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

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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


D1  Diaper tapes
D2
D3  D4  D5
Shell material for disposable diapers
Technology in search of market applications
Project in limbo. Development work suspended.
New flurry of development activity for agricultural applications.
New applications sought through major corporate PR campaign.
Project transferred to business unit. Multiple applications are pursued.

Comprehensive Framework for Managing Radical Innovation

Challenge 1: Capturing Breakthroughs

Challenge 2: Living with Chaos

Challenge 3: Market Learning

Challenge 4: Business Model

Challenge 5: Resource Acquisition

Challenge 6: Transition Management

Challenge 7: Individual Initiative

Technical Uncertainty

Resource Uncertainty

Market Uncertainty

Organization Uncertainty

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The Radical Innovation Hub

RI HUB I

- Evaluation Bd.
- Project 1
- Project 2
- Project 3
- Project n

RI HUB II

RI HUB III

RI Oversight Board

Idea Gatherers

Idea Hunters

Project Advisory Board 1, 2, 3…n

Transition Oversight Bds. 1…n

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Radical innovation maturity is defined as the degree to which the organization has embedded a system for initiating, supporting and sustaining RI activities.

Average Life Expectancy of an RI system: 4 years
# Early vs. Mature RI Capacity: Our Point of Departure

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

Cohort I
1995 to 2000
- GE
- IBM
- Air Products
- DuPont
- Analog Devices
- General Motors
- Nortel Networks
- Otis Elevator (UTC)
- Polaroid
- Texas Instruments

Cohort II
2001-2005
- 3M
- Albany Int’l
- Corning
- J&J Consumer
- Kodak
- Mead-Westvaco
- Sealed Air
- Shell Chemicals

Phase II
Cohort III
2004 to 2005
- 246 interviews
- Bose
- Dow Corning
- Guidant
- H-P
- Intel
- P&G
- PPG
- Rohm&Haas
- Xerox

Phase I

Phase I

Phase I

Phase I

Phase I

Phase I

Phase I
Phase II Key Insights

- RI capability develops in stages.

- Organization structures for Radical Innovation

- The D-I-A model.

- Organizational capacity.

- Orchestration.
Phase II Key Insights

- RI capability develops in stages.
- Organization structures for RI.
- The D-I-A model.
- Organizational capacity.
- Orchestration.
Evolving a Competency Occurs in Stages

Objectives, Context, Constraints

Initiation, Evolving, Sustaining
Sustaining

Summary of RI Requirements

- Culture and Leadership That Values RI
- Identifiable Organization Structure
- Rich Interfaces Connecting Internal and External
- Powerful Networks
- RI Specific Skills & Talent
- RI Specific Process & Tools
- Governance at Project, Portfolio and System Level
- Appropriate Metrics

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Phase II Key Insights

- RI capability develops in stages.
- **Organization structures for RI.**
- The D-I-A model.
- Organizational capacity.
- Orchestration.
Organization Structure: Idea Manager & Incubation

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: Corporate Venturing Model

CEO

Venture Review Board (CEO, CTO, COO, BU VPs)

NEW VENTURES

President

New Division

BU

Business 1

Business 2

Business 3

R&D

BU Related Projects (1, 2, …n)

Ventures Technology

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Organization Structure: R&D Management System

Portfolio Governance Board (CTO, EVPs, & BU Leadership)

- R&D Directors
  - Projects 1, 2, 3 …n

- Exploratory Marketing

- Exploratory Research

- Inventory, Bench

- Incubator for unaligned business

- BU’s aligned projects “caught” by BU development group

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Organization Structure: Self Similar Model

Corporate Strategy

Strategy, Technology, Finance

Corporate RI Hub staffed full time (Projects 1….n) – Funded in BUs

Divisional Hub
-staffed full time
-project 1….n

Divisional Hub
-staffed full time
-project 1….n

Divisional Hub
-staffed full time
-project 1….n

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Org. Structure: Mirrored Model

CEO

CTO

R&D Staff (Ops, funding, personnel mgmt.)

RI Program 1 & Team
  ↓
  BU1 Acceleration activity mirror

RI Program 2 & Team
  ↓
  BU2 Acceleration activity mirror

RI Program 3 & Team
  ↓
  BU3 Acceleration activity mirror

RI Program 6 & Team
  ↓
  Planned Acceleration activity mirror

RI Program 2 & Team
  ↓
  BU2 Acceleration activity mirror

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  ↓
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Phase II Key Insights

- RI capability develops in stages.
- Organization structures for RI.
- The D-I-A model.
- Organizational capacity.
- Orchestration.
Not just one competency….but 3

Discovery
Creation, recognition, elaboration, articulation of opportunities.

Incubation
Evolving the opportunity into a business proposition.

Acceleration
Ramping up the business to stand on its own.

Oversee Transitions/Interfaces

Exploration
- Basic Research
- Internal Hunting
- External Hunting /License/Purchase /Invest

Experimentation
- Technical
- Market Learning
- Market Creation
- Strategic domains

Exploitation
- Focus
- Respond
- Invest
Stunning Realization: DIA is not Linear!

Three RI Competencies must be managed as a system

- Discovery
- Incubation
- Acceleration
Phase II Key Insights

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Organizational Capacity for RI

External Influences
- strained stock market

Internal Influences
- Sr. leadership declares need for more innovation
- financial stress of company
- CEO change refocus on innovation
- poor earnings

CAPACITY₁
- culture, history of innovation

External Influences
- pace of technological change
- global economic expansion

TIME

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Phase II Key Insights

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DIA Must Be Orchestrated in Dynamic External and Internal Environments
### Applying RI Insights to Higher Uncertainty Innovation

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<thead>
<tr>
<th>Lower Uncertainty</th>
<th>Higher Uncertainty</th>
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<tbody>
<tr>
<td><strong>Type of Innovation</strong></td>
<td>Incremental</td>
</tr>
<tr>
<td><strong>Strategic Drivers</strong></td>
<td>New Products to Extend Existing Business</td>
</tr>
<tr>
<td><strong>Opportunity Selection</strong></td>
<td>Customer Driven and Analytical Tools</td>
</tr>
<tr>
<td><strong>Market Focus</strong></td>
<td>Existing Base</td>
</tr>
<tr>
<td><strong>Process</strong></td>
<td>Stage Gate and Concurrent Engineering</td>
</tr>
<tr>
<td><strong>Transition Readiness</strong></td>
<td>Fast Track to Lines of Business</td>
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Going Forward

Radical Innovation Field Research = Insights Translated into Best Practices

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

Thank You!
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