


Achieving Sustainable Innovation with a Roadmap to the Future

Institute of Management Consultants
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Agenda

The Innovation Imperative
 Holistic Innovation
 Creative Disruption
 The Innovation Life Cycle
 Strategic Ecosystem Model
 Innovative Thinking
 Constraints to Collaboration
 7 Step Innovation Coaching System

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The Innovation Imperative

“The United States still leads the world in research and discovery, but our advantage is rapidly eroding, and our global competitors may soon overtake us...”

It is essential that we act now; otherwise our global leadership will dwindle, and the talent pool required to support our high-tech economy will evaporate...This is not just a question of economic progress.

Not only do our economy and quality of life depend critically on a vibrant research and development (R&D) enterprise, but so too do our national and homeland security.”

“The Knowledge Economy: Is the United States Losing Its Competitive Edge? Benchmarks of Our Innovation Future” by The Task Force on the Future of American Innovation

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Trends in Innovation

- U.S Federal spending on R&D as % of GDP has declined from 1996 to 2004
- China and S. Korea increased R&D spending 10%
- U.S. has declined to 11th in basic research as % of GDP
- U.S. companies moving R&D offshore
- U.S. venture deals in India & China doubled '05 to '07
- U.S. high tech trade deficit doubled from '99 to '05
- 90% of scientist & engineers will live in Asia by '10
- 52% engineering % 31% finance jobs could be outsourced

Kao, 2008

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Innovation as a Strategic Priority

- 72 percent of the US executives surveyed ranked innovation in the top three of strategic priorities.
- 72% will increase spending on innovation in 2006.
- Nearly half unsatisfied with innovation ROI.

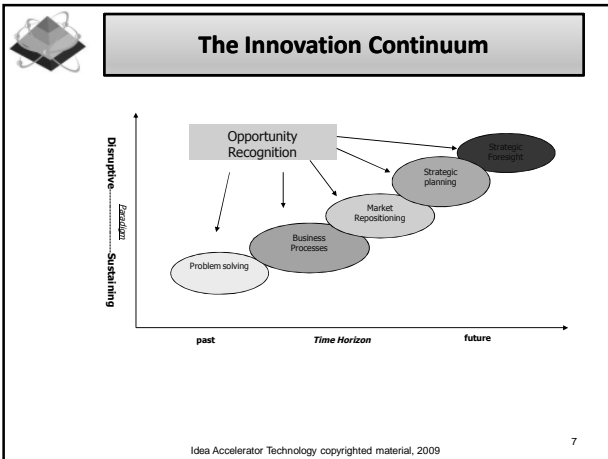
(Boston Consulting Group Senior Executive Innovation Survey, 2006)

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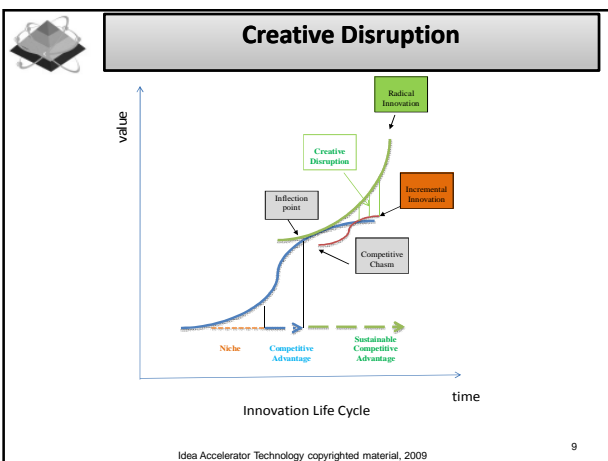


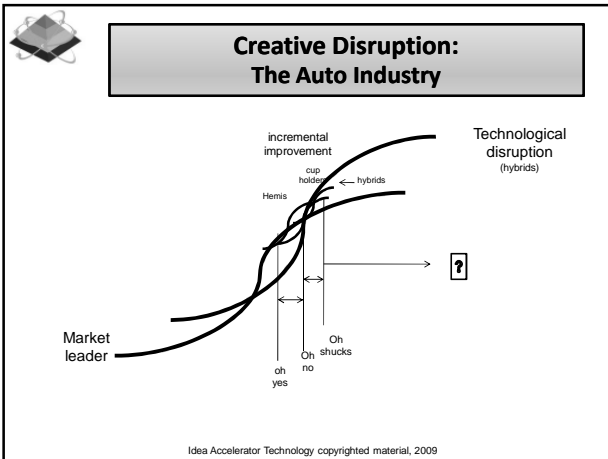
Holistic Innovation: Beyond R&D

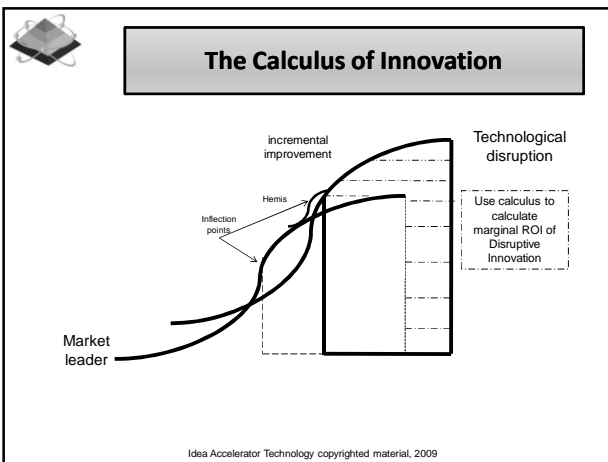
Business Transformation Model		Scope	
		Operational	Strategic
Innovativeness	Sustaining	Business Process Management	Market Repositioning
	Disruptive	Business Model Redesign	New Product Development



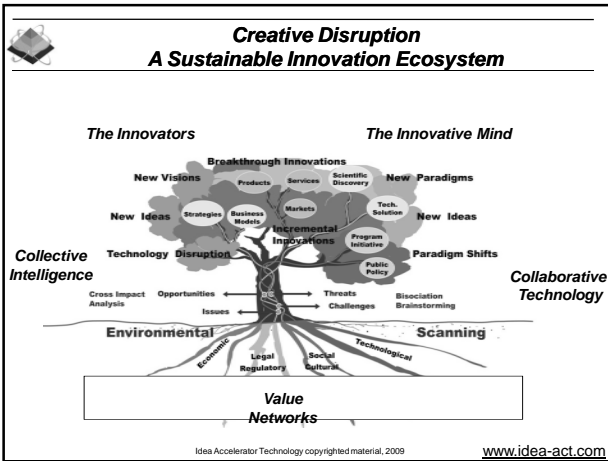
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- Creative Disruption**
- Creative destruction: Josef Schumpeter's aging theory.
 - It is a proactive approach to exploring and exploiting opportunities for growth, development, and productivity in your internal and external value creating activities, relationships, and interactions.
 - Innovation Ecology: Life Cycle
- Idea Accelerator Technology copyrighted material, 2009 8







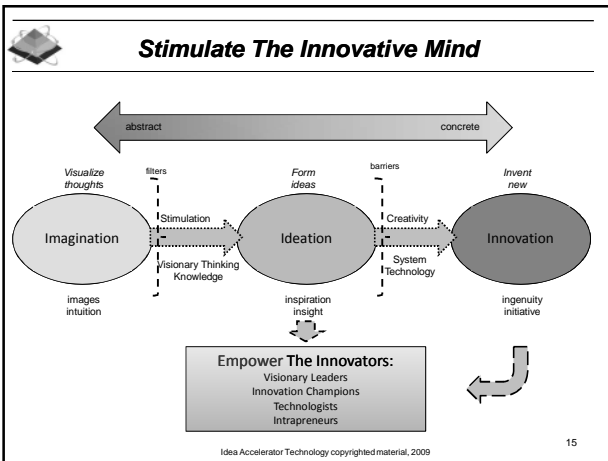
- Incremental Product Development: The Oreo Effect**
- Oreo
 - Oreo mint
 - Oreo white fudge
 - Oreo Easter
 - Oreo Halloween
 - Oreo piecrust
 - Oreo ice cream cones
 - Oreo double stuff
 - Oreo banana split
 - Oreo Shrek
 - Oreo Grinch
 - Oreo cakester
- Idea Accelerator Technology copyrighted material, 2009



Sustainable Innovation Ecosystem

- Using an organic metaphor, we describe innovation as an ecosystem to illustrate the creative disruption paradigm. As in nature, the innovation life cycle can be viewed as a renewable process of creation, growth, maturity and decay.
- In this analogy we extract future-focused knowledge through a diverse root system that absorbs information from multiple disciplines.
- The renewing energy (knowledge) of innovation comes from an emergent system of complex interconnections that suggest infinite possibilities for growth and harvesting the “fruit” (solutions) in terms of viable solutions for your organization.

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Constraints to Visionary Thinking

The diagram illustrates 'Silo Mentality' with four silos representing different knowledge domains: economic, social, political, and technology. A central figure is shown thinking 'outside the box' with a question mark above their head. The silos are arranged in a 2x2 grid, and the text 'Divergent knowledge domains' is written vertically on both sides. The title 'Constraints to Visionary Thinking' is at the top, and 'Silo Mentality' is in a box above the central figure.

economic
social
political
technology

Divergent knowledge domains

Silo Mentality

thinking "outside the box"

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Collective Intelligence System

Neuroscience theory of ideation (Rock and Schwartz, 2006)

- Resistance to change: over used frontal lobe
- Create moment of insight by paying repeated attention to new information;
- New neuron pathway connections release Gamma Rays stimulates adrenaline and ah-ha sensation;
- Create experiences where people provoke themselves by making connections with new information.

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Collective Intelligence

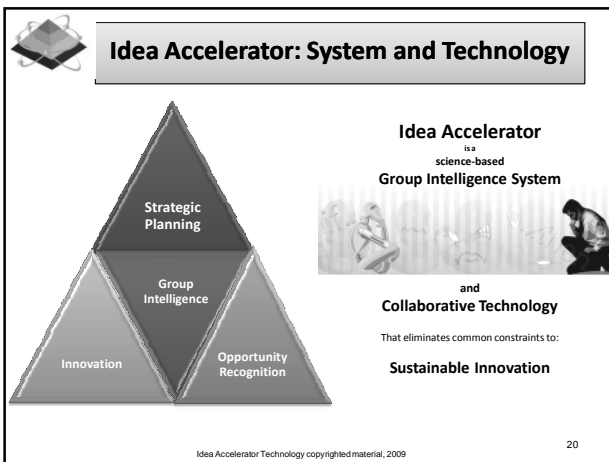
- Extract and organize unstructured information (Absorbtion)
- Accomodate vast amounts of data from sensors, databases, the Web and stakeholder sources;
- Create a system that can learn and reason to structure massive amounts of raw data into useful, organized knowledge with a minimum of human assistance;
- Leverage technology to increase Collective IQ.

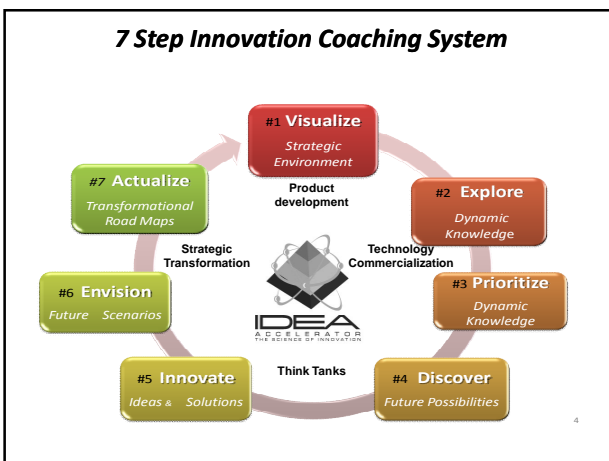
"None of us are as smart as all of us." (Japanese proverb)

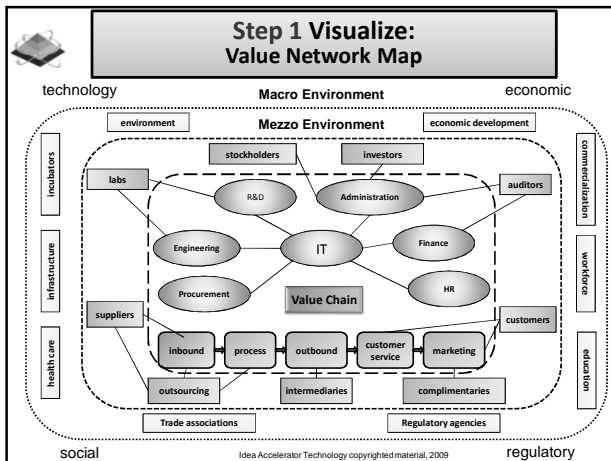
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Constraints to Collaborative Innovation		
The Challenge		The Solution
Limited time for strategic planning and brainstorming.	TIME	Perpetual Planning and Brainstorming
Costly face-to-face meetings for geographically dispersed teams.	DISTANCE	Remote global Web-based collaboration
Input from previous strategic planning sessions is lost.	CONTINUITY	Electronic archive of planning output
Intellectual capital in the minds of managers and stakeholders.	ACCESS	Universal access to intellectual capital
Silos of knowledge and organizational boundaries impede collaboration.	TEAMWORK	Facilitated collaboration with internal and external stakeholders

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Step 2: Explore Dynamic Knowledge

What is Dynamic Knowledge?

- Dynamic knowledge depicts changes in the environment that is future-focused and relevant to strategic objectives.
- Dynamic Knowledge—Information or data that has:
 - movement,
 - in a direction,
 - over a period of time
- Dynamic knowledge is usually articulated in phrases that contain comparative adjectives, such as increase/decrease; higher/lower; more/less.

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Step 2: Explore Dynamic Knowledge

Types of Dynamic Knowledge

- Prevailing trends: historical data that has a pattern of change and current impact. (there has been an x% increase in y over z time).
- Emerging issues: information that may not have historical pattern but has recently become a factor of change in the environment. (there has been a recent increase in...)
- Expert predictions: expected change that has some validity but no historical pattern. (Dr. Rasheed predicts...)
- Probable scenarios: anticipated future events based on trends, issues, and predictions. (What if x happens based on y and z?)

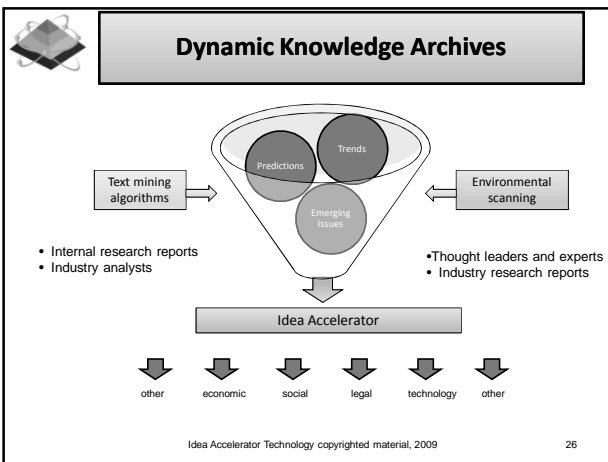
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Dynamic Knowledge Template

Name: <input type="text"/>	DK Category <input type="checkbox"/> Economic <input type="checkbox"/> Social <input type="checkbox"/> Regulatory <input type="checkbox"/> Technology	DK Subcategory <input type="checkbox"/> Global <input type="checkbox"/> Micro <input type="checkbox"/> Micro <input type="checkbox"/> Micro
Institution: <input type="text"/>	Expense/Function: <input type="text"/>	
Theme/Project: <input type="text"/>	Others: <input type="text"/>	
Dynamic Knowledge summary (briefly describe using comparative adverbs, e.g. there has been an x% increase in y over the last z years)		
Source: <input type="text"/>		
Dynamic Knowledge detail (use specific data and comparative adverbs, e.g. there has been an x% increase in y over the last z years)		
Driving Forces (what is cause of trend, emerging issue or prediction)		
Implications for the Future: <input type="text"/>		

Current Date: email:

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Step 3: Prioritize Dynamic Knowledge

- Group evaluation of all Dynamic Knowledge:
 - Likelihood of occurring in future (1-10: 10 is high)
 - Relevance to Strategic Goals (1-10: 10 is high)
- Focus attention on high impact Dynamic Knowledge.
- Sort by highest total value and by category

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Step 4: Discover
Future Possible Outcomes

Dynamic Knowledge Convergence
 "Bisociation"

➔

- Focused attention on infinite permutations of dynamic knowledge interactions

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Dynamic Knowledge Convergence

Bisociation Theory:
The intersections of seemingly unrelated information

Social/Cultural Trend #
 More leisure time and travel
 Group score _____

➔

Technology Trend #
 Greater use of Computers at home
 Group score _____

Opportunity:
 Internet-based Travel Services

↓

New Idea
 Online travel sites
 Expedia & Orbitz
 \$6 billion

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Idea Pyramid

7
Roadmap

6
Scenario Development

5
Idea Generation

4
Future Possible Outcomes Discovery

3
Dynamic Knowledge Convergence

↑
STEPS

Create Strategic Roadmap


Describe future scenario

Generate new Ideas: product; service; market; process; strategy; program

Bisociate two DK to discover positive or negative future possible outcomes

Enter top DK from multiple areas

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Step 5: Innovate
Generate Ideas—Evolve Solutions

- **Accelerated Solutions**
 - Breakthrough Innovation
 - New Product Development
 - New Markets
 - New Strategies
 - Continuous Improvement
- **Collaborate to rate ideas based on**
 - Success Potential
 - Potential value
- **Incrementally or radically evolve solutions (1.1 to 2.0)**

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Step 6: Envision
Future Scenarios & Impact

- **Develop scenarios for top rated ideas**
- **Conduct impact analysis for strategic road mapping**
- **Describe 2nd order implications and consequences**

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Step 7: Actualize

- **Develop Strategic Road Map**
- **Develop Innovation Balanced Scorecard**

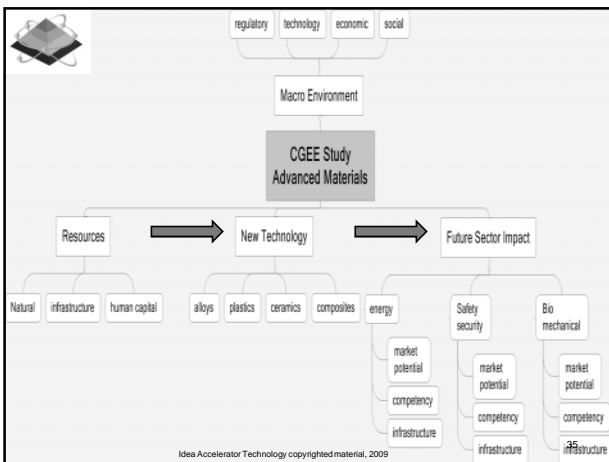
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Road Map


Objectives	Activities	Outcomes
Financial investments		
Technology improvements		
Infrastructure requirements		
Market potential		
Human capital requirements		






Financial Perspective

	Metrics	Outcomes
Cash flow		
Return on investment		
Economic value added		




Internal processes

	Metric	Outcome
asset utilization		
supply chain management		
customer management		
Innovation of new products and services		
relations with external stakeholders		




Learning and growth

	Metrics	Outcomes
Investment Rate		
Illness rate		
Internal Promotions		
Employee Turnover		
Gender Ratios		
Jobs (human capital)		
The systems (information capital), organization capital		




The Customer Perspective

	Metrics	Outcomes
time		
Quality		
Performance		
Service		
cost		
customer satisfaction		
market share		
operational excellence		
supplier acceptance		

 **Innovation Balanced Scorecard**

- *Future scenario statement:*
- A description of the organization at a defined point in the future, typically three to five years away, assuming the current strategy has been successfully implemented.
- The descriptions of the successful future are related to innovation scorecard metrics identified at value network mapping stage.
- *Financial stakeholder expectations,*
- *Customer & external relationships, processes & activities,*
- Internal processes
- *Learning and growth*

 **What We Deliver**

1. A map of the strategic knowledge in your value network;
2. A database of prioritized trends & future predictions from diverse knowledge sources;
3. A forecast of future opportunities and challenges from the convergence of dynamic knowledge;
4. An emergent list of new ideas, supported by knowledge, based on many possibilities, and collectively refined;
5. Scenario narratives and road maps for the future;
6. Innovation Balanced Scorecard to measure effectiveness and ROI;
7. An electronic repository for your brainstorming efforts.

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