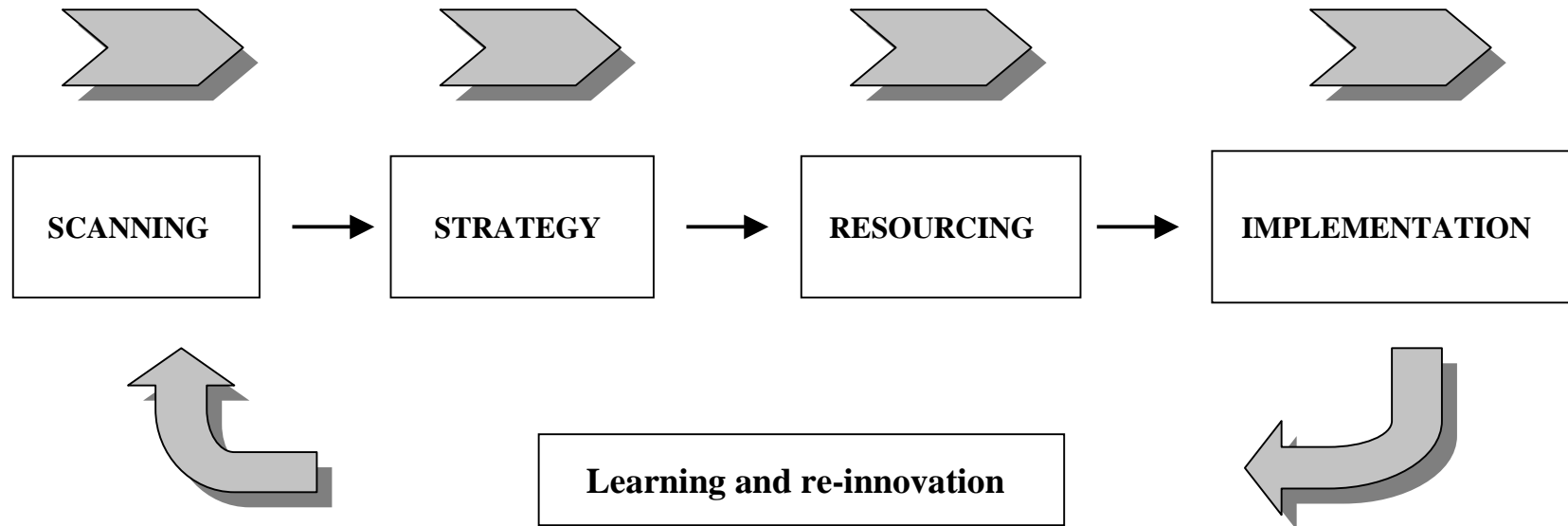


# IT strategy and innovation

Prof. R. O'Callaghan

# Innovation as a Management Process



**Scanning the environment** for relevant signals to trigger the process of change;

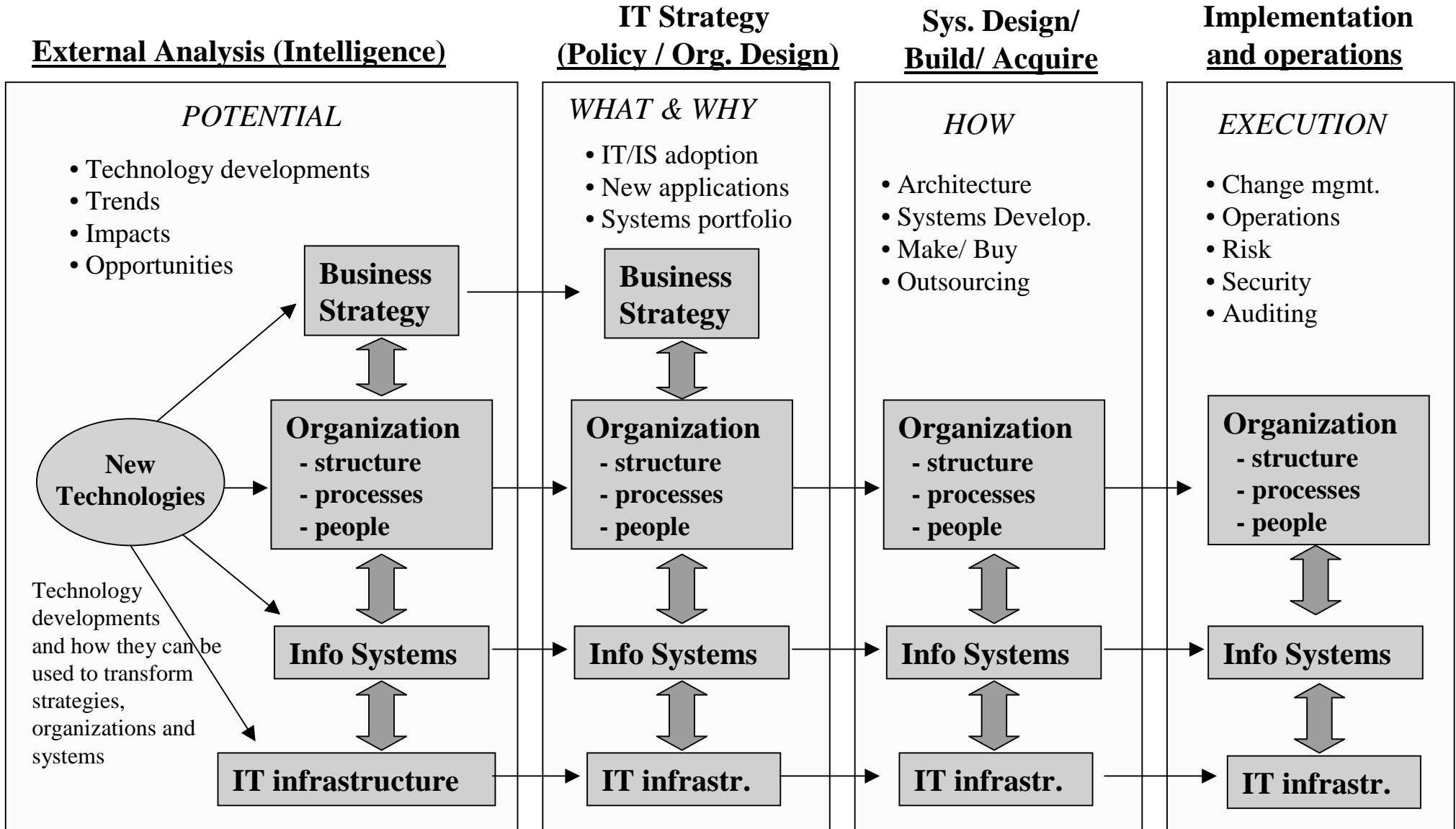
**Strategic analysis**: choice and planning around responding to those triggers;

**Resourcing**: ensuring the availability of relevant resources (primary technological knowledge) to exploit the strategic opportunity;

**Implementation**: management of the transition from concept to fully developed innovation;

**Learning**: reviewing the experience and capturing technical and managerial knowledge to improve performance in subsequent cycles of the innovation process.

# Innovation Framework for IT Management



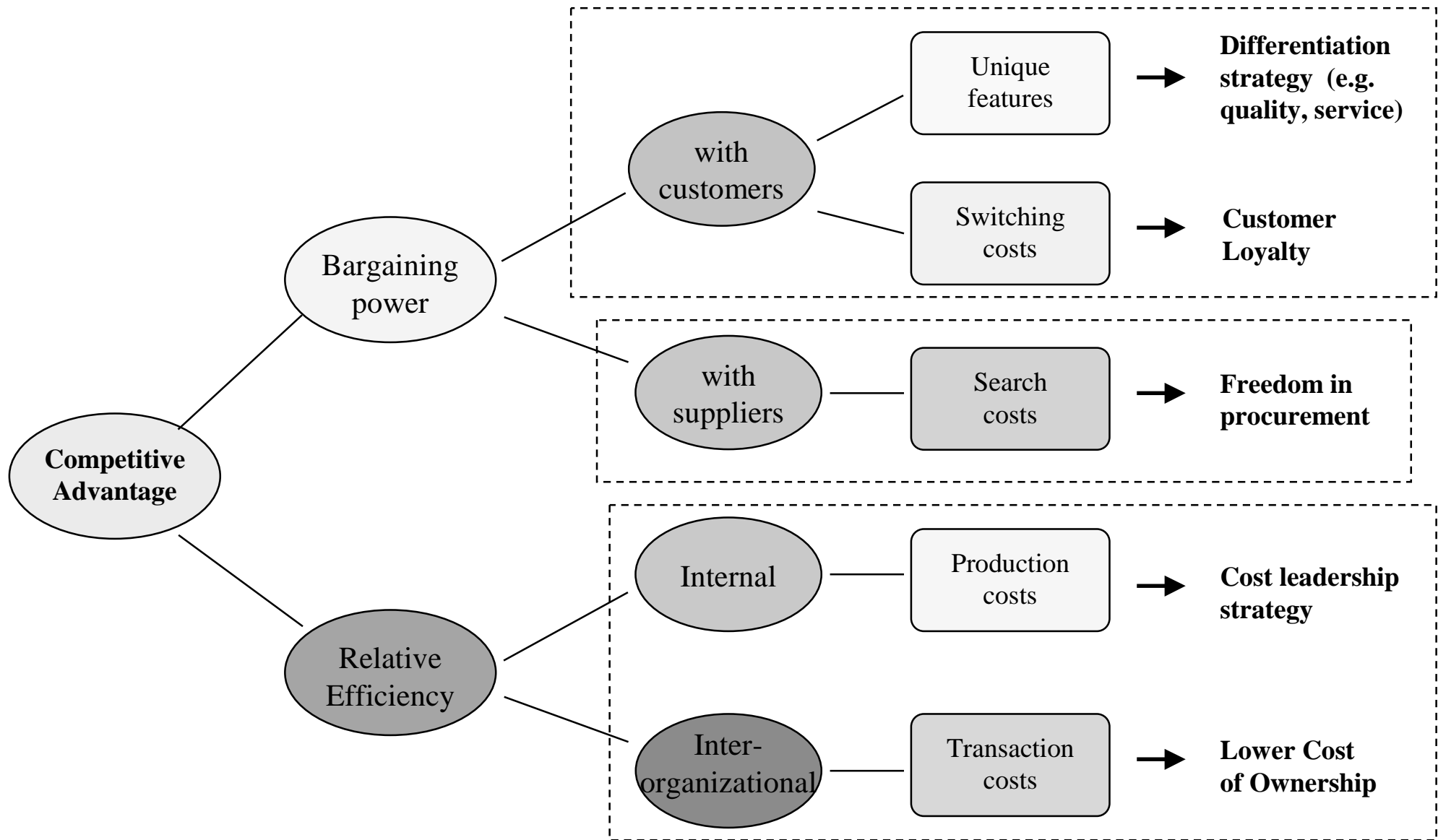
**Tools:** Technology scanning  
Technology assessment

Investment evaluation  
Systems planning

Process Modeling  
Sys. Dev. tools

Project management  
Quality assurance

# Competitive Advantage: Areas where IT can help



# Different Innovation Targets

*Can we use IT/IS to .....?*

## **Competitors**

- Raise the entry cost of potential competitors?
- Differentiate (or create new) products/services?
- Alter the channels of distribution?
- Identify / establish a new market niche?

## **Suppliers**

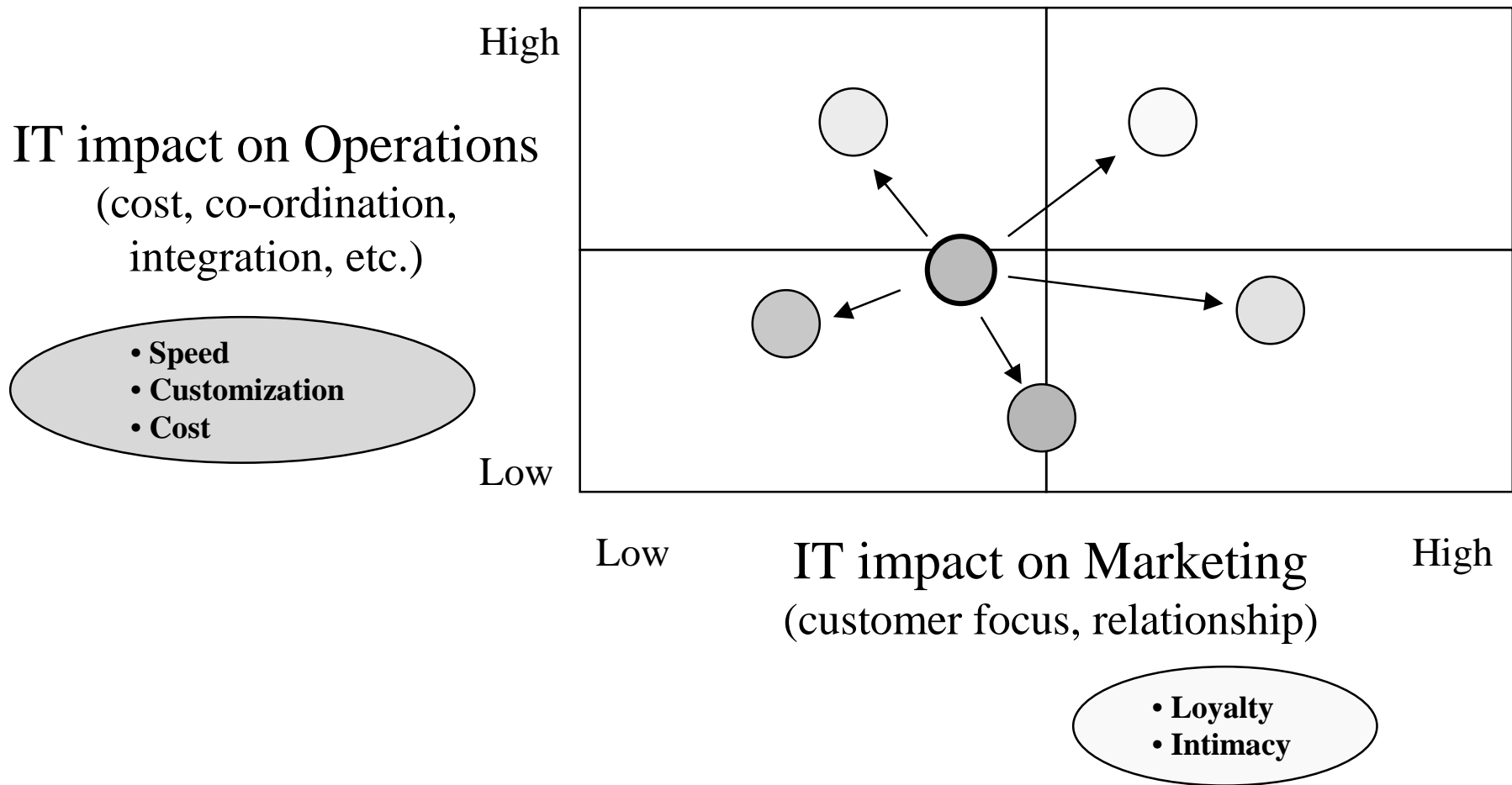
- Improve our bargaining power or reduce theirs?
- Reduce buying costs?
- Be a better customer and obtain a better service?
- Identify alternative sources of supply?
- Improve the quality of products/services purchased?

## **Customers**

- Reduce customers' costs and/or increase their revenue?
- Increase our customers' switching costs (to alternative suppliers)?
- Increase our customers' knowledge of our products/services?
- Improve support/service to customers and/or reduce the cost of existing services?
- Identify new potential customers?

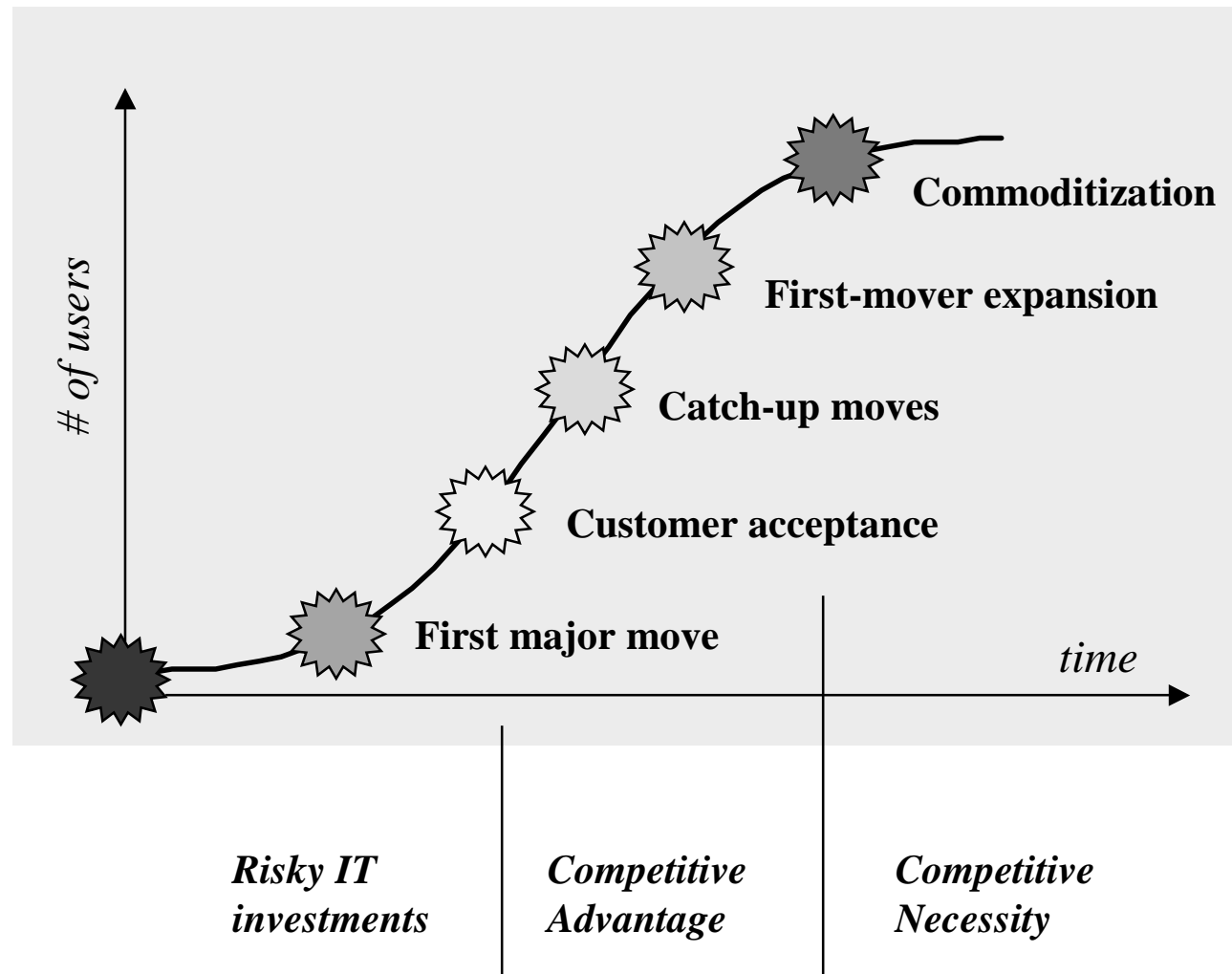
# Competitor Analysis

Benchmarking: Position vis a vis key players

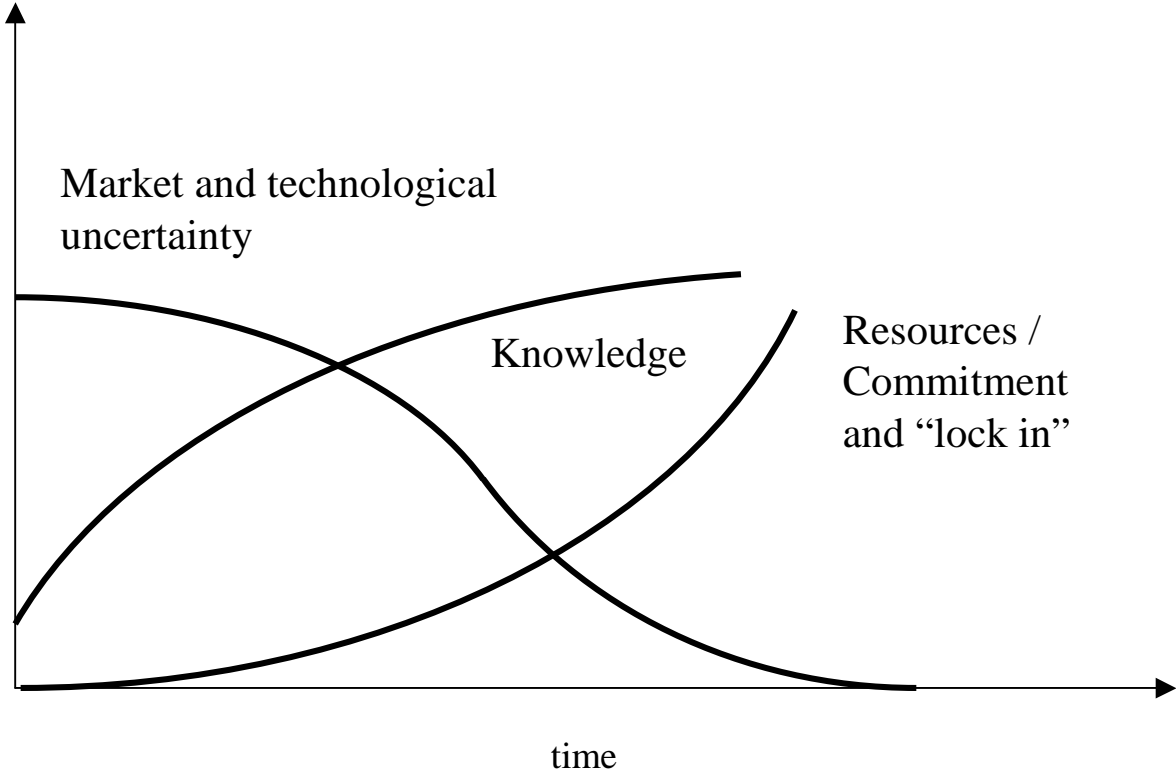


# Wait and see? Or, wait and lose?

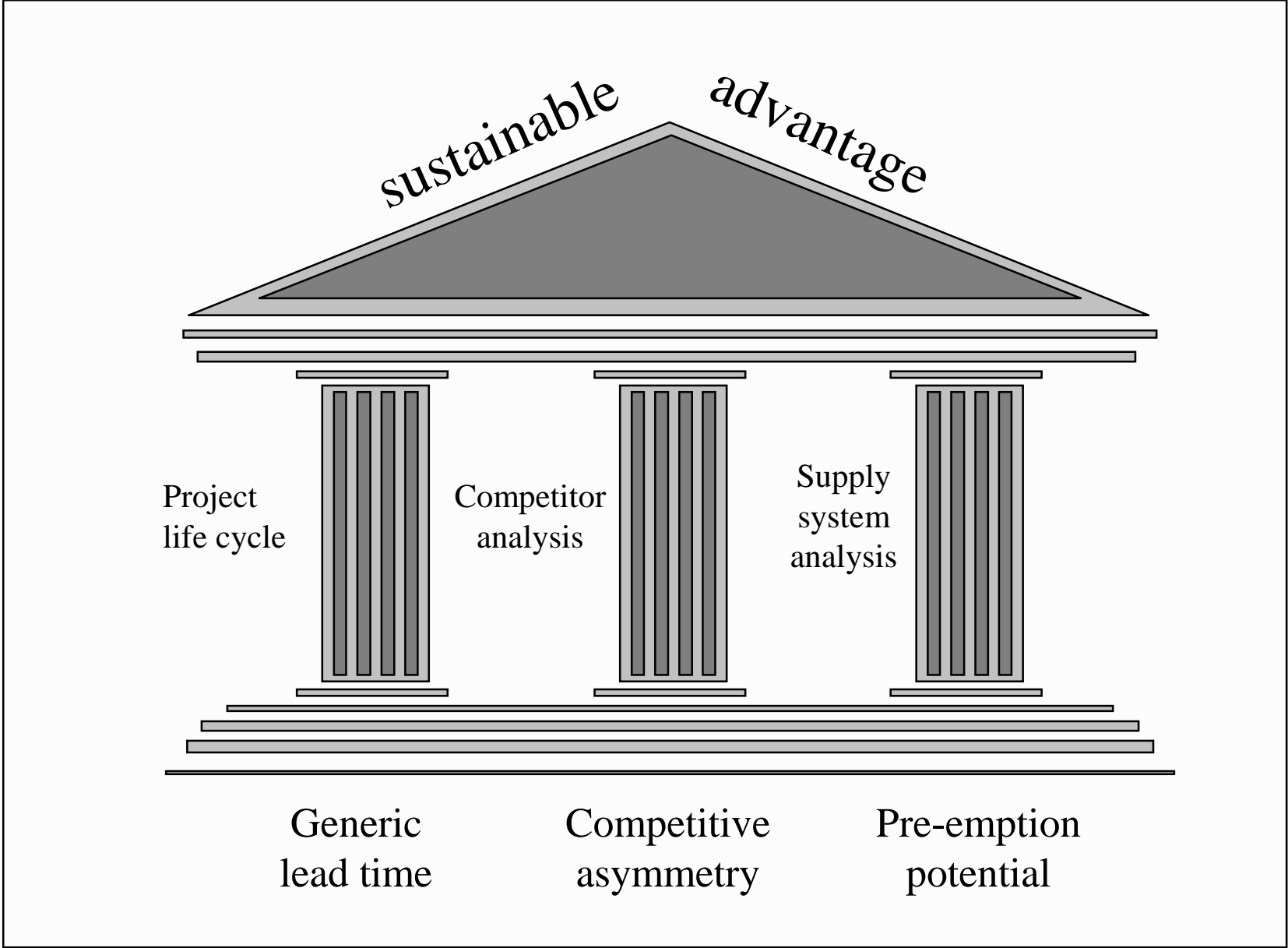
## Dynamics of IT-based innovation



# Innovation: uncertainty, knowledge, and resource commitment



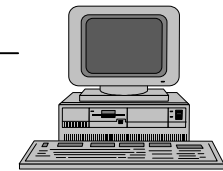
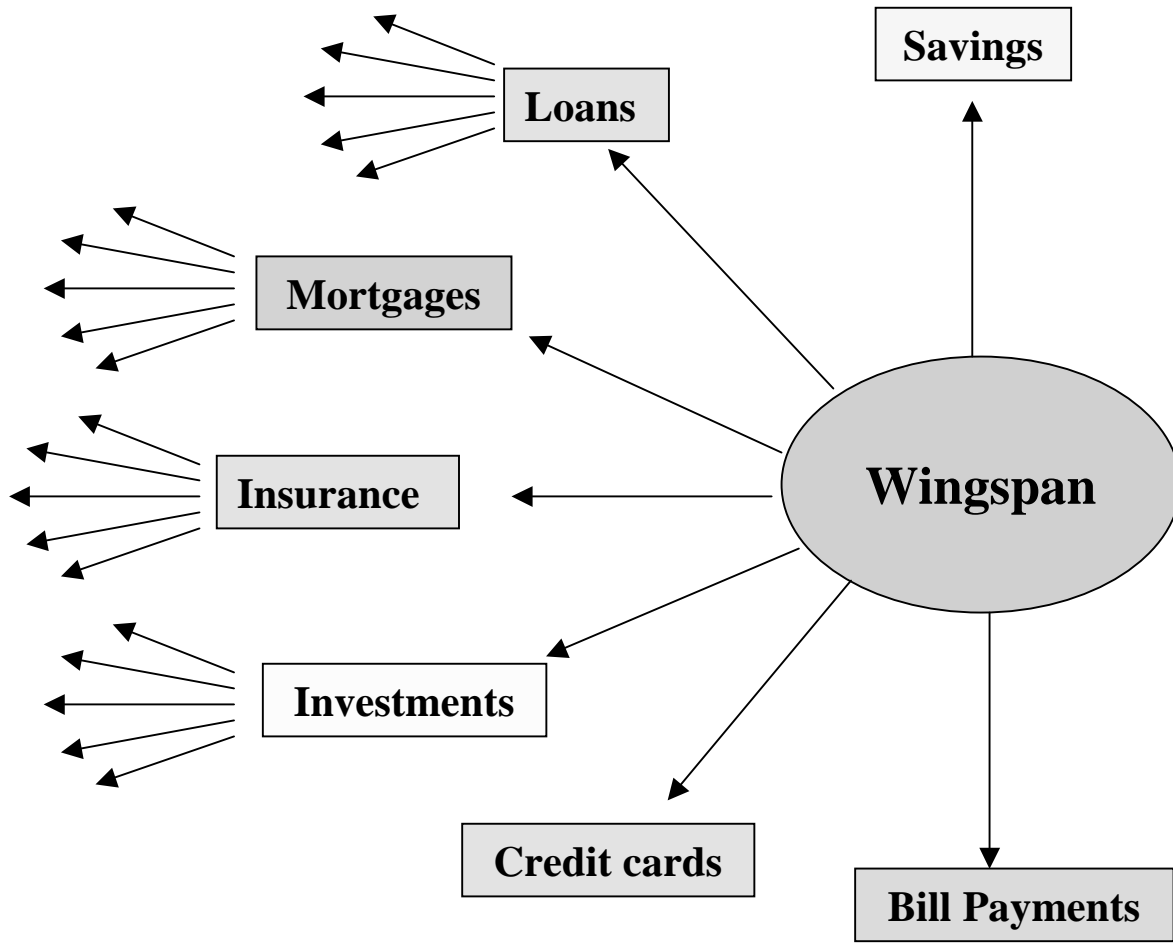




*IT Strategy and Innovation:  
the case of Wingspan.com*

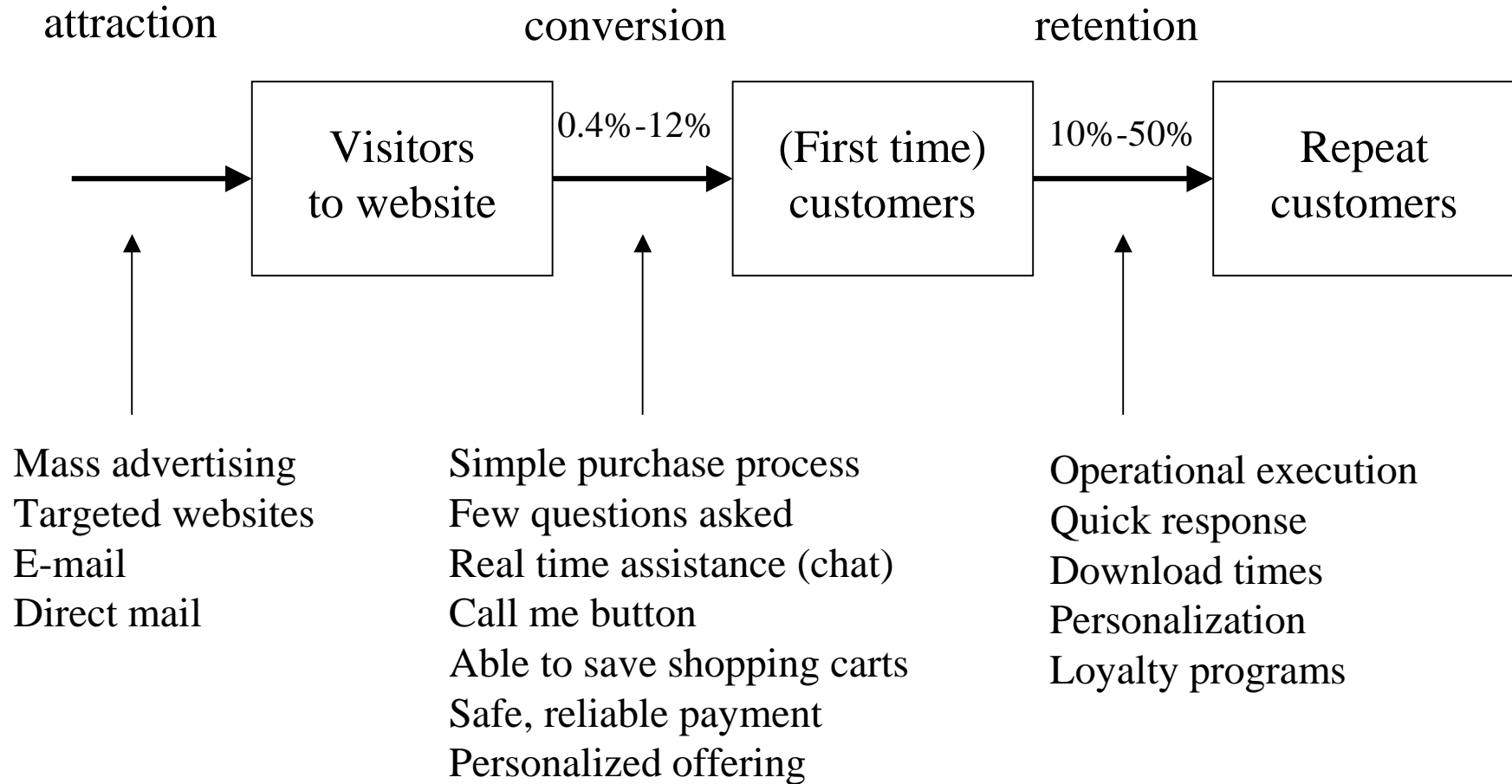
# WingspanBank.com

- Internet-only
- Standalone operation  
(parent: Banc One)
- Broad range of products
- Best of breed products
- From one website:
  - Single application
  - Single log-on

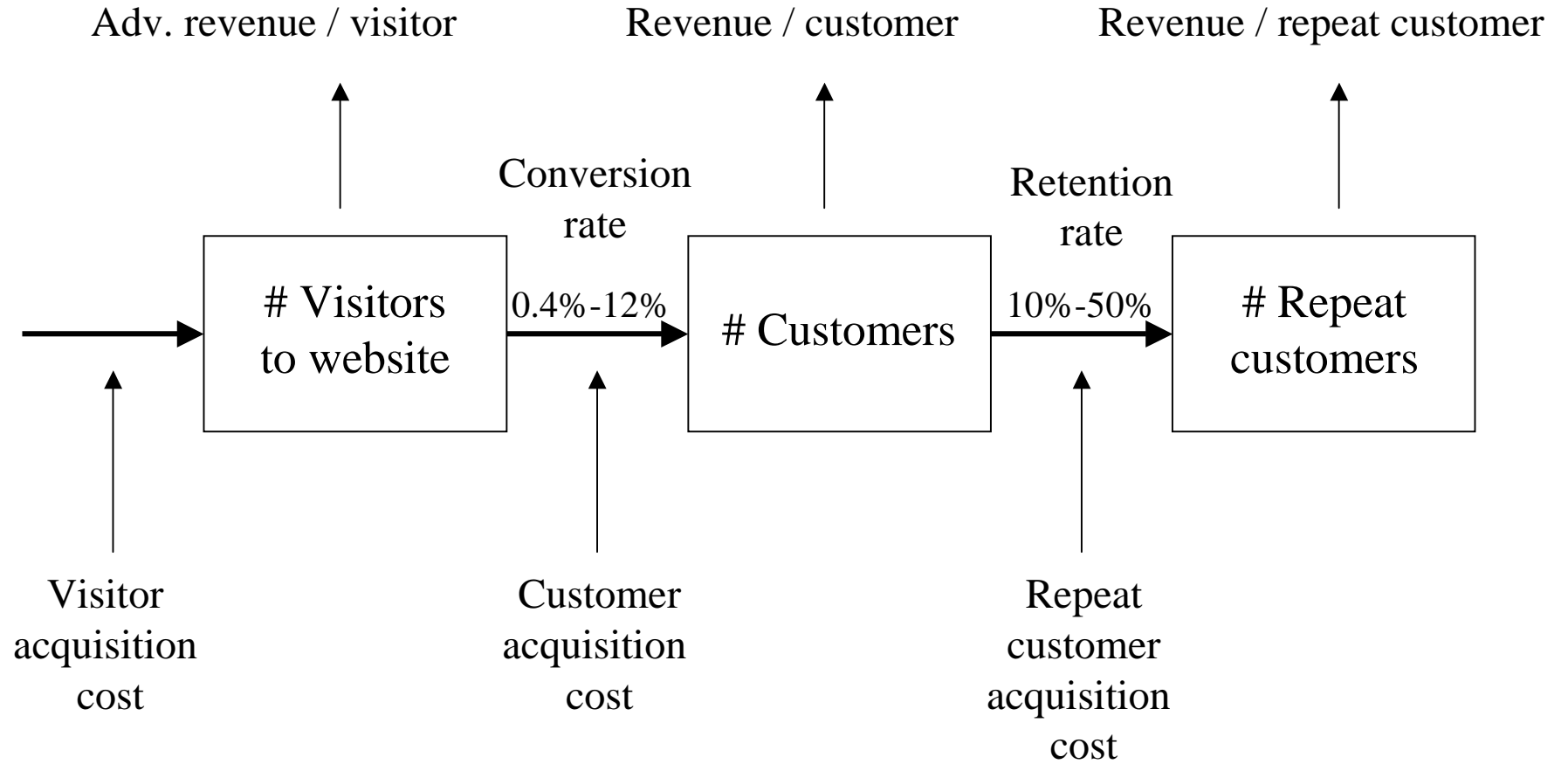


*90 days, 100 people,  
30 organizations,  
\$ 120 M marketing*

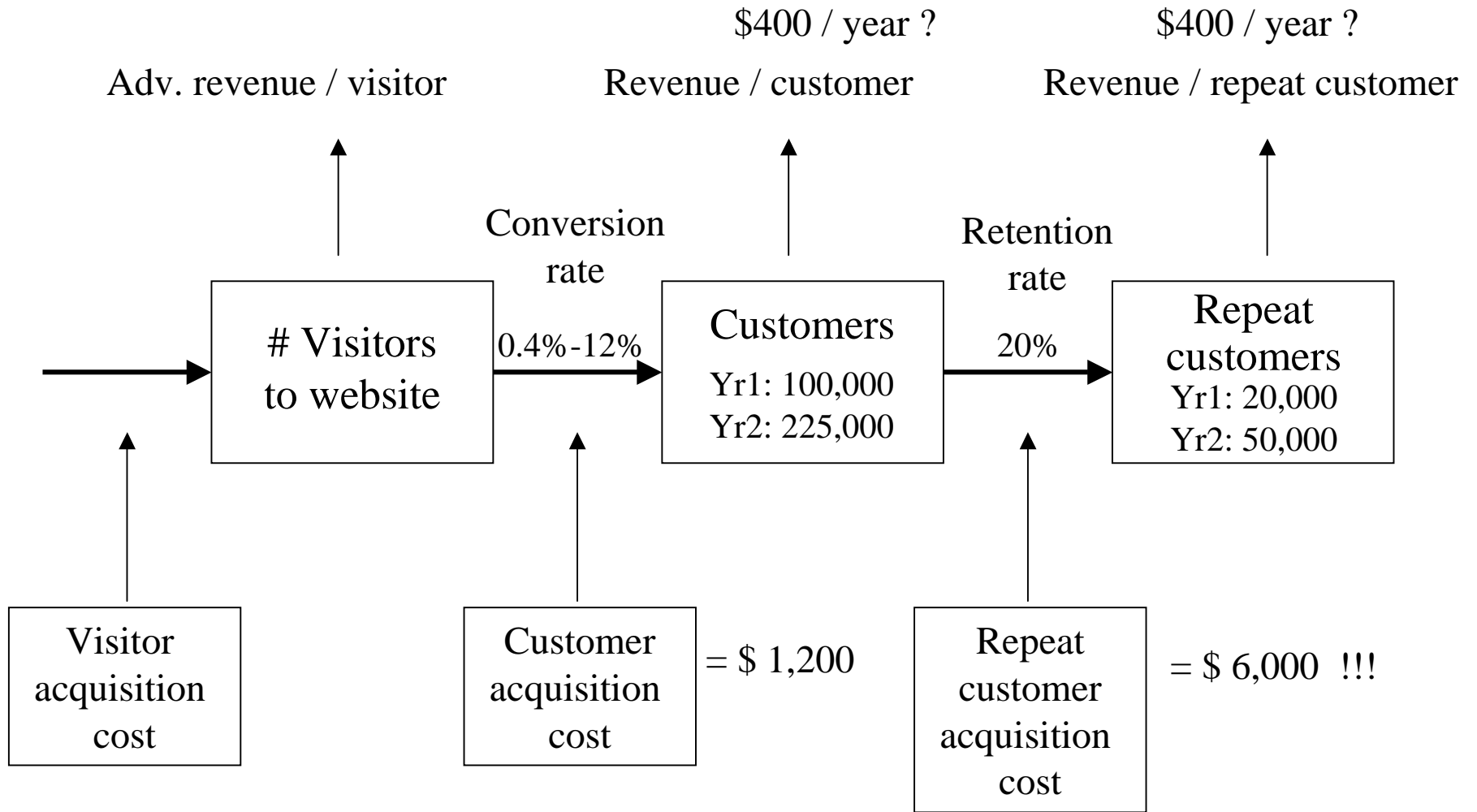
# Customer acquisition process model



# Key performance indicators

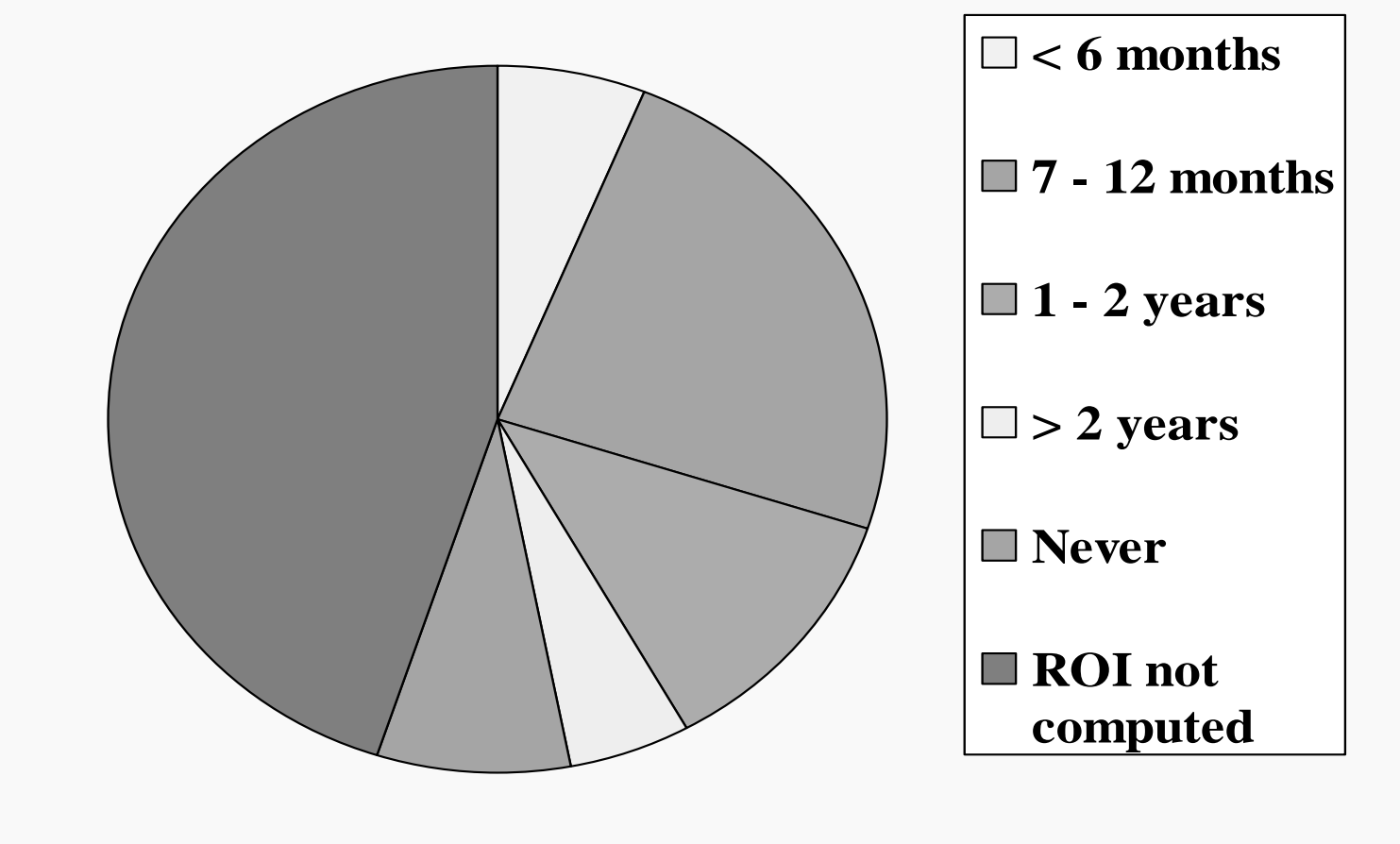


# WINGSPAN BANK



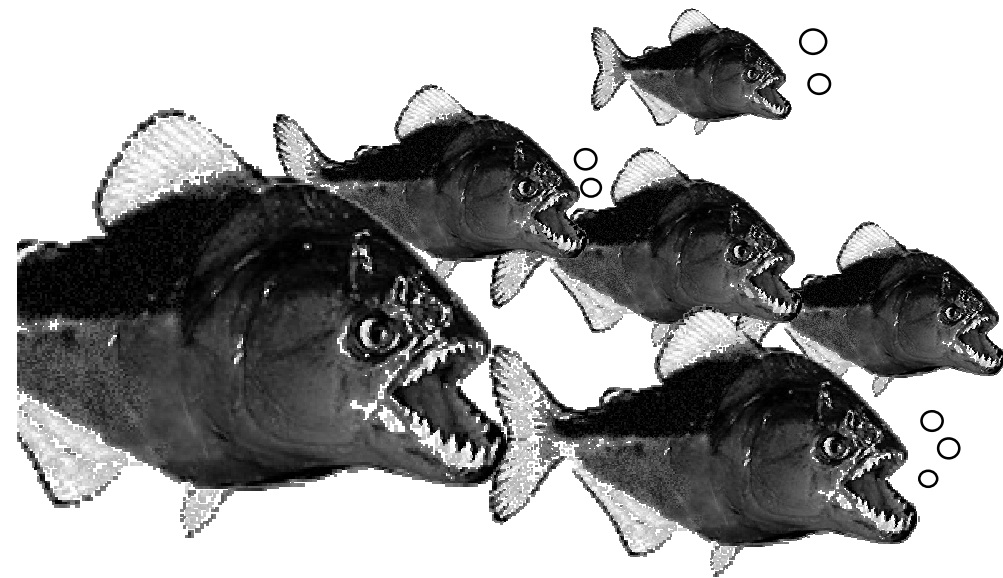
Marketing expenditure (Year 1) = \$ 120 M.

# Payback of e-Commerce projects



Data from an IT magazine, year 1999

# Attackers



- Speed culture
- Focused skill sets
- Customer cherry picking
- Business system slicing
- Economic webs
- Greenfield business design

# Defenders



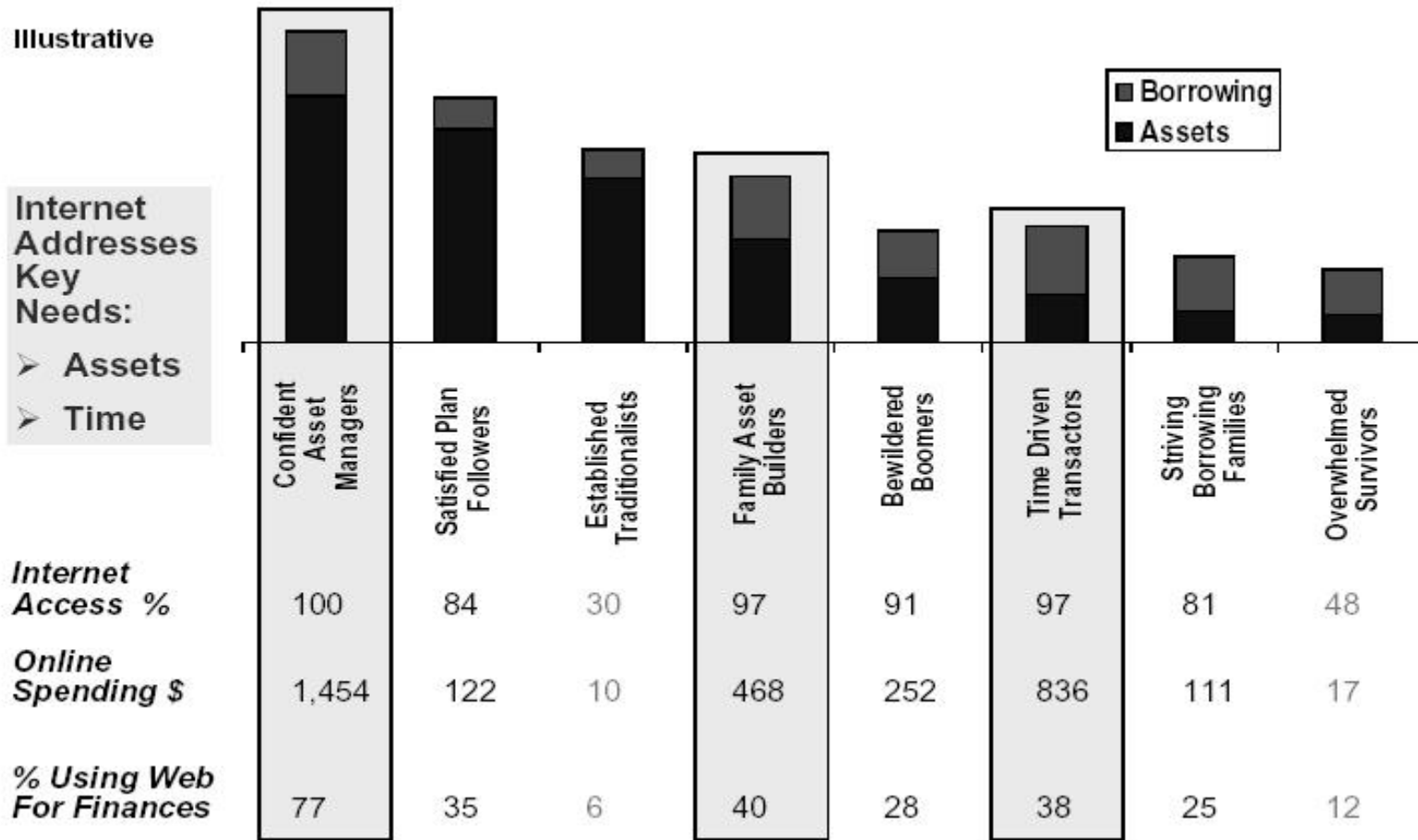
- Complacent mind-set
- Conventional skill sets
- Cannibalization fears
- Channel conflict
- Curse of the deep pocket
- Current income focus



# e-Business Strategies

	Defensive	Aggressive
Focus	Converting existing clients	Gaining new clients
Prices	Same	Lower
Governance	Integrated (Multi-Channel)	Standalone
Brand	Same	Different
Costs	Low conversion cost	High acquisition costs
Loyalty	High customer loyalty	Low customer loyalty
Risks	Pricing	Cannibalization

# Online Banking Demand Segmentation



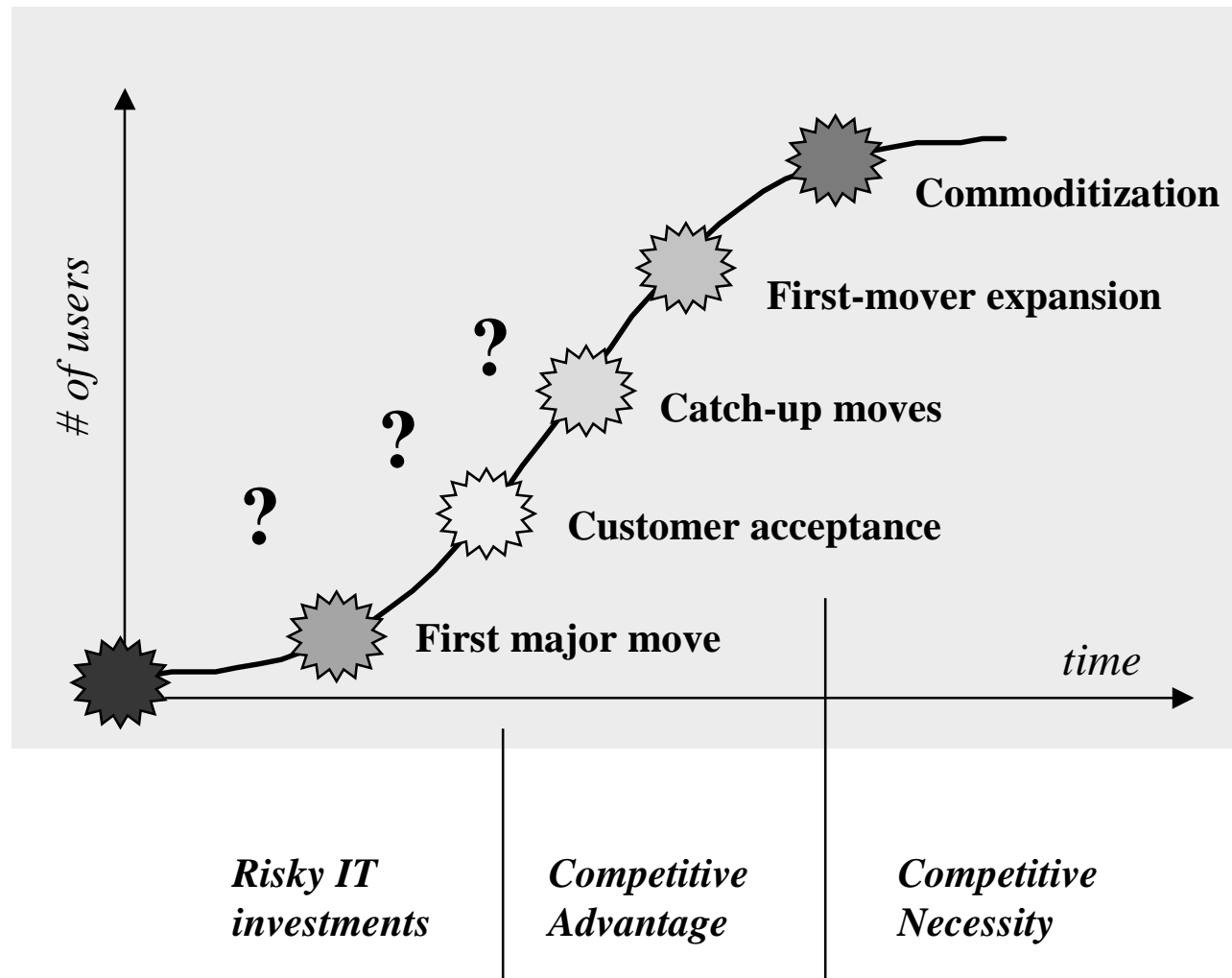
Wingspan did not focus on specific targets

## **Eight Distinct Demand Opportunities**

<b><i>Segments</i></b>	<b><i>Remarks</i></b>
Confident Asset Managers	<ul style="list-style-type: none"><li>• Financially and technologically astute, extremely self-directed</li><li>• Focused heavily on equity investments</li></ul>
Satisfied Plan Followers	<ul style="list-style-type: none"><li>• Stick to financial plan; financially secure</li><li>• Values professional financial advice</li></ul>
Established Traditionalists	<ul style="list-style-type: none"><li>• Prefers dealing with people – little / no interest in technology</li><li>• Few financial worries; pretty set for retirement</li></ul>
Family Asset Builders	<ul style="list-style-type: none"><li>• Building nest egg for family – long term horizon</li><li>• Strong technology affinity</li></ul>
Bewildered Boomers	<ul style="list-style-type: none"><li>• Looking for help; not confident in own ability</li><li>• Worried about financial situation, particularly retirement</li></ul>
Time Driven Transactors	<ul style="list-style-type: none"><li>• Seeking to minimize time and effort in managing finances</li><li>• Prefers to lever technology</li></ul>
Striving Borrowing Families	<ul style="list-style-type: none"><li>• Feels significant financial stress</li><li>• Aspires to meeting family focused goals, e.g., house, education</li></ul>
Overwhelmed Survivors	<ul style="list-style-type: none"><li>• Overwhelmed by finances and technology</li><li>• Relatively limited financial resources</li></ul>

Source: BAI and the Cambridge Group

# First Mover Challenges



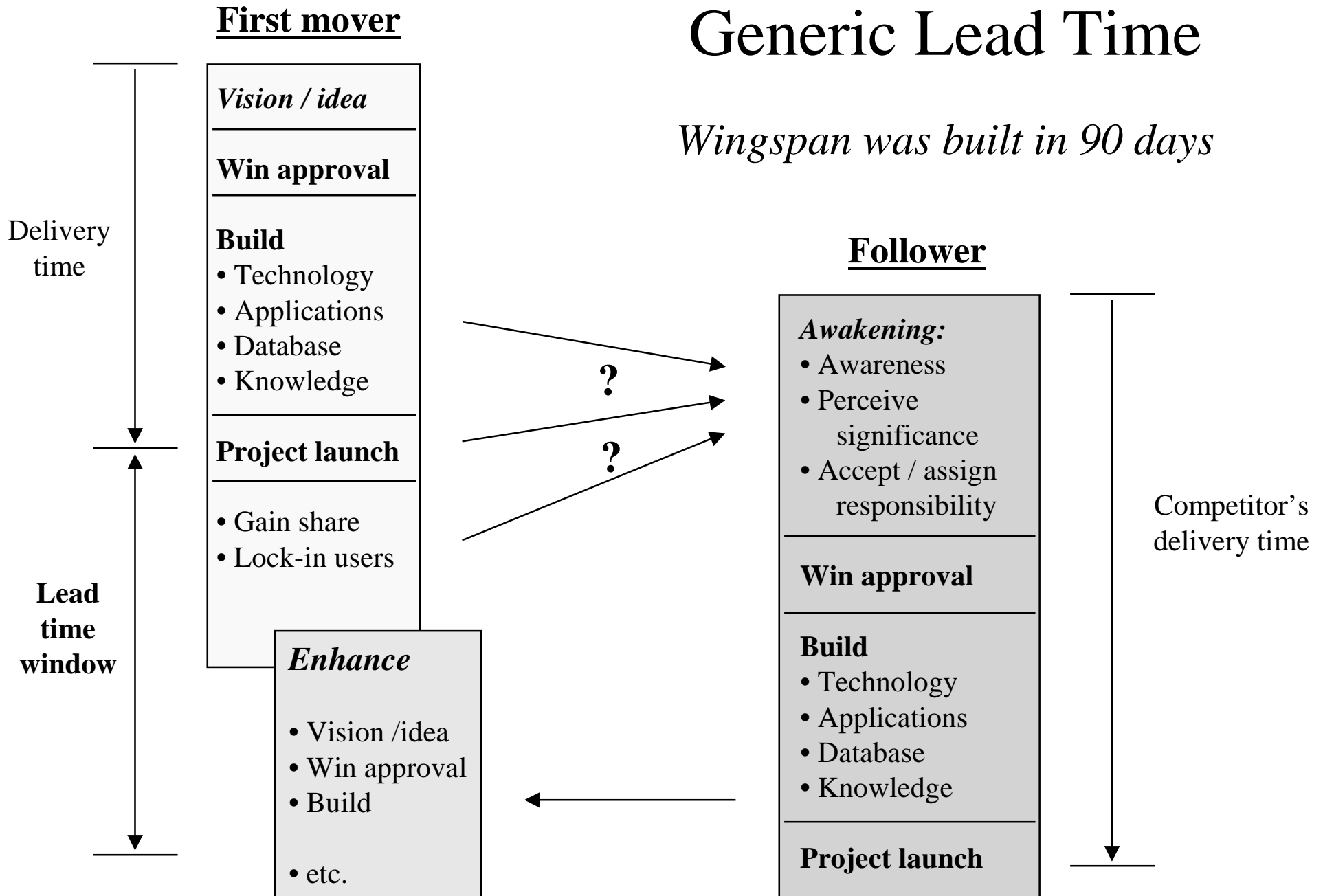
Wingspan faced: Rapid Implementation, Multi-vendor Outsourcing, Technology Integration Risks, Market Uncertainty, and Threat of Competitor Response.

# Sustainability assessment

- generic lead time
  - how long before a competitor can respond?
  - development time for a similar system
- competitive asymmetry
  - who can respond?
  - handicaps faced by a competitor trying to respond
  - will they be able to copy the system?
- preemption potential
  - will their eventual response be effective?
  - ability to preempt retaliation by the follower
  - “first mover” advantage

# Generic Lead Time

*Wingspan was built in 90 days*



# Competitive asymmetry? Citibank was able to copy the concept

My Citi - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address Links

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All Categories Finance Communication News Shopping Travel Mobile General

Account Summary Accounts currently sorted by category. Sort by Institution. Disclaimer Help

Add a new account Preferences

**Banking** Click ▾ to collapse or ▶ to expand a section Show chart

**Citibank** Log in to Citibank [Go]

Last refresh 8 minutes ago Refresh Now

Account Type	Account Number	Balance
Checking [View details]	8822-xxxx	\$3,572.42
PM MA [View details]	7475-xxxx	\$6,224.10
Savings [View details]	8822-xxxx	\$1,273.54
<b>Total Balance</b>		<b>\$11,070.06</b>

**Wells Fargo** Log in to Wells Fargo [Go]

Last refresh 12 minutes ago Refresh Now

Account Type	Account Number	Balance
Checking [View details]	089-xxxx	\$1813.50
Market Rate [View details]	073-xxxx	\$4313.10
<b>Total Balance</b>		<b>\$6,126.60</b>

**Credit Cards** Click ▾ to collapse or ▶ to expand a section Show chart

**Citibank Credit Card** Log in to Citibank [Go]

Last refresh 5 minutes ago Refresh Now

Account Number	Available Credit	Minimum Payment	Balance
xxxx-xxxx-xxxx-1371 [View details]	\$7,985.42	\$19.63	\$24.58

**American Express** Log in to Am. Express [Go]

Last refresh 30 minutes ago Refresh Now

Account Number	Available Credit	Minimum Payment	Balance
xxxx-xxxx-xxxx-1371 [View details]	N/A	N/A	\$826.19

**Investments** Click ▾ to collapse or ▶ to expand a section Show chart

**E\*TRADE** Log in to E\*TRADE [Go]

Last refresh 10 minutes ago Refresh Now

Account Number	Quote	Quantity	\$ Change
0000-0000			
Symbol			
AMZN	65 1/8	20	-1
CAA	2 7/8	200	-5/16

Done Internet

Annotations:

- Access both Citi and non-Citi accounts in one secure place.
- Link directly to your accounts without separate log in.
- Get account details, including transactions and payment due dates.
- Consolidate all your investment information.

# Preemption Potential

- Switching costs
  - Dependence on IT-enabled products / services
  - Make it difficult to switch to a competitor
    - by design: proprietary IT systems
    - by contract: frequent flyer, etc.
    - Tightly intertwined with customer's daily routine
- Wingspan “sticky products”:
  - Bill payments?
- Wingspan brand equity:
  - The “Amazon” of online financial services?



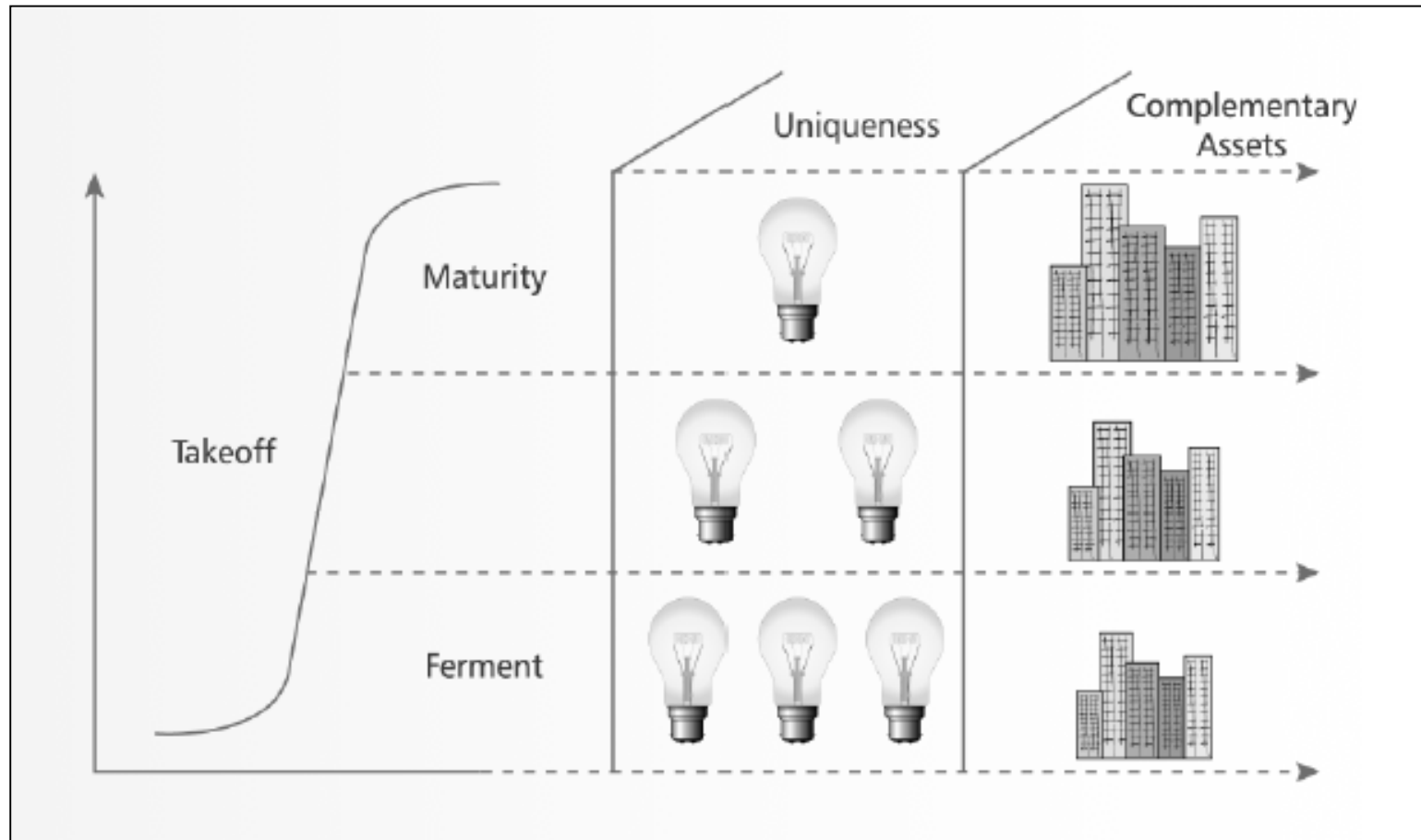
# When does speed make sense?

- A large market potential
- Lasting barriers to entry
- Manageable risks

## Factors influencing the capacity to benefit from technological innovation

- Secrecy
- Accumulated tacit knowledge
- Lead times
- The learning curve
- Product complexity
- Standards
- Complementary assets (competencies in commercialization)
- Pioneering radical new products
- Patent protection

# Uniqueness and Complementary Assets over the life cycle



# CT scanner

(also known as Computerized Axial Tomography or CAT Scan)



In 1972 EMI, a British music and electronics company, developed a revolutionary medical imaging technology. A few years after the successful introduction of its CT scanner, EMI faced competition on all sides, including Siemens and General Electric.

# Principles of Strategic Positioning

- **Value proposition:** set of benefits different from those that competitors offer. Unique value for a particular set of customers or in particular set of uses.
- **Tradeoffs:** forgo some product features, services or activities in order to be unique at others (can't be all things to all customers).
- **Distinctive value chain:** different activities than rivals or perform similar activities in different ways.
- **Fit:** all activities must be mutually reinforcing. Rivals can copy one activity, but will have difficulty duplicating a whole system.

Michael Porter

# IT innovation and Strategic Positioning

