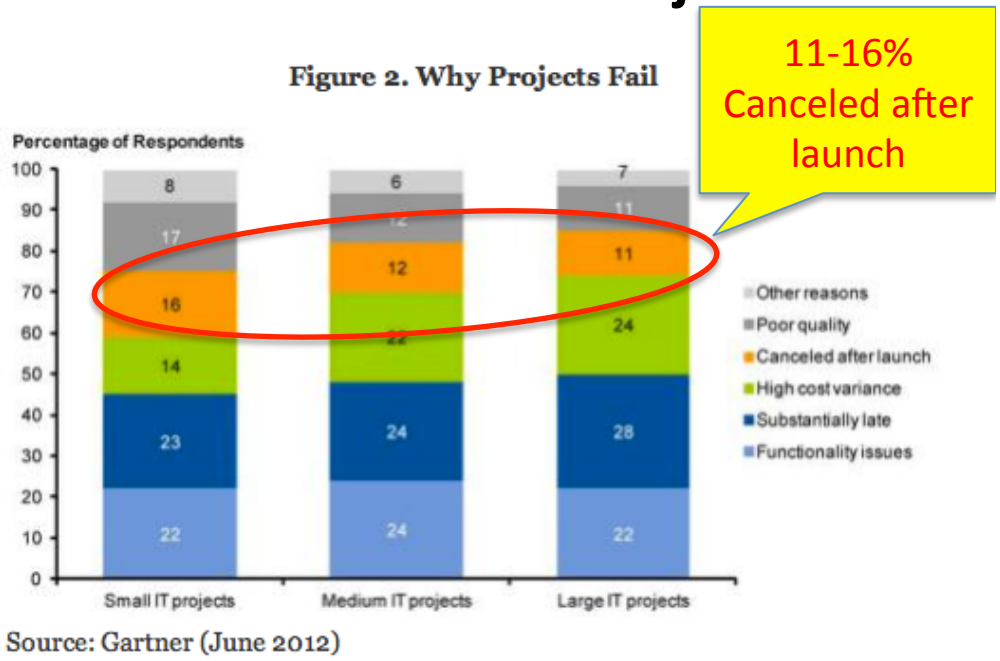
Failure Reasons: All Projects

Top 5 Causes of Troubled Projects

1. **REQUIREMENTS**
   Unclear, lack of agreement, lack of priority, contradictory, ambiguous, imprecise
2. **RESOURCES**
   Lack of resources, resource conflicts, turnover of key resources, poor planning
3. **SCHEDULES**
   Too tight, unrealistic, overly optimistic
4. **PLANNING**
   Based on insufficient data, missing items, insufficient details, poor estimates
5. **RISKS**
   Unidentified or assumed, not managed

> 79% Requirements Related

Failure Reasons: IT Projects



11-16% Canceled after launch

Source: Gartner (June 2012)

Gartner Recommends:

Invest in truly capturing and understanding the business expectations and functionality sought from the project, and ensure that there is initial, adequate allocated funding, as well as good processes in place for revisiting the expectations and required funding at multiple points during the project.

Increase the frequency of project status and review meetings, as well as **ongoing confirmation of the project's alignment with business strategy** — with an eye toward identifying and cancelling projects at the earliest possible stage that no longer meet company needs.

Agenda

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- Session Overview
- Objectives
- Introductions
- Fails
- Requirements Link to Failure
- **Agenda**
- **Common Requirements Methods-Requirements Pitfalls**
- **Inclusive Extension to Common Methods-Call Center**
- **Inclusive Extension to Common Methods-STAR**
- **Alternative Approach-Model-Based Design**
- **Summarize Criteria by Methods**
- **Current projects in the Room**
- **Questions (5 minutes)**

Process Design

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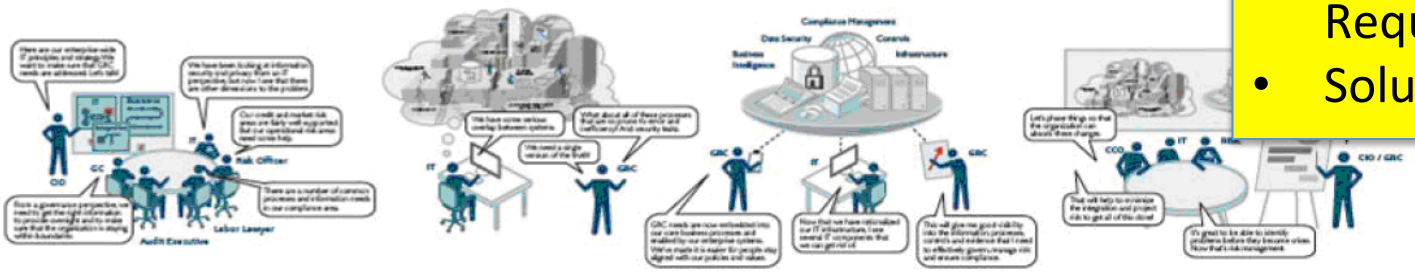
Output:

- Current State
- Future State
- Business Requirements
- Solution Approach

IT Roadmap for GRC



IT Principles and Strategy

Get GRC practitioners at the table with IT professionals to discuss how IT can support GRC needs

"As-Is" Situation

Inventory all of the existing processes and the technology that supports these processes

"To-Be" Vision

Define, enhance, evolve an enterprise architecture that supports GRC needs

Priorities Projects, Budgets & Ownership

GRC and IT professionals work together to define priorities and specific projects to phase into the ultimate vision.

Source: OCEG Presentation

Traditional Process Design: Current State

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Process	In Store Sale
Purpose:	purchase product at store
Trigger(s):	customer enters store
Frequency:	daily
Volume	
Prerequisites:	none
Predecessor Use Cases	none
Successor Use Cases	wave order for pick/pack/ship

Steps:

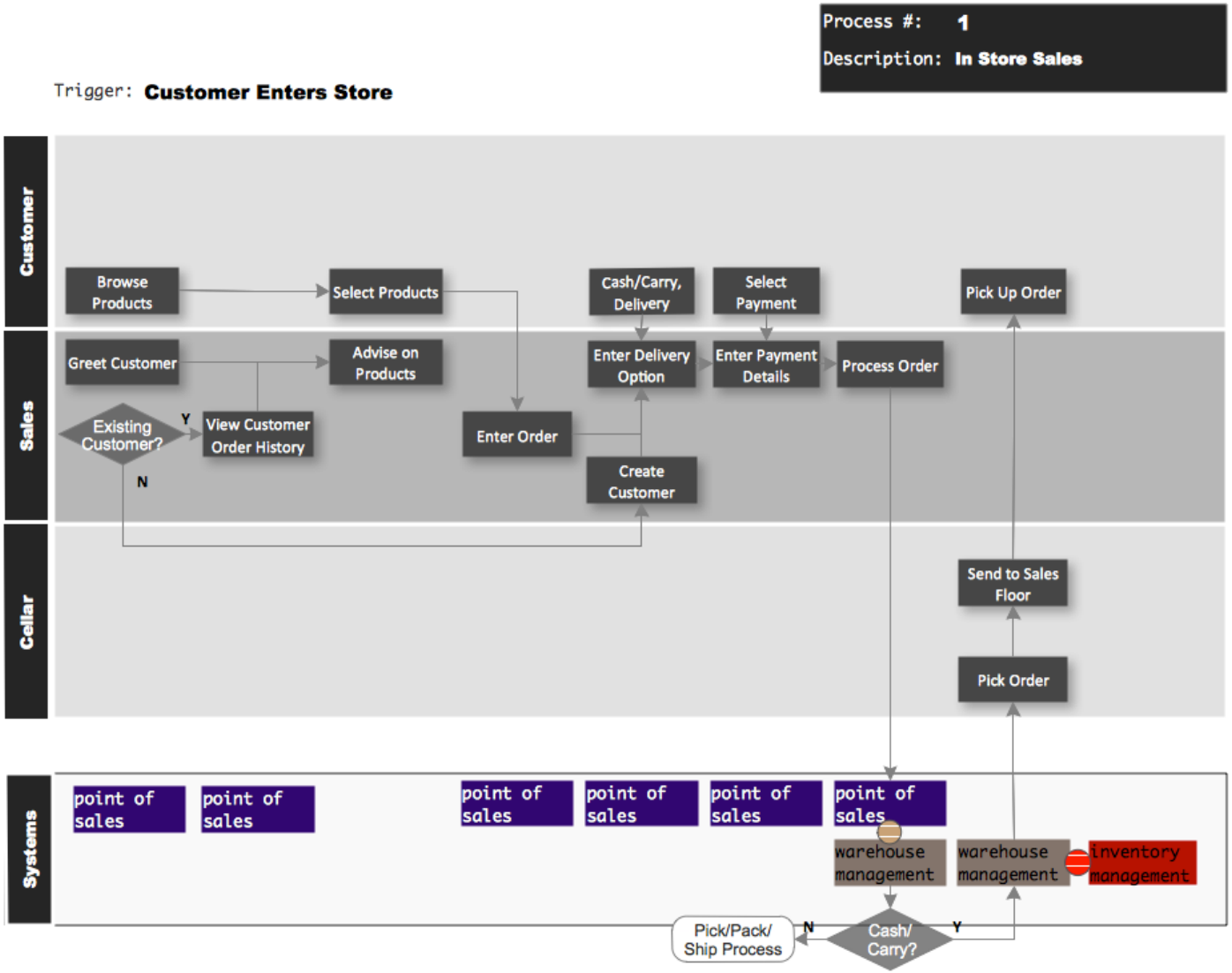
Step	Actor	Inputs	Outputs	Cases/ Exceptions	System / Database / Spreadsheet	Comments
Happy Day						
greet customer	in store sales					
select product	customer					
enter product in PDA	in store sales	BIN	item lists		warehouse system	
create pick request	warehouse	items list	"T-Number"		warehouse system	
find/create customer	sales	first name, last name			current sytsem	
enter pick request number	sales	T-Number			current sytsem	
create item details	current sytsem	T-Number	order item details		current sytsem	
Confirm Bill-To	in store sales				current sytsem	
Create Order	in store sales				current sytsem	
Confirm Total	in store sales				current sytsem	
Enter Payment Method	in store sales				current sytsem	
create gift card	in store sales				current sytsem	
Shipping Details	in store sales				current sytsem	
Complete This Order	in store sales				current sytsem	
Select peyment type	in store sales				current sytsem	
pick order	cellar	pick ticket	product		warehouse system	
send product to sales floor	cellar	procuct				
hand customer the product	in store sales	produc				
Path: Delivery						
Path: Pack and Hold						

Exception Paths

Process
- Purpose
- Trigger
- Frequency
- Volume

Per Step-Happy Day
- Description
- Actor
- Inputs
- Outputs
- Exceptions
- Spreadsheet/ database/System

Traditional Process Design: Future State



Stakeholder Needs

Organizational Unit	Problem	What are the reasons for this problem?	How is it solved now?	What solutions does the user want?	Prioritize Need for Solution
sales floor	can't see in a single place order history, see pack and hold, see futures	this information is on multiple screens	user needs to look at multiple screens to get complete picture	customer view integrating order history, order status, program participation	eCommerce solution key requirement
sales floor	debit card transaction	no pen pads	it is not	system that supports connection to debit card gateway, pen pad capability	eCommerce solution requirement
sales floor	no ability to do loyalty programs or in store discounts	NTI does not have the capability to support loyalty programs or in store discounts	it is not	easily configured promotions that could be applied to one or more channels	eCommerce solution requirement
sales floor	shipping: NTI has no information on shipping by "other carriers"	NI does not have the information	it is not	shipping status info available for all channels	eCommerce solution requirement
sales floor	floor orders take too long in busy periods	sales person tied to order until the end	managers get involved trying to queue things up	mobile checkout; decouple sales person from fulfilment	eCommerce solution requirement
sales floor	takes a large amount of time to return to stock	no simple return to stock process	managers know how, involves deleting lines, item maintenance. Changing pick tickets. Want to get it back in stock as soon as	system-based return process	eCommerce solution requirement
sales floor	NTI does not support multi tender transactions	NTI does not support multi tender transactions	multiple order work around	multi tender capability	eCommerce solution requirement
sales floor	no easy way to process orders like: take 2 and ship 5 on the same transaction	NTI does not have the capability to define a single order ship and take	multiple orders	way to process ship and take	eCommerce solution requirement
sales floor	adjustment for return now requires that CSR get involved an exchange	NTI does not have functionality for a return	Sales Floor calls Customer Service to complete the return process and they implement a	system-based return process	eCommerce solution requirement
sales floor	why PDA, does it really save time, single system?	Powerhouse has integrated PDA application	use Powerhouse PDA	order triggers pick--relies on decoupling the sales person from the order fulfillment; order process at least	eCommerce solution requirement
sales floor	miss the data exchange interval of 15 data exchange except PDA, locks up bottle			near real time allocation at time of order	eCommerce solution requirement
sales floor	can't show "comped" on receipts	NTI does not have the capability to make an item "compled"		permission-based process for "comping" an item or apply some other sort of promotion	eCommerce solution requirement
sales floor	swipe your credit card at kiosk	kiosk not set up for credit card swipe		tablet based transaction with emailed receipt	eCommerce solution requirement
sales floor	currently no process for order on line pick up in the store	no process has been developed	it is not	solution for future implementaiton of order on line pick up in store	nice to have eCommerce requirement
sales floor	future orders are deducted from NTI but not Powerhouse, process is that you can sell the persons wine	powerhouse can't handle negative numbers	paper process	system-based process preventing sale of inventory that should be allocated to a futures order	eCommerce solution customization request
sales floor	why only 1 cash register	cash register software on a stand alone PC, control?	single cashier	control point will remain	no change to current process

- Organizational Unit
- Problem
- What are the reasons for this problem?
- How is it solved now?
- What solutions does the user want?
- Prioritize Need for Solution

Map Solution to Address Need

- Use Case/Feature map

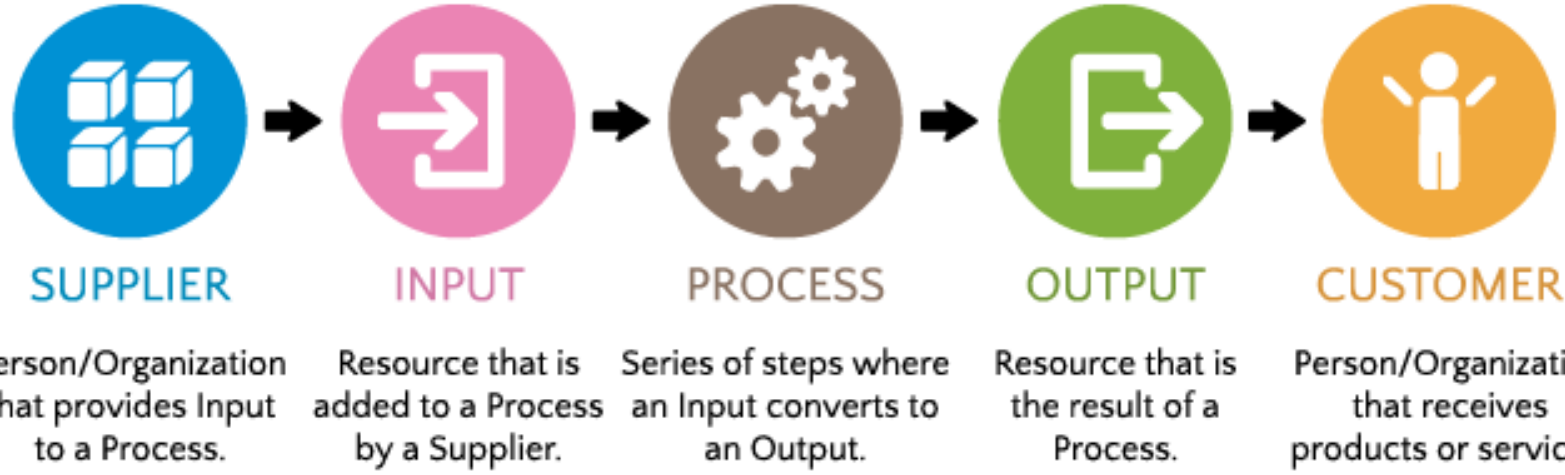
Traditional Process Design: Pitfalls

Typical Process Design

Source: OCEG Presentation

- **Requires establishing analytical boundaries**
- Stakeholder engagement / stakeholder management issues
- Politically risky group activity
- Doesn't document all the options considered
- Can't easily consider complex interaction
- Based on a snapshot view of the context

Six Sigma SIPOC



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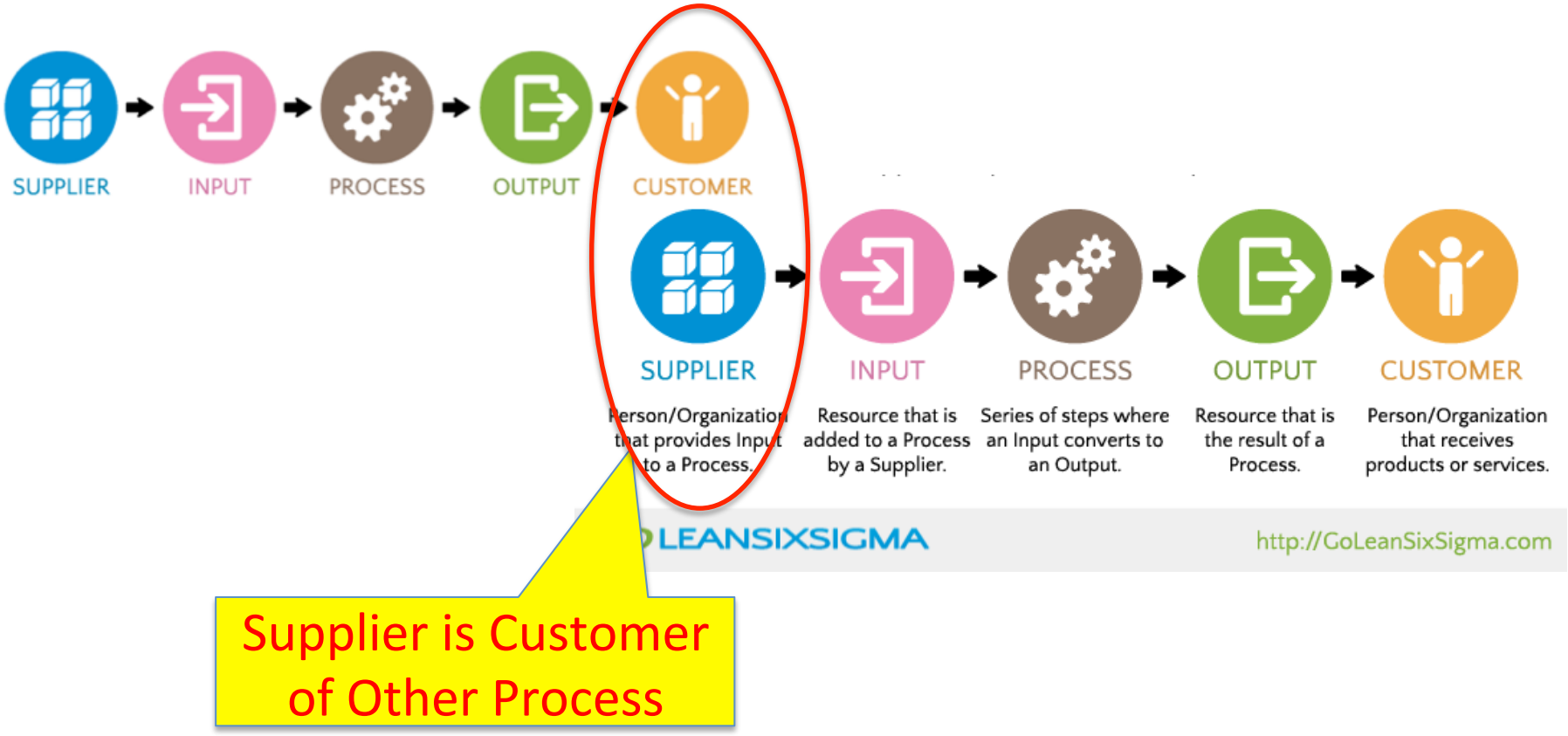
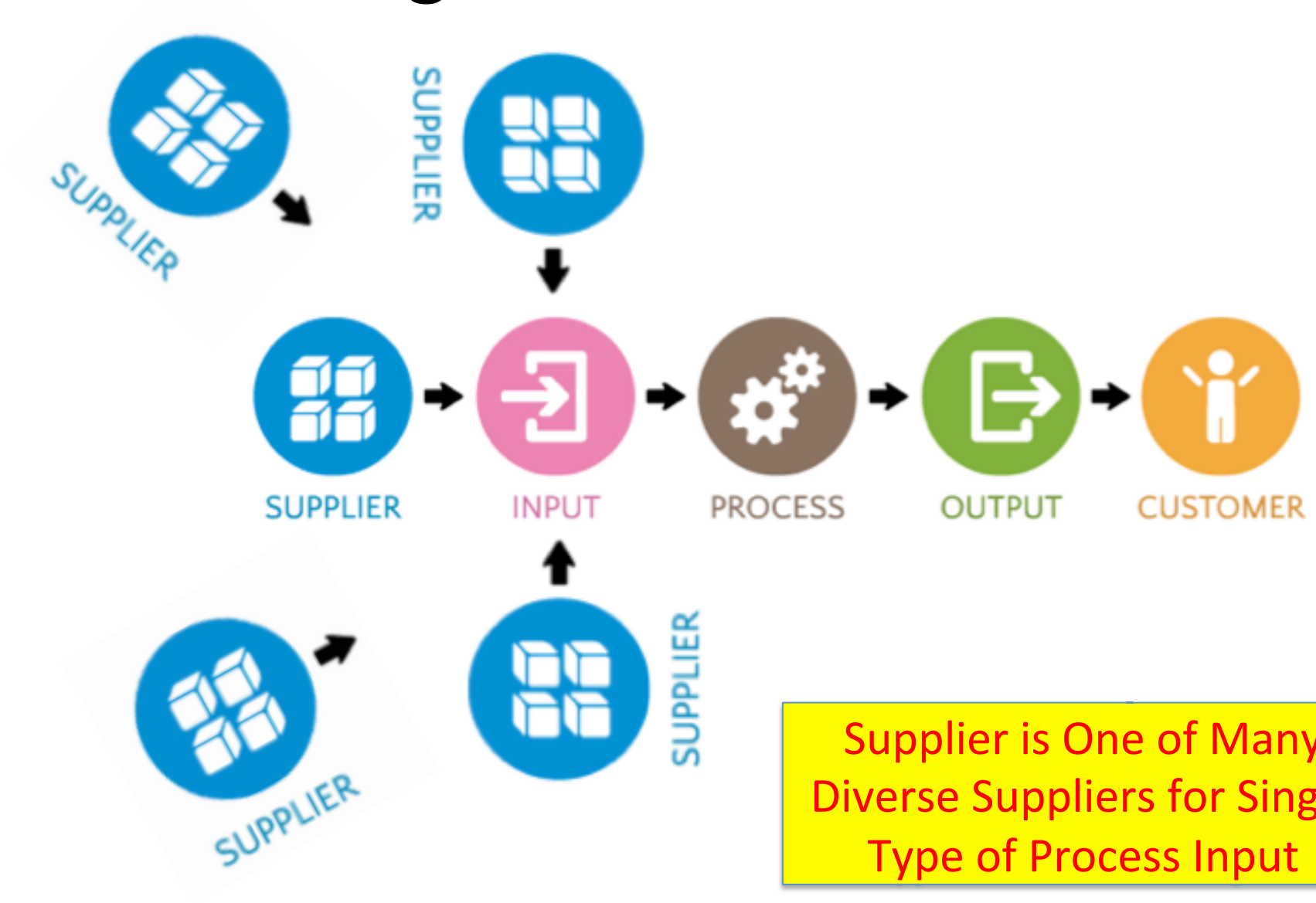
Six Sigma SIPOC: Pitfalls



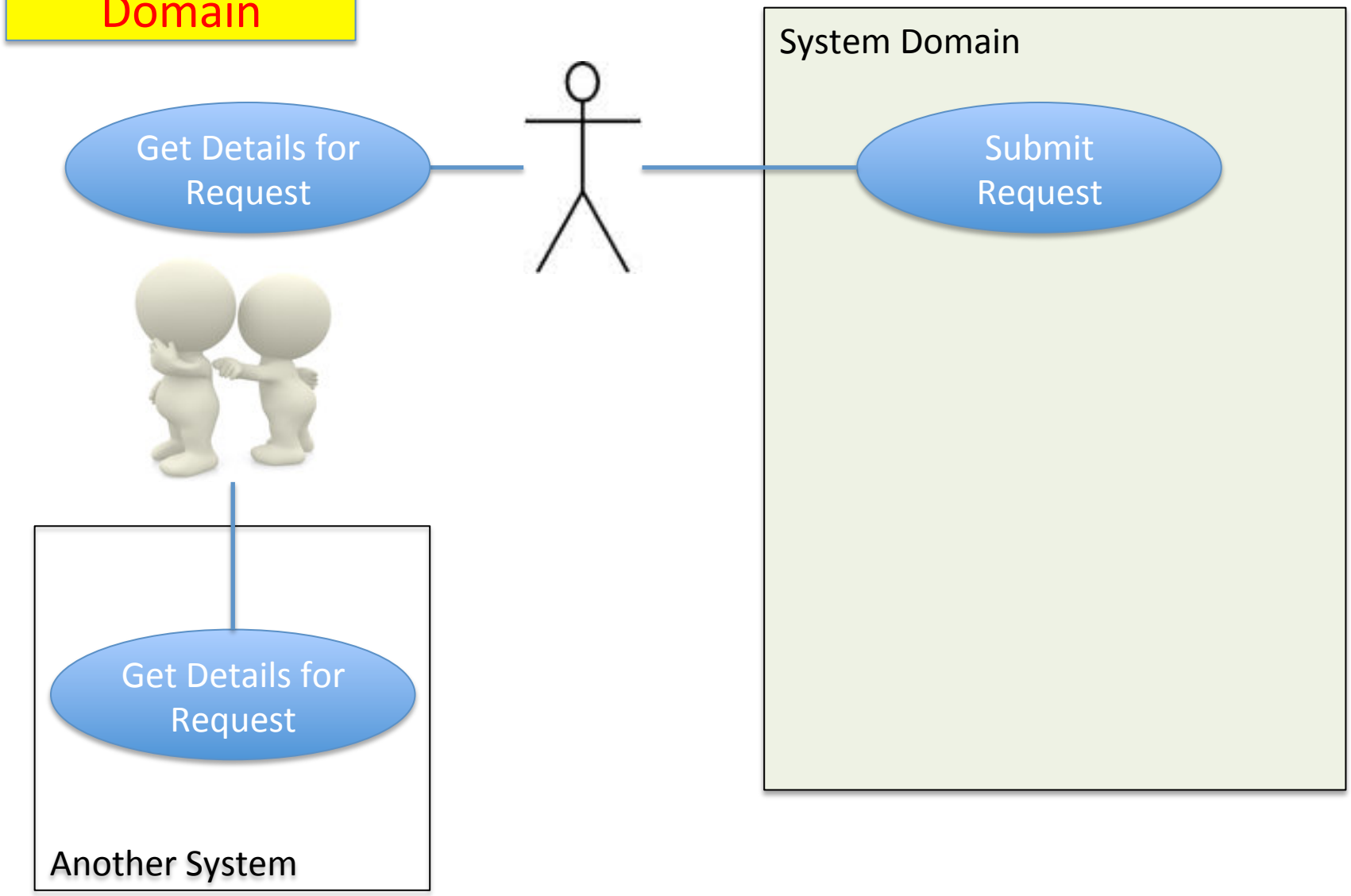
Six Sigma SIPOC: Pitfalls



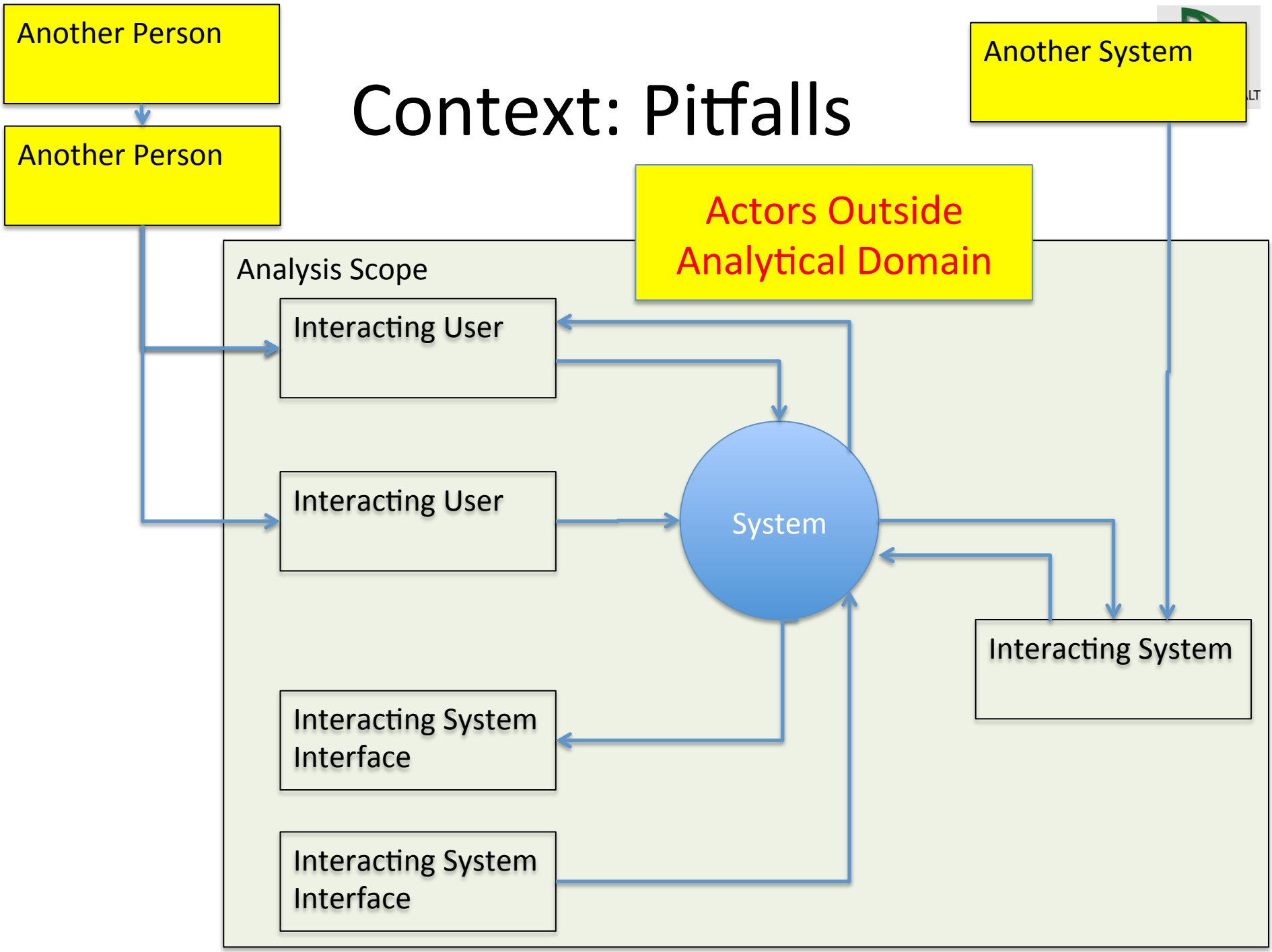
Supplier is One of Many Diverse Suppliers for Single Type of Process Input

Use Case: Pitfalls

Actors Outside Analytical Domain



Context: Pitfalls



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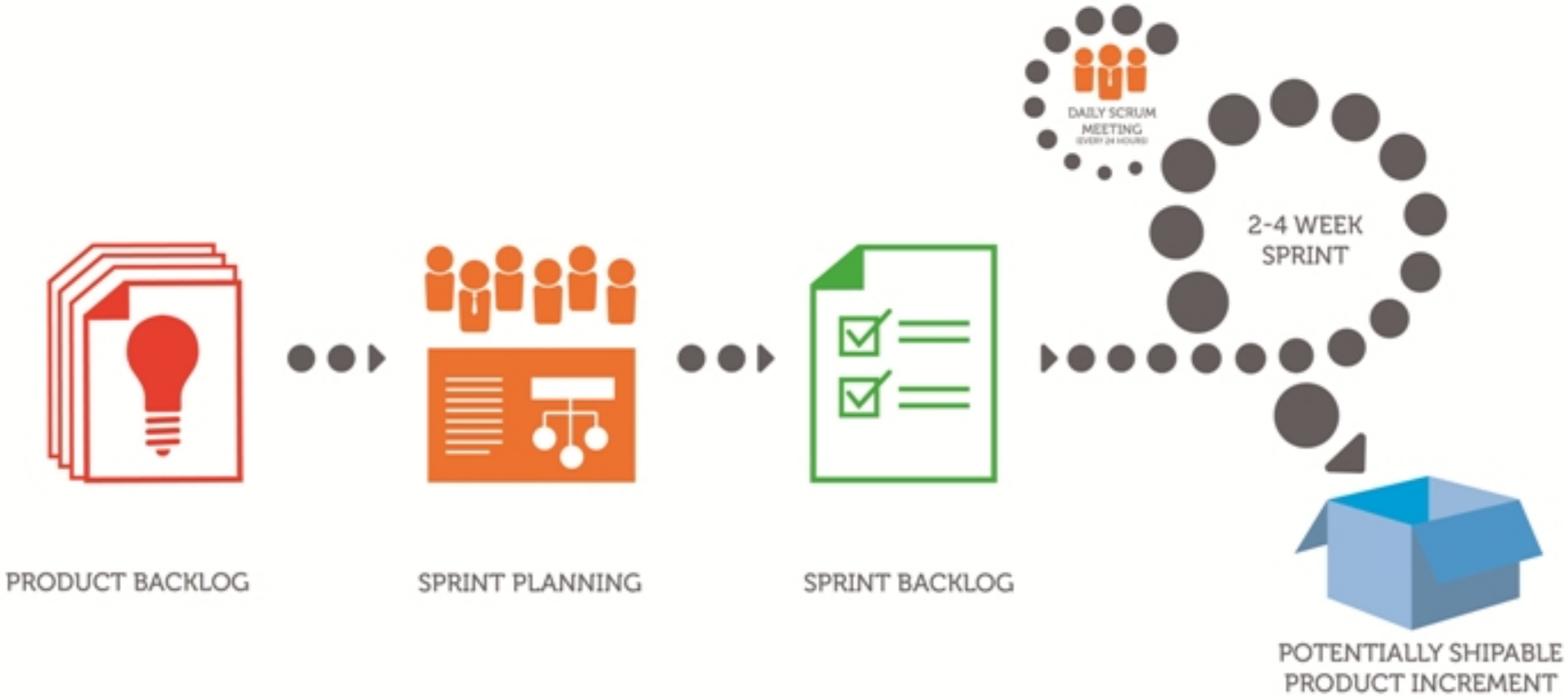
Agile



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Agile: Pitfalls

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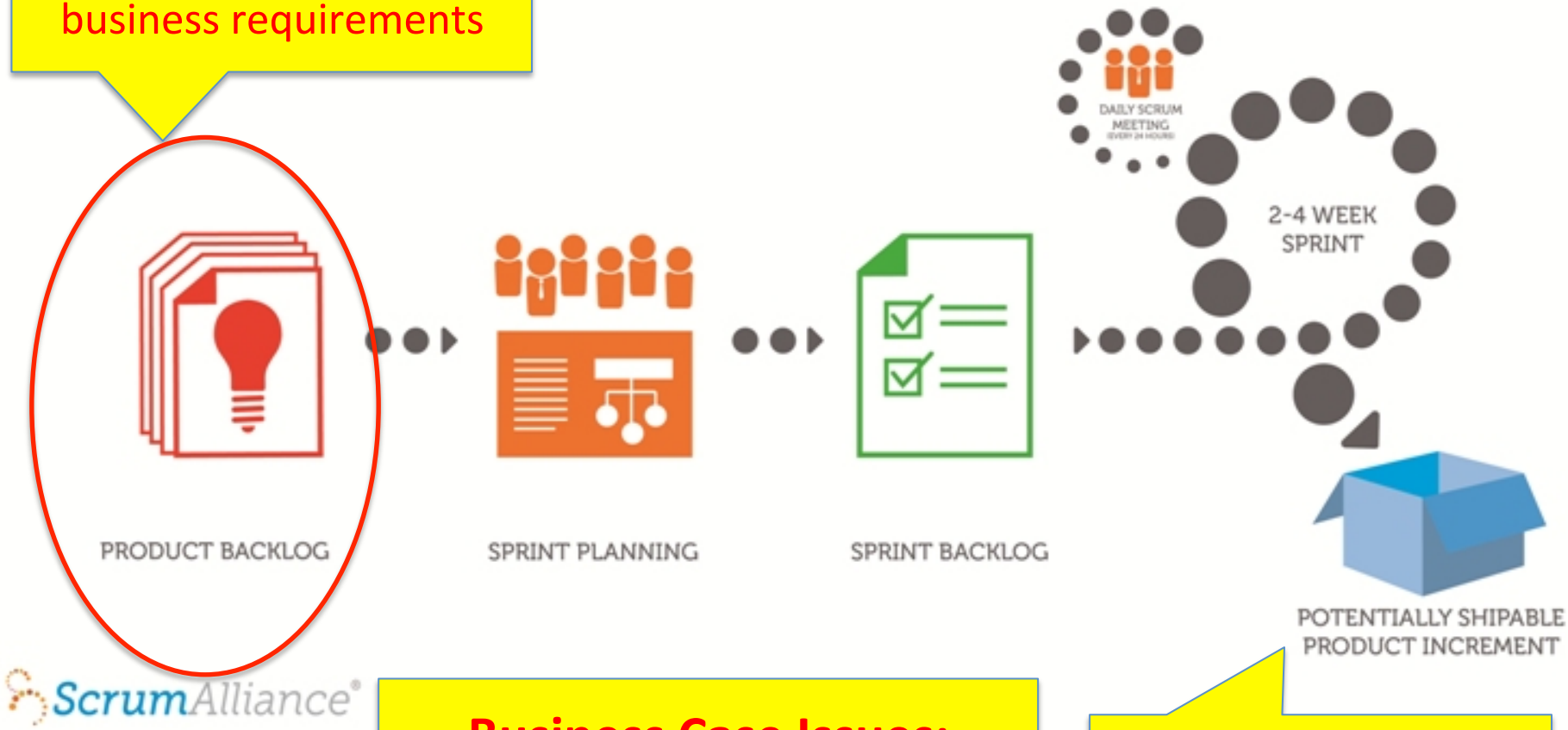
Ultimate success hinges on Product response to business requirements



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Business Case Issues:
When will it be done?
How good is good enough?

What is the customer's change absorption rate?

Inclusive Requirements Model

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- An **orientation** rather than a formal methodology
- Can be implemented **using existing requirements/development methods**
- Can improve understanding of business, organizational and external context for solution
- **Not a guarantee** of success at roll out

Call Center Example

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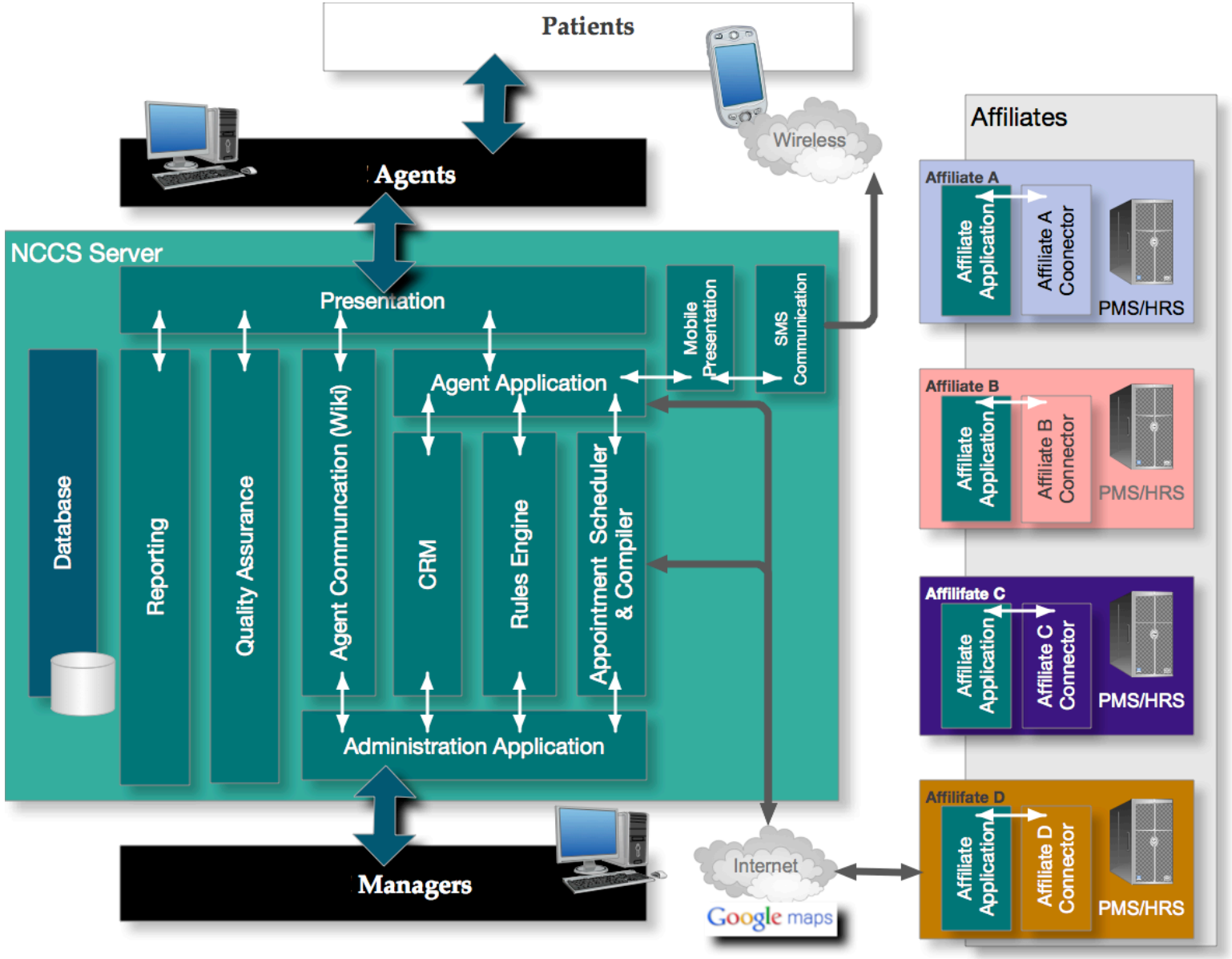
- New business offering at nationwide healthcare organization providing **centralized appointment-making services** for affiliates
- Each affiliate is an independent operation and was free to choose whether to participate
- Affiliates have a variety of practice management/electronic health record systems
- Reproductive health is highly regulated and requirements vary significantly from state to state
- Primary actor is the **agent**
  - Removed from the immediate context of their affiliate
  - Handling, one after another, calls for different states, for different affiliates for different services
  - Does not directly interact with the affiliate systems

Call Center Approach Using Agile

- Strong Product definition
  - Developed **customer profiles** and **usage scenarios**
  - **Rapid prototype** in Ruby on Rails based upon early adopting affiliates as validation
- Developed API for integrating with variety of practice management solutions
- Managed application iterations using **Agile** methods
- Designed for customer variations
  - Generated call flow templates with parameterized configuration
  - Content block management for localization and languages

Call Center Architecture



Call Center: Product Plan

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		Actors								Module										
Topic	Use Cases	Agent	Server	Affiliate Application	Affiliate PMS/HRS	Administrator	Priority	Lead		1: Agent Web UI	2: Manage Request	4: Administration	6: Communicate with Affiliate Application	7: Translate/Manage Request	9: Submit DB Query	10: Execute DB Stored Procedure	11: Communicate with Server	12: Supplemental Security Logging		
Agent	Present Agent Script	●	●				*-Must Have	Web Team		●										
Practice Management	Search Patient UI	●	●				*-Must Have	Web Team		●										
Practice Management	Submit Search Patient Criteria	●	●				*-Must Have	Web Team			●		●							
Practice Management	Execute Search Patient Request			●	●		*-Must Have	Interface Developer						●	●		●	●		
Practice Management	Present Add Patient UI	●	●				*-Must Have	Web Team		●										
Practice Management	Submit Add Patient Request	●	●				*-Must Have	Web Team			●	●	●							
Practice Management	Execute Add Patient Request			●	●		*-Must Have	Interface Developer						●		●	●	●		
Practice Management	Present Update Patient UI	●	●				*-Must Have	Web Team		●										
Practice Management	Submit Update Patient Request	●	●				*-Must Have	Web Team			●	●	●							
Practice Management	Execute Update Patient Request			●	●		*-Must Have	Interface Developer						●		●	●	●		
Practice Management	Present Request Available Appointments UI	●	●				*-Must Have	Web Team		●										
Practice Management	Submit Request Available Appointments Criteria	●	●				*-Must Have	Web Team			●		●							
Practice Management	Execute Request Available Apppointments Request			●	●		*-Must Have	Interface Developer						●	●		●	●		
Practice Management	Present Book Appointment UI	●	●				*-Must Have	Web Team		●										
Practice Management	Submit Book Appointment Request	●	●				*-Must Have	Web Team			●	●	●							
Practice Management	Execute Book Appointment Request			●	●		*-Must Have	Interface Developer						●		●	●	●		
Practice Management	Execute Search Patient Appointments Request			●	●		*-Must Have	Interface Developer						●	●		●	●		
Practice Management	Execute Cancel Appointment Request			●	●		*-Must Have	Interface Developer						●		●	●	●		
Management	Execute Request User Booked Appointments Criteria			●	●	●	*-Must Have	Interface Developer						●	●		●	●		

Call Center: Pitfalls

- Assumed day-to-day variation in appointments would be handled by update to affiliate practice management system—could not replace **Tap on the Shoulder** interaction
- Creeping complexity challenged both the people and systems

Call Center: Complexity Overload

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	1		2		3		4		5	
Measure Count	Total		Total		Total		Total		Total	
Affiliate Services That Makes Apppointments For	**29**		**3**		**19**		**4**		**5**	
Measure Counts	Total/	Custom	Total/	Custom	Total/	Custom	Total/	Custom	Total/	Custom
Workflows	8	3	8	0	12	3				
Screens	27	2	23	2	39	1	27	1	25	2
Text Blocks	55	29	105	34	79	24	112	45	142	28
Complex Tasks	6	3	8	6	6	4	6	3	6	1
Rules Vary by Location	✓	⚑	✓		✓	⚑	✓		✓	
Service Offering Variation	✓	⚑			✓	⚑			✓	
Mandatory Information Session,	✓	⚑			✓	⚑	✓	⚑	✓	⚑
Parental Involvement,	✓		✓		✓		✓		✓	
Insurance Coverage Evaluation	✓		✓	⚑	✓	⚑	✓	⚑	✓	
Insurance Validation			✓	⚑						
Courtesy Billing Flow							✓	⚑		
Financial Assistance	✓		✓	⚑	✓		✓		✓	
Appointment Offset Due to			✓	⚑						
Appointment Offset Due to Financial Assistance			✓	⚑						
Appointment Offset Due to Medical Condition			✓	⚑						
Cost Shopper	✓		✓	⚑	✓		✓	⚑	✓	
Data Fields Created	**41**	**1**	**41**	**5**	**14**	**0**	**36**	**5**	**36**	**4**
Business Rule	18	1	18	6	8	1	21	3	21	1
Measure	Tools Used		Tools Used		Tools Used		Tools Used		Tools Used	
Agent Tools										
script	✓		✓		✓		✓		✓	
....erface with Affiliate system	✓		✓				✓		✓	
Interface with Database							✓			
Direct Use of Affiliate system					Tiger					
Direct Use of External System			Navicure							

STAR Example

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- Education benefit provider client
- Organization grew through acquisition, each acquired entity merged as a new department
- Had not yet integrated processes, nor was it clear that there was the organizational will to do so
- Processes managed on a variety of legacy systems
- Open discussion on whether to centralize back office functions
- Organization needed a common system platform for benefit management

- **Primary issue**
  - **27** key processes performed at least **75** different ways!

STAR Approach

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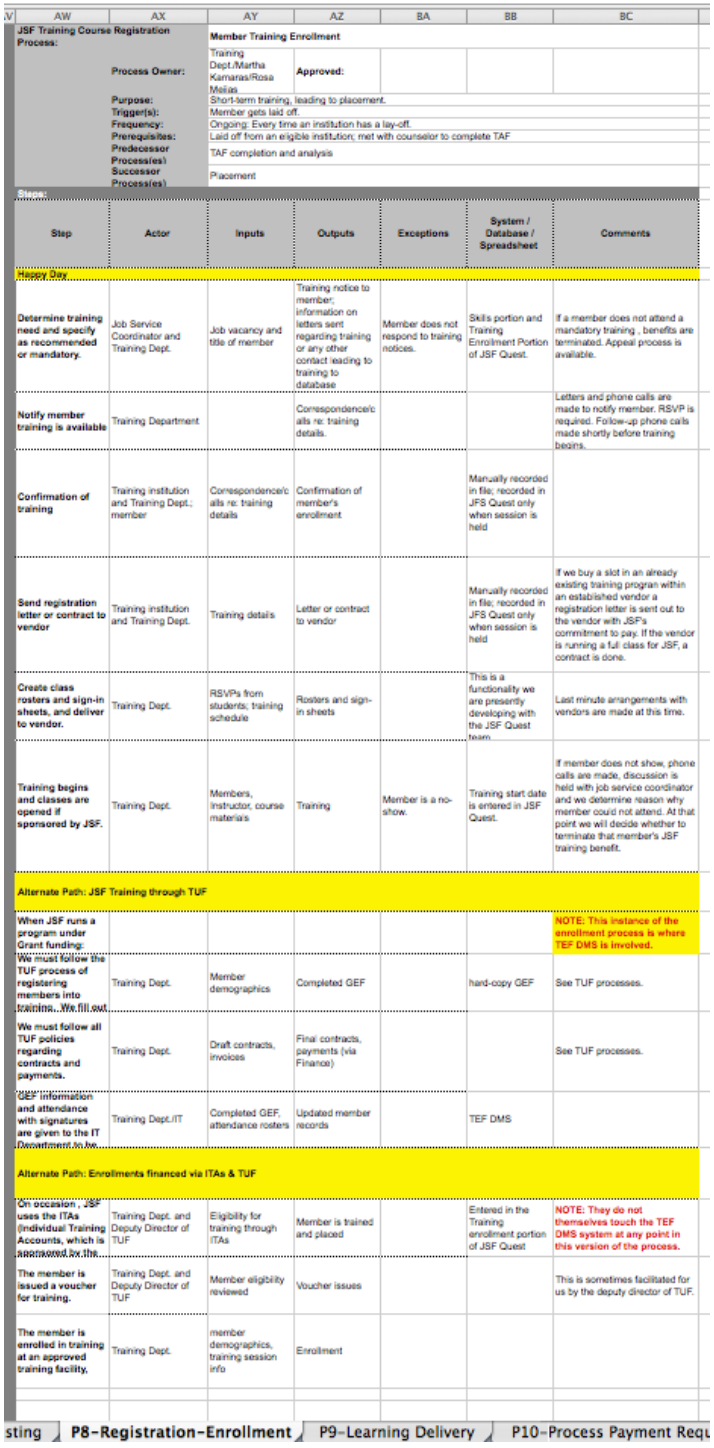
- Established **context diagram** for each department
- Documented **current processes** for each department
- Developed Model Process framework based upon product line—instead of department legacy practices
- Sought to align like tasks in each process to facilitate Department comparison discussions
- Created model processes adding required quality and compliance activities for all departments and accommodating department-specific activities
- Developed use cases based on model process
- Developed standard operating procedures incorporating department-specific activities

STAR Current Process

Detailed steps including interactions with other actors, spreadsheets, databases, systems.

Focused on Happy Day but allowed Exception paths



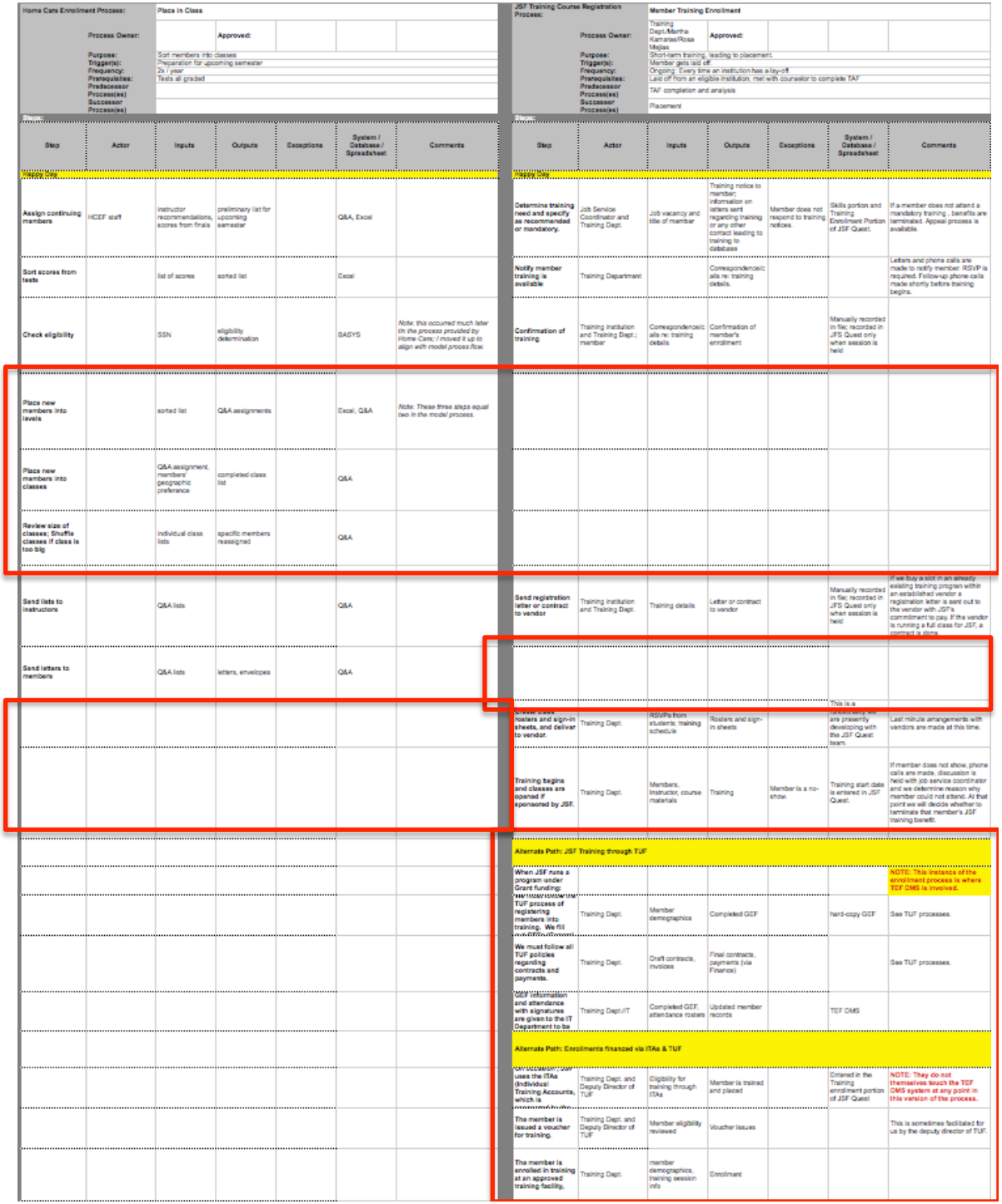
	AW	AX	AY	AZ	BA	BB	BC
	JSF Training Course Registration Process:		**Member Training Enrollment**				
		Process Owner:	Training Dept./Martha Kamaras/Rosa Melias	**Approved:**			
		Purpose:	Short-term training, leading to placement.				
		Trigger(s):	Member gets laid off.				
		Frequency:	Ongoing: Every time an institution has a lay-off.				
		Prerequisites:	Laid off from an eligible institution; met with counselor to complete TAF				
		Predecessor Process(es)	TAF completion and analysis				
		Successor Process(es)	Placement				
	Steps						
	Step	**Actor**	**Inputs**	**Outputs**	**Exceptions**	**System / Database / Spreadsheet**	**Comments**
	Happy Day						
	Determine training need and specify as recommended or mandatory.	Job Service Coordinator and Training Dept.	Job vacancy and title of member	Training notice to member; information on letters sent regarding training or any other contact leading to training to database	Member does not respond to training notices.	Skills portion and Training Enrollment Portion of JSF Quest.	If a member does not attend a mandatory training , benefits are terminated. Appeal process is available.
	Notify member training is available	Training Department		Correspondence/calls re: training details.			Letters and phone calls are made to notify member. RSVP is required. Follow-up phone calls made shortly before training begins.
	Confirmation of training	Training institution and Training Dept.; member	Correspondence/calls re: training details	Confirmation of member's enrollment		Manually recorded in file; recorded in JFS Quest only when session is held	
	Send registration letter or contract to vendor	Training institution and Training Dept.	Training details	Letter or contract to vendor		Manually recorded in file; recorded in JFS Quest only when session is held	If we buy a slot in an already existing training program within an established vendor a registration letter is sent out to the vendor with JSFs commitment to pay. If the vendor is running a full class for JSF, a contract is done.
	Create class rosters and sign-in sheets, and deliver to vendor.	Training Dept.	RSVPs from students; training schedule	Rosters and sign-in sheets		This is a functionality we are presently developing with the JSF Quest team.	Last minute arrangements with vendors are made at this time.
	Training begins and classes are opened if sponsored by JSF.	Training Dept.	Members, Instructor, course materials	Training	Member is a no-show.	Training start date is entered in JSF Quest.	If member does not show, phone calls are made, discussion is held with job service coordinator and we determine reason why member could not attend. At that point we will decide whether to terminate that member's JSF training benefit.
	Alternate Path: JSF Training through TUF						
	When JSF runs a program under Grant funding:						**NOTE: This instance of the enrollment process is where TEF DMS is involved.**
	We must follow the TUF process of registering members into training. We fill out	Training Dept.	Member demographics	Completed GEF		hard-copy GEF	See TUF processes.
	We must follow all TUF policies regarding contracts and payments.	Training Dept.	Draft contracts, invoices	Final contracts, payments (via Finance)			See TUF processes.
	GEF information and attendance with signatures are given to the IT Department to be	Training Dept./IT	Completed GEF, attendance rosters	Updated member records		TEF DMS	
	Alternate Path: Enrollments financed via ITAs & TUF						
	On occasion , JSF uses the ITAs (Individual Training Accounts, which is approved by the	Training Dept. and Deputy Director of TUF	Eligibility for training through ITAs	Member is trained and placed		Entered in the Training enrollment portion of JSF Quest	**NOTE: They do not themselves touch the TEF DMS system at any point in this version of the process.**
	The member is issued a voucher for training.	Training Dept. and Deputy Director of TUF	Member eligibility reviewed	Voucher issues			This is sometimes facilitated for us by the deputy director of TUF.
	The member is enrolled in training at an approved training facility.	Training Dept.	member demographics, training session info	Enrollment			

sting | P8-Registration-Enrollment | P9-Learning Delivery | P10-Process Payment Requ

STAR: Aligned Processes Department Negotiation

Are activities required based on Department product lines?

Can Exception paths be mitigated?



Home Care Enrollment Process:	Place in Class					
Process Owner:		Approved:				
Purpose:	Sort members into classes					
Trigger(s):	Preparation for upcoming semester					
Frequency:	2x / year					
Prerequisites:	Tests all graded					
Predecessor Process(es)						
Successor Process(es)						

Steps:						
Step	Actor	Inputs	Outputs	Exceptions	System / Database / Spreadsheet	Comments
Assign continuing members	HCEF staff	instructor recommendations, scores from finals	preliminary list for upcoming semester		Q&A, Excel	
Sort scores from tests		list of scores	sorted list		Excel	
Check eligibility		SSN	eligibility determination		BASYS	Note: this occurred much later in the process provided by Home Care; I moved it up to align with model proces flow.
Place new members into levels		sorted list	Q&A assignments		Excel, Q&A	Note: These three steps equal two in the model process.
Place new members into classes		Q&A assignment, members' geographic preferance	completed class list		Q&A	
Review size of classes; Shuffle classes if class is too big		individual class lists	specific members reassigned		Q&A	
Send lists to instructors		Q&A lists			Q&A	
Send letters to members		Q&A lists	letters, envelopes		Q&A	

JSF Training Course Registration Process:	Member Training Enrollment					
Process Owner:	Training Dept./Martha Kamarae/Rosa Mejias	Approved:				
Purpose:	Short-term training, leading to placement.					
Trigger(s):	Member gets laid off.					
Frequency:	Ongoing. Every time an institution has a lay-off.					
Prerequisites:	Laid off from an eligible institution, met with counselor to complete TAF					
Predecessor Process(es)	TAF completion and analysis					
Successor Process(es)	Placement					

Steps:						
Step	Actor	Inputs	Outputs	Exceptions	System / Database / Spreadsheet	Comments
Determine training need and specify as recommended or mandatory.	Job Service Coordinator and Training Dept.	Job vacancy and title of member	Training notice to member; information on letters sent regarding training or any other contact leading to training to database	Member does not respond to training notices.	Skills portion and Training Enrollment Portion of JSF Quest.	If a member does not attend a mandatory training , benefits are terminated. Appeal process is available.
Notify member training is available	Training Department		Correspondence/calls re: training details.			Letters and phone calls are made to notify member. RSVP is required. Follow-up phone calls made shortly before training begins.
Confirmation of training	Training institution and Training Dept.; member	Correspondence/calls re: training details	Confirmation of member's enrollment		Manually recorded in file; recorded in JFS Quest only when session is held	
Send registration letter or contract to vendor	Training institution and Training Dept.	Training details	Letter or contract to vendor		Manually recorded in file; recorded in JFS Quest only when session is held	If we buy a slot in an already existing training program within an established vendor a registration letter is sent out to the vendor with JSF's commitment to pay. If the vendor is running a full class for JSF, a contract is done.
					This is a	
rosters and sign-in sheets, and deliver to vendor.	Training Dept.	RSVPs from students; training schedule	Rosters and sign-in sheets		are presently developing with the JSF Quest team.	Last minute arrangements with vendors are made at this time.
Training begins and classes are opened if sponsored by JSF.	Training Dept.	Members, instructor, course materials	Training	Member is a no-show.	Training start date is entered in JSF Quest.	If member does not show, phone calls are made. discussion is held with job service coordinator and we determine reason why member could not attend. At that point we will decide whether to terminate that member's JSF training benefit.
Alternate Path: JSF Training through TUF						
When JSF runs a program under Grant funding:						NOTE: This instance of the enrollment process is where TEF OMS is involved.
TUF process of registering members into training. We fill	Training Dept.	Member demographics	Completed GEF		hard-copy GEF	See TUF processes.
We must follow all TUF policies regarding contracts and payments.	Training Dept.	Draft contracts, invoices	Final contracts, payments (via Finance)			See TUF processes.
GEF information and attendance with signatures are given to the IT Department to be	Training Dept./IT	Completed GEF, attendance rosters	Updated member records		TEF OMS	
Alternate Path: Enrollments financed via ITAs & TUF						
uses the ITAs (Individual Training Accounts, which is	Training Dept. and Deputy Director of TUF	Eligibility for training through ITAs	Member is trained and placed		Entered in the Training enrollment portion of JSF Quest	NOTE: They do not themselves touch the TEF OMS system at any point in this version of the process.
The member is issued a voucher for training.	Training Dept. and Deputy Director of TUF	Member eligibility reviewed	Voucher issues			This is sometimes facilitated for us by the deputy director of TUF.
The member is enrolled in training at an approved training facility.	Training Dept.	member demographics, training session info	Enrollment			

Promoted Model Process Adoption

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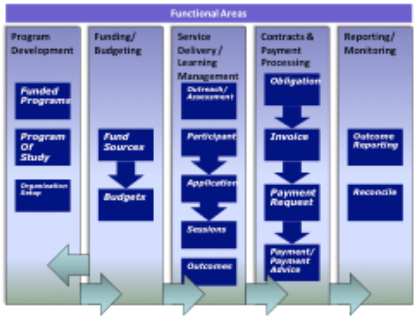
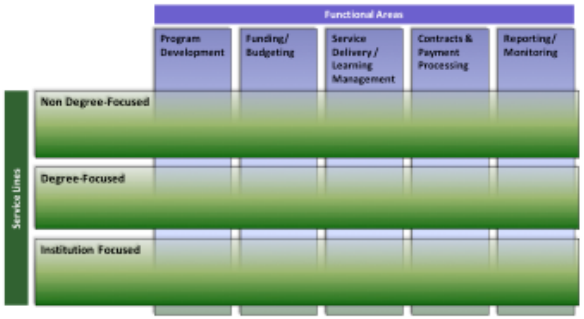
SOP: What Are They? STAR Model Processes

Functional Flow

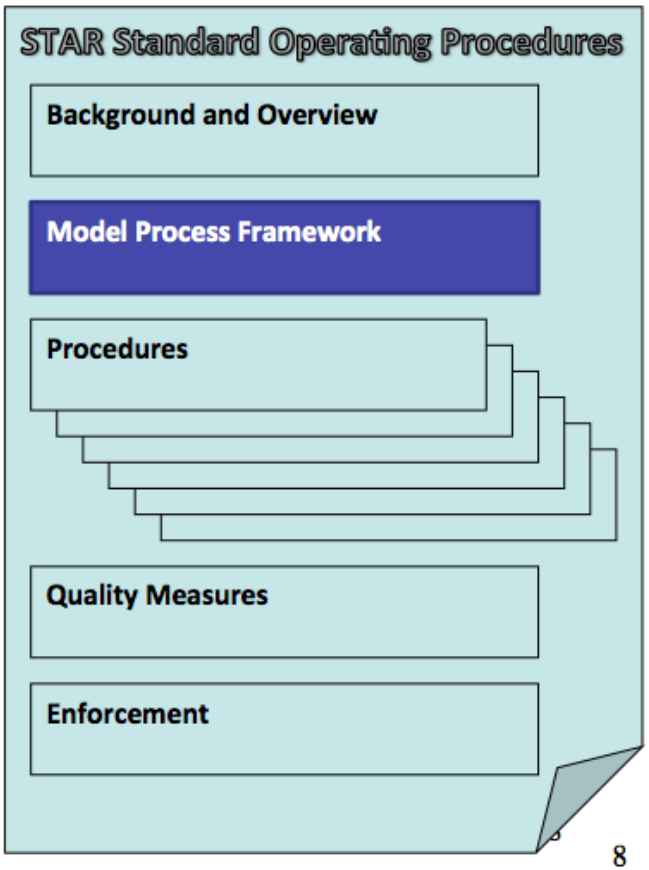


Service Line Flow

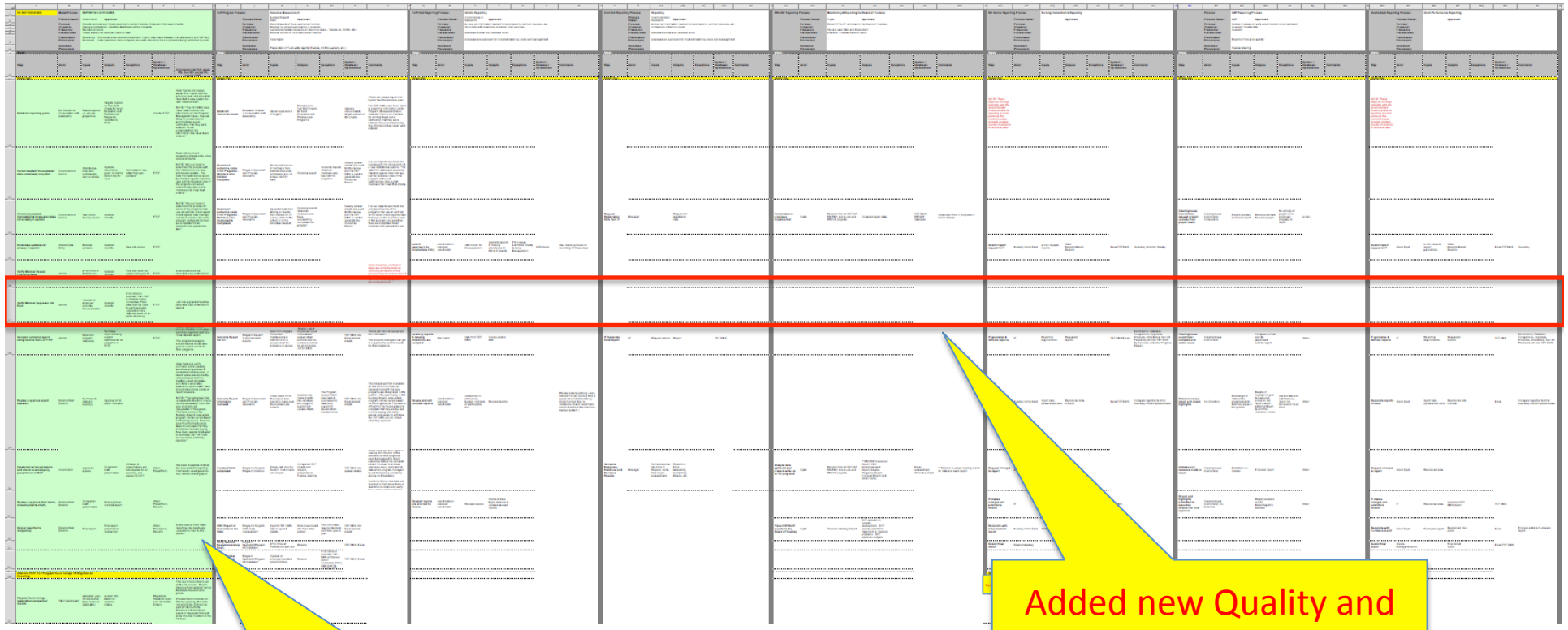


Form Flow

- Department data entry
- Centralized data entry



STAR: Model Processes



Added new Quality and Compliance steps

Harmonized terminology.
Identified which steps were to be accomplished using new system

STAR: Use Case

Use case reference to Model Process step

#	Review #	Use Case	Input	Output	BUC Owner	Actors)	Process Code	Process Name	Reference/Fl	Process In	Process Ou	Process Comments	Module	Cat #	Category	Target Release	
BUC303		Generate invoice for special testing session	Session ID/Name, Enrollments	Invoice of projected cost based on enrollments	TUF	coordinator	7	Skills Assessment/Testing	07.2TUF.02	Testing data for those tested - name, ssn, test date, test time	Invoice itemizing anticipated cost	This process is used for requests from certain grant funded on-site programs, and special testing for external Funds. NOTE: "A system is needed to allow the invoice to be produced directly from the data input into TEF DMS - Test Manager."	SA	2120	Service Accounting:Service Billing:Invoices	not required	STAR 1.0
BUC083	SA25	add a payroll payment batch	Payroll Account, Track Number, list of unsent Participants, SSN, Semester, Amount	Payroll Batch record	TEF	program manager			Payroll accounts Payment Requests approved not sent				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0
BUC084	SA26	post a payroll batch	Payroll Account, Track Number, list of unsent Participants, SSN, Semester, Amount	Updated Payroll Batch Record, file in payroll processor file format	TEF	program manager			Send batch request check processing				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0
BUC085	SA27	void checks in payroll batch	Payroll Account, SSN, Check Number	Updated Payroll Batch and Payment record	TEF	program manager			Tuition Assistance (TA) voided				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0
BUC086	SA28	reconcile payroll batch	Payroll Account, Batch Number	Updated Payroll Batch and Payment record	TEF	program manager			Verify check processing				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0
BUC087	SA29	post payroll check	Payroll Account, SSN, Check Number, Check Date, Check Amount	Updated Payment record	TEF	program manager			Post manually check for student training semester				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0
BUC088	SA30	revert payroll batch	Payroll Account, Batch Number	Updated Batch record	TEF	program manager			Revert ADP batch process				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0
BUC090	SA32	update voucher default value	SSN, Amount, Block, Block Date	Updated Service record	TEF	program manager			Block amount due individual				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0

Use Cases to required to support Model Process Step

STAR: Use Case

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2: Assigned to Modules and Release

#	Review #	Use Case	Input	Output	BUC Owner	Actors)	rocess Code	Process Name	Reference/Fl	Process Inp	Process Ou	Process Comments	Module	Cat #	Category	Target Release	
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BUC086	SA28	reconcile payroll batch	Payroll Account, Batch Number	Updated Payroll Batch and Payment record	TEF	program manager			Verify check processing				SA	2055	Service Accounting:Payment Processing:ADP Checks	STAR 1.0	STAR 1.0
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I	J	K
Reason Co	Reason	Source
6	Operational efficiency	Operational efficiency
10	Existing Functionality	existing functionality
10	Existing Functionality	existing functionality

1: Use Cases Assigned Business Reason

STAR: Standard Operating Procedures

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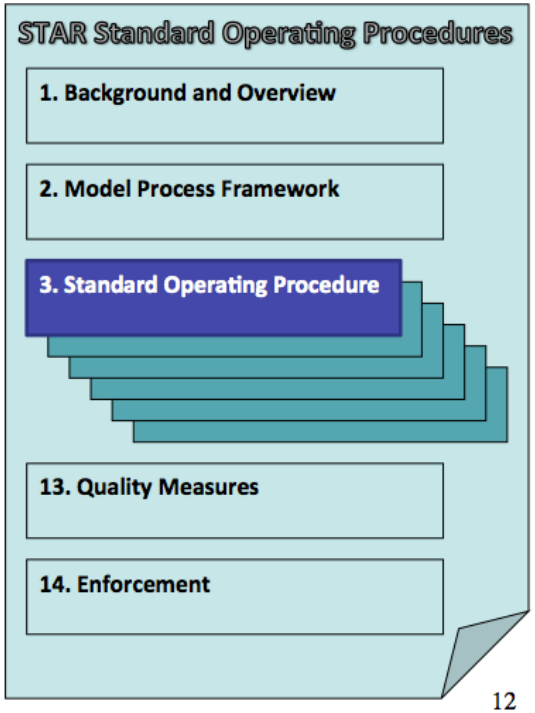
SOP: What are They? Procedures

- Purpose
- Audience
- Context Diagrams
- Workflow and Relationships
- Responsibility Matrix
- Procedures
  - Activity
  - Performed by



STAR: Standard Operating Procedures

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SOP: How do they relate to STAR training?

- SOP activities reference "what" to be done in STAR and by whom

Fund Source and Budgets: Collective Bargaining

Activity	Performed By
Prepare proposed annual budgets	Director,TEF: All Departments
Review/approve annual budgets	Trustees
Deliver Approved Budgets to DPA	Director,TEF: All Departments
Enter budgets in STAR in conjunction with SSD:Finance	TEF: DPA
Notify Departments of Budget Entry	TEF: DPA

- STAR training will address "how" it is done in the application

Model-Based Development Option

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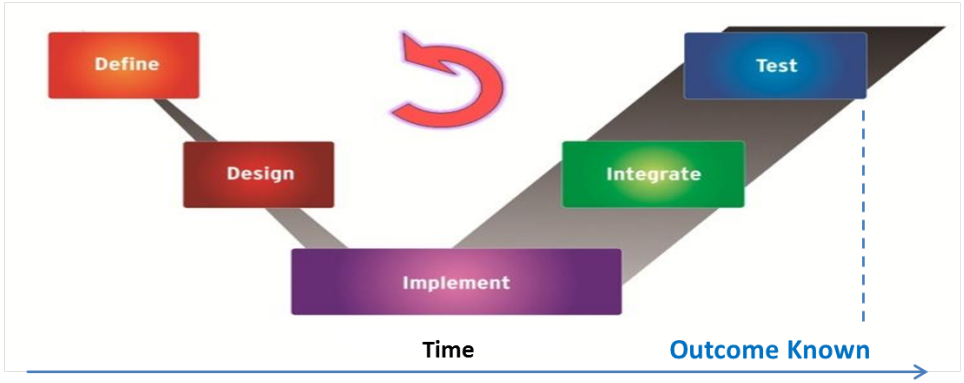
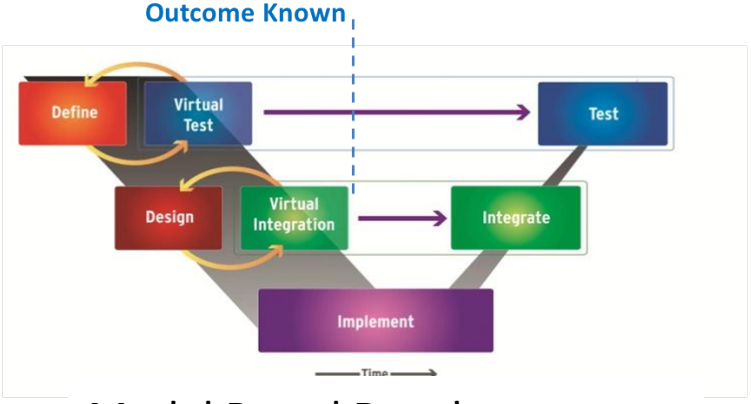
Effort and uncertainty scale in the later stages

Traditional Approach



Simulation models reduce overall time, risk and cost, and minimize uncertainty



Model Based Development

Organizational Competency Modeling

- Purpose – Holistic modeling of process, people and technology for requirements engineering and solution design
- Approach – Leveraging proven robotics design methods and patterns
- Value – Enables and support agile adaptability to organizational and environmental change

Traditional Process Design vs. Organizational Competency

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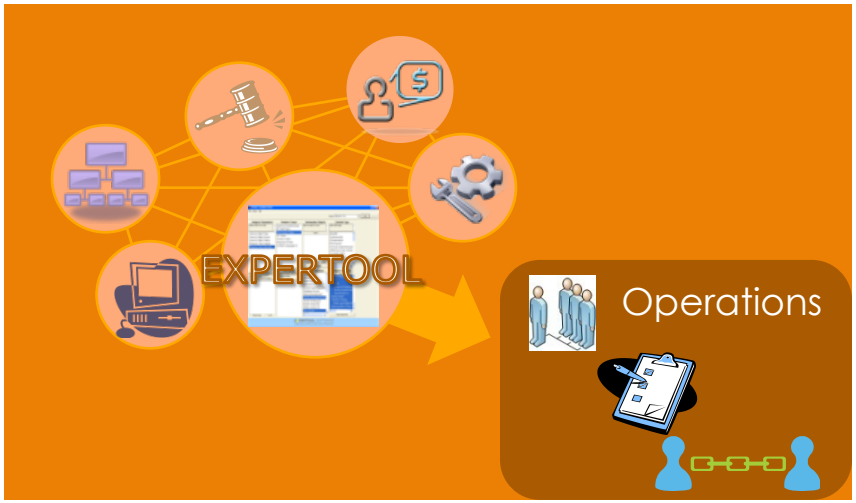
Typical Process Design

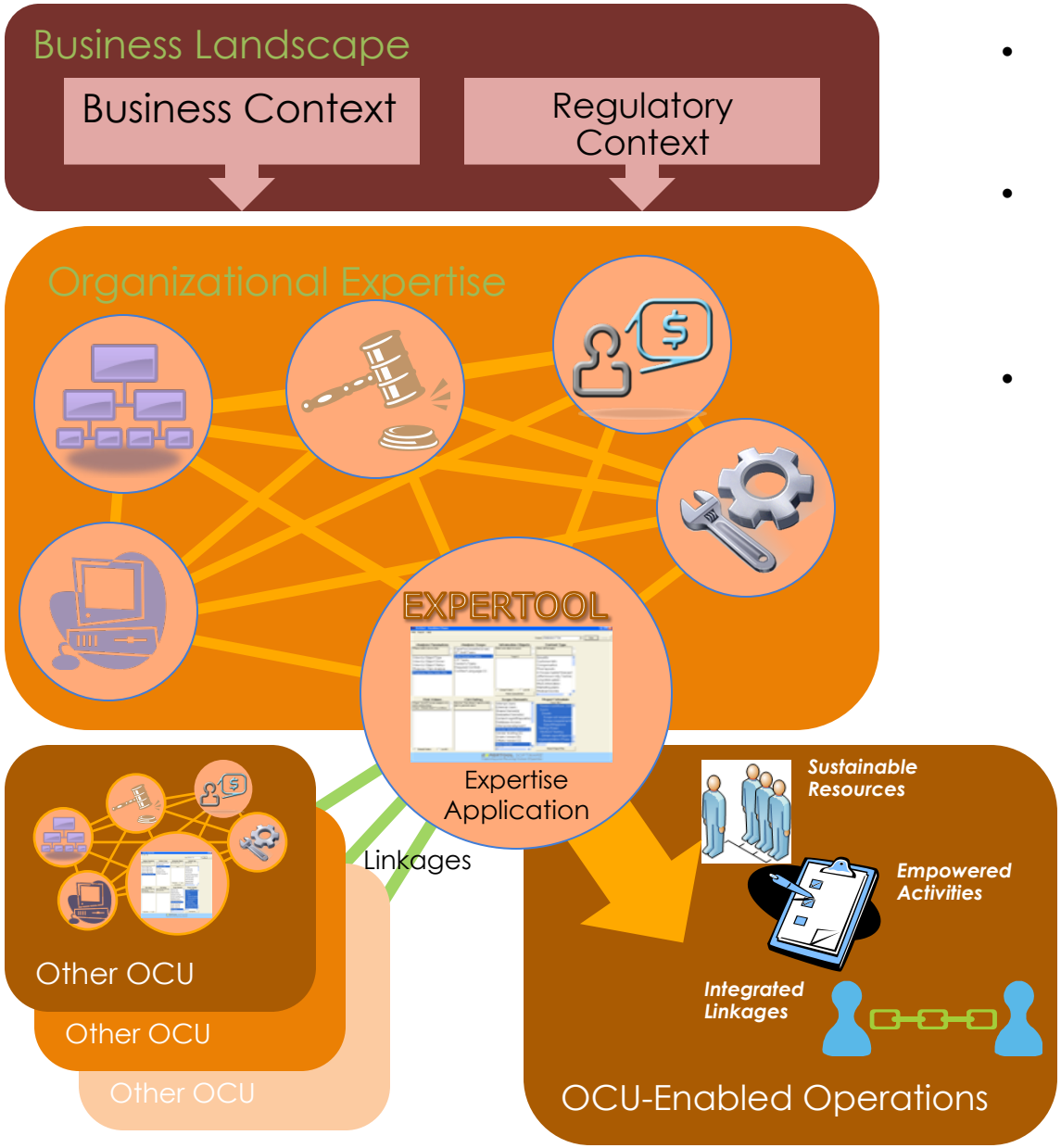
Source: OCEG Presentation

Organizational Competency (OCU)



Lengthy, costly and politically risky group activities	Issues from synthesized documentation channeled to appropriate experts
Decisions documented, but not all options and views considered	Governance team reviews options and tradeoffs preserved in context
Insights that do not support the conclusion are lost	Individual expertise is reusable as organizational expertise
Efforts must be repeated if similar issues arise	Time-to-value accelerates as additional knowledge sources are integrated
Complex interactions and interrelationships can't be understood	Complexity modeled and considered
Final process related to static context	Adapts to changing business and regulatory context

Organizational Competency (OCU)



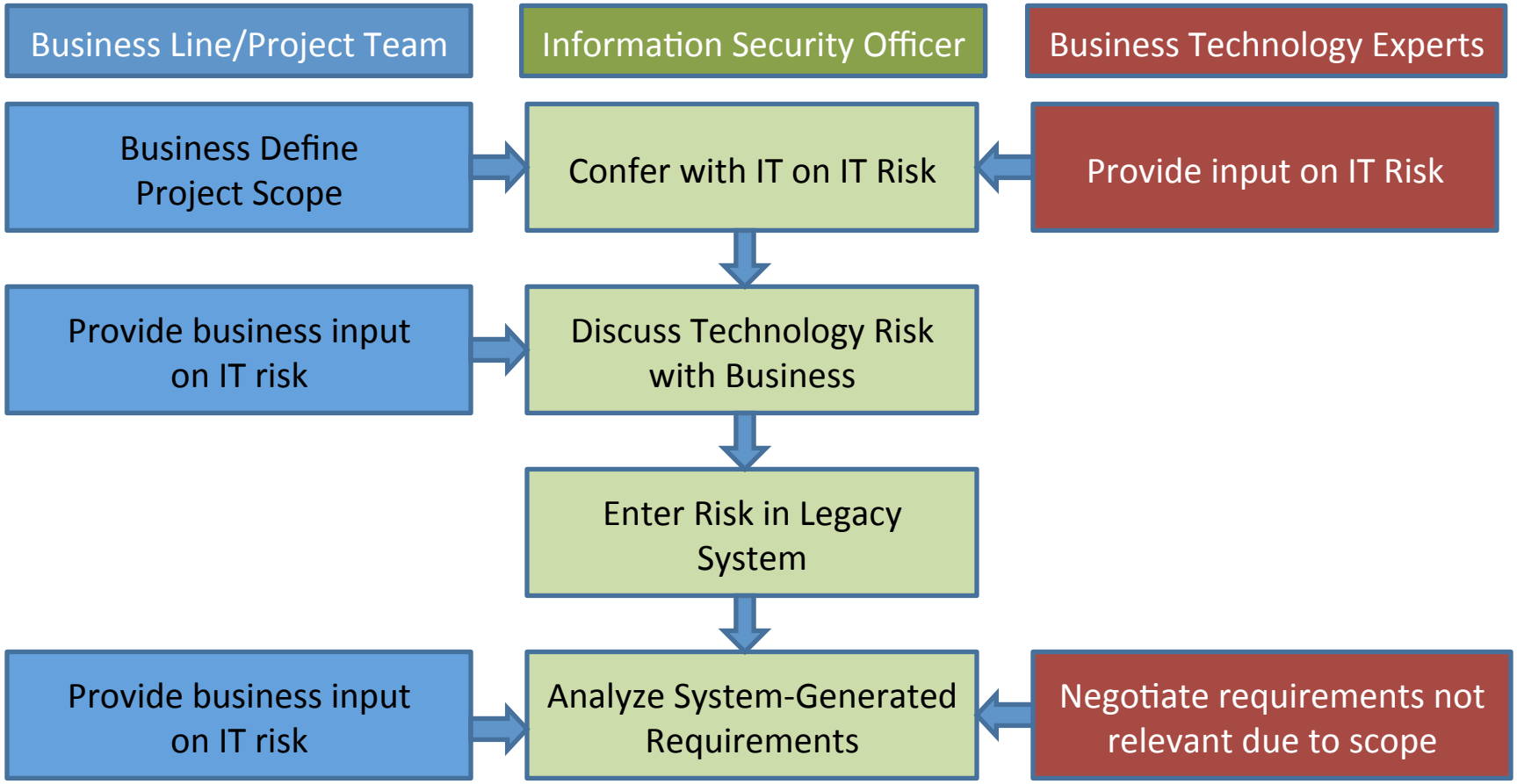
- An OCU encapsulates the people, process and technology required to fulfill its Mission
- Unlike traditional process design that maps activities across organizational domains and layers…
- An OCU is constructed by defining:
  - Mission—the OCU's purpose
  - Linkages
  - Activities required by the combination of Mission and Linkages
  - Knowledge and Expertise required to accomplish the Activities
  - Resources (human, technology, economic, other) required to enable the OCU and make it self-sufficient

Model Development

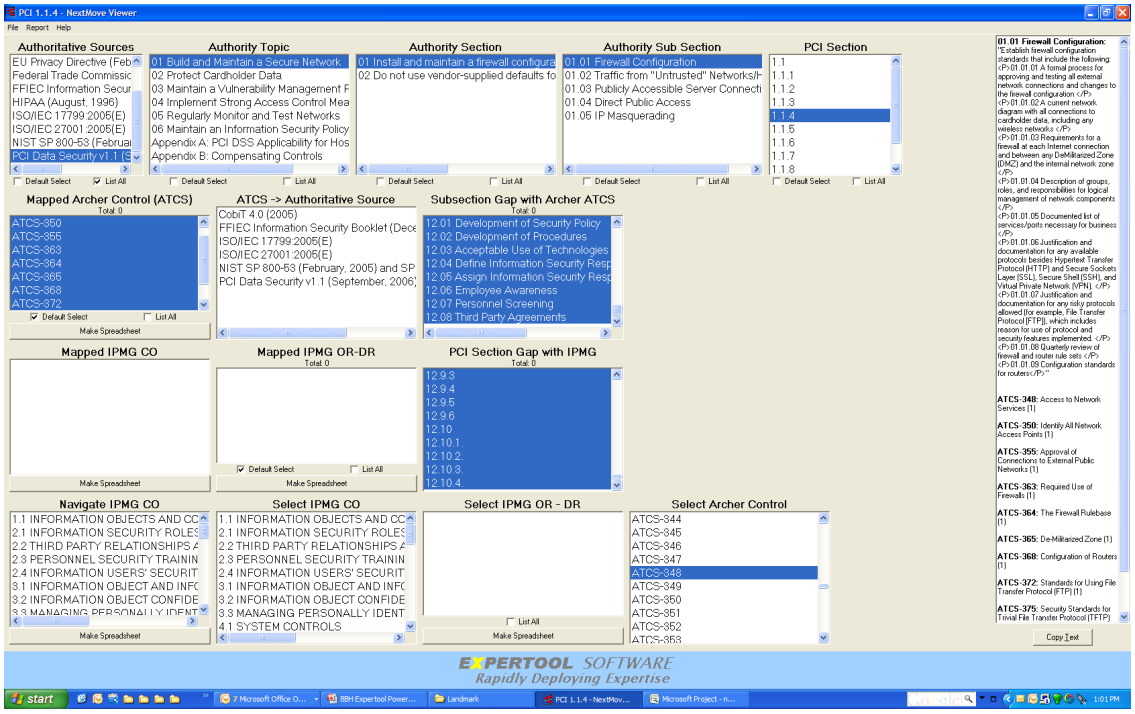
Initial Prototype	Phase Activities	Purpose
●	**Business Landscape**	Define the internal and external landscape required to frame expertise
●	**Capture Expertise** Collect Analyze Model	Gather existing expertise in the form of reports, documentation, spreadsheets, and system extracts Analyze and model interrelationships May also include expertise collection using analytical use cases models, interviews or other methods Initial Prototype engagement limited to collecting and analyzing existing documents by the engagement team
●	**Synthesize Expertise** Integrate Learn	Integrate and rationalize captured expertise to identify: -Extent of documented expertise relevant to the problem -Learnings from holistically modeled interrelationships -Expertise gaps to be filled through interviews or by using "collection/validation" models
	Apply Expertise Publish Implement Update	Design and deliver operational use cases automating complex activities Update expertise base
	Improve	Expand expertise base and use cases

Global Pharma Example: Previous Process

Time-Consuming and Inconsistent Results



Approach: Capture and Synthesize Expertise



Expertise Bases

- **Regulatory Authorities and Links**
  - SOX
  - HIPAA
  - GxP
  - PCI
  - NIST
  - ISO 17799
- **Compliance Products and Links**
  - UCF
  - Archer Policies
- **Company-Specific and Links**
  - Requirements
  - Policies
  - Procedures

Global Pharma Solution

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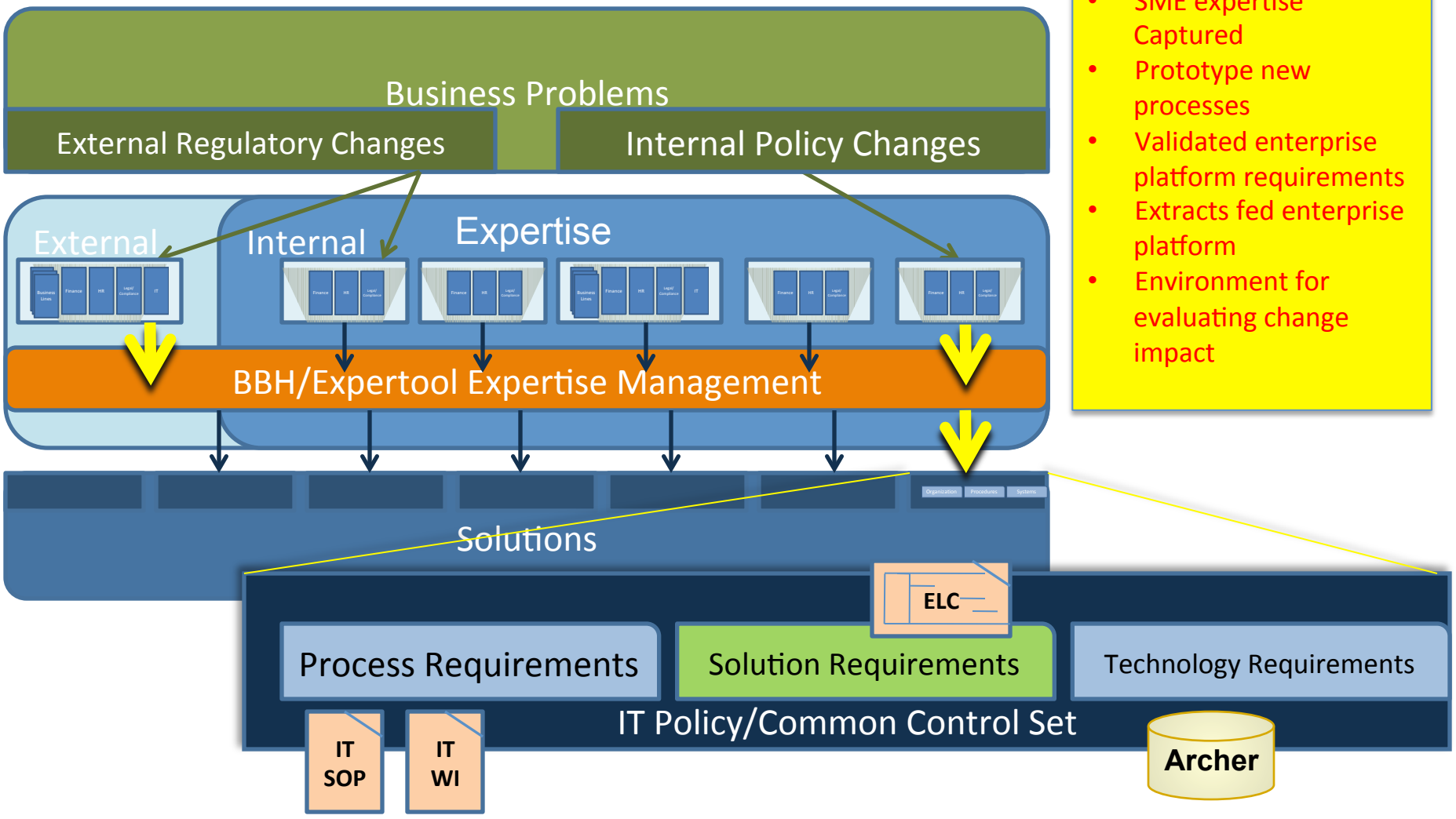

- SME expertise Captured
- Prototype new processes
- Validated enterprise platform requirements
- Extracts fed enterprise platform
- Environment for evaluating change impact

Need for Inclusive Modeling

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- High dependency on internal and external business context
- Low degree of control over actors
- Large number of actors with large process variations
- High levels of SME input required
- High rate of change in the internal and external context

Examples from the Audience

- Would these methods work in your context?
- Other methods used?
- Would these methods work in your context?

Question or Comments?

Neil Jacobson

President

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