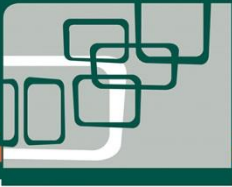


# Implementing Lean and Agile Approaches

An organization Journey – Case study

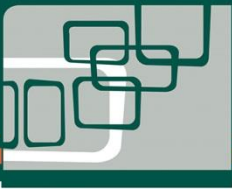
Waffa Karkukly, *Ph.D, MIT, PMP*

April 25, 2013



# Outline

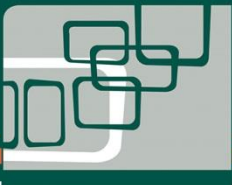
- > About the Organization
- > The Situation
- > Why Lean and Agile
- > PMO as the Champion
- > The Approach
- > Managing the Change
- > The Learning
- > Summary
- > Questions



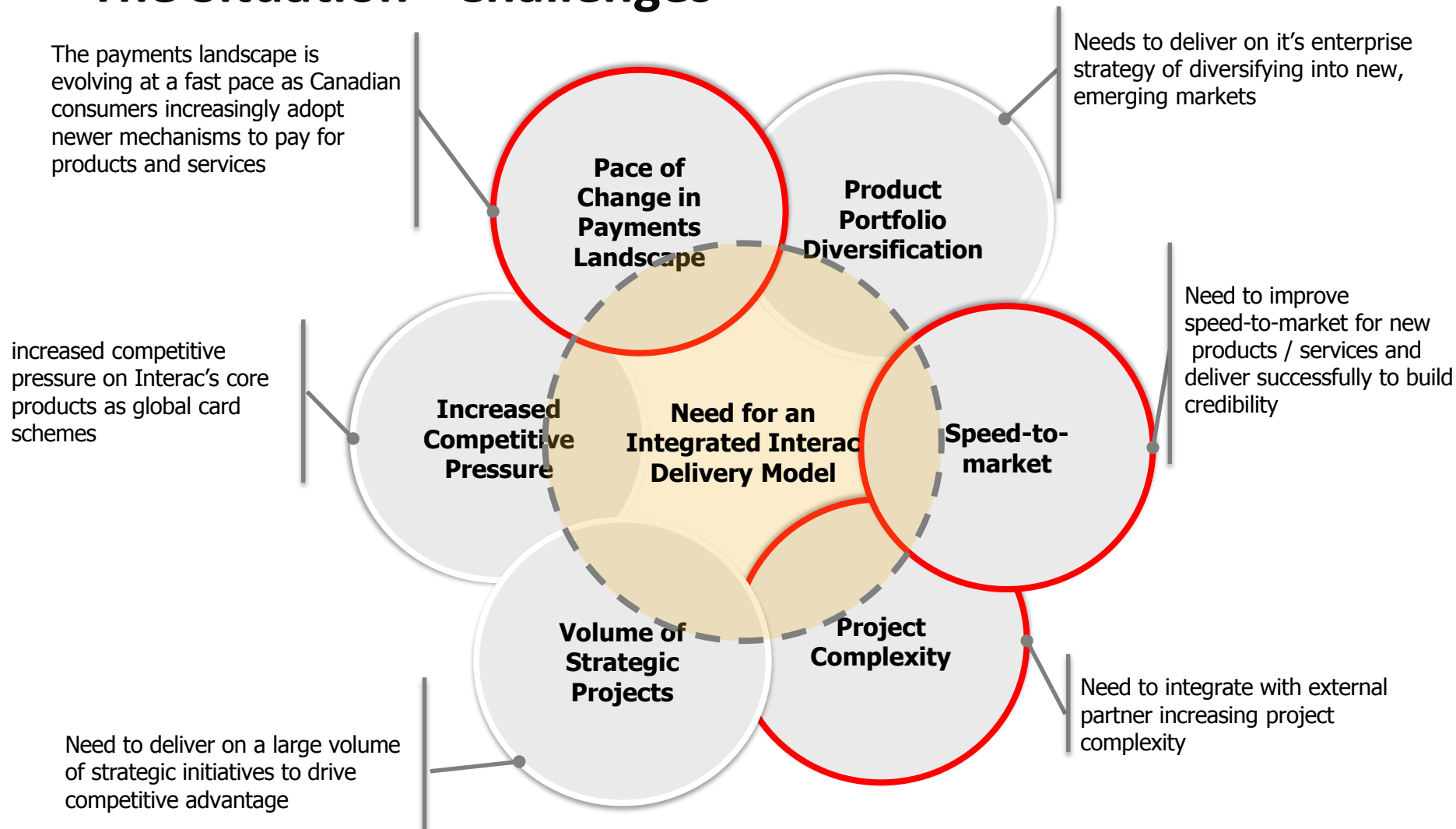
## About the Organization

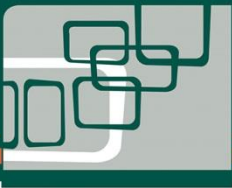
- Together, Interac Association and Acxsys Corporation operate an economical, world-class debit system that serves Canadians well.
  - Among the highest debit users in the world
  - We securely connect Canadians to their money at the ABM, at retailers across Canada and the US, and online through web based services for online purchases and P2P payments.





## The Situation - Challenges





## The Situation - Background

- Interac/Acxsys employs three lifecycle models in various elements of business and operations:
  - Product Development Life Cycle (PDLC), Project Management Life Cycle (PMLC), and System Development Life Cycle (SDLC)

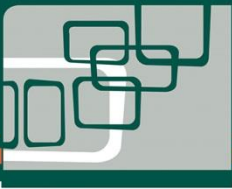
**PDLC**

**PMLC**

**SDLC**



Strengths and Challenges



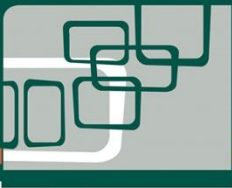
## What is Lean and Agile?

### Lean

- *“Lean is doing more with less. Use the least amount of effort, energy, equipment, time, facility space, materials, and capital – while giving customers exactly what they want. .” (Womack and Jones 2008)*
- “Lean is an approach that “identifies the value inherent in specific products, identifies the value stream for each product, supports the flow of value, lets the customer pull value from the producer, and pursues perfection

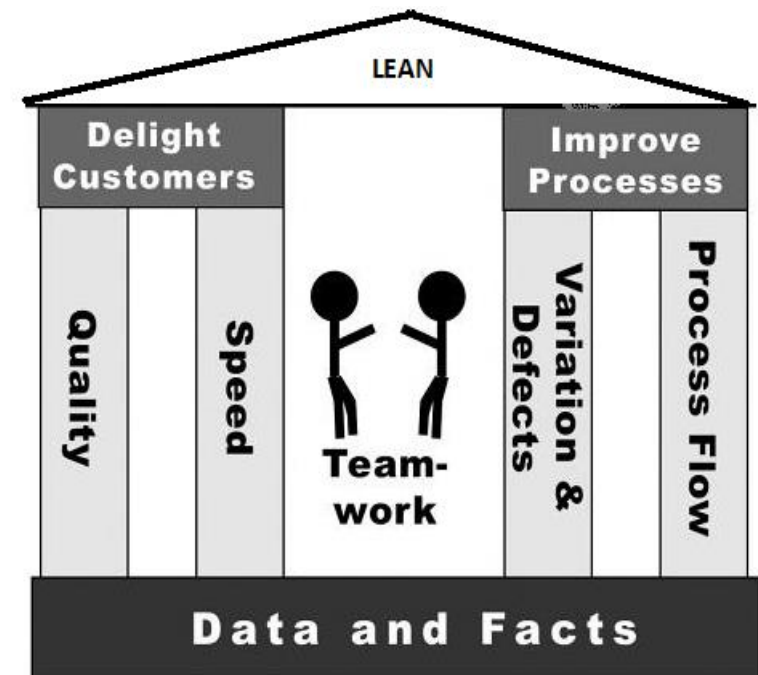
### Agile

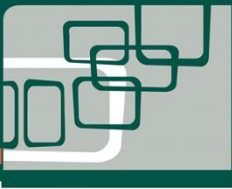
- *“Agility is the ability to both create and respond to change in order to profit in a turbulent business environment.” (Highsmith 2002)*
- *“Agility is the ability to balance flexibility and stability.” (Highsmith 2002)*



## Lean Focus – Why?

- Lean thinking focuses on primarily on customer satisfaction through quality and speed. Secondly on improving processes through minimizing defects.
- Lean focuses on value stream mapping through VOC (voice of the customer) and process flow.





## Agile Focus – Why?



Continuous Innovation



Improved Time To Market



Reliable Results

Product Adaptability

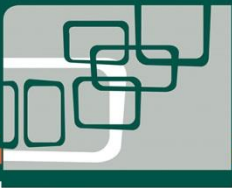


People and Process Adaptability

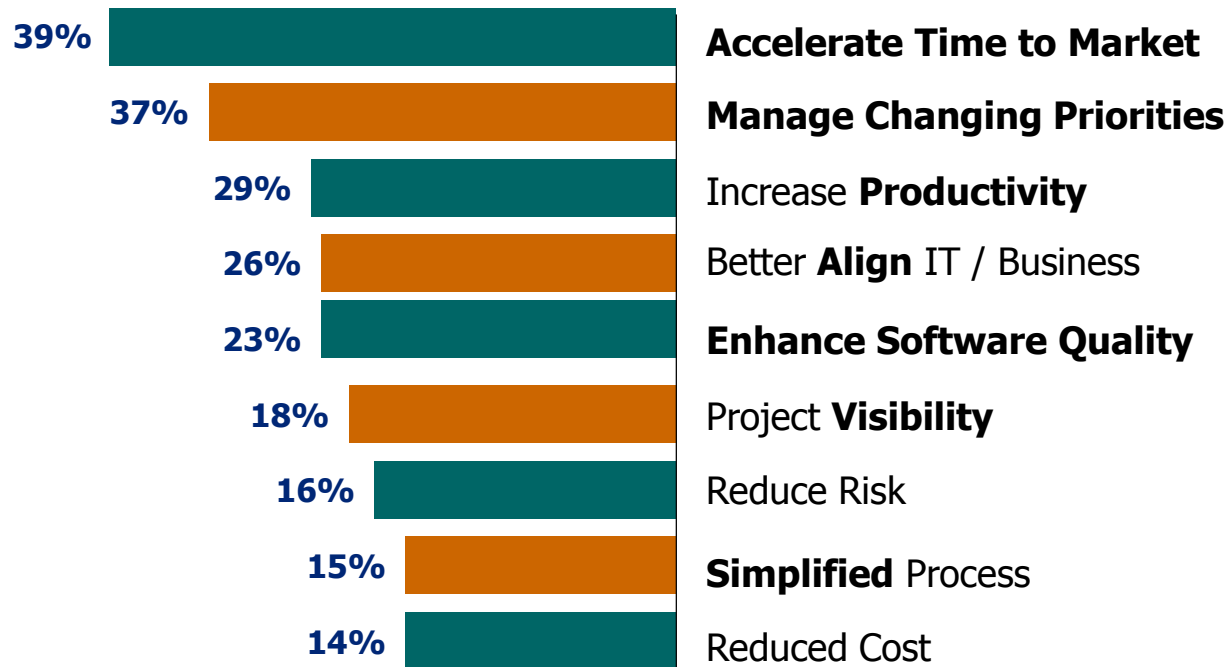


Source: Software Project Manager's Bridge To Agility (Sliger& Broderick)

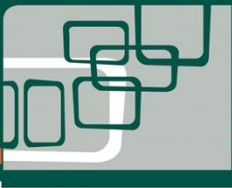




## Benefits of adopting Lean / Agile for technology product delivery



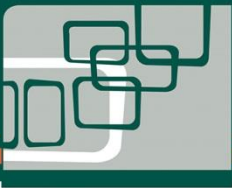
VersionOne: State of Agile Survey (2011, n=6000+), percentages show option respondents marked as 'Highest Important' -  
[http://www.versionone.com/pdf/2011\\_State\\_of\\_Agile\\_Development\\_Survey\\_Results.pdf](http://www.versionone.com/pdf/2011_State_of_Agile_Development_Survey_Results.pdf)



## Today, Organizations across industries have adapted Lean approaches

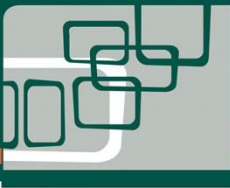
- Building people then building products – Toyota Production System (TPS)
- A bad process beats a good person every time – System of Profound Knowledge
- Minimize waste and remove variability – Lean Six Sigma
- Focusing on the bottleneck – Theory of Constraints
- Focus on queues and flow - Lean Product Development
- Agile software development – Agile Manifesto





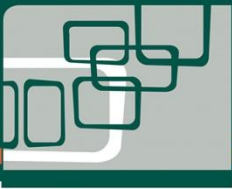
## PMO – The Champion

- > PMO was more advanced with their processes and structure
- > Neutrality. Owners of process and there was no ownership of product or technology
- > Knowledge of PMO head with Lean and Agile approaches
- > Ability to establish executive steering committee and governance to help support the organization objective
- > Flexibility and adaptability to change direction and approach



# The Implementation Approach

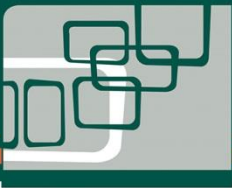




## The approach – The structure

- Building people then building products
- Building process tailored to the organization that encompass all cycles from product ideation to operationalization monitored through gates
- Start small and pilot before going big
- Build visualization tools (Kanban boards)
- Build frequent retrospectives
- Build competency model to measure
- Manage change
- Reward and celebrate

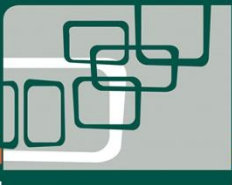




## The approach – Building People

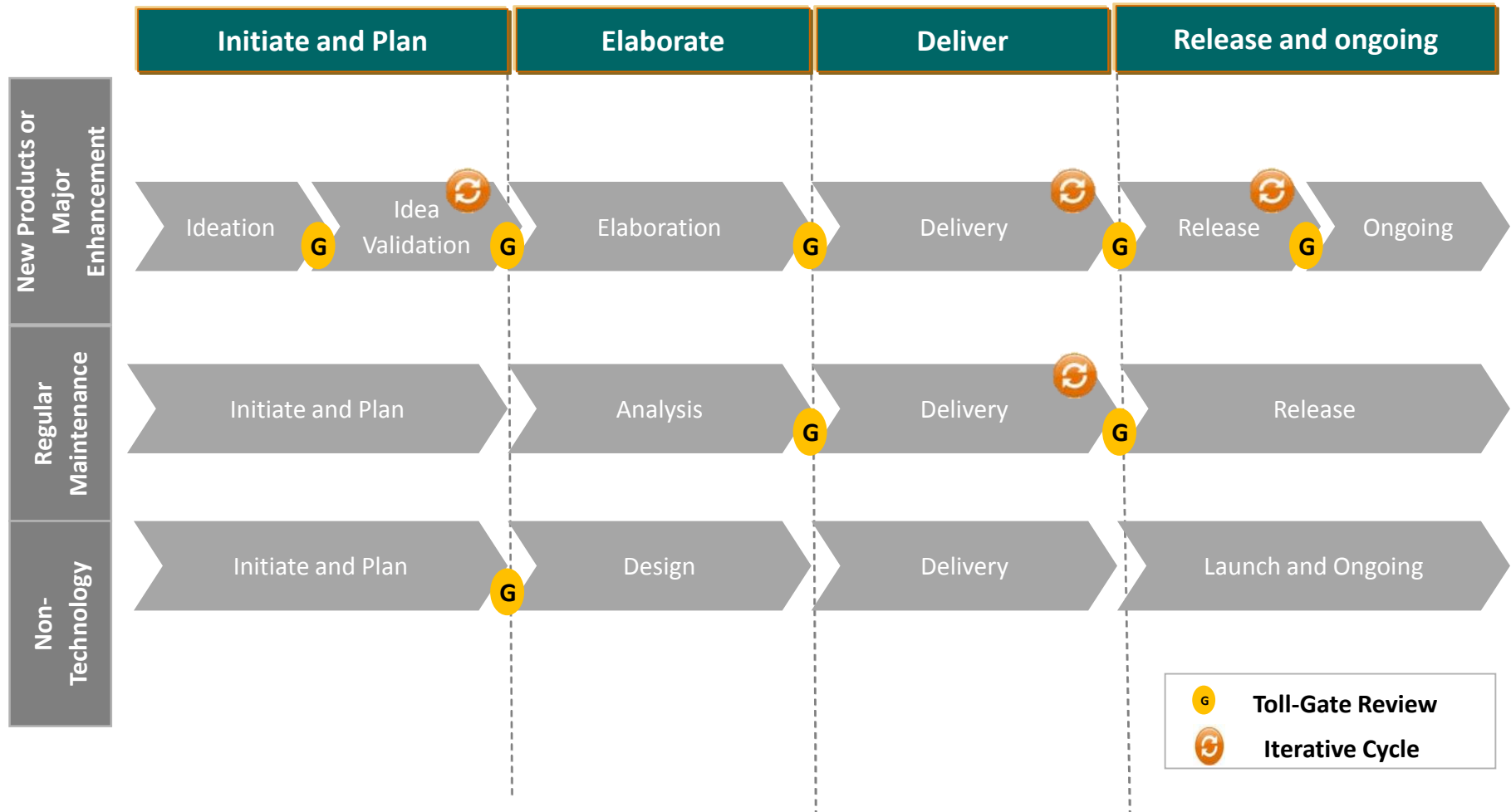
- Building people then building products
  - Formal C-Level on value of Lean and agile and the benefit for their organization
  - Formal middle management on new ways of managing in Lean and Agile
  - Educate all cross-functional teams on Lean and Agile, new collaboration techniques through visualization and self managed teams
  - Provide time to attend Lean and Agile tours and conferences
  - JIT Training at all levels.
  - Learning thru fun games - Get Kanban !!

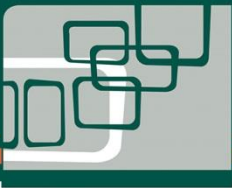




# The approach – Building Processes

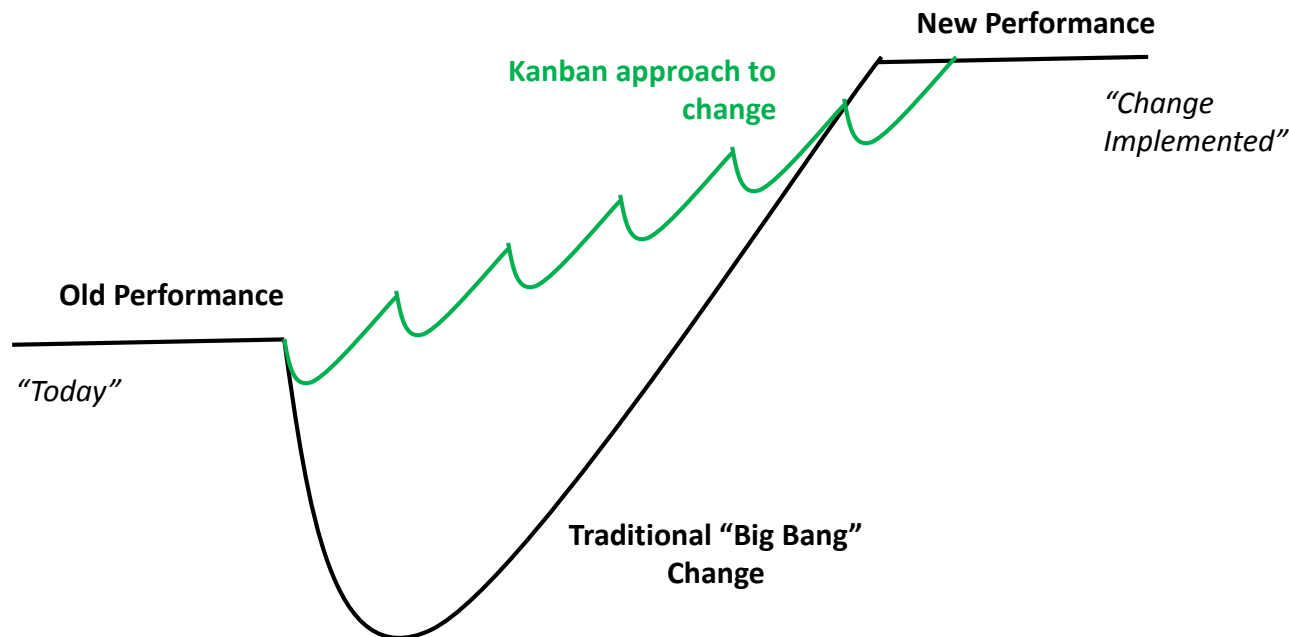
Illustrative Delivery model Value Stream Map for Three Project Types





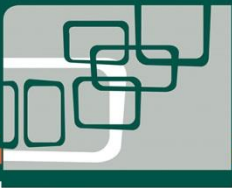
## The approach – Building Tools

Kanban is about introducing a set of small J-Curve effects to a less disruptive path to agility



Kanban allows teams to apply "Lean" thinking to everyday work and acts as an incremental change agent





## The approach – Building Tools cont.

Taking inspiration from modern agile thinking, the following properties were derived to leverage Kanban in software development

**Theory of  
constraints**

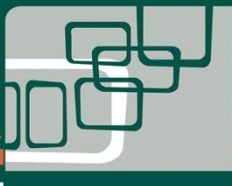
**Systems  
thinking**

**Lean  
Manufacturing**

**System of  
Profound  
Knowledge**

### **Kanban Core Properties**

- Visualize Work
- Limit Work in Progress
- Measure and Manage Flow
- Make Process Policies Explicit
- Enable Continuous Improvement



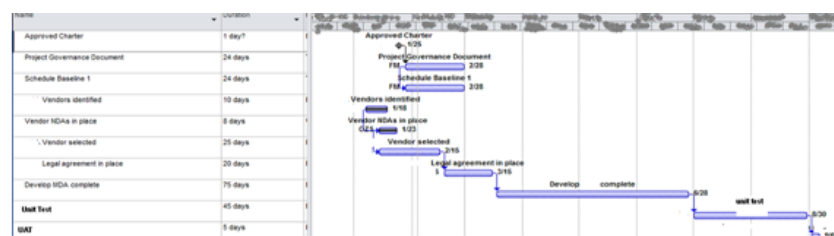
## The approach – Building Measures

Plan current phase

Size work – each  
other and output

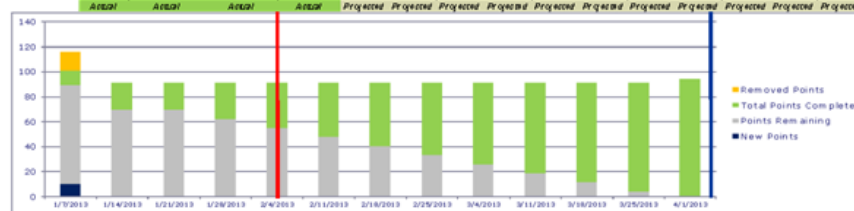
Update progress  
weekly

Review progress  
report weekly

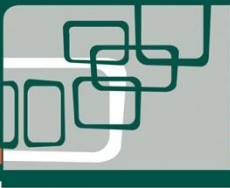


Deliverable / Milestone / Feature / Activity	Relative Sizing	Planned Phase
Vendor selected	1	Elaboration
Vendors selected	3	Elaboration
Technical Requirements	5	Elaboration
Implementation guide and application programming guide	13	Elaboration
Test plan updates to reflect spec	1	Elaboration
Legal agreement	3	Elaboration
Establish framework	5	Elaboration
Update	9	Elaboration
Integration test plan	9	Elaboration
Governance framework	1	Elaboration

Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Start Date	1/7/2013	1/14/2013	1/21/2013	1/28/2013	2/4/2013	2/11/2013	2/18/2013	2/25/2013	3/4/2013	3/11/2013	3/18/2013	3/25/2013	4/1/2013	4/8/2013	4/15/2013	4/22/2013	
Total Points at Start of Week	96	79	69	62	55	48	40	33	26	19	11	4	-3	-11	-18		
Points Completed During Week	12	10	8	7													
Total Points Completed	12	22	30	37	42	48	55	62	69	76	83	87	94	102	109	116	
Removed Points	15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
New Points	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Estimated Velocity (per week)	12	11	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7
Number of Periods Remaining To Date	11	10	9	8	7	6	5	4	3	2	1	0	-4	-2	-3	-4	
Points Remaining	79	69	61	55	48	40	33	26	19	11	4	-3	-11	-18	-25		
Non-closed Gate Date	1-Mar-13	5-Mar-13	12-Apr-13	19-Apr-13	26-Apr-13	3-May-13	9-May-13	16-May-13	23-May-13	30-May-13	6-Jun-13	13-Jun-13	20-Jun-13	27-Jun-13	4-Jul-13	11-Jul-13	

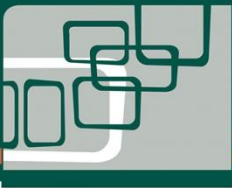


Current throughput: 7 points per week



# Managing the Change



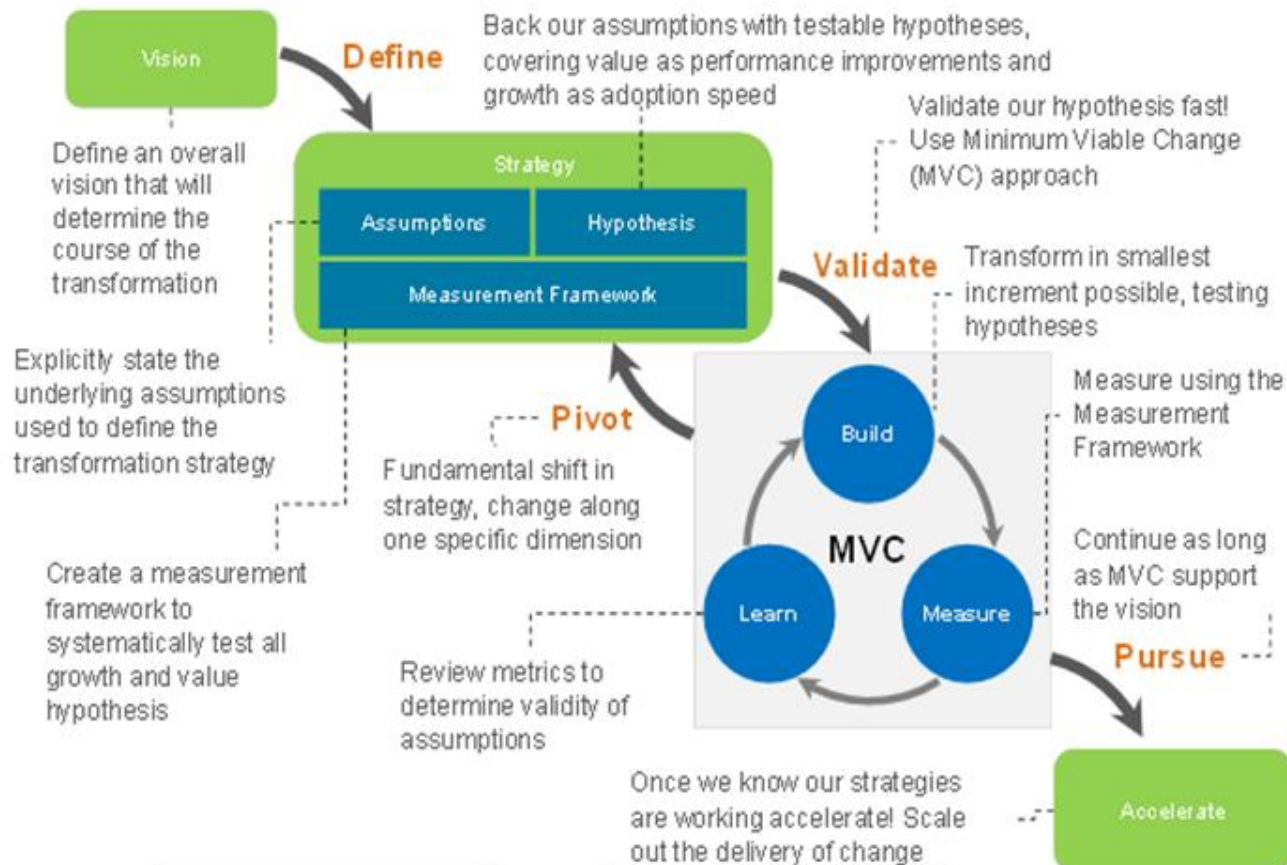


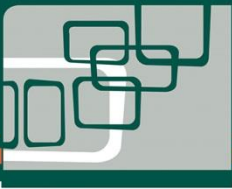
## Managing Change

- Train and educate
- Build allies and champions
- Start small but think big



## Managing Change

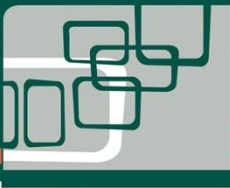




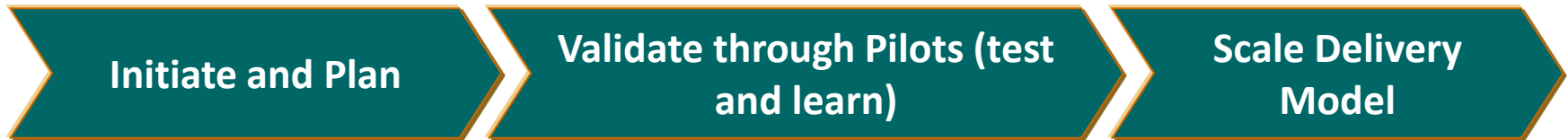
## Pilot and Rollout

- Pick projects that were volunteered by their project sponsors to run thru the new model
- Select 3-4 pilots of projects with various stages
- Ensure that projects can run at least a gate review
- Perform frequent retrospectives
- Have daily Kanban standup
- Assign Kanban champions
- Assign process coaches and facilitators to the pilot projects
- Adjust and make changes to the process framework
- Educate teams to be transparent

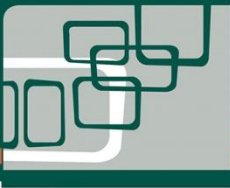




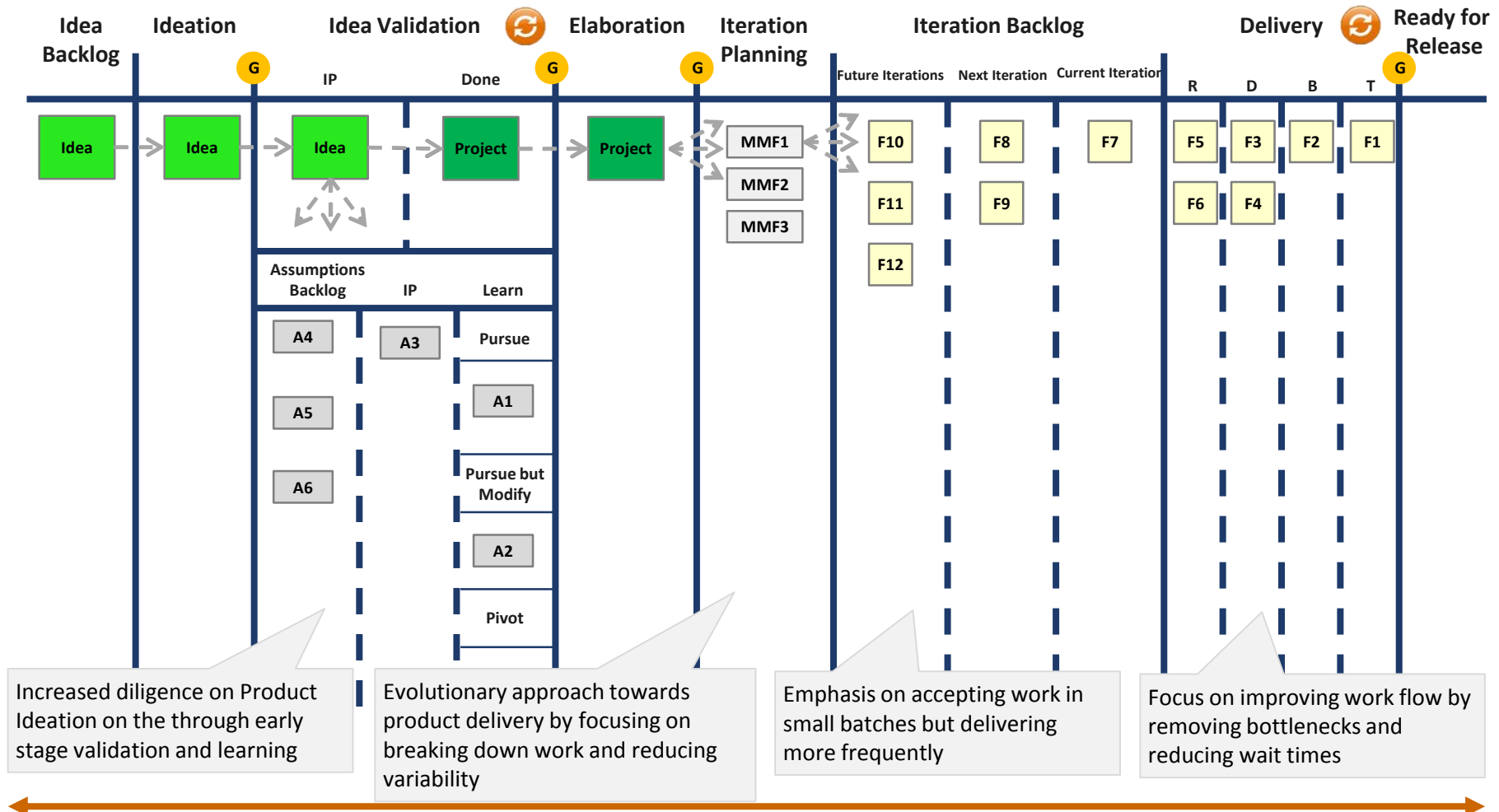
## Start Small – Approach on Pilot Projects



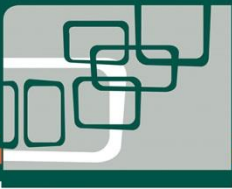
Delivery Model Pilot Projects	Target Coverage for Pilot*					Core Team for Projects
	Ideation	Validation	Elaboration	Delivery	Release	
Project 1		✓	✓			
Project 2			✓	✓	✓	
Project 3			✓	✓	✓	



# Project Kanban System for Delivery Model

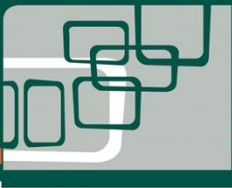






## Sample of Kanban in action



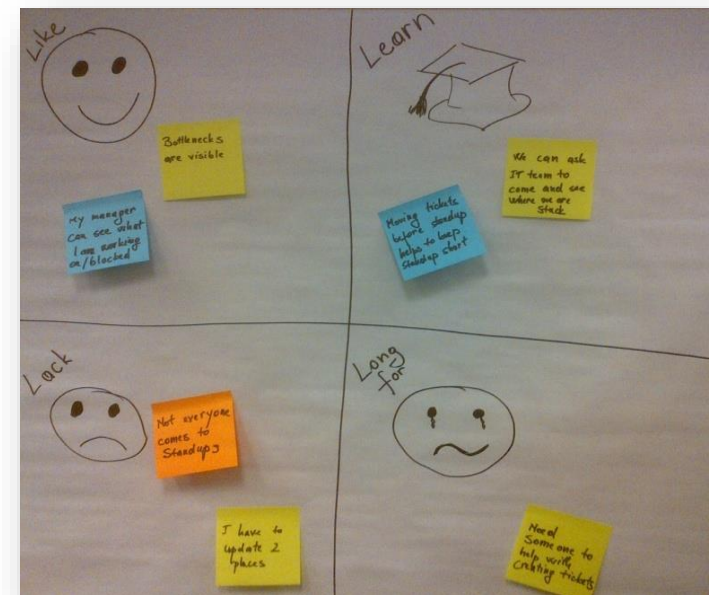


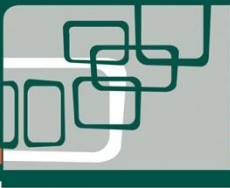
## Retrospective Type: 4 Ls

The Retrospective is a chance for the team to act like a team, hearing every voice, integrating their perspective and reaching consensus on how to move forward, better.

“Closure: it’s difficult to start something new when something else remains mentally or emotionally unclosed”

- List What We :
  - › Liked
  - › Learned
  - › Lacked
  - › Longed for





## Sample Retrospective

### Liked

- Kanban & other Tools
- Better Communication & Collaboration
- Alignment with team Values
- Integration of analytical front end with IT/non IT build.

### Lacked

- Defaulting to old structure
- Feedback on how Agile we have become

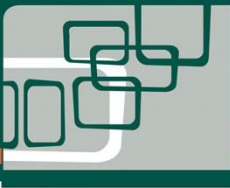
### Learned

- Change is hard and new behavior takes practice
- Executive Sponsorship
- Change management
- Internal Expertise Leveraged Willingness

### Longed For

- Measure of tools Quantitative /Qualitative
- Prioritization that sticks

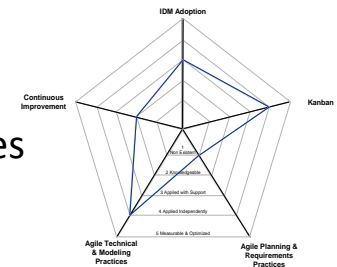
Sample



## Competency Overview

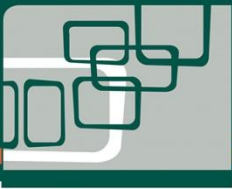
### Objective

- Qualitative mechanism to validate the success of Delivery Model change components
- Key behaviors and techniques assessed against a maturity scale
- Competency chart completed with the teams on a frequent basis
- To complete, teams will self assess against the behaviors and techniques



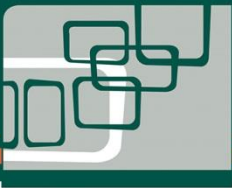
### Maturity Scale

Non-Existent (1)	Knowledgeable (2)	Applied with Support (3)	Applied Independently (4)	Measurable & Optimized (5)



**Transparency provides  
the underpinning for a  
high trust culture...**

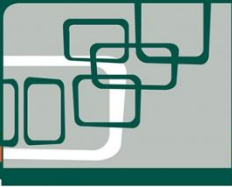




## The Learning

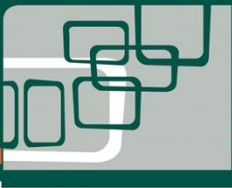
- In short a Lean organization tries to...
  - Reserve enough slack to deliver fast, instead of maximizing utilization
  - Treat unfinished work as a liability, rather than an asset
  - Move forward with imperfect information instead of waiting for the perfect plan
  - Foster a high trust culture through transparency, reducing the need to rely on bureaucracy to make decisions





## Summary

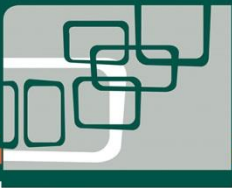
- In short as a take away...
  - Why use Lean and Agile
  - How to go about approaching and structuring Lean and Agile
  - How to measure its success and sustain the CI journey



## References

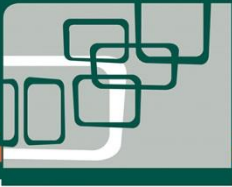
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## Questions





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# Happy Projects!

