

# Value based System Architecting: Illustrated by Designing a Task automation Platform

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## The Featuritis Curve

*The secret of being a bore is to tell everything.*  
- Voltaire

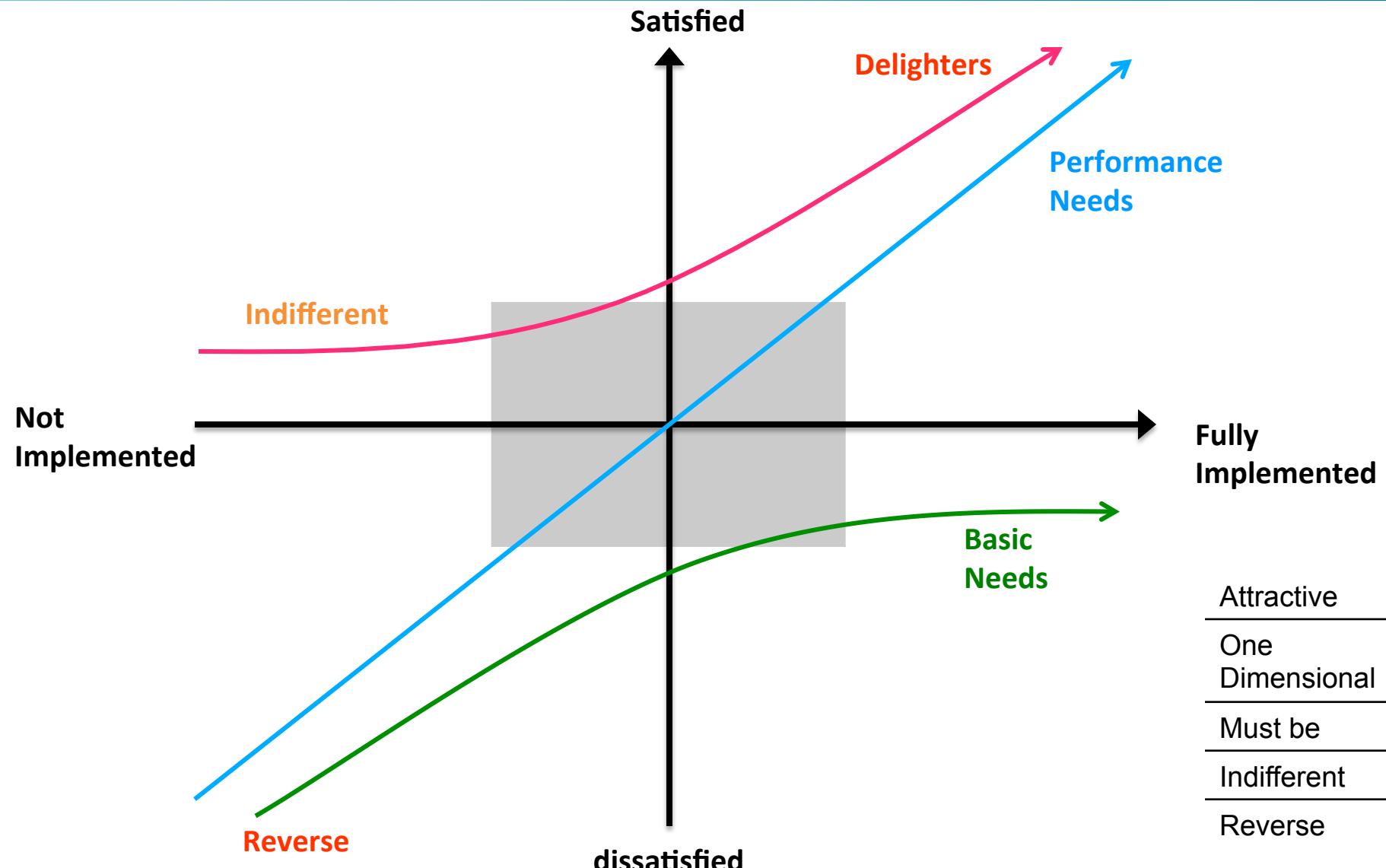


Jan Bosch, 25<sup>th</sup> INCOSE Symposium

- “**Value**” is a measure of worth of an offering by a customer, and potentially other stakeholders and is a function of:
  - usefulness in satisfying a customer need
  - relative importance of the need being satisfied
  - availability relative to when it is needed
  - cost of ownership to the customer
- “**Quality**” is a set of essential and distinguishing attributes that have a pragmatic interpretation of the offering’s inferiority or superiority

**Design business offerings that deliver value to its stakeholders in a guaranteed manner**

# Rationale – Kano Model



# Underlying Theme – Value x Quality Correlation

This happens  
in Producer's house

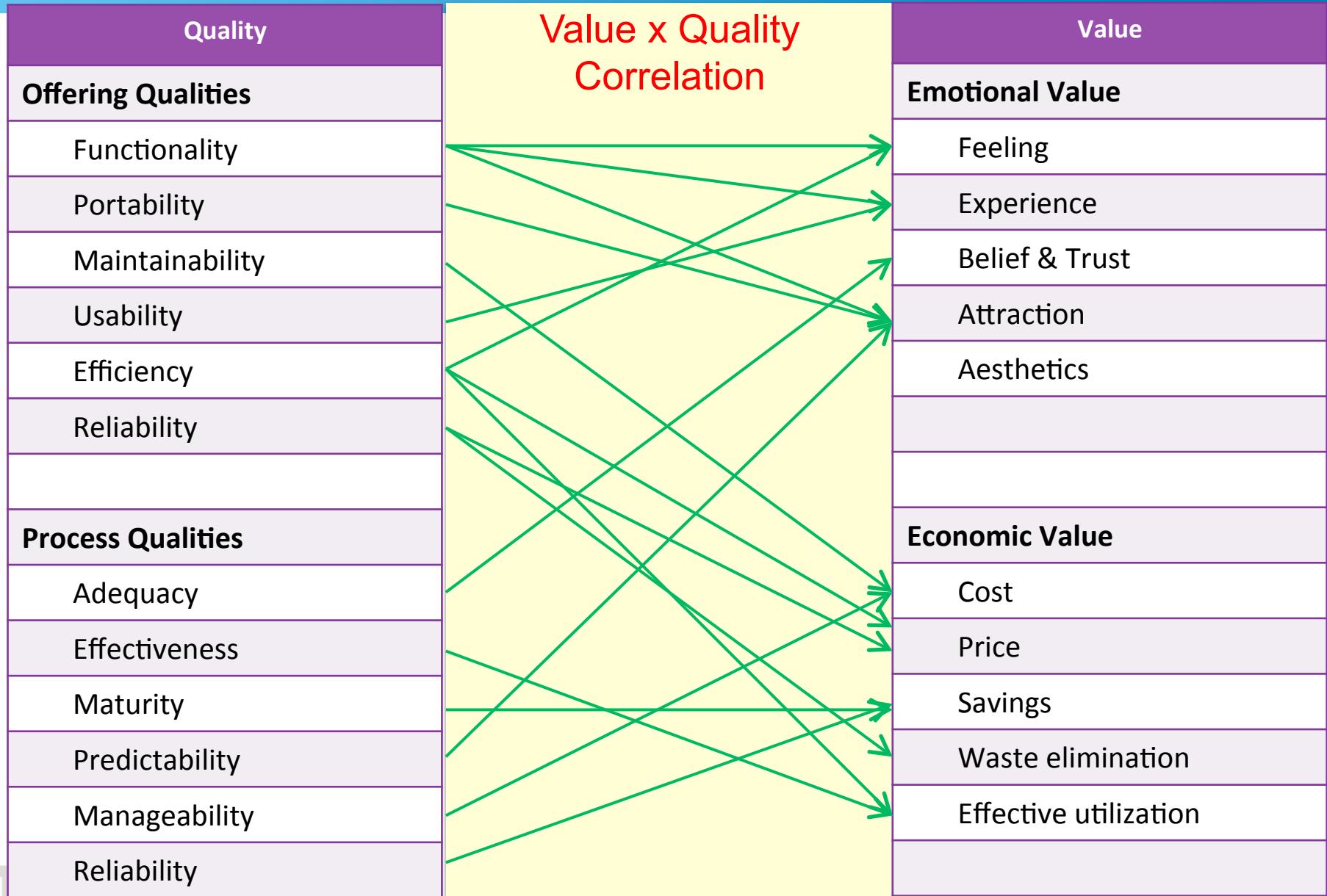
This happens  
in Customer's house

Engineer  
Quality into  
Offerings

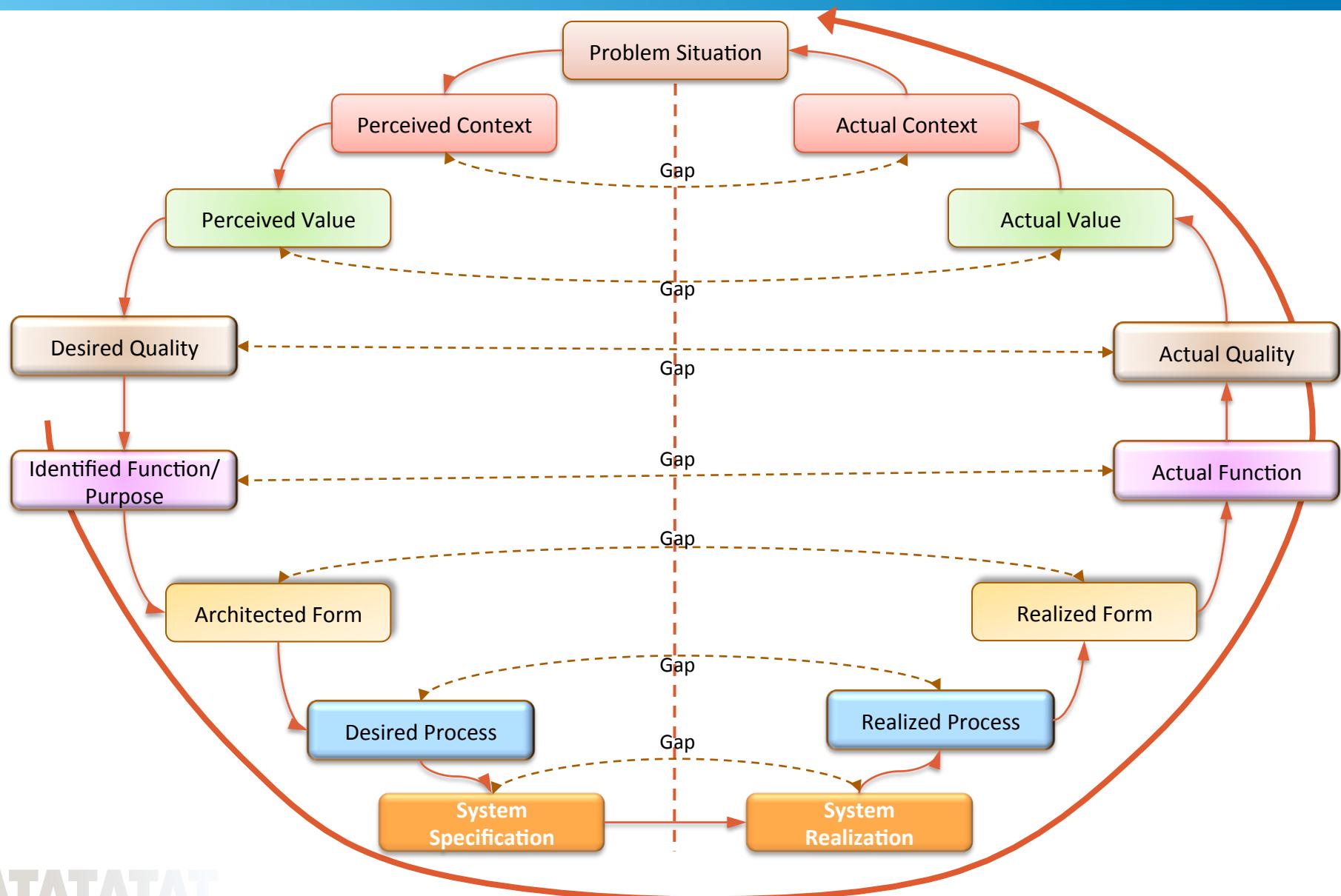
Experience  
Value due to the  
Offerings



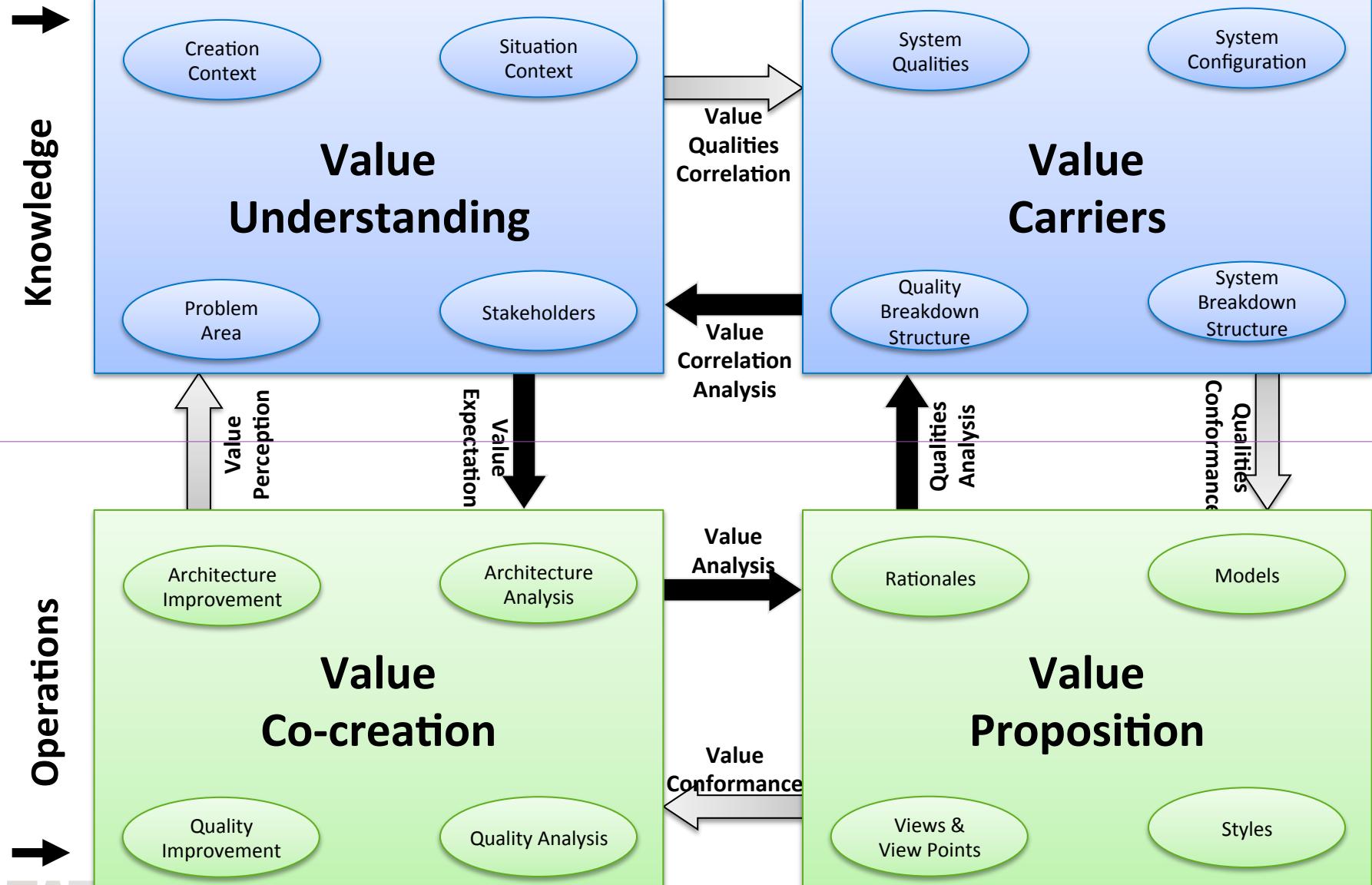
# Underlying Theme – Value x Quality Correlation



# Underlying Theme – Value creation Cycle



# Value Creation – Conceptual Model



# Understand Stakeholder's Value

Identify what is essential to the various stakeholders and what is non-essential.



Identify what would result in satisfaction to stakeholders when present and dissatisfaction otherwise.



Identify what would provide satisfaction to stakeholders when present but does not cause dissatisfaction when not fulfilled



Identify what would consume maximum effort to achieve but will not give any satisfaction.



Prioritize all those elements that will lead to stakeholder satisfaction and choose those that are relevant.



Map evolution of these chosen elements and predict their importance over a period of time.



Create a stakeholders value model that quantifies value advantage



Capture the key characteristics of the factors/elements that influence the value model.

# Identify Sources and Carriers of Value

Identify key concepts and key resources that contribute to stakeholders' value.



Identify key factors, key attributes and key characteristics that affect stakeholders' value.



Predict how these key concepts and key resources evolves over a period of time and analyze their contribution to stakeholders' value in the future.



Determine uniqueness of the business that can significantly contribute to value.



Identify set of related complementary elements that can enhance the stakeholders' value.



Identify the information requirements, structures and flows of customers' business that can be utilized to enhance the stakeholders' value.



Identify possible risks to stakeholders and ways of mitigating them so as to enhance value

# Develop new Value Proposition

Prepare a list of benefits that customers will experience because of the offering.

Correlate these benefits to the sources and carriers of value.

Prepare a set of unique benefits that is part of offering and leads to delight.

Identify an appropriate customer segment.

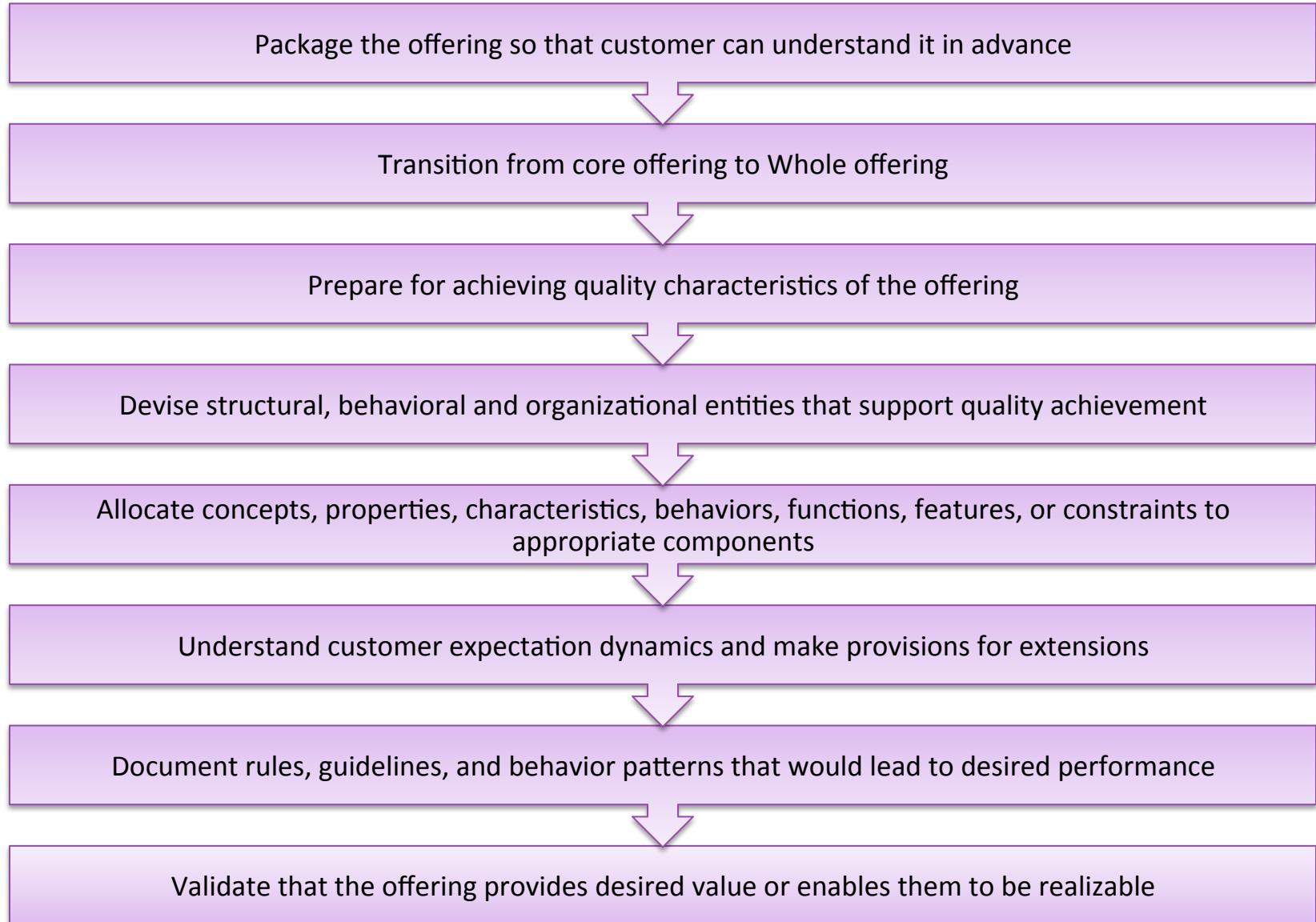
Identify events that deliver positive customer experience to identified segment.

Establish the relevancy between the customers' business and the proposed offering.

Define measures to identify impact of the resulting consequences in the customers' house.

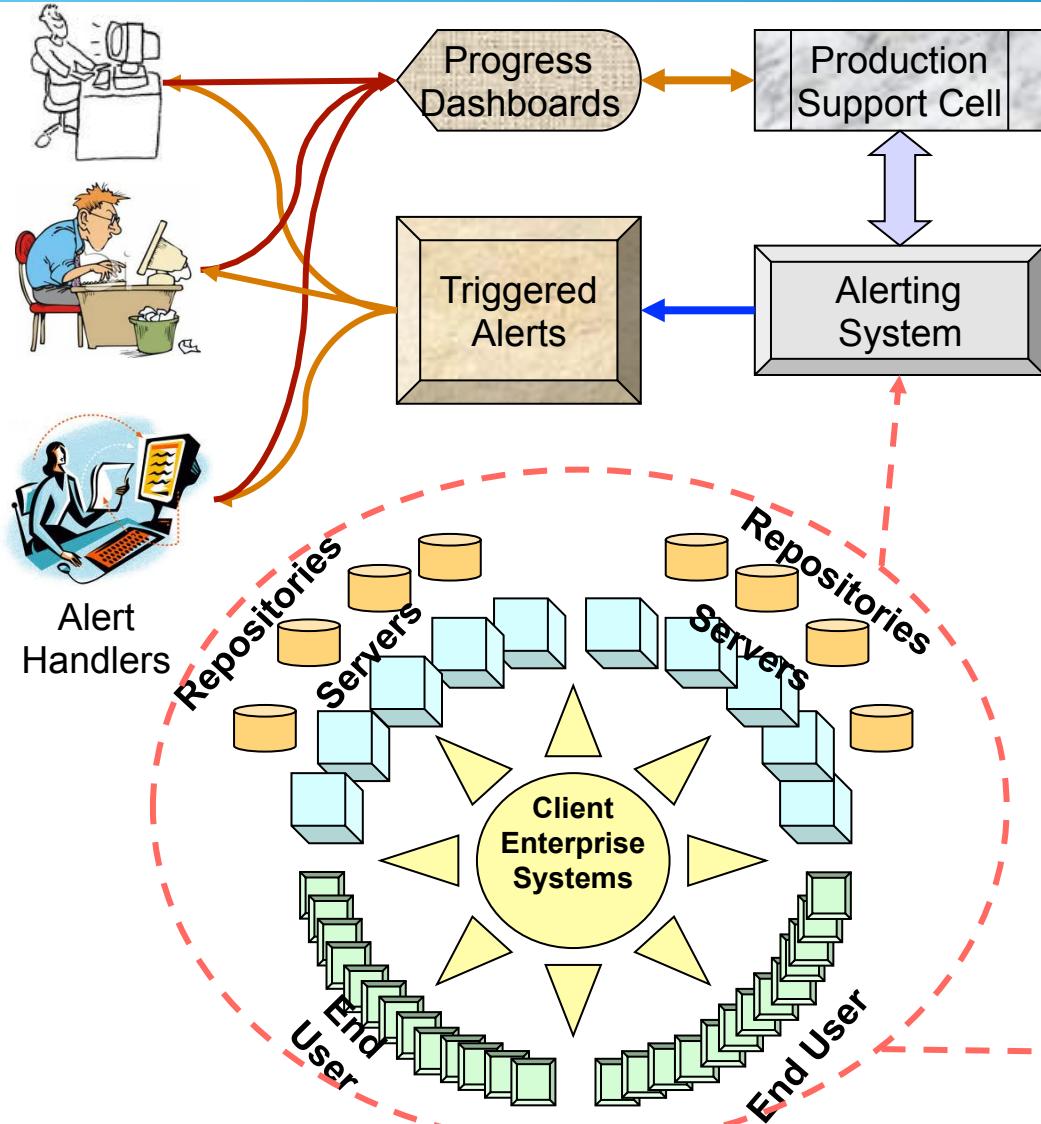
Prepare a concise value definition and explicate what exists against what will be available.

# Co-create Value with all Stakeholders

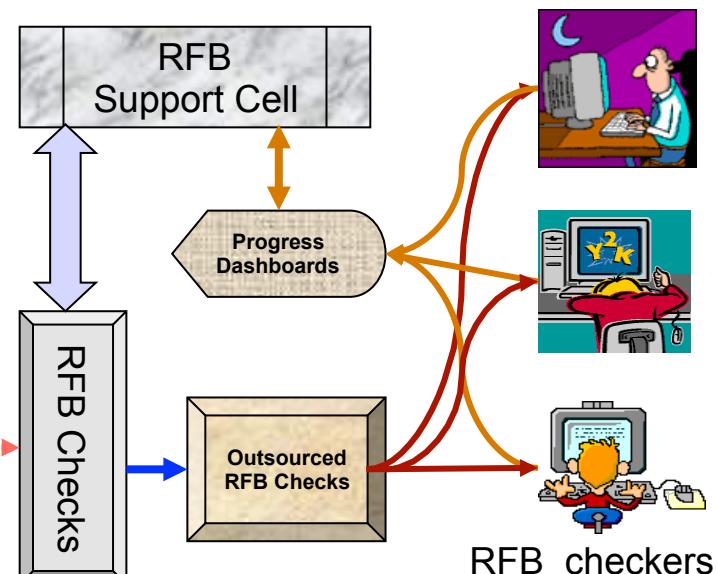


# Illustration: Architecture of Task Automation System

# Problem Context – Production System Support



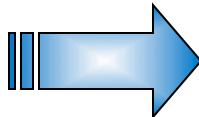
- Long working hours
- > 18% attrition rates
- Work related Stress
- Non value adding work
- Problem of scale



# Problem Context – Business Process Services Execution



Prepare Specification  
(~8\$ per hour)



Customer Sign-Off

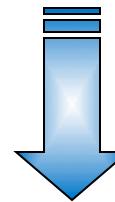
> 1 million employees in India

> 40% attrition rate

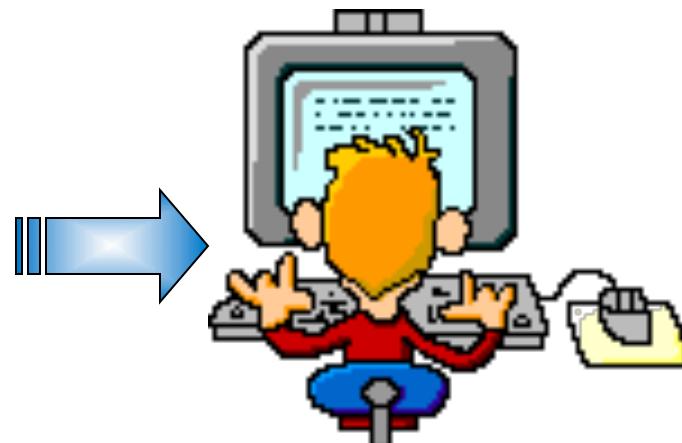
Burn out stress syndrome

740 billion\$ global market

Scale, Productivity & Throughput



Make Changes  
(~8\$ per hour)

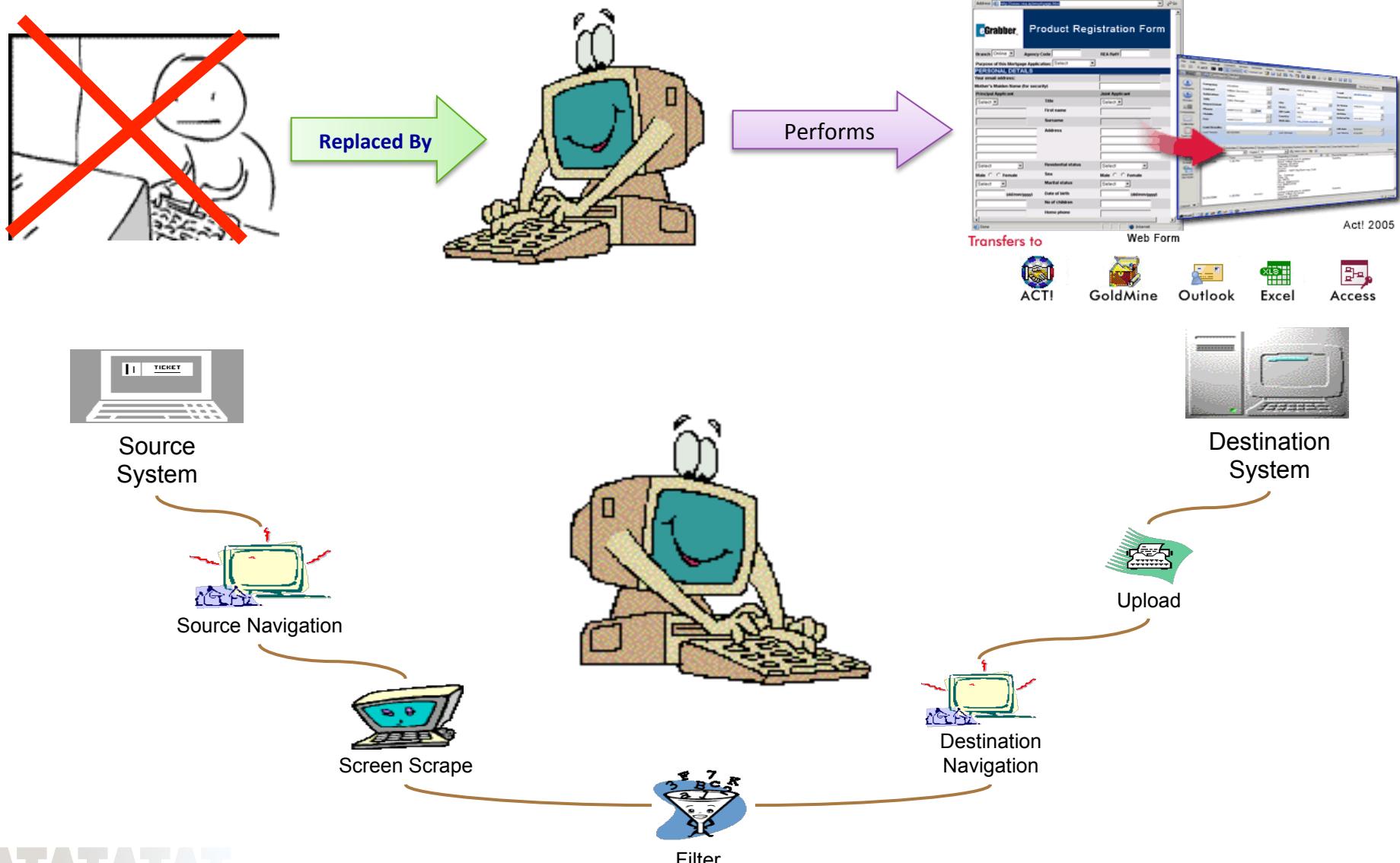


Verify Changes  
(~8\$ per hour)

# Value Understanding

	Stakeholder	Stakeholders' Value
1	Customer	<ol style="list-style-type: none"> <li>1. On time, On demand, High quality work</li> <li>2. Pay Less, Gain More (Decreasing Cost)</li> <li>3. Innovative Solutions &amp; Processes</li> </ol>
2	Customers' Customer	<ol style="list-style-type: none"> <li>1. Accurate Information</li> <li>2. Any time, on demand, System availability</li> </ol>
3	Service Provider	<ol style="list-style-type: none"> <li>1. Non-linear growth</li> <li>2. Brand and Market Share</li> <li>3. Increasing Top-line</li> <li>4. Increasing Profits</li> </ol>
4	Agents	<ol style="list-style-type: none"> <li>1. Learning &amp; Growth</li> <li>2. Value adding work</li> <li>3. Increasing Income</li> <li>4. A decent Social Life</li> </ol>
5	Governments	<ol style="list-style-type: none"> <li>1. Less Outsourcing</li> <li>2. More Job Opportunities</li> <li>3. More Tax</li> </ol>
6	Customers' Employees	<ol style="list-style-type: none"> <li>1. Less Non-value adding activities</li> <li>2. Job Security</li> <li>3. Increasing Income</li> </ol>

# Solution Context – Robotic Process Automation



# Value Carriers

Levels of Discourse	Quality Attributes
Problem Domain	Dynamic Change, Confidentiality, Customization, Decision Support, Scalability
Solution Space	Accuracy, Reliability, Repeatability, Availability, Universality, Simplicity, Versioning
Architectural	Process Modelling, Process Automation, Process Analysis, Process Orchestration, Data Modelling
Engineering	9 x 4 levels of Connectivity, Recoverability, Traceability, Continuity 9 x 5 levels of Confidentiality, Reliability, Accuracy, Data Protection Low Memory Consumption & Autonomous
Technical	Modifiability, Process Standardization, Systems Integration, Screen Scraping, Scheduling
Construction	Modularity, Extensibility, Structural Integrity, Run-time Composability, Exception Handling
Deployment	Package-ability, Accountability, Operability, Completeness, Adaptability, Scalability
Initialization	Ready to Use, Default Configuration, Help System
Operational	Productivity, Throughput, Intelligence, Flexibility, Sensitivity, Consistency



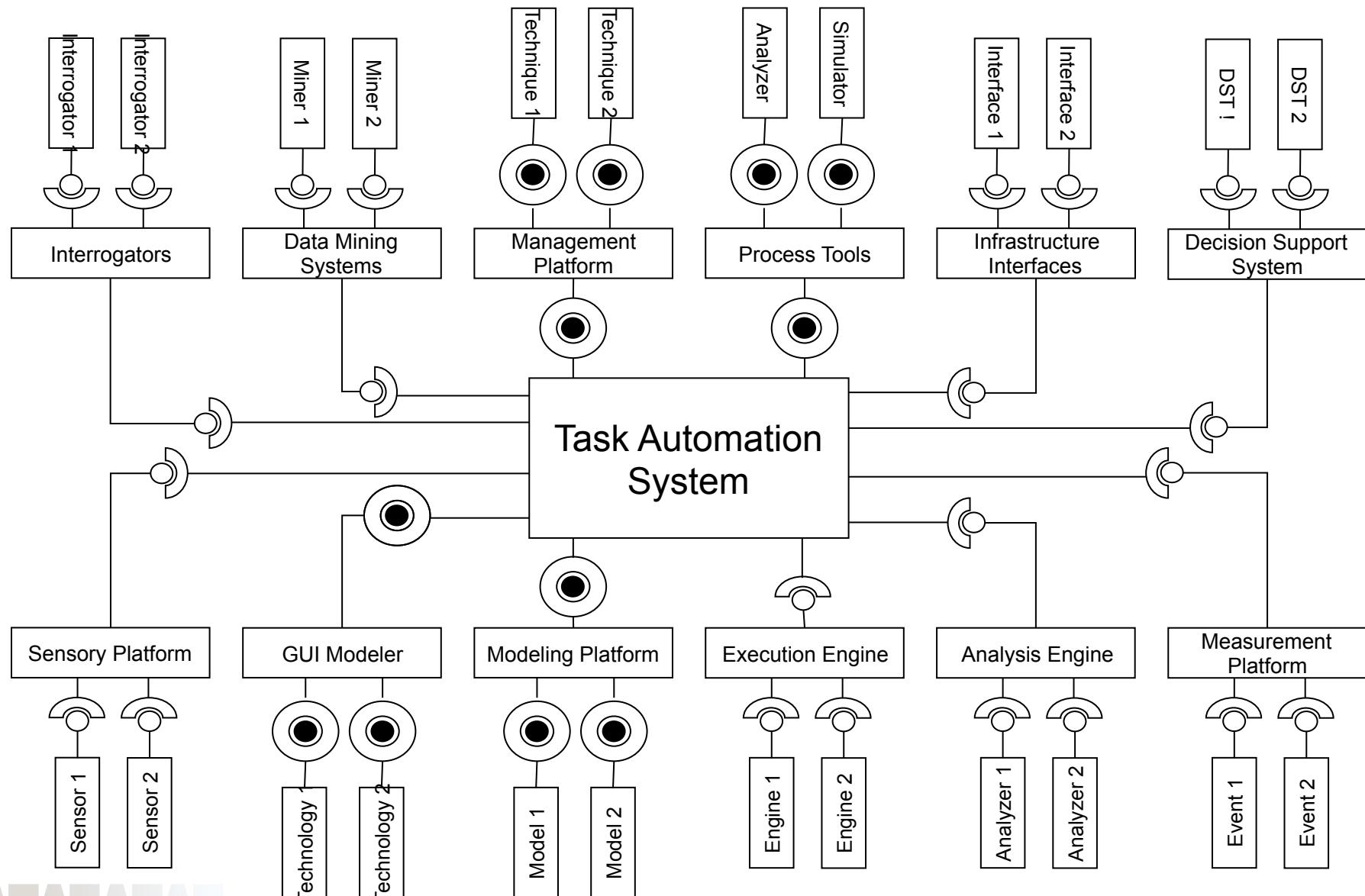
# Value x Quality Correlation

Stakeholders' Value	Quality Attributes
On time, On demand, High quality work	1. Dynamic Change, Confidentiality, Customization, Availability, Accuracy, Scalability
Accurate Information	1. Accuracy, Reliability, Consistency, Traceability, Accountability, Systems Integration
Increasing Top-line & Profits	1. Productivity, Throughput, Reliability, Completeness
Value adding work	1. Intelligence, Flexibility, Sensitivity
Less Non-value adding activities	1. Process Modelling, Process Analysis, Extensibility
A decent Social Life	<ol style="list-style-type: none"> <li>1. 9 x 4 levels of Connectivity, Recoverability, Traceability, Continuity</li> <li>2. 9 x 5 levels of Confidentiality, Reliability, Accuracy, Data Protection</li> <li>3. Low Memory Consumption</li> <li>4. Autonomous</li> </ol>
More Job Opportunities	1. Process Modelling, Data Modelling

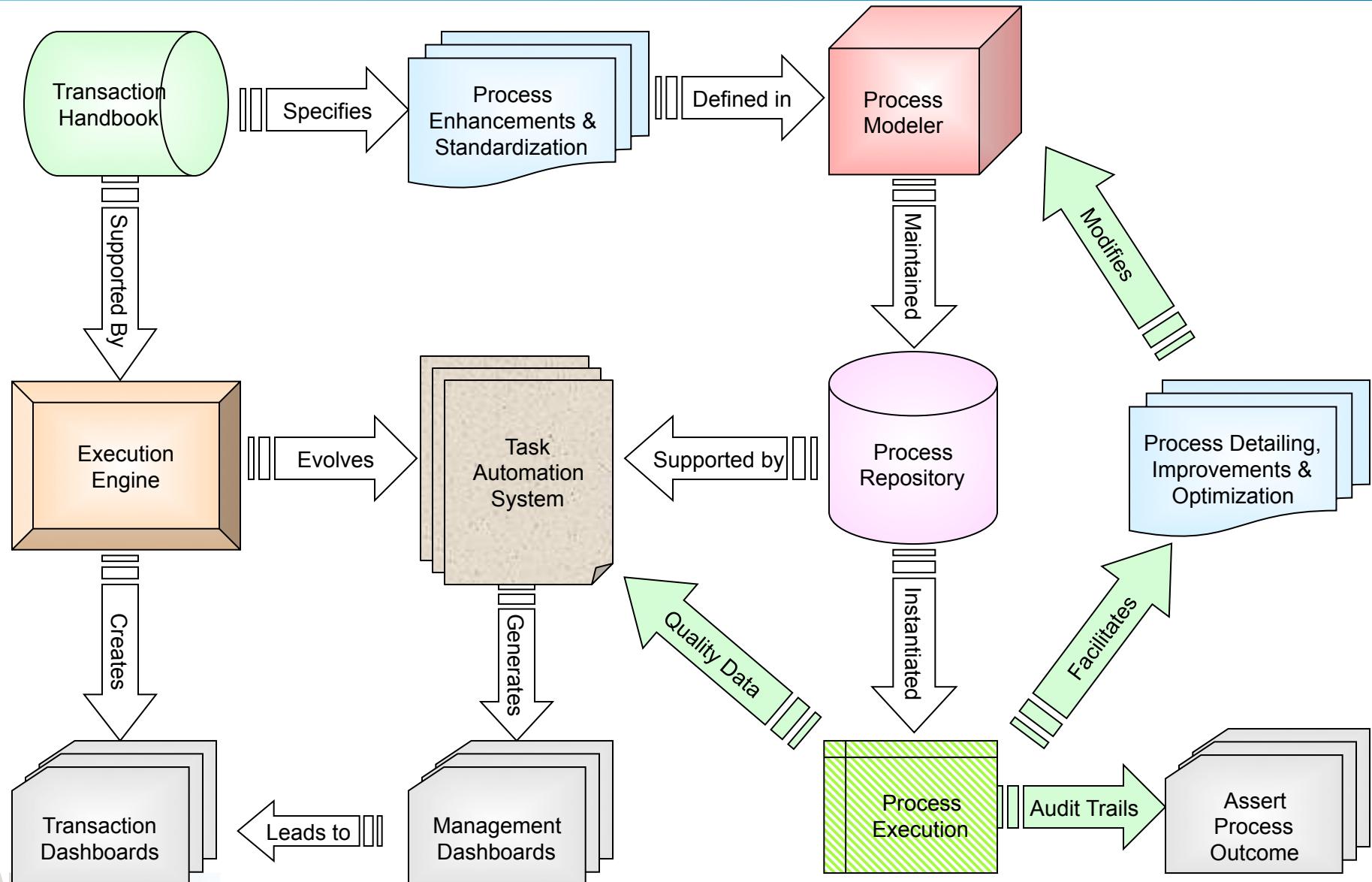
## Value Proposition

- People have more capabilities than used when doing tedious work and are empowered to do creative work

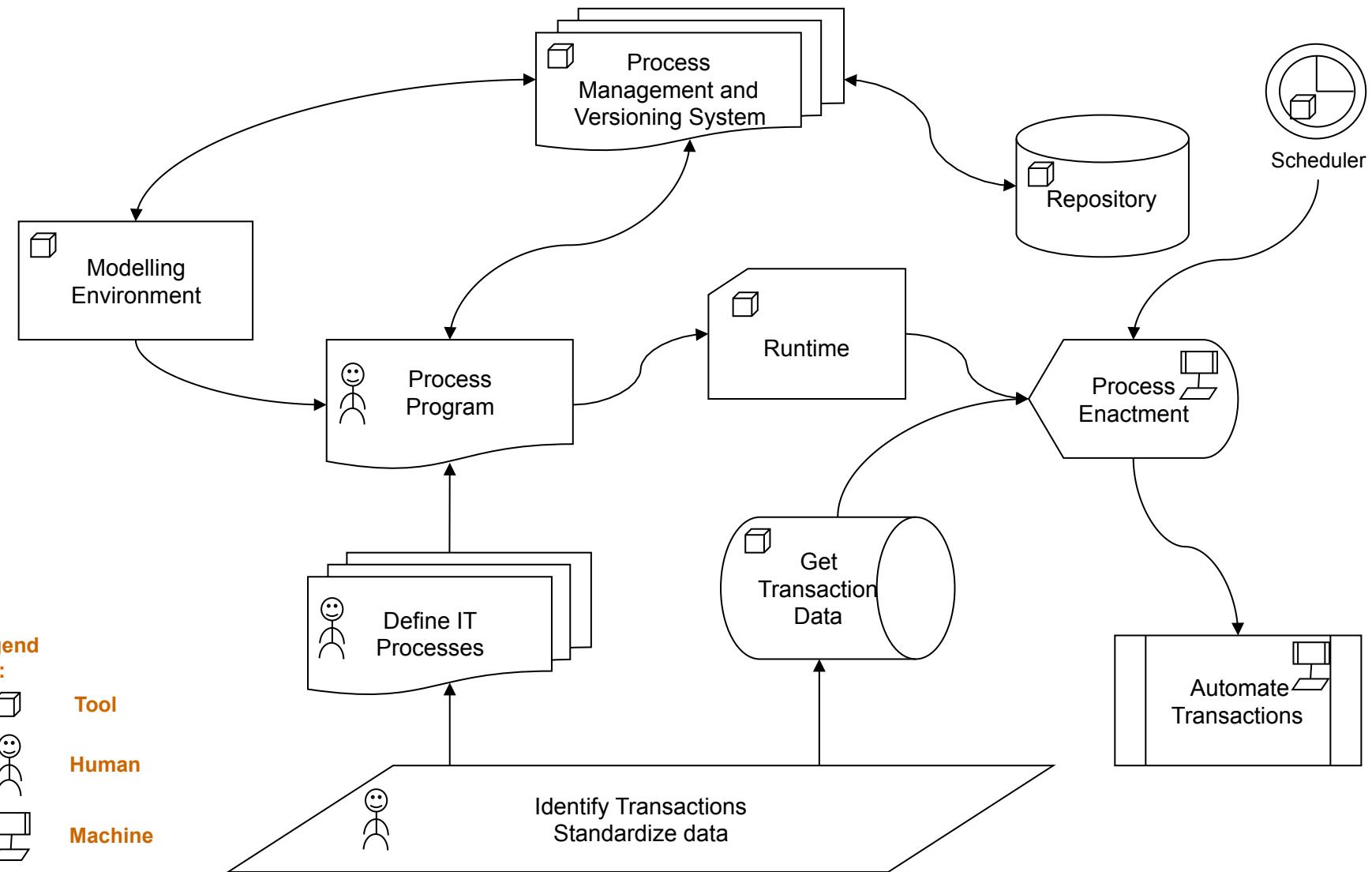
# Architectural Views – Components View



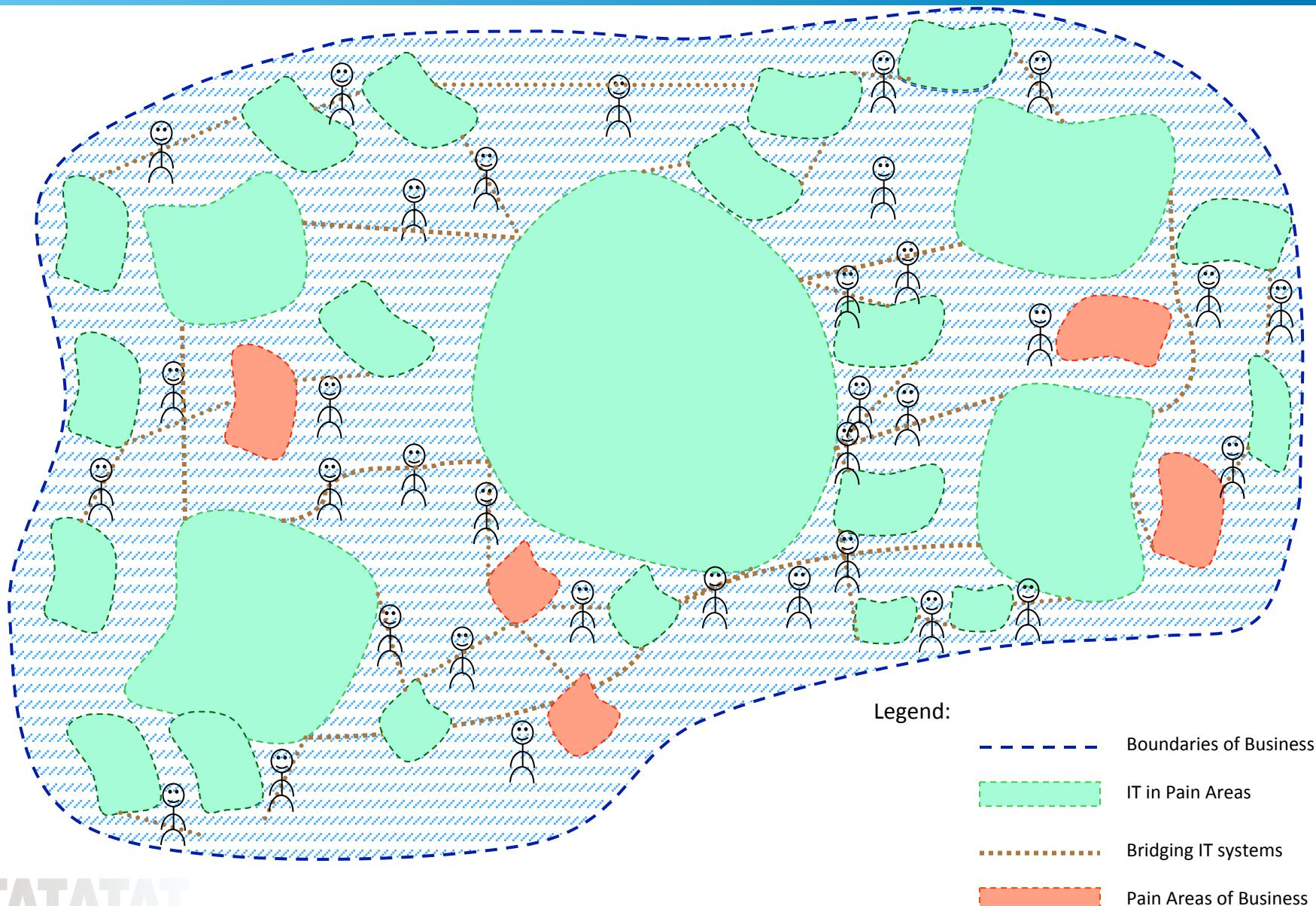
# Architectural Views – Implementation View



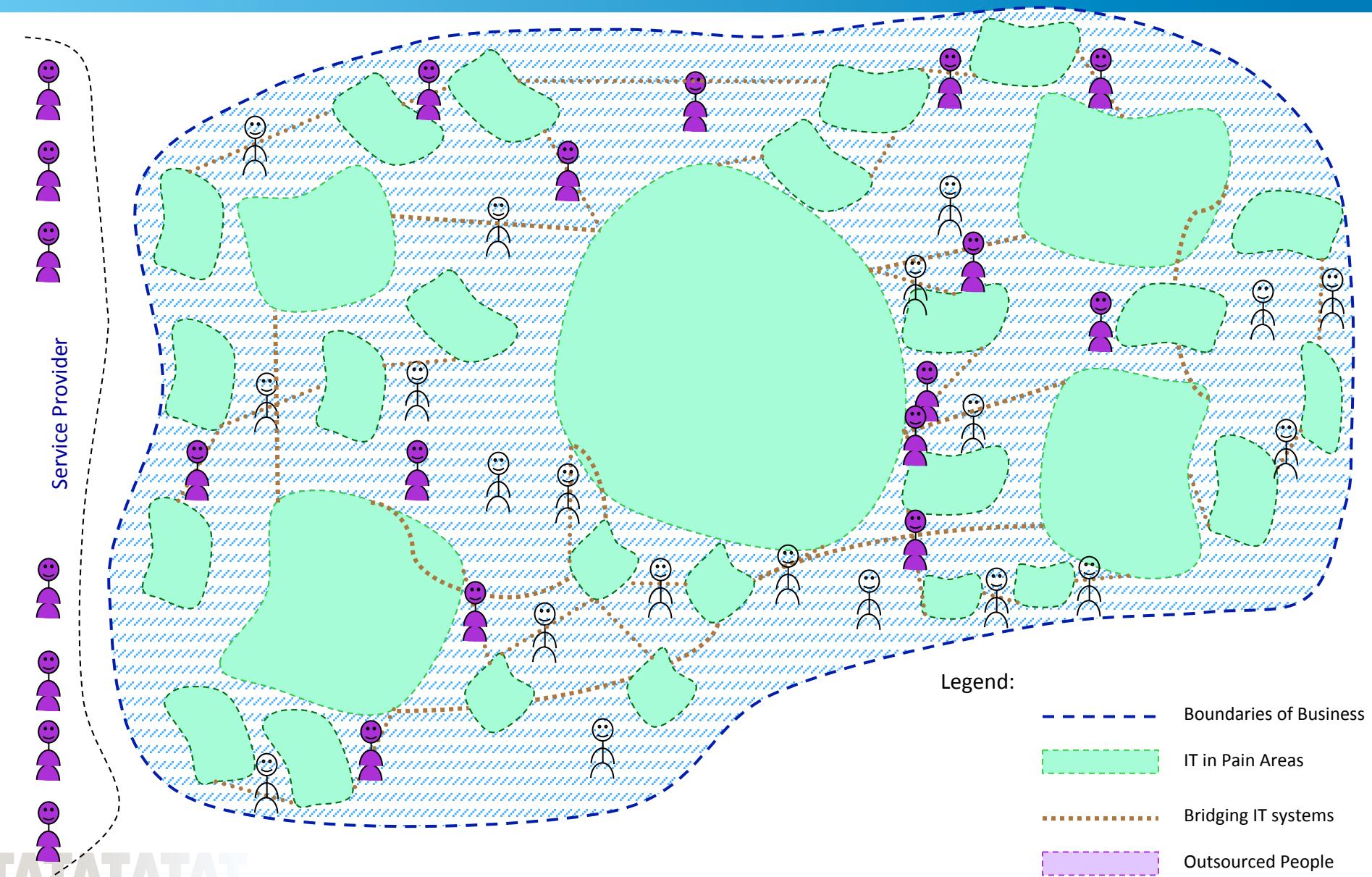
# Architectural Views – Operational View



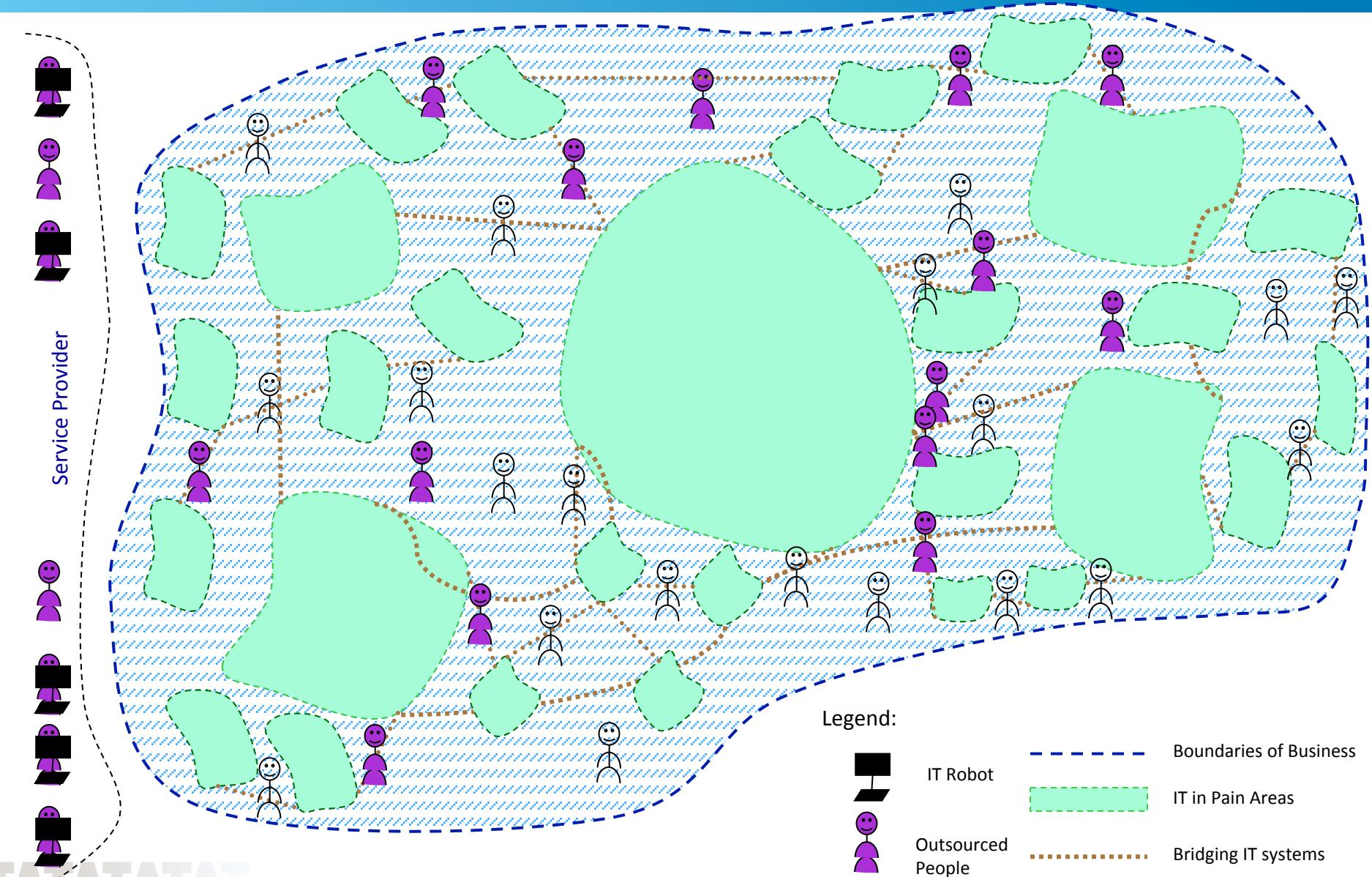
# Value Co-Creation



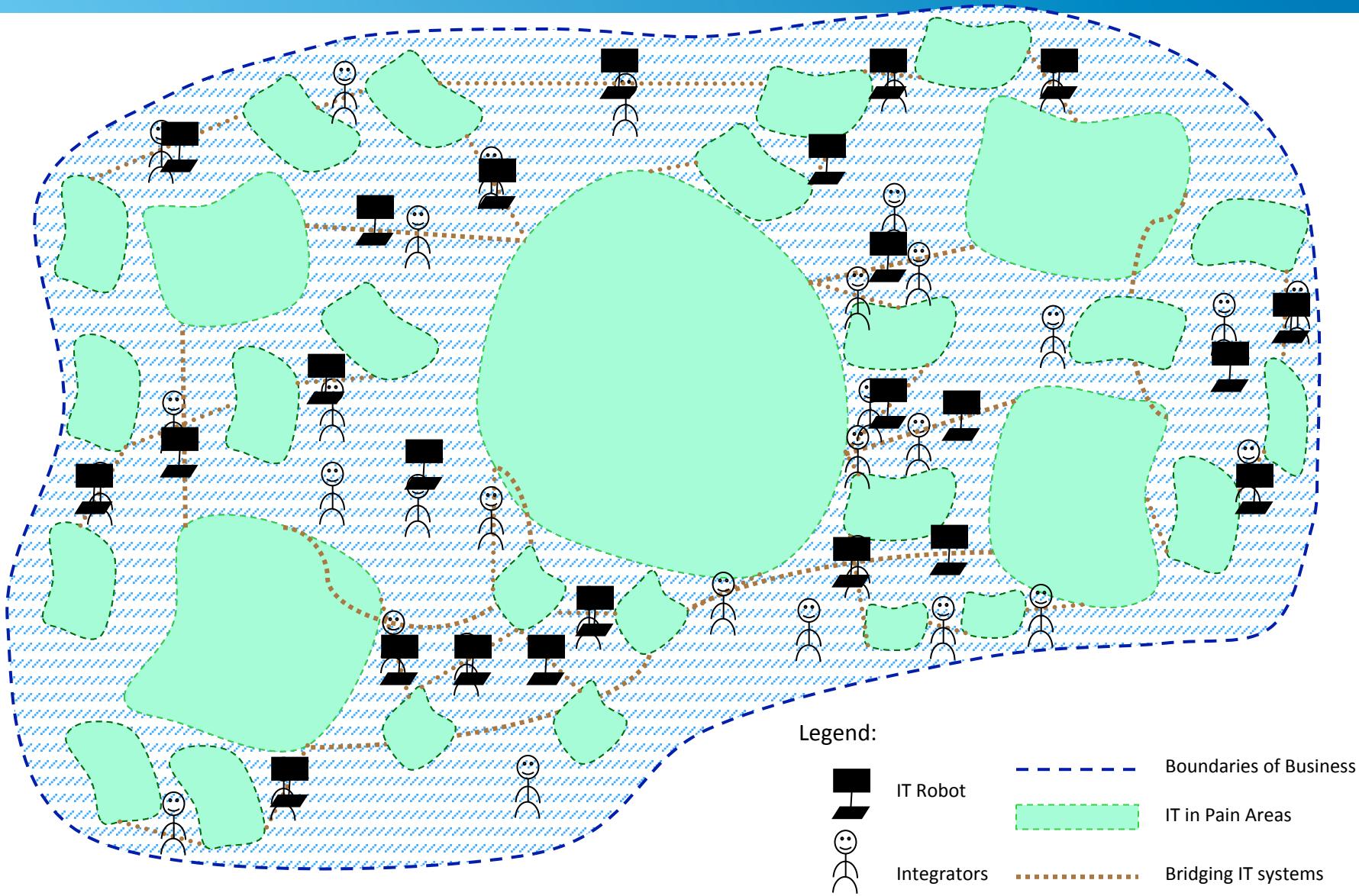
# Value Co-Creation



# Value Co-Creation



# Value Co-Creation



# Take Away

- Map Stakeholders' Value to Quality
  - Value x Quality Correlation
- Design Processes for Delivering Quality
  - Process x Product Correlation (ISO 30103)
- Co-Create Value

**Value → Quality → Process**

Value Understanding	Value Carriers
Value Co-Creation	Value Proposition (Specification)

Thank You



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