



## Exploring Best Practices in Organizational Structures for Innovation

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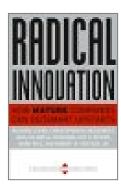






## A Little Bit of History...But Not Much

- RI Phase I: 1995-2000
- Longitudinal Study of 12 Radical Innovation Projects in Ten Mature Firms
- Definition of Radical Innovation
- Radical Innovation Lifecycle
- 4 Dimensions of Uncertainty, not 2
- 7 Challenges
- RI Maturity



#### **RADICAL INNOVATION:**

How Mature Companies
Can Outsmart Upstarts



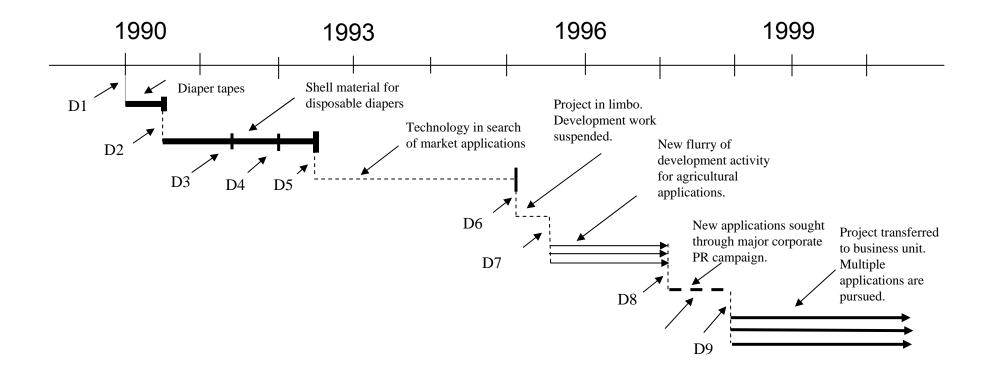
## **Defining Radical Innovation**

- Projects had an identified team and budget, and were perceived as having the potential to offer either
  - New to the world performance features
  - Significant (5-10x) improvement in known features
  - Significant (30-50%) reduction in cost



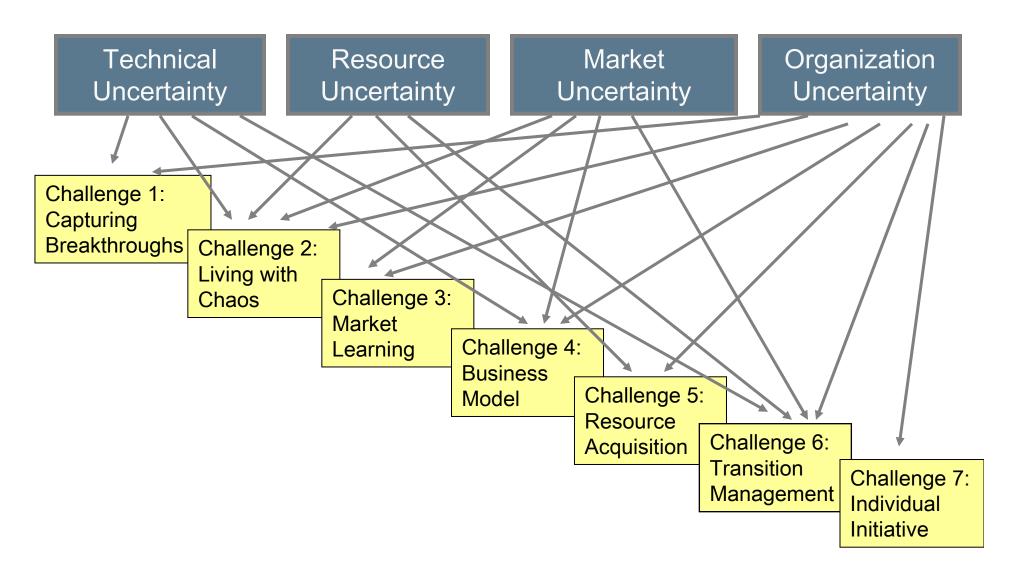
## A Radical Innovation Project Lifecycle:

#### **DUPONT BIOMAX**



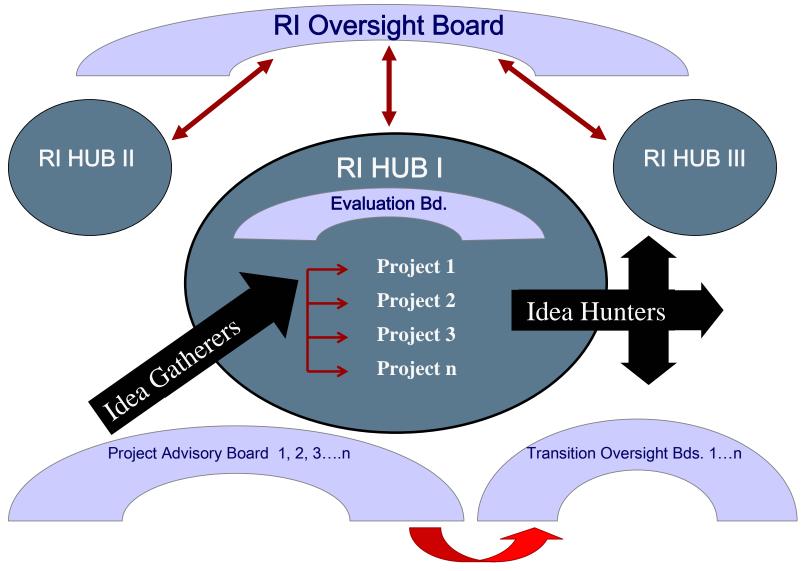


#### **Comprehensive Framework for Managing Radical Innovation**





#### The Radical Innovation Hub





## The Radical Innovation Learning Curve

Radical innovation *maturity* is defined as the degree to which the organization has embedded a system for initiating, supporting and <u>sustaining</u> RI activities

Average Life Expectancy of an RI system: 4 years



## Early vs. Mature RI Capacity: Our Point of Departure

Early	Mature
Executives act as provocateurs, patrons, and champions to compensate for lack of supportive culture.	The firm's leadership sets expectations, develops RI culture, establishes facilitating organizational mechanisms (hubs) and develops goals & reward systems.
Mavericks try to catch the attention of patrons. There is a lack of infrastructure and systematic approach.	RI idea hunters seek opportunities. Hubs establish effective evaluation boards. Non-traditional marketing & business creation personnel work with RI technical teams to develop business models. There is a learning orientation to project management
Acquisition of resources is ad hoc. Project teams often expect a budget allocation for funding.	Individual managers with authority to provide seed funding and internal VC organizations provide multiple sources of capital for RI. The firm adopts a portfolio approach to funding RI projects.
Completion of RI tasks, project staffing and champions rely on individual initiative.	RI hubs work with HR to develop a strategy for identifying, selecting, rewarding and retaining RI champions, experts and team members.
Communication difficulty makes transition difficult, often flounders and relies heavily on intervention of senior management.	Transition team established with funding and senior mgmt support continues development until uncertainty reduced for successful transition.

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## Objectives of Phase II Research

#### Corporate Competency Development for the Management of Radical Innovation

- Objective: To understand how organizations can systematically develop, evolve and sustain their radical innovation competencies.
  - What firms are doing to develop and support radical innovation, as a distinctive activity, requiring distinctive management techniques:
    - · Leadership and Culture
    - Organizational Structure and Interfaces
    - · Governance and Decision Making
    - Specific Processes and Tools
    - Skills
    - Metrics
- Mechanisms to enhance an organization's RI capability.
- Most effective implementation techniques for instituting those mechanisms.



## Companies in the Study

Representative stress	<b>♣</b> Dho	900 II
Cohort I	Cohort II	Cohort III
1995 to 2000	2001-2005	2004 to 2005
▶ <i>GE</i>		► Bose
► IBM ———	246 interviews	Dow Corning
► Air Products →		Guidant
► DuPont →		► H-P
Analog Devices	► 3M	Intel
General Motors	Albany Int'l	► P&G
Nortel Networks	Corning	► PPG
<ul><li>Otis Elevator (UTC)</li></ul>	J&J Consumer	Rohm&Haas
Polaroid	Kodak	Xerox
Texas Instruments	Mead-Westvacc	
	Sealed Air	
	Shell Chemicals	

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## Phase II Key Insights

- RI capability develops in stages.
- Organization structures for Radical Innovation
- The D-I-A model.
- Organizational capacity.
- Orchestration.

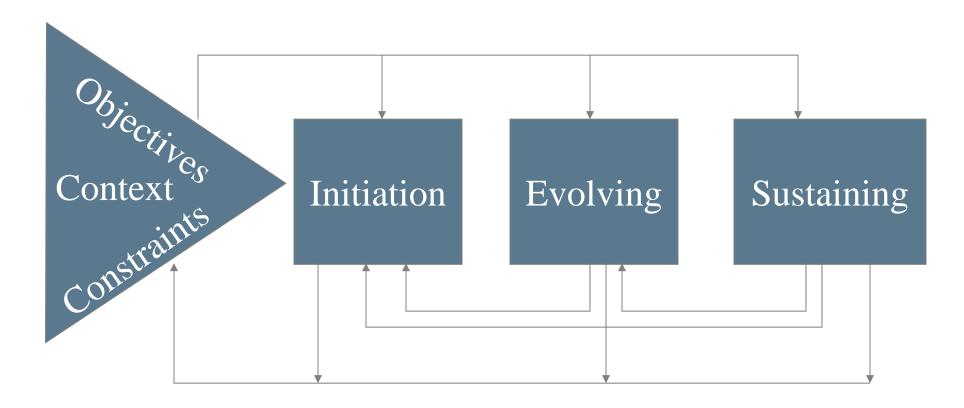


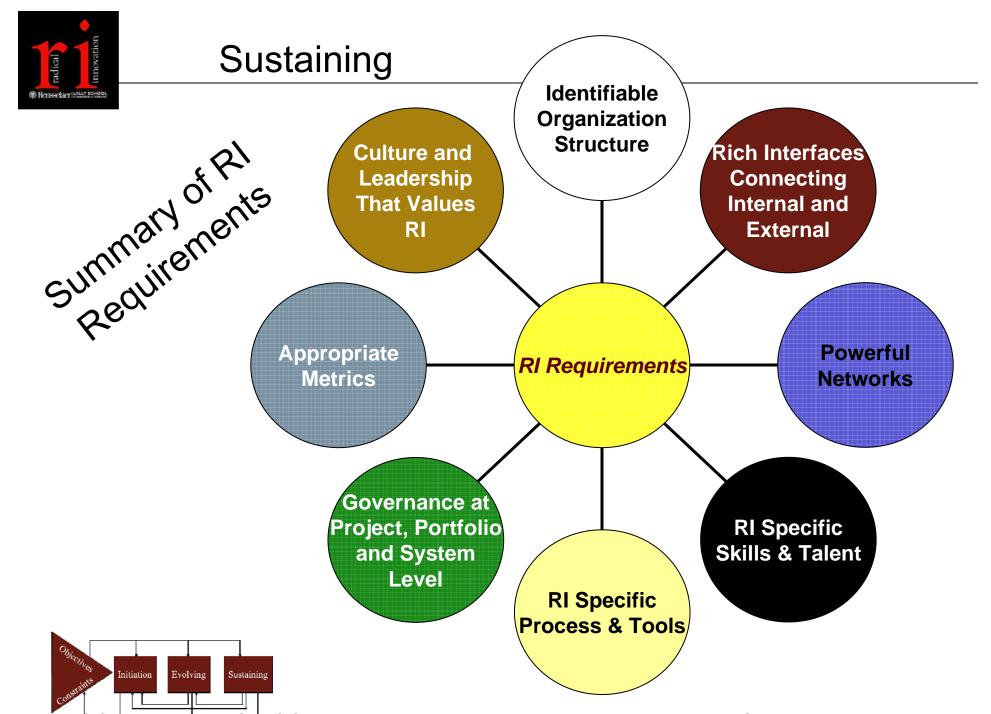
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## **Evolving a Competency Occurs in Stages**





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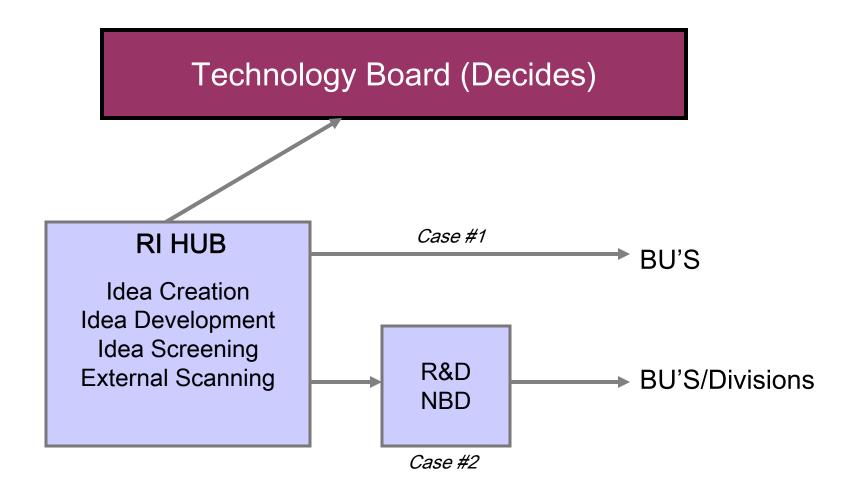


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## Organization Structure: Idea Generator





## Organization Structure: Idea Manager & Incubation

R&D

## Growth Board/Corporate Renewal Team (Advisory)

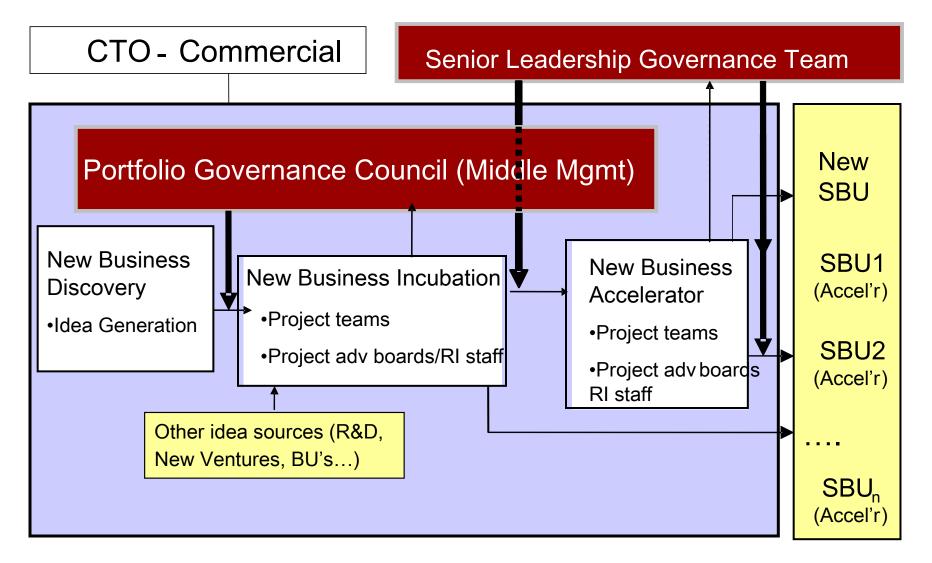
#### Venture Board/Business Development Council

- Idea review & elaboration
  - Staffed full time
- External technology acquisition

- Incubation/Development
  - Keep white space businesses through to initial commercialization
  - Oversee incubation of aligned opportunities too far out for BU's to handle.

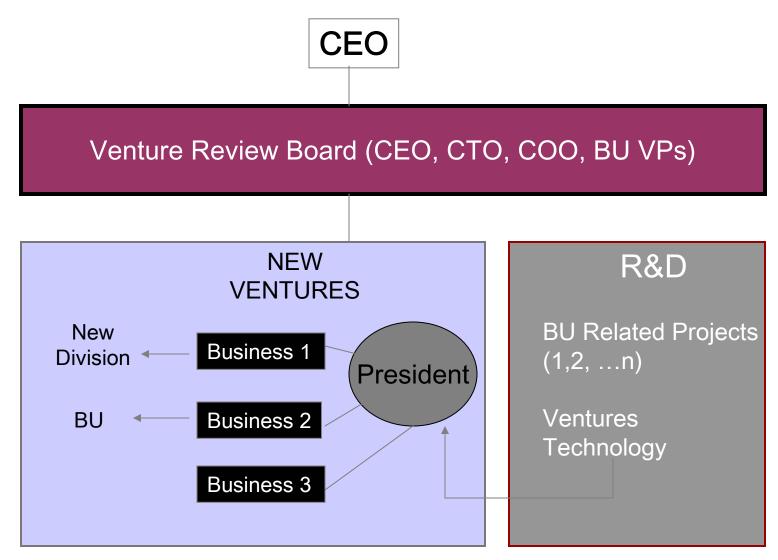


## Organization Structure: Holistic Sequential Model





## Organization Structure: Corporate Venturing Model



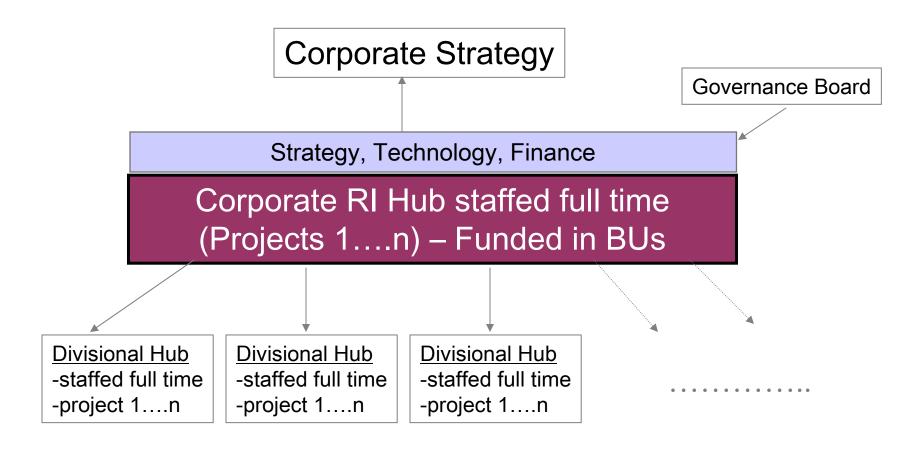


## Organization Structure: R&D Management System

Portfolio Governance Board (CTO, EVPs, & BU Leadership) BU's aligned R&D Directors Exploratory projects Projects 1, 2, 3 ....n Marketing "caught" by BU development group Incubator for Exploratory unaligned Research business Inventory, Bench

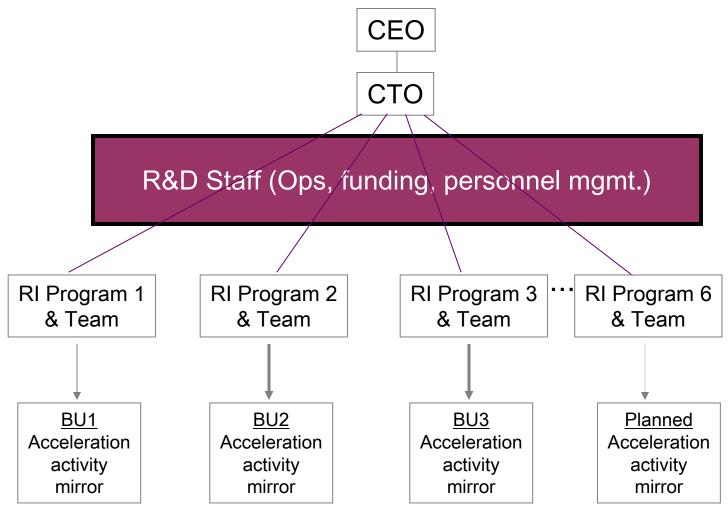


## Organization Structure: Self Similar Model





## Org. Structure: Mirrored Model



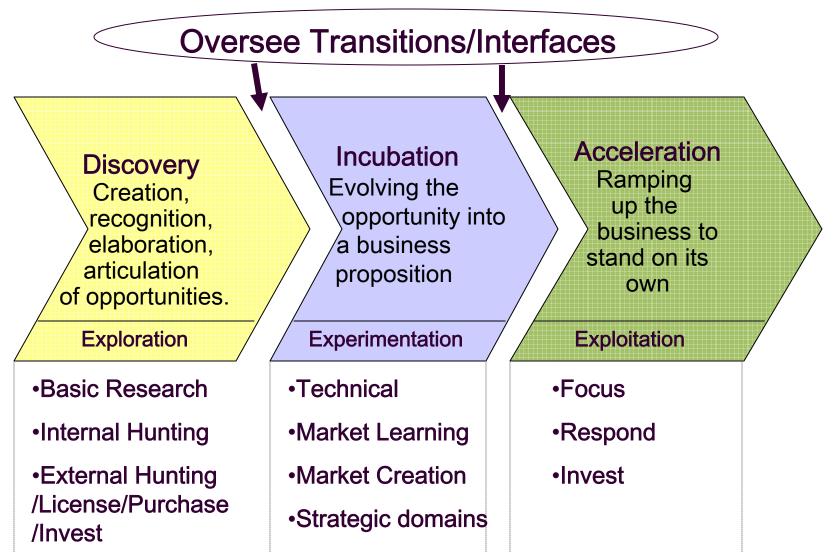


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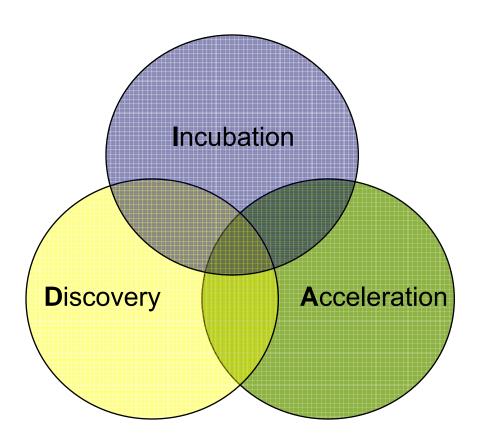
## Not just one competency....but 3





## Stunning Realization: DIA is not Linear!

#### Three RI Competencies must be managed as a system



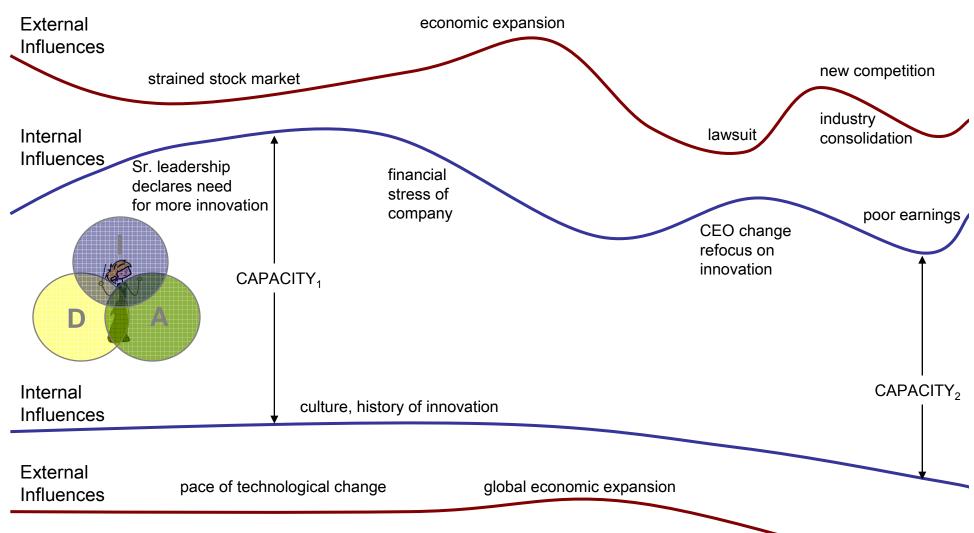


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## Organizational Capacity for RI



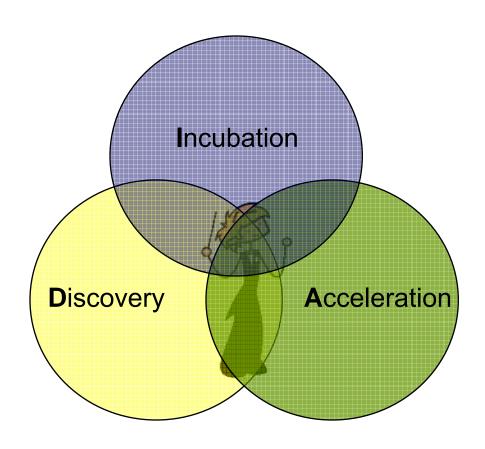


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## DIA Must Be Orchestrated in Dynamic External and Internal Environments





## Applying RI Insights to Higher Uncertainty Innovation

	Lower Uncertainty		Higher Uncertainty
Type of Innovation	Incremental	[]	Major Innovation: Platform and Breakthrough/Radical
Strategic Drivers	New Products to Extend Existing Business	[]	New Business Models and Advanced Technologies for Growth and Renewal
Opportunity Selection	Customer Driven and Analytical Tools	[]	Vision/Possibilities Tied to Strategic Intent
Market Focus	Existing Base	[]	New Customers, Applications and Unknown Areas to be Discovered
Process	Stage Gate and Concurrent Engineering	[]	Discovery Driven Processes and Learning Models
Transition Readiness	Fast Track to Lines of Business	[]	Incubation, Acceleration, Interface Management



## Going Forward

# Radical Innovation Field Research = Insights Translated into Best Practices

Internal Venturing/Corporate Entrepreneurship/New Business Development = System for Managing Higher Uncertainty Innovation

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