Abbie Griffin, Raymond L. Price & Bruce A. Vojak

SERIALINNOVATORS

How Individuals
Create and Deliver
Breakthrough Innovations
in Mature Firms

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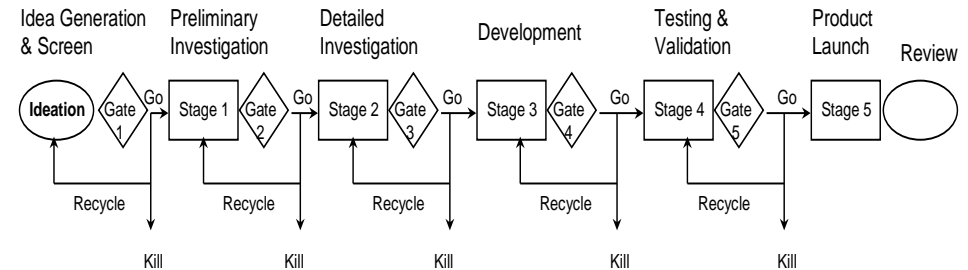
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The NPD Process

Project Approval

Fuzzy Front End

	Idea Generation & Screen	Preliminary Investigation	Detailed Investigation	Development	Testing & Validation	Product Launch	Review
	Ideation → Gate 1 → Go	Stage 1 → Gate 2 → Go	Stage 2 → Gate 3 → Go	Stage 3 → Gate 4 → Go	Stage 4 → Gate 5 → Go	Stage 5	
	Recycle / Kill	Recycle / Kill	Recycle / Kill	Recycle / Kill	Recycle / Kill		
Marketing							
Engineering							
Finance							
Manufacturing							

Generic Stage-Gate™ Process

Fuzzy Front End   Stage-Gate® Process

Opportunity recognition or invention

Gain project acceptance

Develop to next level   Develop to next level   Launch

Assessment   Assessment   Assessment

Stop development   Stop development   Stop development

Inventor   Champion   Implementer
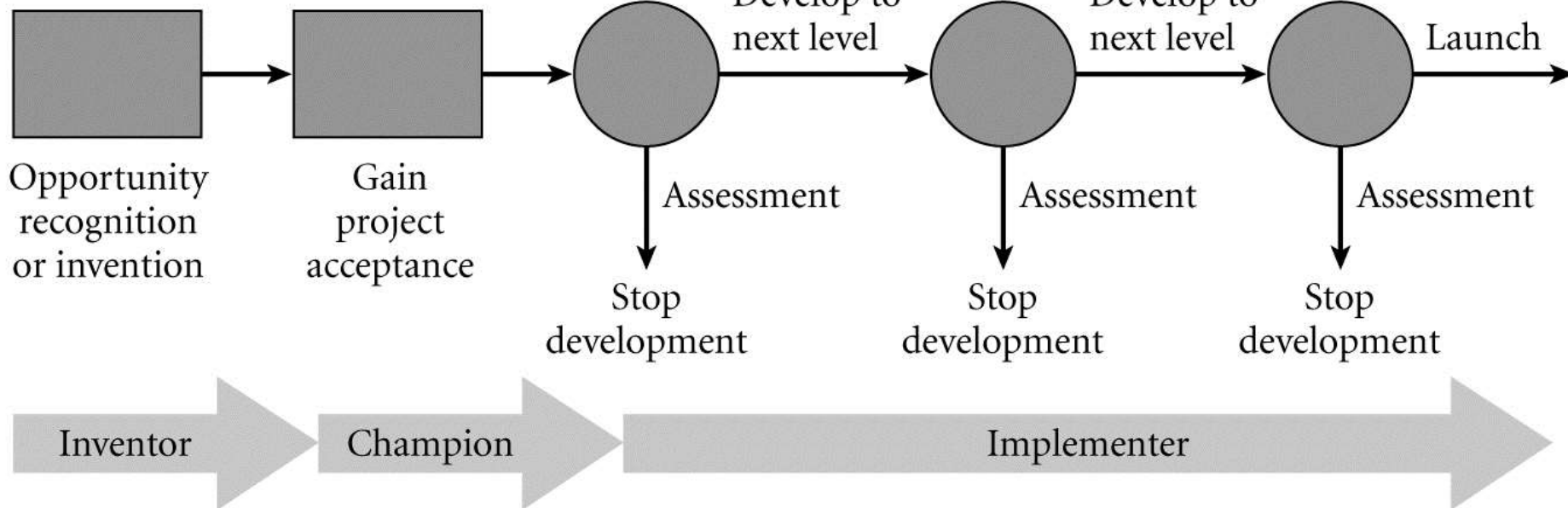
Core Skills	Inventor	Champion	Implementer
Technical	**Primary**	Secondary	Secondary
Market Insight		**Primary**	
'Political' Savvy		**Primary**	
Project Facilitation			**Primary**

Technical Creativity
Marketing Creativity

Political savvy

Project management/facilitation

Fuzzy Front End

Stage-Gate® Process
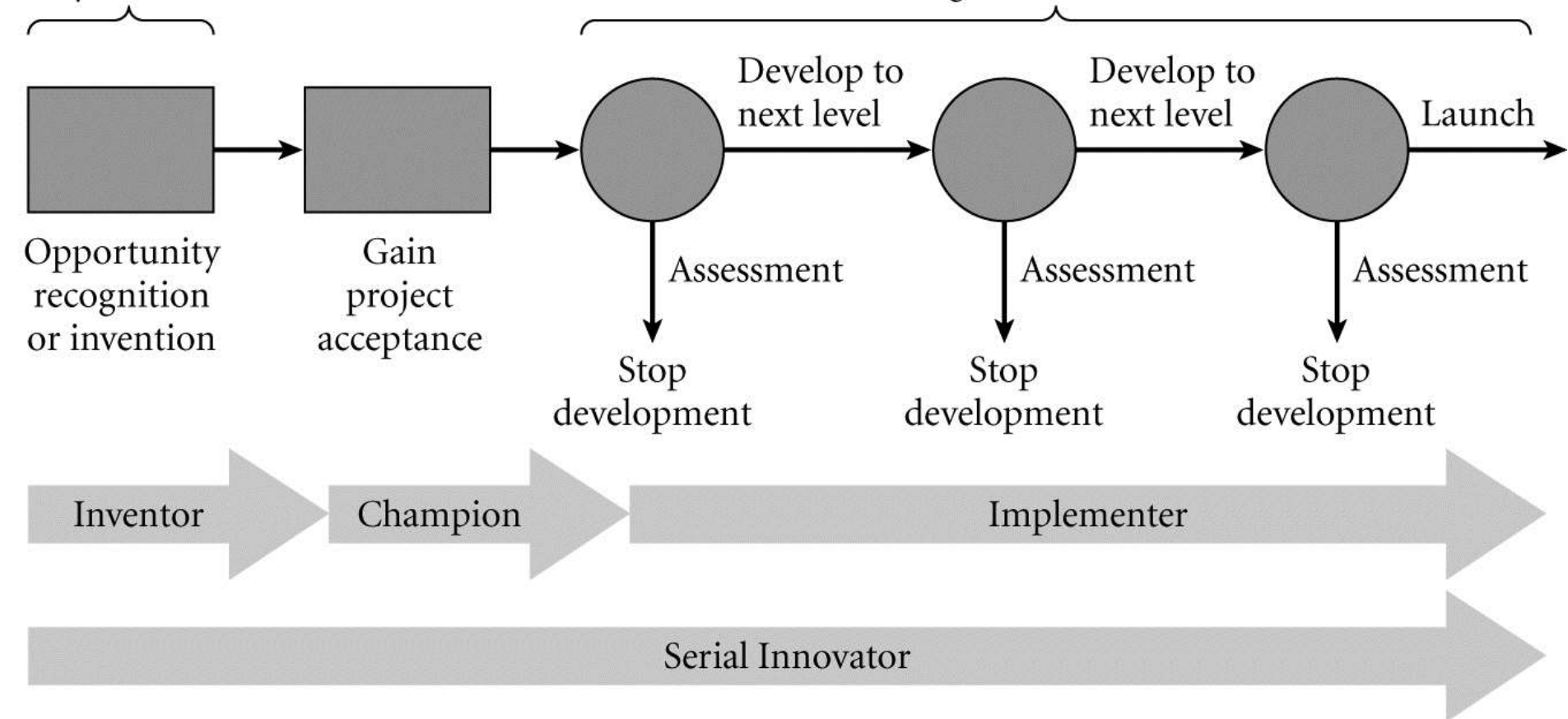
Core Skills	Inventor	Champion	Implementer		Innovator
Technical	**Primary**	Secondary	Secondary		**Primary**
Market Insight		**Primary**			**Primary**
'Political' Savvy		**Primary**			**Primary**
Project Facilitation			**Primary**		Secondary

Serial Innovators

- Individuals at large, mature organizations who are associated with inventing and commercializing one after another breakthrough innovation that changed people's lives
  - Not Steve Jobs
  - Not Paul McCartney
  - Not entrepreneurs

What do we know about them?

- They do, in fact, transcend "fuzzy" and "process" views of innovation
- They are extremely rare
  - 1-in-10 to 1-in-500 of the technical staff
- Their impact can be enormous
  - Less than 0.2% of the engineers account for over 20% of annual revenue or its equivalent in cost reductions (125:1)
- We know
  - How they innovate and move their organizations (process and politics)
  - Who they are (personality, perspective and preparation)
  - How to (and how not to!) manage them (motivators and de-motivators)

Serial Innovators

- Tom Osborn: P&G

- Adam Gudat: Caterpillar
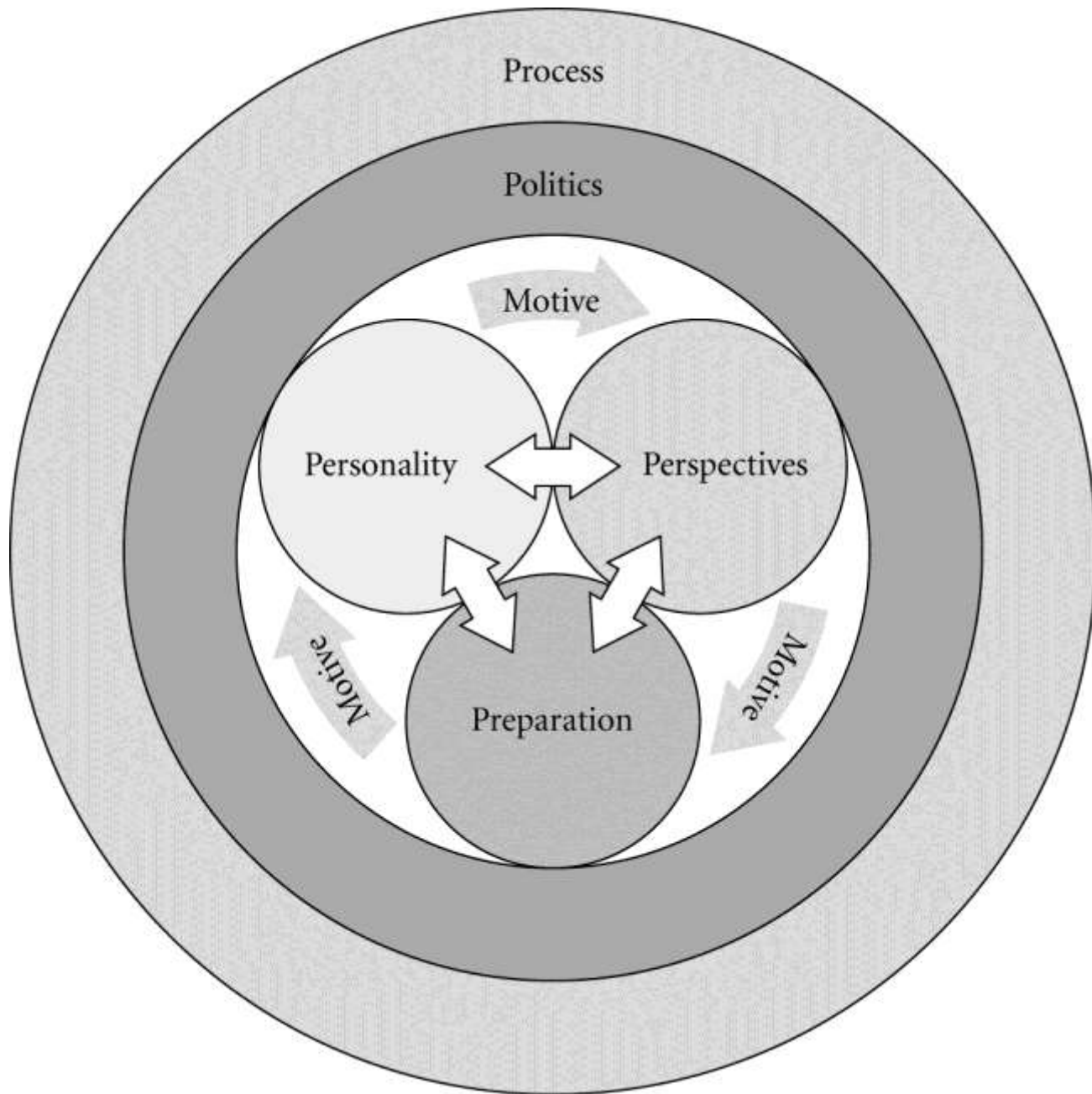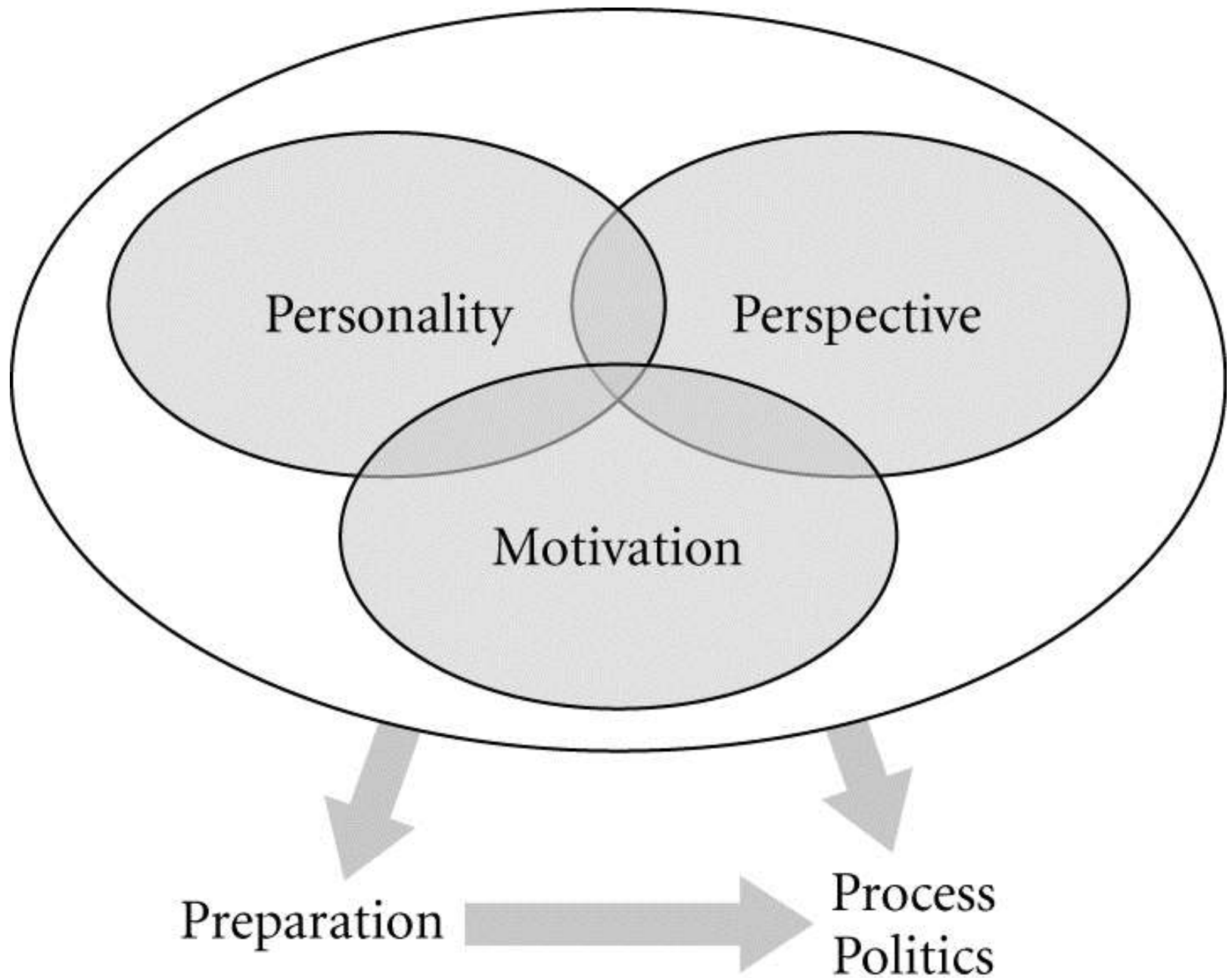
Serial Innovator Model: Personality

- Systems thinking

- Creative

- Innate curiosity that extends across multiple knowledge domains

- The ability to develop intuition based on deep expertise

Serial Innovator Model: Perspective

- Technology is a means to an end
- Businesses are in business to make money
- I want to make the world a better place
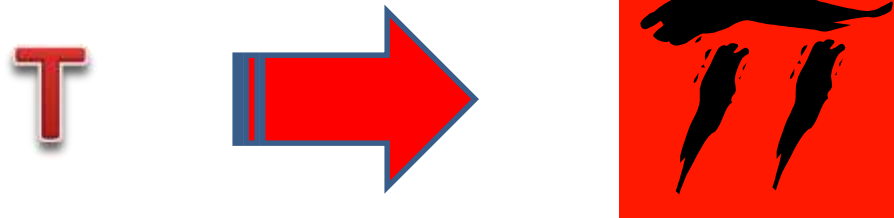- I was put on earth to solve the hard problems

Serial Innovator Model: Motivation

- Intrinsically motivated by extrinsic results
- See people's problems solved using products I created

Serial Innovator Model: Preparation

- Technology 1st
- Add business, strategy knowledge
- Learn how to talk to customers to uncover problems
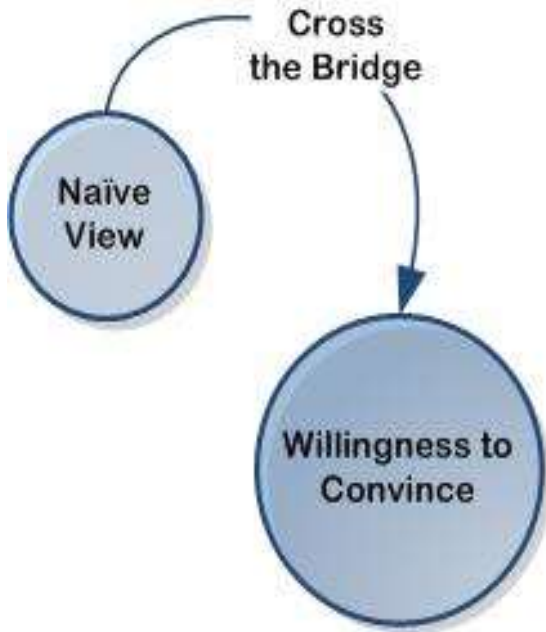- Add peripheral technology domains

Naïve View of Politics

- Invention is sufficient — intrinsic value of innovation
- Managers and others should recognize and act on these insights
- My tasks are complete once the product is developed

- 95%+ of organization is focused on maintaining the status quo —running today's business
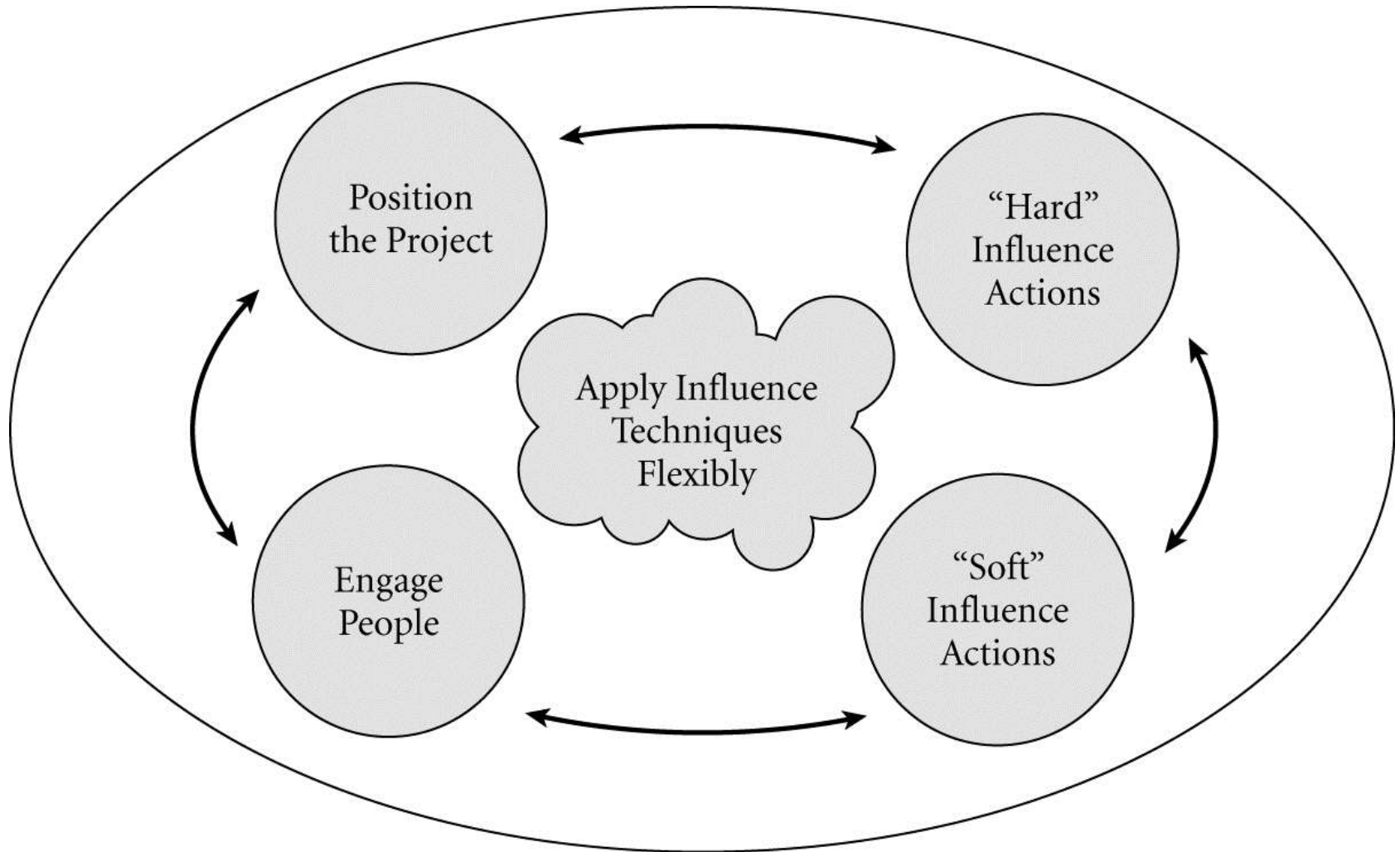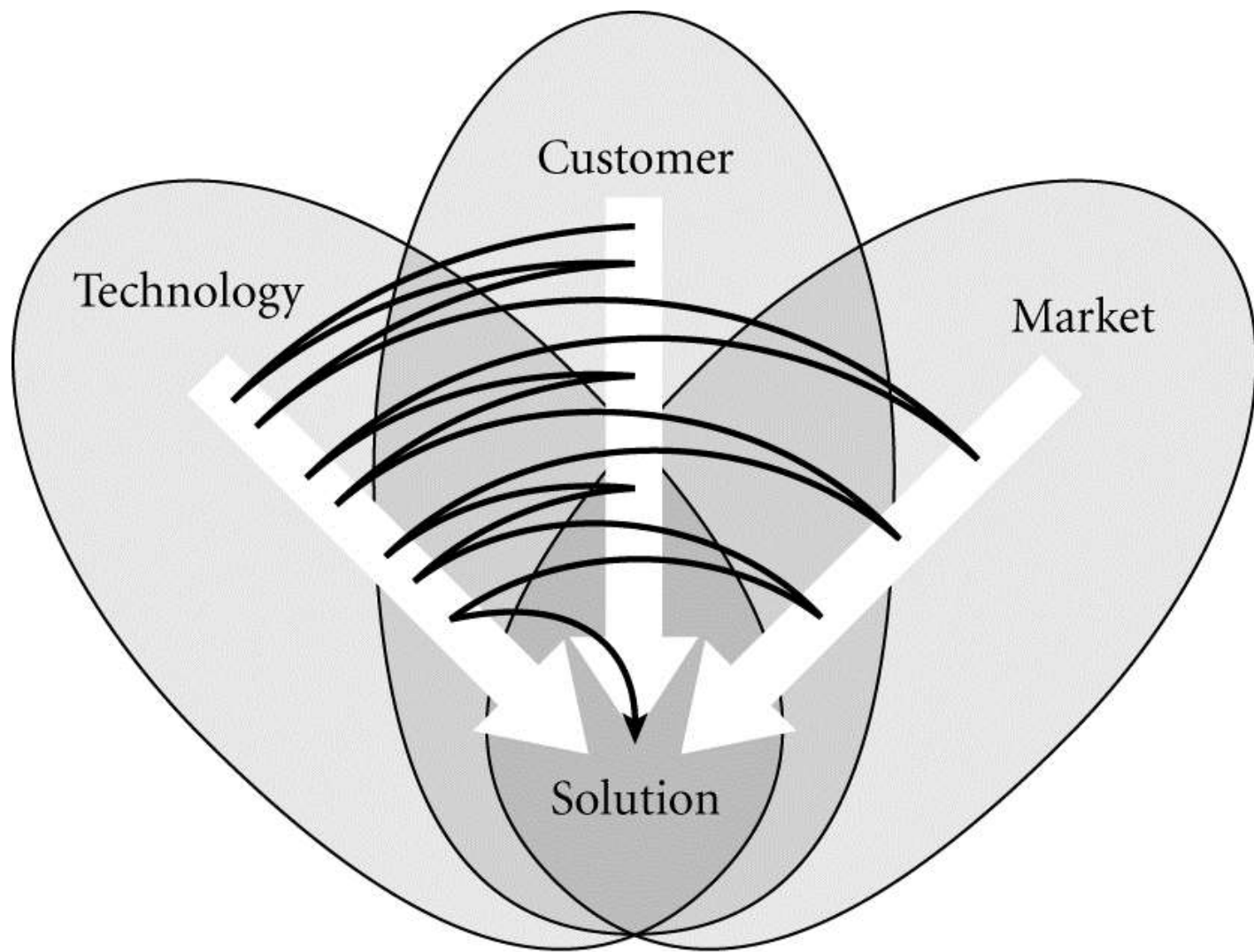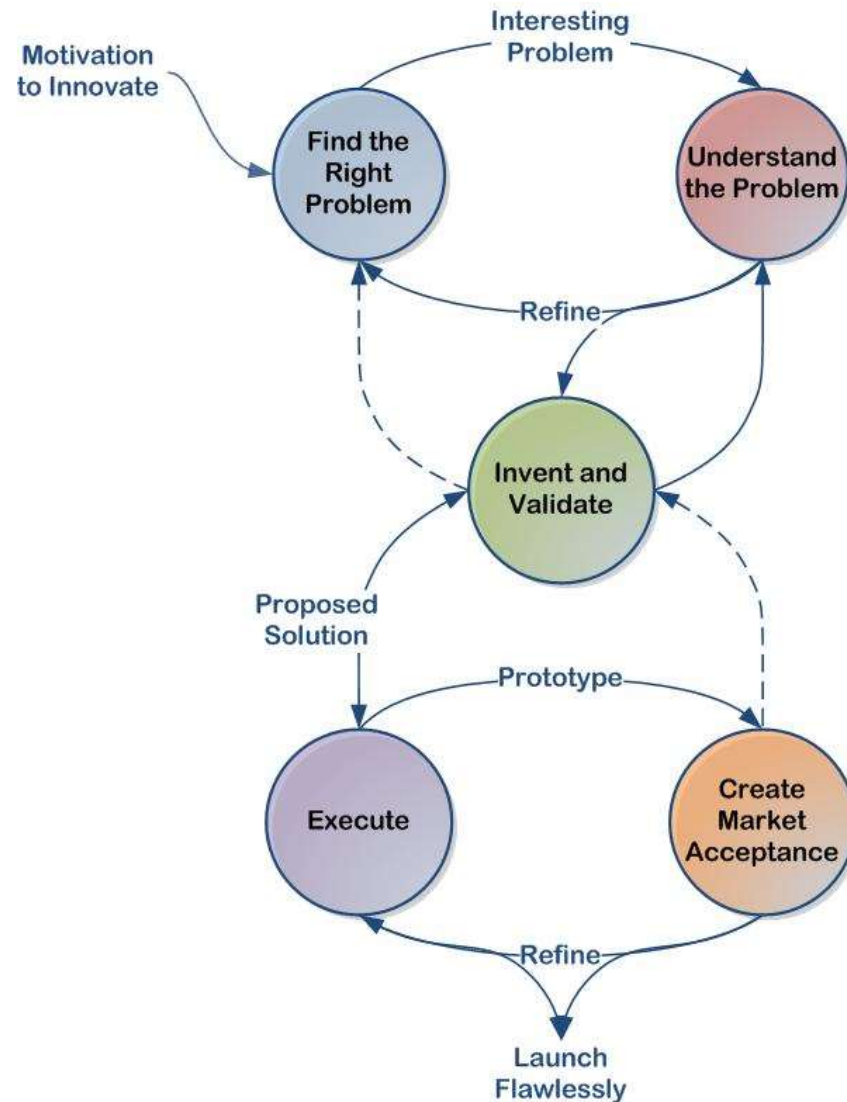
Crossing the Bridge

- Innovator becomes willing to engage

- Apply creative problem solving abilities to the "political" task

- Influence not one person—but many

- Politics is outside their comfort zone – but they manage it anyway
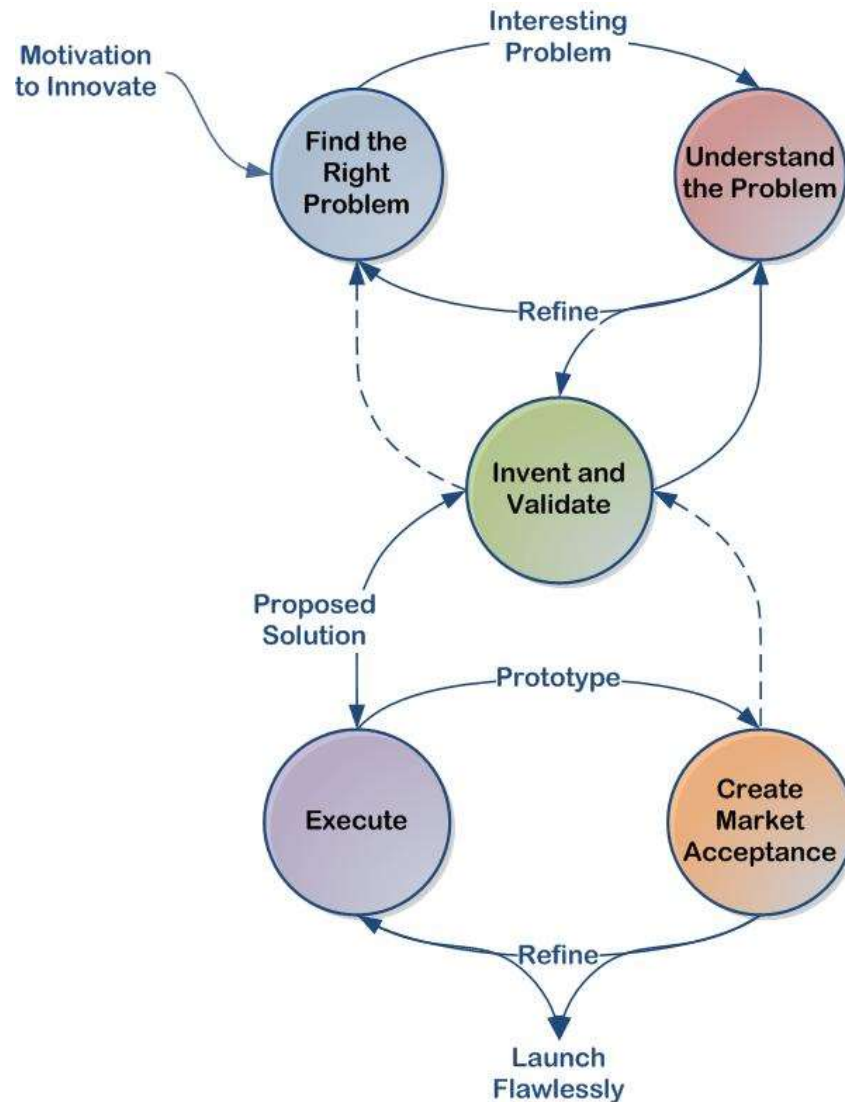
Serial Innovator Model: Politics

Serial Innovator Model: Process

How the SI Process Differs from Traditional Processes

- Focus is on the Front End of Innovation
  - Time
  - Effort
  - Study
- Formal processes subsumed into the overall process
- Process extends into market acceptance

Serial Innovator Model: Process

Managing Serial Innovators is Difficult

- Osborne's Manager
- Electronic Industry Manager
- Medical Device Manager

Structures for Managing Serial Innovators

- Fellows
- Embedded in org
  - Liaison between Marketing & R&D
  - Create a special organization for business development
  - Find a long-term manager

An observation

- U.S. industry spends millions to identify, develop, and reward managers to optimize the results of what innovators make possible—improve, manufacture, market and sell.

- We do relatively little to develop our top technical talent (innovators) and position them to create breakthrough new products.

Development Experiences to Nurture Potential Serial Innovators

- Assign them to tough technical problems
- Turn around a project that is in trouble
- Understand customers—in depth
  - "May not be a market researcher, but I am better than most"
- Set a new direction for a technology, for a product line
- Other cultures (international assignments)
- Work with and observe senior people
  - Politics

Serial Innovators

- Rare
- Powerful potential for the organization
- Important to understand
- Hard to find
- Difficult to manage

- When managed successfully, they create multiple breakthrough products delivering $ Billions to the firm

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Questions?

"Normal" R&D Employee

Benefits

- Where all SI's start
- Embeds the SI in the organization
- Gives them easy access to equipment and resources
- May result in long-term stability for supporting the SI

Drawbacks

- Success depends upon finding or developing a capable manager – and one for each SI
- What happens to the SI when the manager retires or leaves the firm?

"Fellow" Positions

Benefits

- Provides high independence
- Eliminates administrative responsibilities
- Usually comes with financial support

Drawbacks

- Maintaining motivation can be difficult
- Issues of technology transfer
- Does not provide supporting personnel that may be needed
- Difficulty of staying connected to strategy
- Strength of role may become diluted if too many are named

Liaison Position:
Straddle Marketing and R&D

Benefits

- Eliminates administrative responsibilities

- Provides high independence for Serial Innovators

- Connects marketing, R&D and strategy

Drawbacks

- Requires a great deal of trust in the Serial Innovator

- Does not provide supporting personnel that may be needed

- Requires a SI with exquisite charisma and influencing skills

- Likely limited in scope to one SI per division

Incubator Groups

Benefits

- Provides focus on the effort
- Concentration of intellectual power
- Good training/mentoring ground for future SI's
- Economics of scale in support
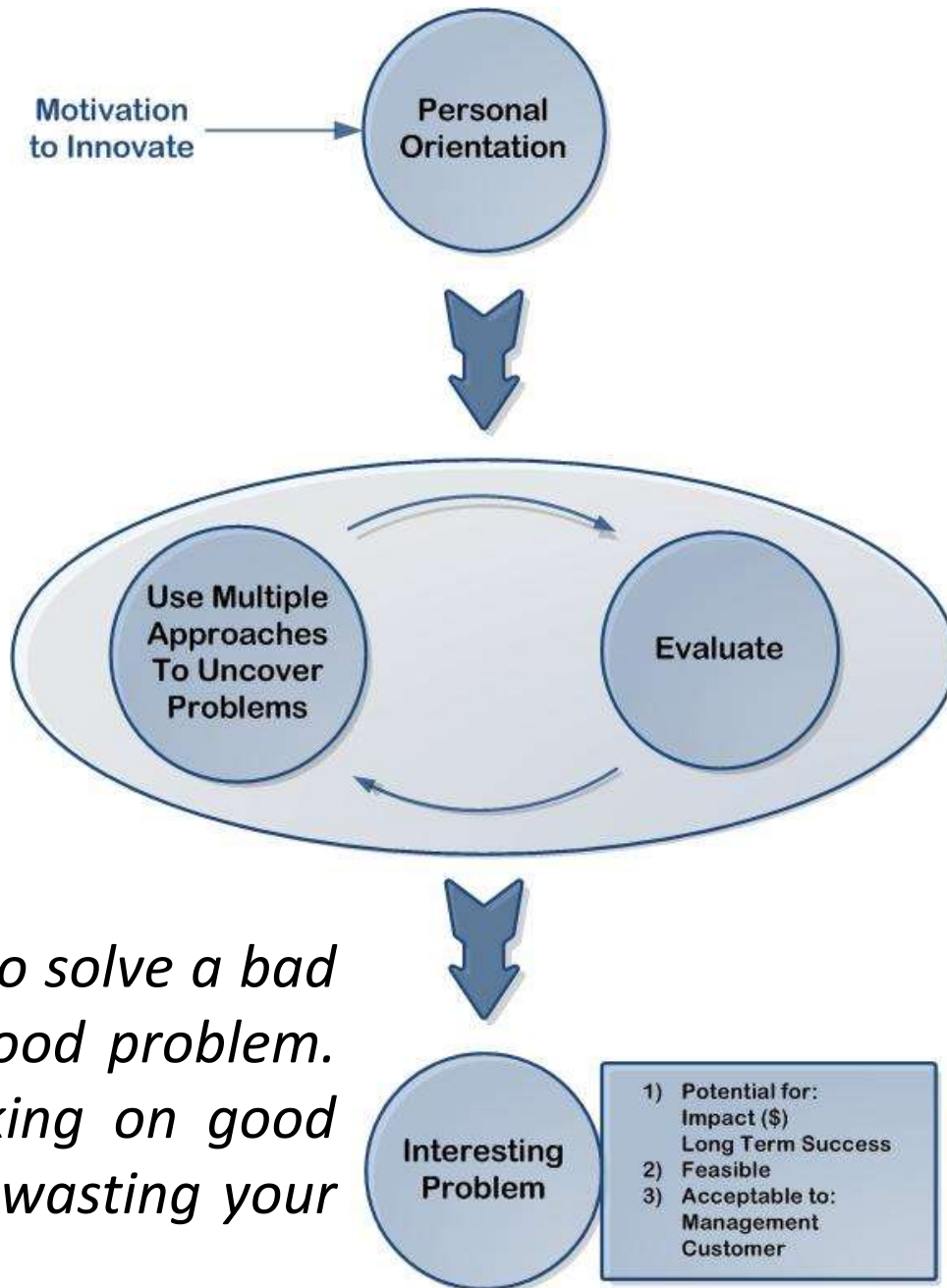- Only requires one manager who understands SI's needs

Drawback

- Perhaps not sustainable as new business is created with later requires support from individuals in the group
- Needs a manager who is not solely measured on current profits

Characteristics of Organizational Structures

	"Normal" R&D Employee	Fellow Positions	Liaison Positions	Incubator Groups
Serial Innovator Type	Proven and Developing	Proven	Proven	Proven and Developing
Management Responsibility	Individual Manager	Diffuse: No Direct Individual Manager?	Individual Manager or Joint Management	Individual Manager + SI's as Mentors
Management Level	Functional Manager, Director	HQ VP	Division VP's or President	Division Director or VP
Serial Innovator Risk	Exposure Ceded to Manager	Little Personal Exposure	Highly Exposed	Exposure Shared with Group Manager

Find the Right Problem

Motivation to Innovate → **Personal Orientation**

Use Multiple Approaches To Uncover Problems ↔ **Evaluate**

Interesting Problem

1) Potential for:
   Impact ($)
   Long Term Success
2) Feasible
3) Acceptable to:
   Management
   Customer
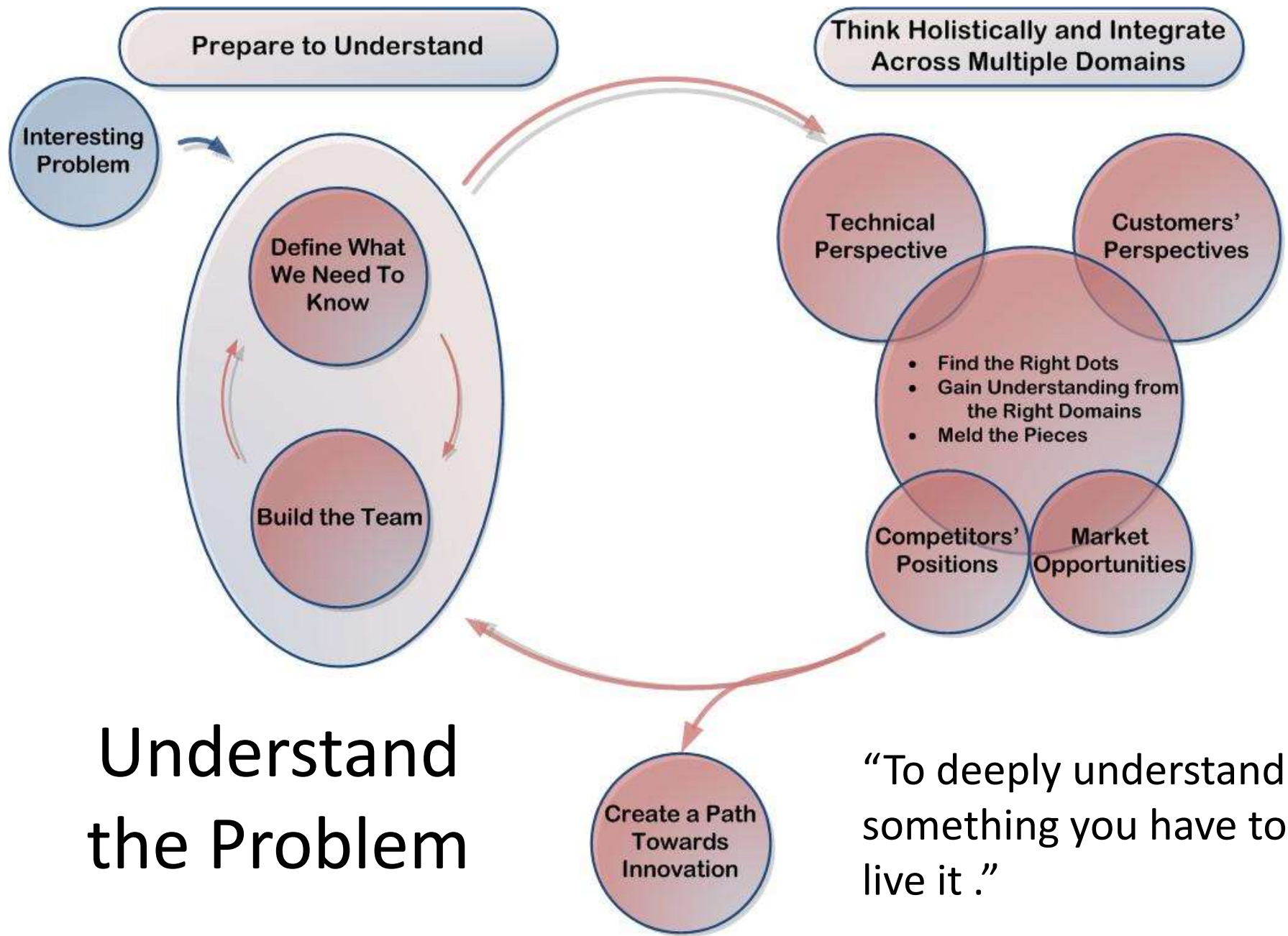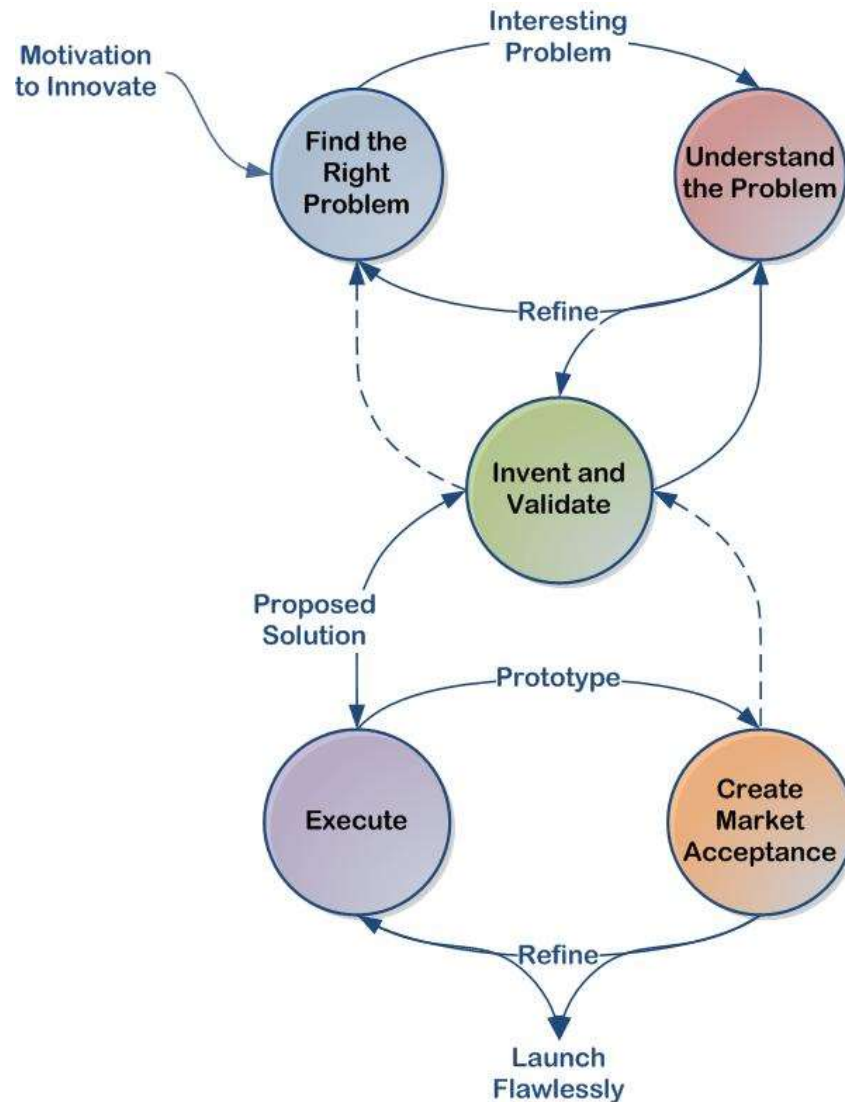
"It takes as much time to solve a bad problem as it does a good problem. And if you're not working on good problems, you're really wasting your time."
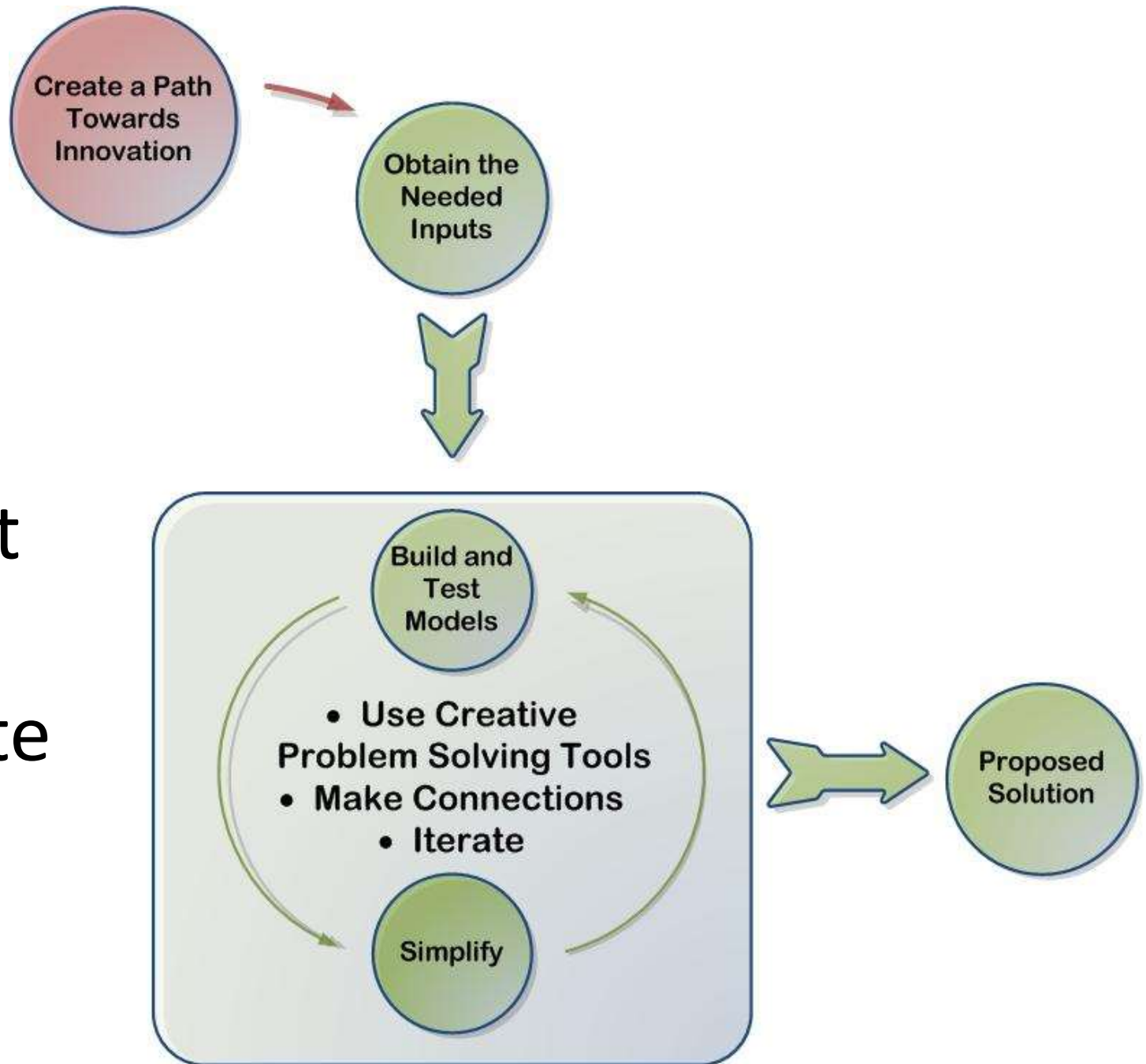
Use Multiple Approaches to Uncover a Problem

- Start from customer problems.
- Look for unarticulated customer needs.
- Ask broad and deep questions.
- Reframe the current problem.
- Approach finding problems from a strategic perspective.
- Work backwards from the endpoint to create the vision.
- Use other domains as a resource.
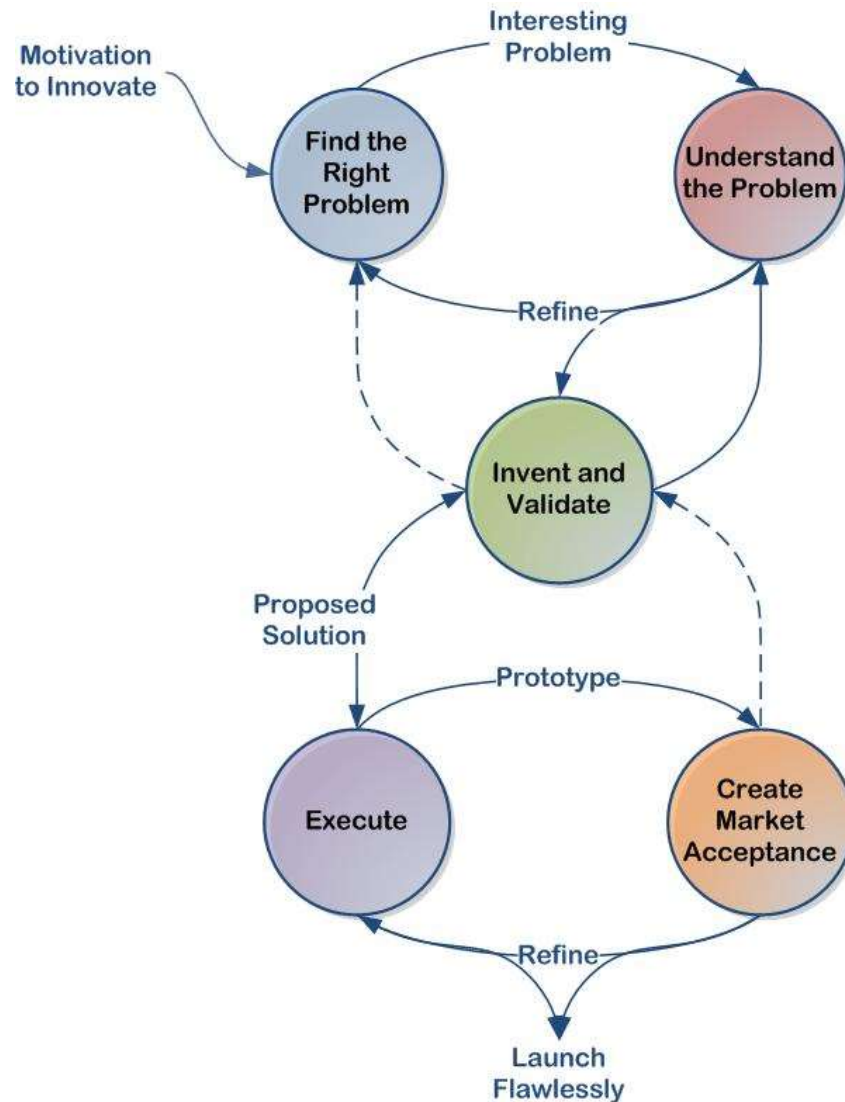- The problem is given.

Prepare to Understand

Think Holistically and Integrate Across Multiple Domains

Interesting Problem

Define What We Need To Know

Build the Team

Technical Perspective

Customers' Perspectives

- Find the Right Dots
- Gain Understanding from the Right Domains
- Meld the Pieces

Competitors' Positions

Market Opportunities

Create a Path Towards Innovation

Understand the Problem

"To deeply understand something you have to live it ."

Serial Innovator Model: Process

Serial Innovator Model: Process