

# Institute for Advanced Commerce Research Initiatives in Strategy

Strategy Formulation and Analysis  
e-marketplace Participation / Development Strategies  
First Mover Advantages in the New Economy

*IBM Research will provide our customers not only premier technology, but unique insight into the most effective business use of that technology.*

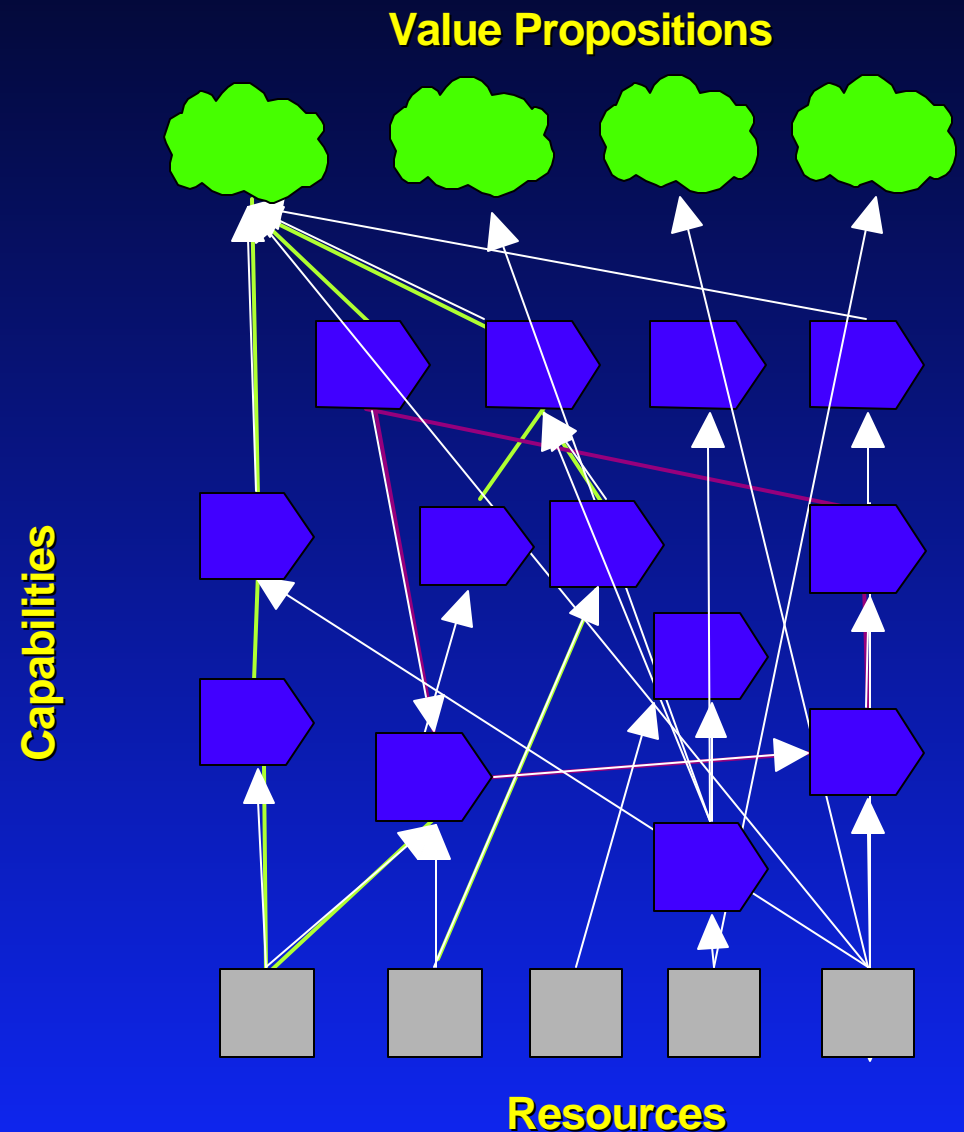
# Strategic Capability Networks: A Knowledge Representation for Strategy

Description and evaluation of strategic designs

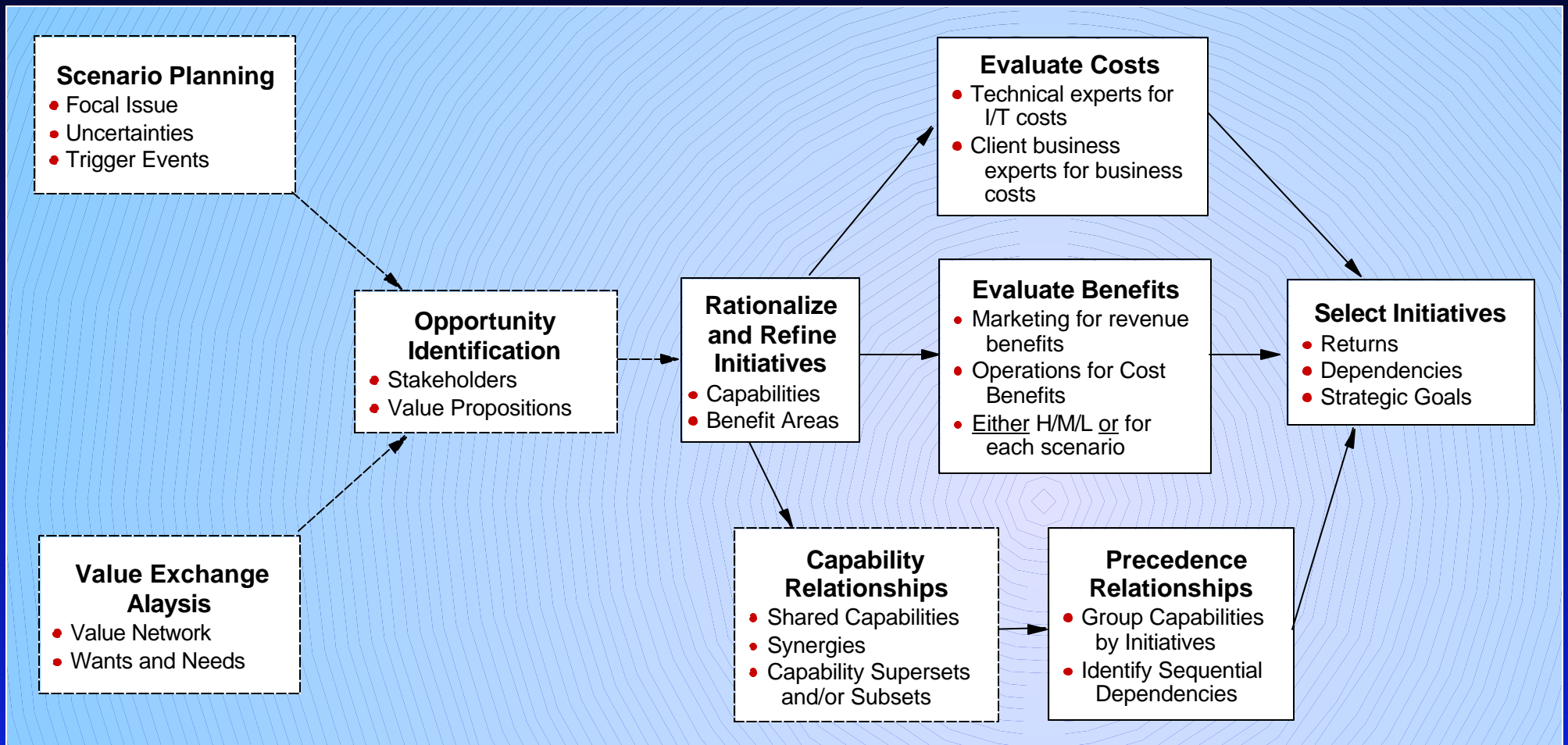
Graphical representations of

- Value Propositions
  - *What a firm offers*
- Capabilities
  - *What a firm does*
- Resources
  - *What a firm has*

Considers portfolios of complementary E-business initiatives and sequencing

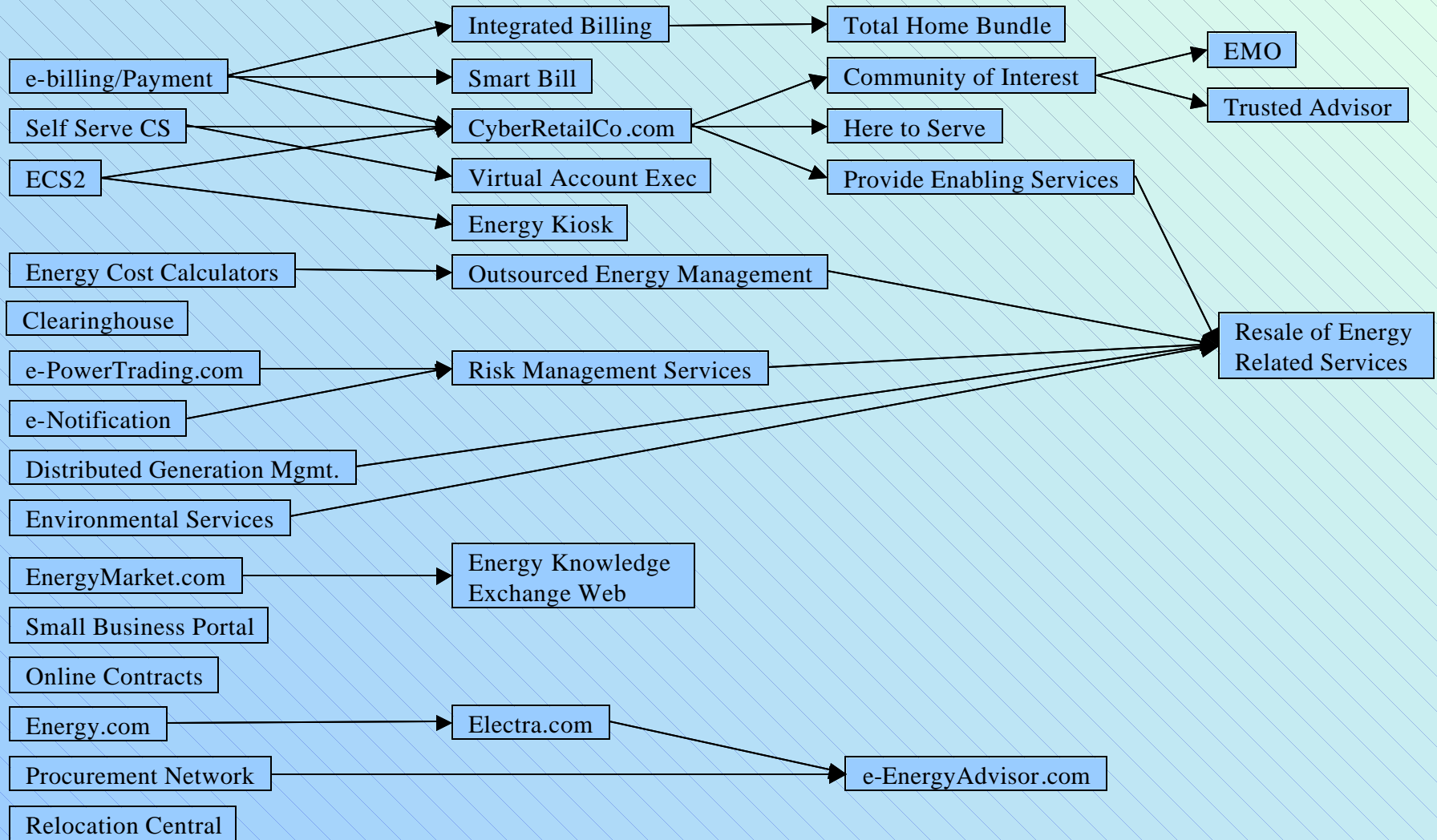


# A consulting methodology for e-business strategy development





# Developing logical precedence

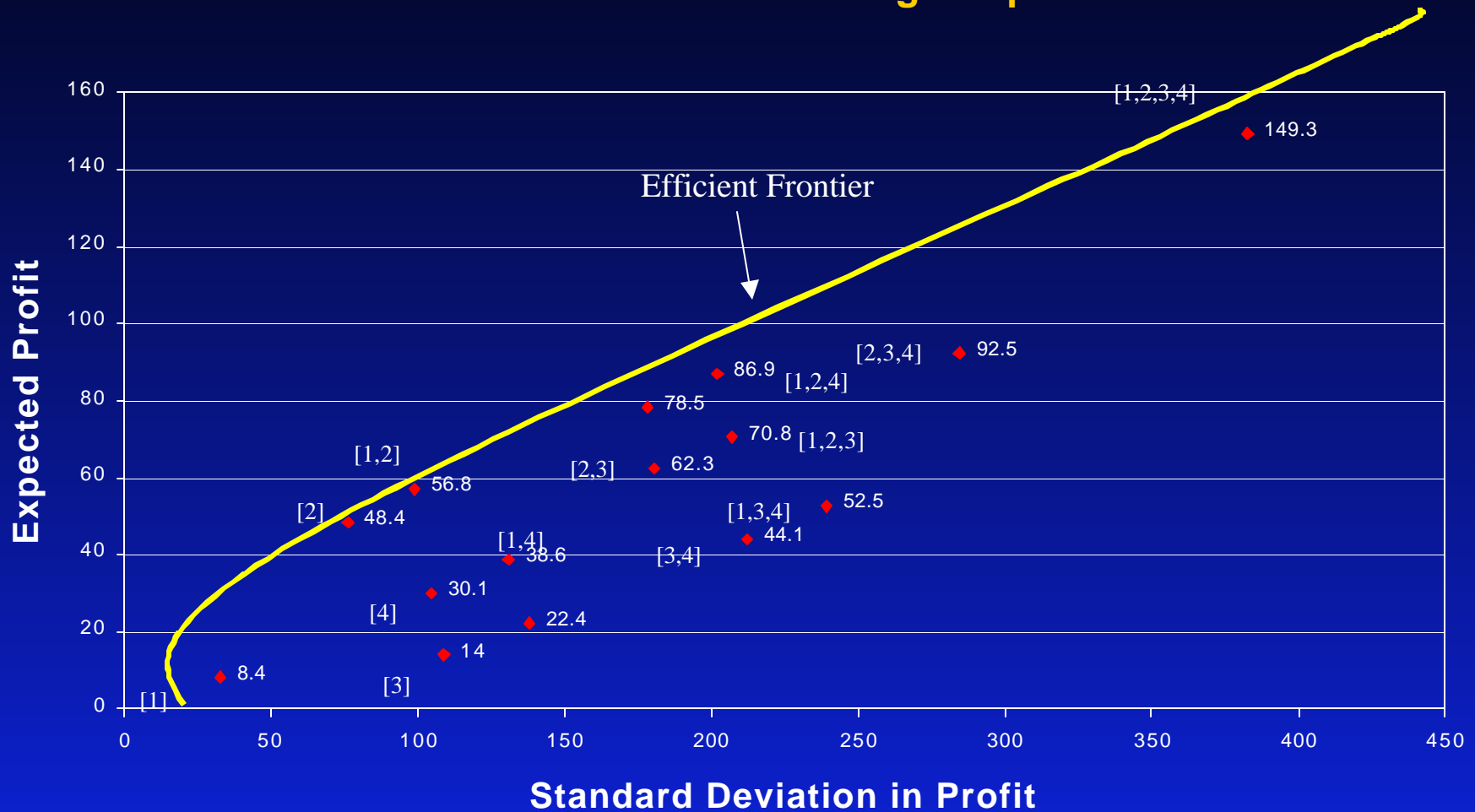


# Portfolio Management of Strategic Initiatives

	<b>Scenario</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>E.V.</b>	<b>S.D.</b>
	<b>Probability</b>	<b>0.2</b>	<b>0.4</b>	<b>0.1</b>	<b>0.3</b>		
	<b>The Self Serving Customer</b>						
1A	e-billing/payment	11.8	-76.0	-43.5	118.3	3.1	82.0
1B	Integrated Billing	-50.3	-44.8	20.1	285.9	59.8	149.3
1C	Smart Bill	-24.8	-64.9	82.4	118.9	13.0	81.0
1D	"Here You Do It"	-10.5	-80.3	21.0	343.4	70.9	181.6
1E	Virtual Account Exec	-13.5	-82.3	34.4	205.8	29.6	121.2
1F	Energy Cost Calculators	-91.4	-15.8	19.1	-4.3	-24.0	35.2
	<b>Customer Aggregation</b>						
2A	B.E.S.T.(Buy Essential Services Together)	-36.4	-12.5	44.8	186.9	48.3	93.1
2B	LockOn 2.0	1.9	-47.2	73.3	73.7	10.9	54.2
	<b>The Brain Trust</b>						
3A	EnergyInfoMarket.com	-85.0	-0.5	-66.1	157.3	23.4	93.6
3B	Energy Knowledge Central	-32.9	-20.9	9.6	258.0	63.4	127.9
	<b>Casting a Wider 'Net'</b>						
4A	Total Home Bundle	-73.7	-97.4	71.4	317.8	48.8	182.5
4B	EMO - Energy Maintenance Organization	-94.9	-26.7	-72.4	416.2	88.0	216.4
4C	Here to Serve	-21.8	-15.2	70.5	39.4	8.4	32.9
4D	Relocation Central	-24.5	-54.6	36.0	81.9	1.4	58.8
4E	FreeEnergy.com	-70.2	-72.5	45.3	444.8	94.9	231.6
4F	ECS2 Electronic Sign-up System						
	<b>Services to C&amp;I Customers</b>						
5A	e-notification	-95.8	-32.6	-65.5	220.0	27.2	128.3
5B	Outsourced Energy Management	14.7	-90.6	-54.8	355.8	68.0	192.3
5C	Distributed Generation Management	-75.5	-59.1	50.8	124.2	3.6	86.0
5D	Online Environmental Management	44.4	-93.8	29.6	278.5	57.8	154.7

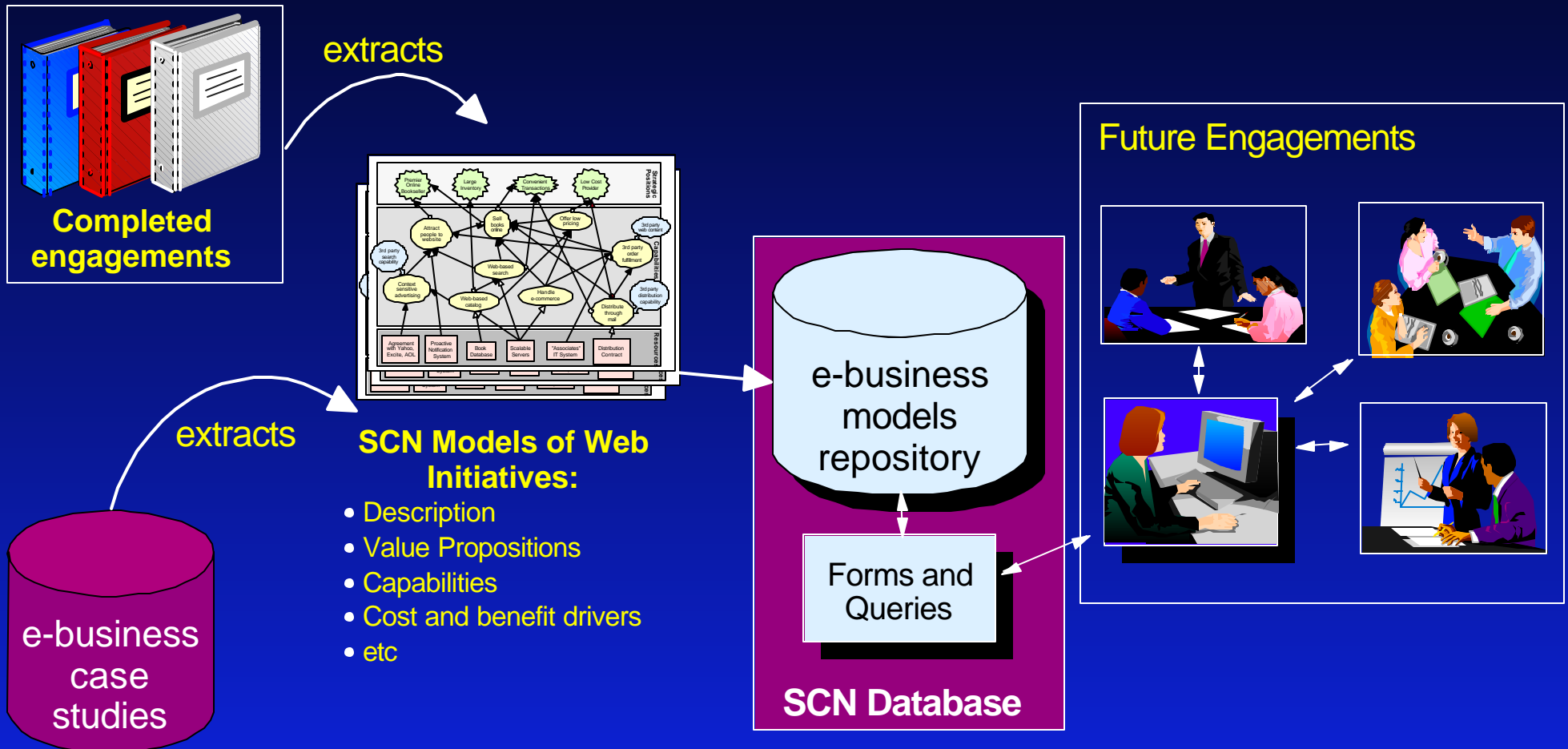
# Portfolio Management of Strategic Initiatives

## Mean versus Risk of Strategic Options



NOTE: [Initiative or combination in brackets]

# SCN Database Content and Usage

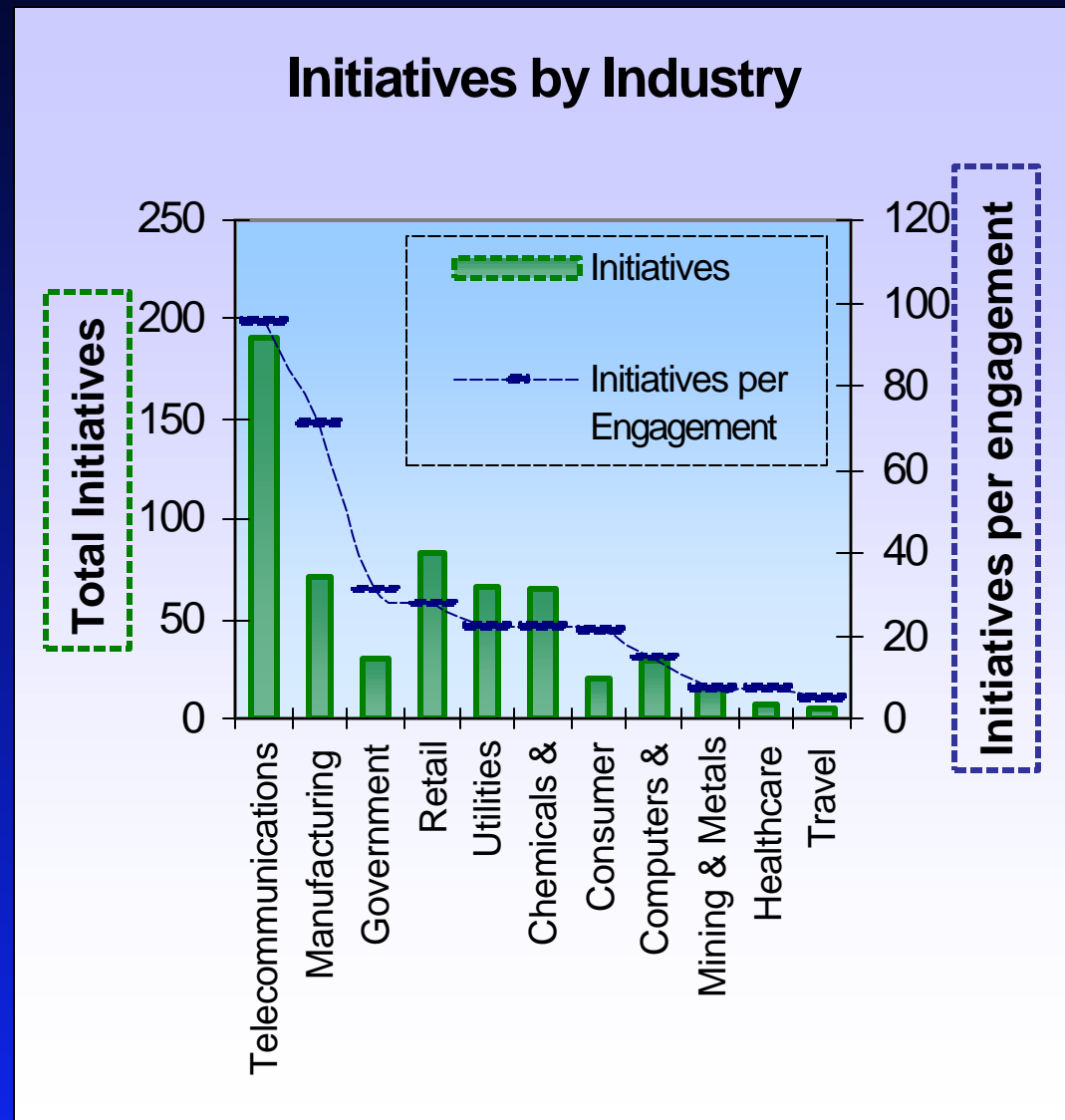


# e-business Initiative Research

Wide disparity in the number of initiatives considered

Reflects:

- Differing strategic planning horizon (>2 years vs. <2 years)
- Differing techniques employed in planning



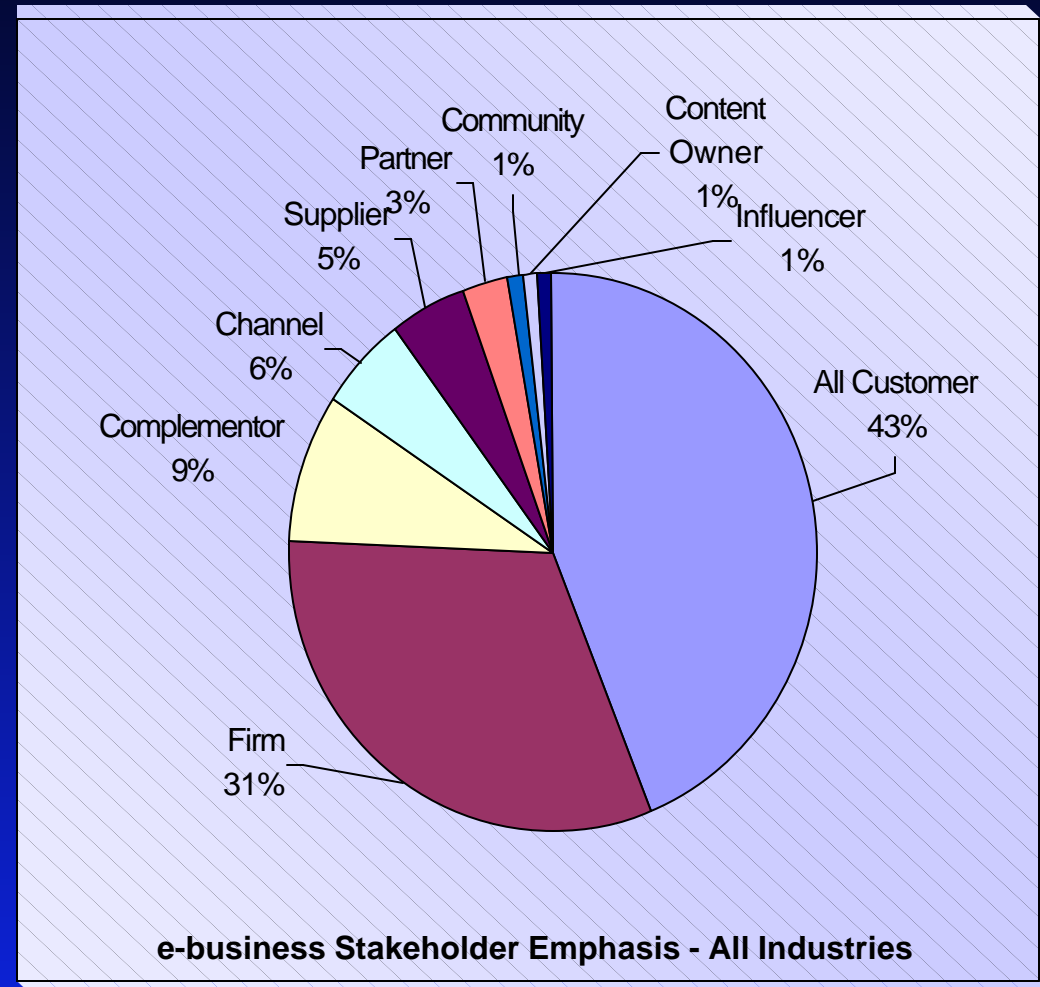
# e-business Stakeholder Analysis

The initiatives observed are focused at customers and internal firm efficiencies

Other possible e-business stake holders are not emphasized

Possible explanations:

- Channels: possible threat
- Suppliers: cost only
- Partners: standards / complexity
- Community & influencers: ambiguous business model



# e-business Focus by Industry

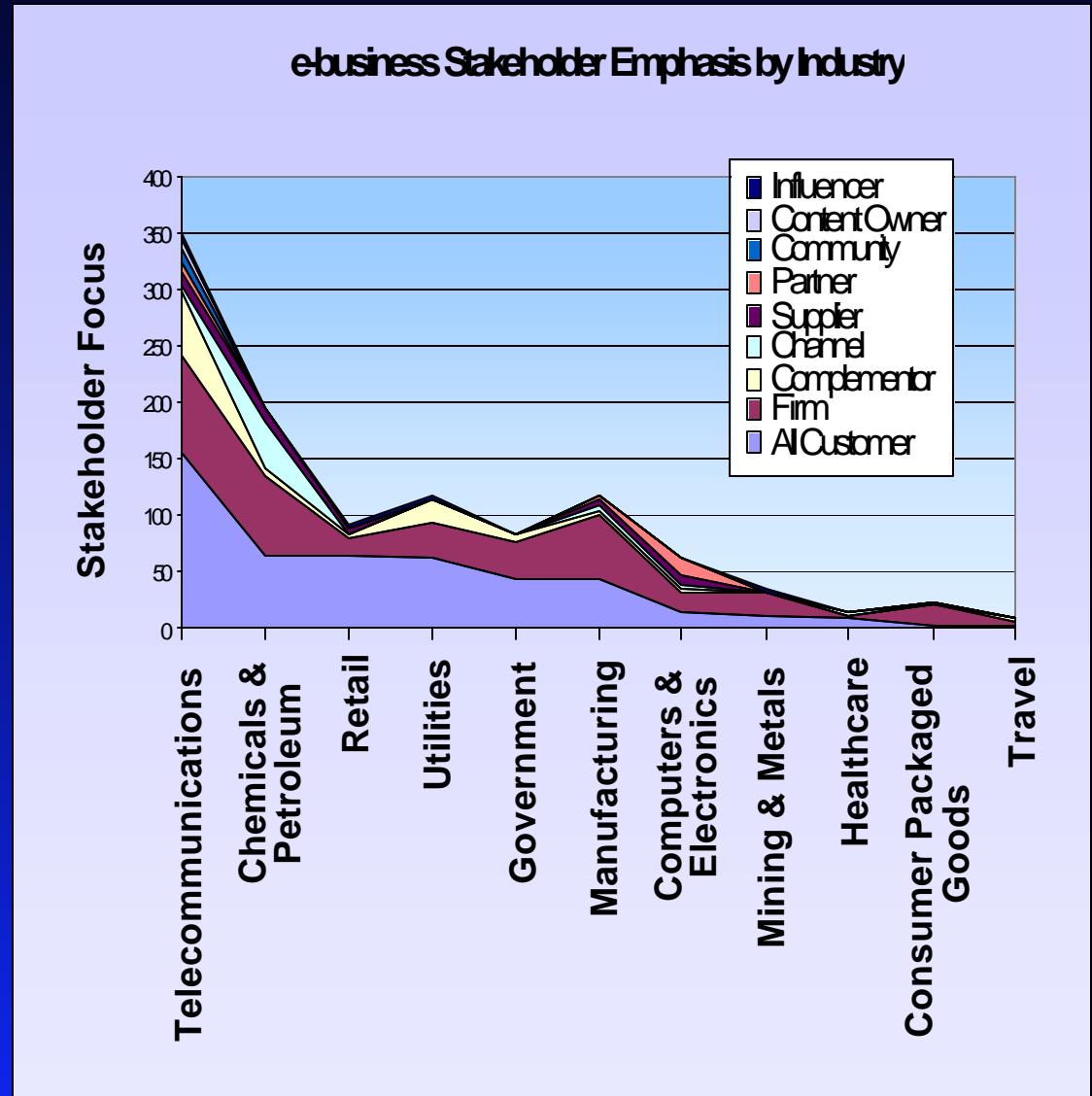
More forward looking firms tend to have far more ideas (>6:1)

Variations across industries reflect strategic imperatives even with small sample size.

Disintermediating firms (C&P and Mfg.) conducting large scale experimentation

Disintermediated firms (retail) searching for continued value propositions

Deregulation (Utilities) causing major strategic shift



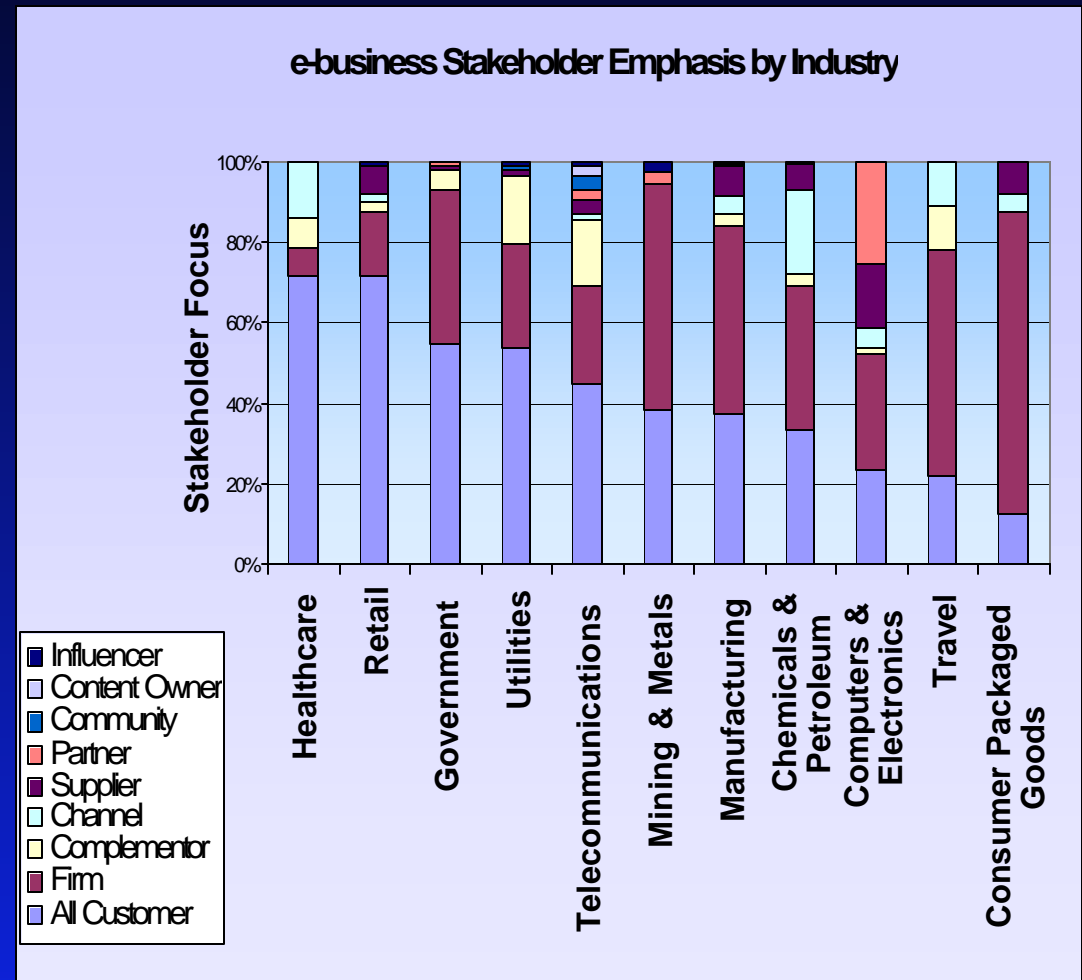
# Industry based strategic differences

For all firms, customer focus is a 'top 3'

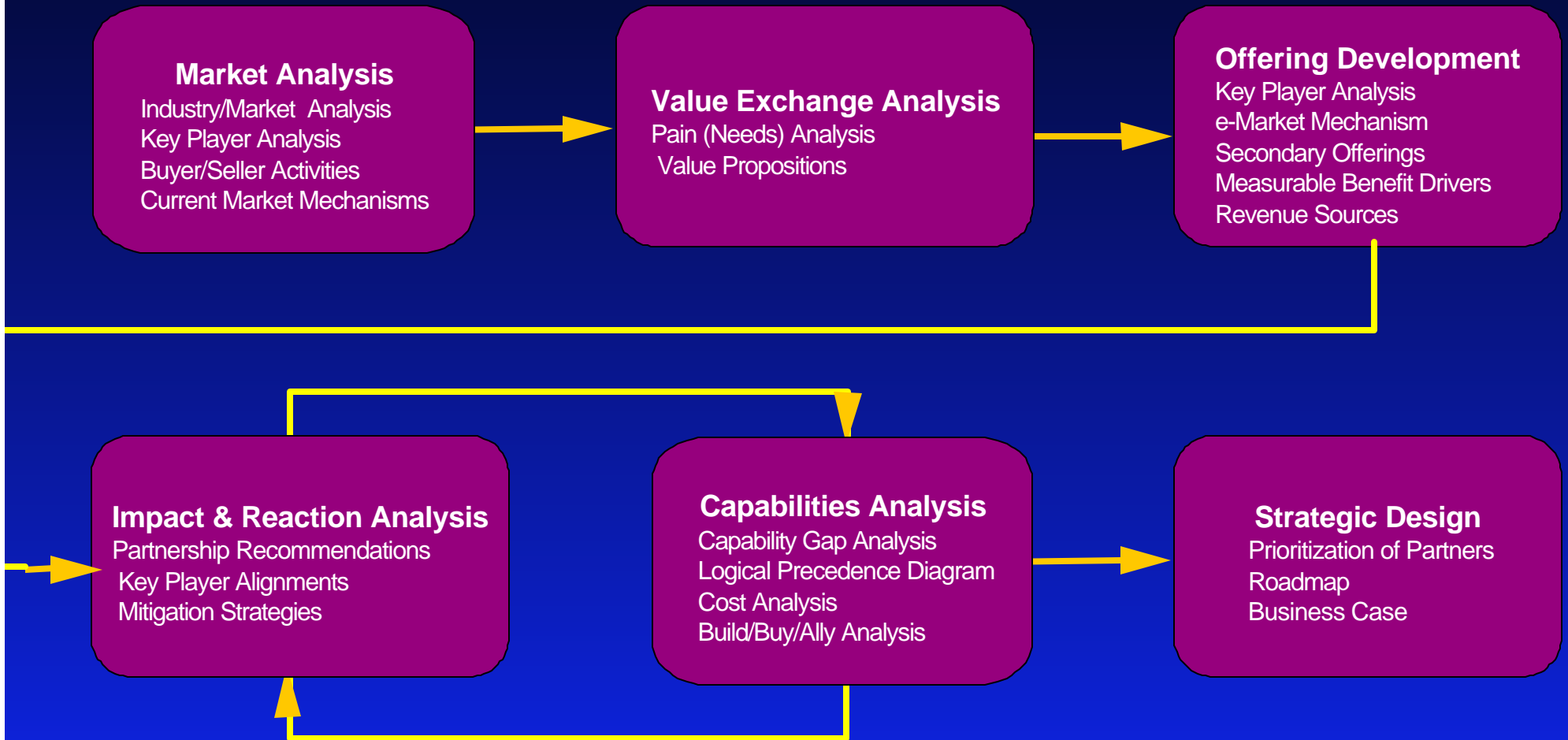
Healthcare and Retail emphasizing customer facing initiatives. In parallel, we see strong e-marketplace initiatives in both industries.

CPG, Mfg., Metals and Mining, Travel focus on internal value

C&E, C&P investing in initiatives connecting to partner, supplier, channel, complementor.



# E-marketplace Strategy Design Methodology



# e-marketplace Survey Research

## Phase 1: e-Marketplace Research Surveys

**Objective:** Develop a knowledge base of current practices in e-marketplaces to support fact based recommendations to clients and e-marketplace research.

### Approach

- Profiles for ~150 e-marketplaces
- In-depth surveys of ~20 e-marketplaces
- Cross- industry sample
- Periodic updates for data currency and to support longitudinal research
- Surveys to be performed by Jupiter Research (IRG)
- Profiles done by Research, e-b S&D, and e-business Accelerator staff

### Key Characteristics

- General Business Characteristics
- e-Market Size, Liquidity and Innovation
- e-Market Structure, Concentration and Participants
- e-Market Mechanisms
- Secondary Offerings and Services
- e-Marketplace Value Propositions

## Phase 2: Industry Research Surveys

**Objective:** Develop a knowledge base of the attributes and dynamics of traditional markets to support fact based recommendations to clients and e-marketplace research

### Content

- Study of sub-industries identifying:
  - market attributes
  - product / service attributes
  - dominant players
  - concentration of power
- Surveys to be performed by IBM industry consultants
- Database format
- Periodic updates for data currency and to support longitudinal research

### Key Characteristics

- Industry Size, Market Structure, Concentration and Participants
- Product, Demand, and Production Characteristics
- Market Mechanisms
- Marketplace Value Propositions
- Buying/Selling Chain Characteristics
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# First Mover Advantage In the New Economy

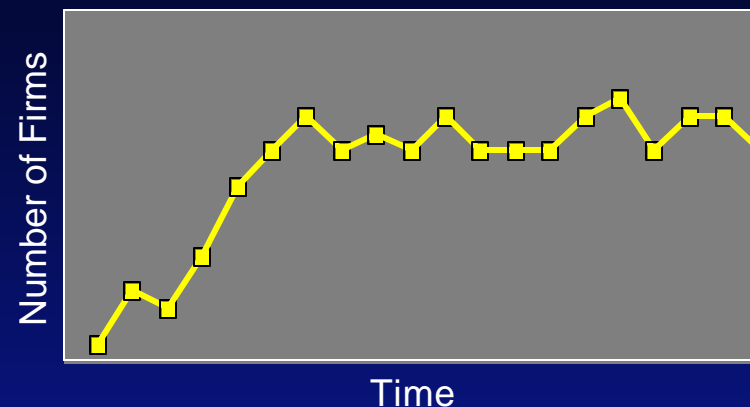
Increasing Returns to Process Innovation



Tires, automobiles, penicillin

- Significant entry early in industry life-cycle
- Certain early entrants capture substantial market share
- Shakeout of firms that do not manage to capture market share early and are thus unable to capitalize on process innovations.
- Oligopolistic market structure emerges

No Increasing Returns

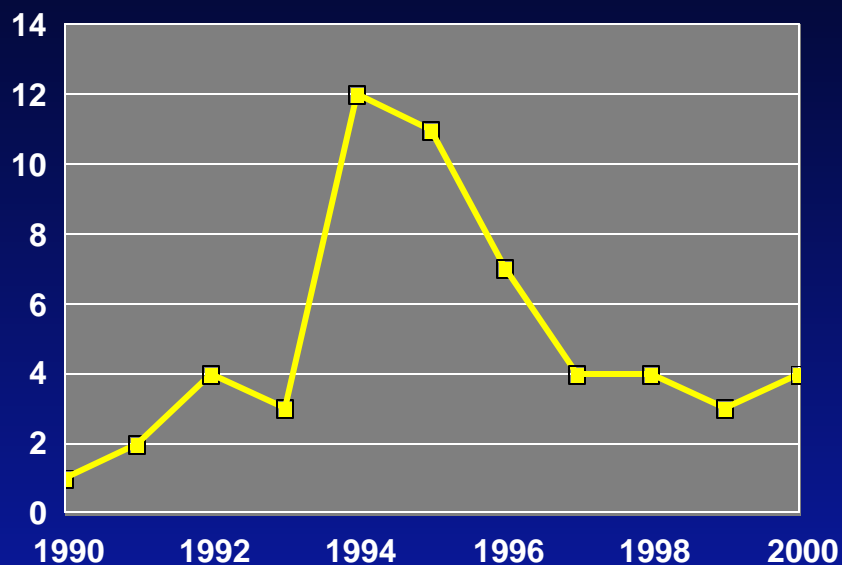


Laser Industry

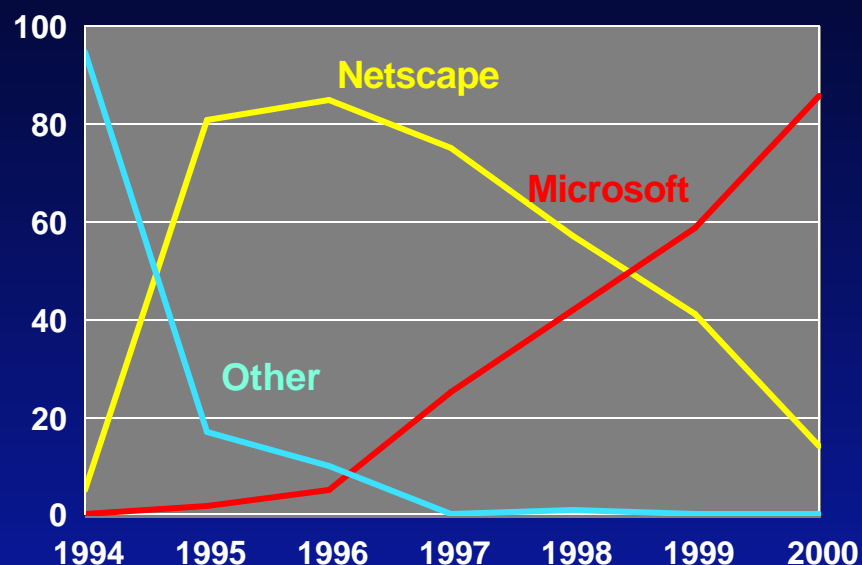
- Relatively uniform entry/exit rates
- Entry determined by expertise in application area rather than in laser technology per se.
- No shakeout
- Competitive market structure

# First Mover Advantage In the New Economy

## Browser Entry



## Browser Share



Product Category	Product Pioneer	Market Pioneer	Current Market Leader	Network Effects	Scale Economies
Browser	CERN (1991)	Netscape (1994)	Microsoft		
Router	BBN (1969)	Cisco (1980)	Cisco		
Online Pizza		Pizza Hut (1994)	Pizza Hut		
Audiostreaming		RealNetworks (1995)	RealNetworks		
Internet Service Provider		Worldstd.com (1991)	AOL		

# Personnel

## Seed group

- Bill Tulske, Sugato Bagchi, William Grey, Robert Baseman, Oconel Johnson

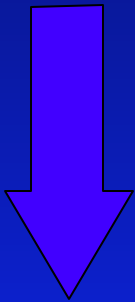
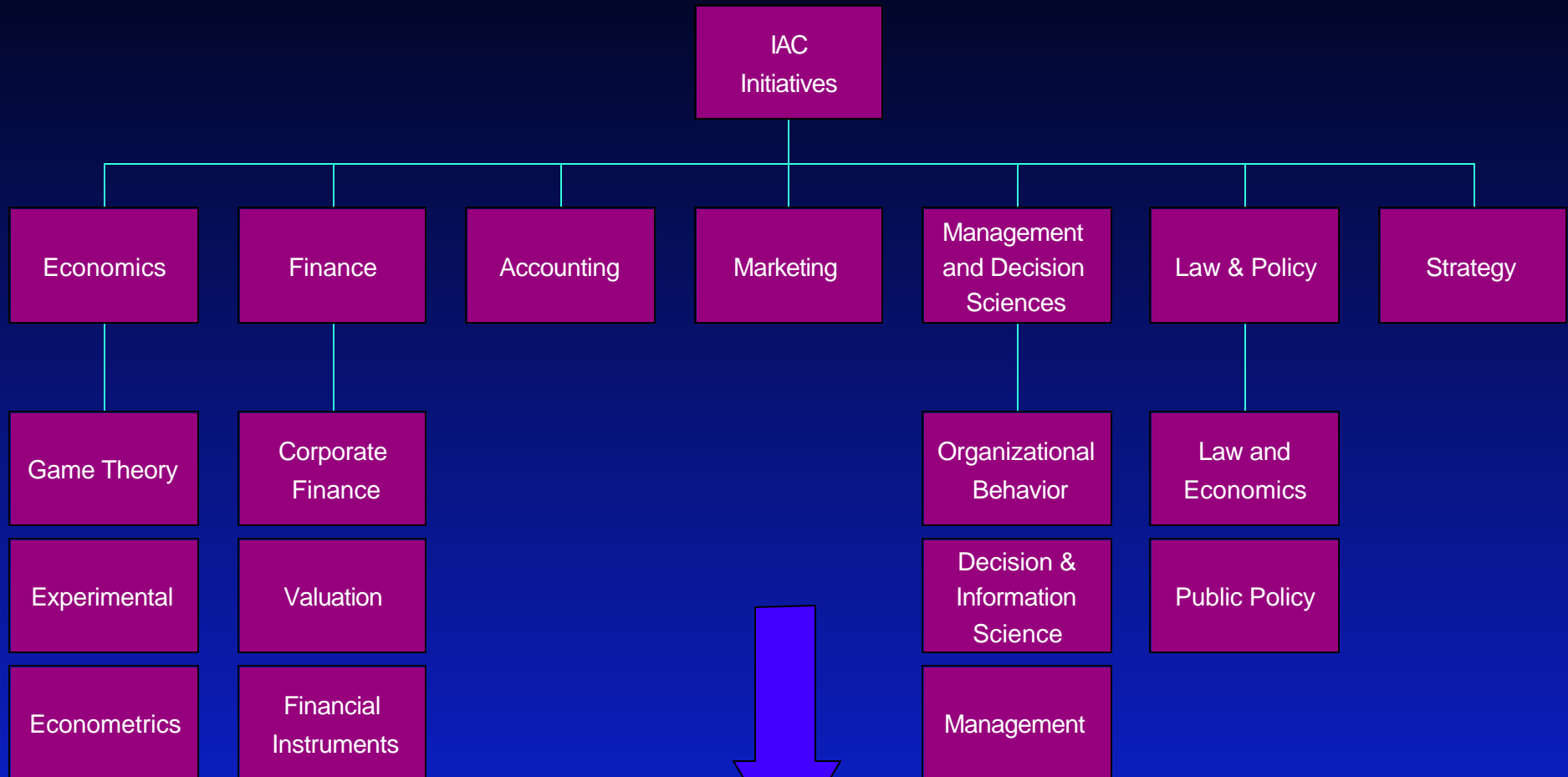
## New hires

- Dr. Steve Gjerstad, RSM, PhD Economics University of Minnesota, Post Doc University of Arizona  
Led development of experimental economics laboratory at HP labs
- Dr. Sam Dinkin, RSM, PhD Economics, University of Arizona  
Auction and market consulting at Charles River Associates and Law & Economics Consulting Group
- Dr. David Greene, RSM, PhD GSIA, CMU  
Manager of Performance Management and Complexity programs at Ernst & Young Center for Business Innovation
- Dr. Jonathan Leland, RSM, PhD Economics UCLA  
Decision, Risk, and Management Sciences Program Director at NSF
- Dr. Anil Peter, Post Doc, PhD Marketing, USC
- Dr. Jason Shachat, Visiting Scientist, PhD Economics, University of Arizona  
Assistant Professor of Economics, UC San Diego
- Dr. Miguel Costa-Gomes, Post Doc, PhD Economics, UC San Diego  
Harvard Business School Post Doc
- Dr. Dailun Shi, RSM, PhD Operations research, Georgia Tech, Finance MBA  
Citicorp Management fast track program

## Current collaborators

- Tom Brush, Associate Professor of Management, Krannert School, Purdue University
- Steve Klepper, Professor of Economics, CMU
- Dale S. Rogers, Director of the Center for Logistics Management and Professor of Marketing and Logistics, University of Nevada
- Arnold Maltz, Assistant Professor of Supply Chain Management, Arizona State University
- William L. (Skip) Grenoble, Administrative Director and Research Associate, Center for Logistics Research at Penn State.

# Long Term Opportunities



**Academic research agenda**

**IBM service and solution development**

**IBM internal operations**

**IBM's customers**