Consultancies and capabilities in innovating with IT

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Agenda

- ☐ Innovating with IT
  - ■ Buzzword phenomena
  - ■ Organizing visions and their careers
- ☐ The firm's innovation process
  - ■ Comprehending the new
  - ■ Choosing to adopt
  - ■ Implementing
  - ■ Assimilating in use (thereby achieving new capabilities)
- ☐ The facilitative roles of consultancies
- ☐ Conjectures for research

Broad argument

- New firm capabilities are gained today largely from innovating with IT
- Consultancies serve to facilitate the innovative process both within and across firms
- Different consultancies play different roles in the process
- Consultancies may contribute more to the innovative process, than to the new capabilities achieved

Buzzwords!

ERP!

Web Services!

Knowledge management!

CRM!

Business intelligence!
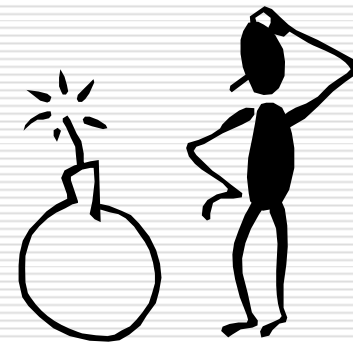
- ☐ Why so many in the world of IT?
- ☐ Is there substance here or just so much noise?

Innovation

- **Innovation**- an idea, practice, or object new to the organization adopting it
  - Often identified by a buzzword and facilitated by an organizing vision (for new IT)
  - Examples: ERP, CRM, Data warehouse
- **Innovation diffusion**- the process by which an innovation "spreads" over time among organizations
  - Involves communication leading to adoption and implementation
  - Typically involves more imitation than it does invention
  - A firm innovates relatively early or late compared to others
  - Consultancies are heavily involved, with different types playing different roles

Organizing vision

Ref: Swanson and Ramiller, 1997

A focal community idea for applying new IT in firms

- ☐ Typically identified by a buzzword
- ☐ Defines the innovation in broad strokes and is the basis for its comprehension
- ☐ Produced by and sustained through the community's talk about it (e.g. at trade shows and in trade press)
- ☐ Provides for *interpretation* (what is it?), *legitimation* (why do it?), and *mobilization* of entrepreneurial and market forces (in providing requisite products and services)
- ☐ Drives and is driven by the innovation's adoption and diffusion
- ☐ Has a characteristic "career" (in terms of its visibility, prominence, and influence over time)
- ☐ Illustration: Enterprise Resource Planning (ERP) in the 1990s, as first articulated by the Gartner Group
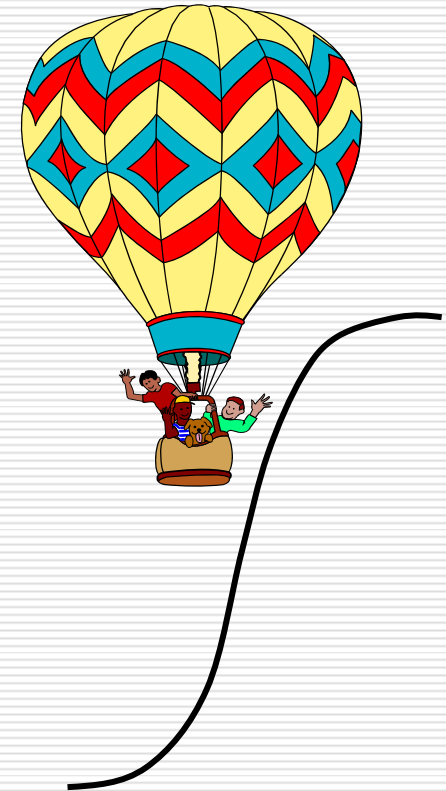
ERP's career

"Recent events in hardware, operating systems and applications are crystalizing (sic) our definition of Enterprise Resource Planning systems-- the Next-Generation MRP II." (Wylie, 1990)

"Here comes SAP!" (*Fortune*, 1995)

"What's all the buzz about? Simply put, R/3 seems to be a case of the right product at the right time." (Xenakis, *CFO*, 1996)

"The growing number of horror stories about failed or out-of-control projects should certainly give managers pause." (Davenport, *HBR*, 1998)

"(I)t becomes clear the enterprise resource planning strategies were really designed to get the corporate house in order." (Connolly, *Computerworld*, 1999)

"As 1999 winds down, it seems ironic that enterprise resource planning (ERP) has again attained almost the same dubious status it had when the acronym entered the lexicon in 1990- that of an idea that would never work." (Keller, *Manufacturing Systems*, 1999)

The innovative process

- ❑ **Comprehension**- understanding the innovation in terms of the community's organizing vision for it
- ❑ **Adoption**- deciding whether and when to undertake the innovation, making a resource commitment
- ❑ **Implementation**- undertaking the project, making the change, bringing the innovation to life for its users
- ❑ **Assimilation**- learning while doing, incorporating the innovation into everyday practice, achieving new capabilities

Consultancies can serve throughout, but capabilities must be achieved primarily by firm!

Making sense of the buzz

Ref: Ramiller, 2001

"… and I keep waiting for a *silver bullet*, a *magic formula*, an *answer to all my prayers*, and it never happens!" -IS manager

"In today's business world you really have to grab right at the money. Profit before taxes, cash, cost reduction. We're gonna take a building and close it, because of this technology. We're gonna reduce our administrative staff. I mean, hard core numbers." -IS manager

"…they jumped into it, because it was *the latest and the greatest craze* at the time and they figured they had to *sign up for it*, too …and, 'We've got to go in and we've got to do *what everybody else is doing*,'" -Consultant

"I think [data warehouse] is a well-worn concept, and I think a whole lot a people thought it was a good idea 30 years ago. So, yeah …it's a 30-year-old concept with a different name. It's sort of a rose by any other name." -IS manager

"… you see if it has meaning, you know, as you understand it. Would it help your organization, would it help certain areas of your organization, where might it help, what are the benefits of it? …you really need to drill down, in terms of what these concepts are, and what it means from an implementer's point of view, and what it can mean to your business." -IS manager

IT research and analysis

Ref: Firth and Swanson, 2005

Consultancies specialized in assessing new IT and its market

- Gartner Group, Forrester Research, Meta Group, Giga Group, International Data Corp. (IDC)
  - Gartner's 2000 revenues approximated $1b, about $100K per client
- Offer research reports, events, analyst contact, and specific consulting to clients, primarily potential buyers of the new IT
- Play leading roles in the discourse associated with organizing visions (as illustrated by Gartner in articulating the vision for ERP)
- Services viewed by clients as most useful for monitoring IT trends and comprehending new IT, less useful in support of own IT adoption and implementation decisions

Innovation comprehension

Ref: Ramiller and Swanson, 2003

- ☐ Study (1994-96) combining field interviews with survey
  - ■ 143 respondents
- ☐ Exploring managerial reception of organizing visions
  - ■ sample item: "The company that waits to do X is going to fall dangerously behind." (agree-disagree)
  - ■ 45 items
- ☐ Examining reception of three visions in different stages of their careers:
  - ■ E-commerce (early ascent)
  - ■ Client server (late ascent)
  - ■ CASE (descent)
- ☐ Identifying the dimensions of reception
  - ■ Factor analysis

Dimensions of reception
  - ■ Interpretability
  - ■ Plausibility
  - ■ Importance
    - ☐ Business benefits
    - ☐ Practical acceptance
    - ☐ Community interest
  - ■ Discontinuity

Finding
  - ■ To the extent an organizing vision is ascendant (in discourse), it is received as important

Innovation launch

Ref: Wang and Swanson, 2007

- How does an IT innovation achieve early momentum toward wide adoption?
- Research suggests that institutional entrepreneurship may play a crucial role
  - Self-interested actors leverage resources to create new institutions or to transform existing ones
  - Mobilization and legitimation are necessary activities
- Case study of Professional Services Automation (PSA)
  - Enterprise software purported to help service-oriented organizations manage their projects and employees, 1998-
  - Actors included IT research firms, software vendors, consultancies, conference firms, trade publications, and universities

The study suggests that to successfully launch an IT innovation institutional entrepreneurs should:

- *Develop and recognize leadership in the innovation's organizational community.*
- *Facilitate or persuade community members to focus their attention on the innovation.*
- *Develop a coherent organizing vision for the innovation.*
- *Incorporate definitive success stories from users and vendors into the organizing vision for the innovation.*

Alas, this was not accomplished in the case of PSA

Adopter distribution

Ref: Rogers, 1995
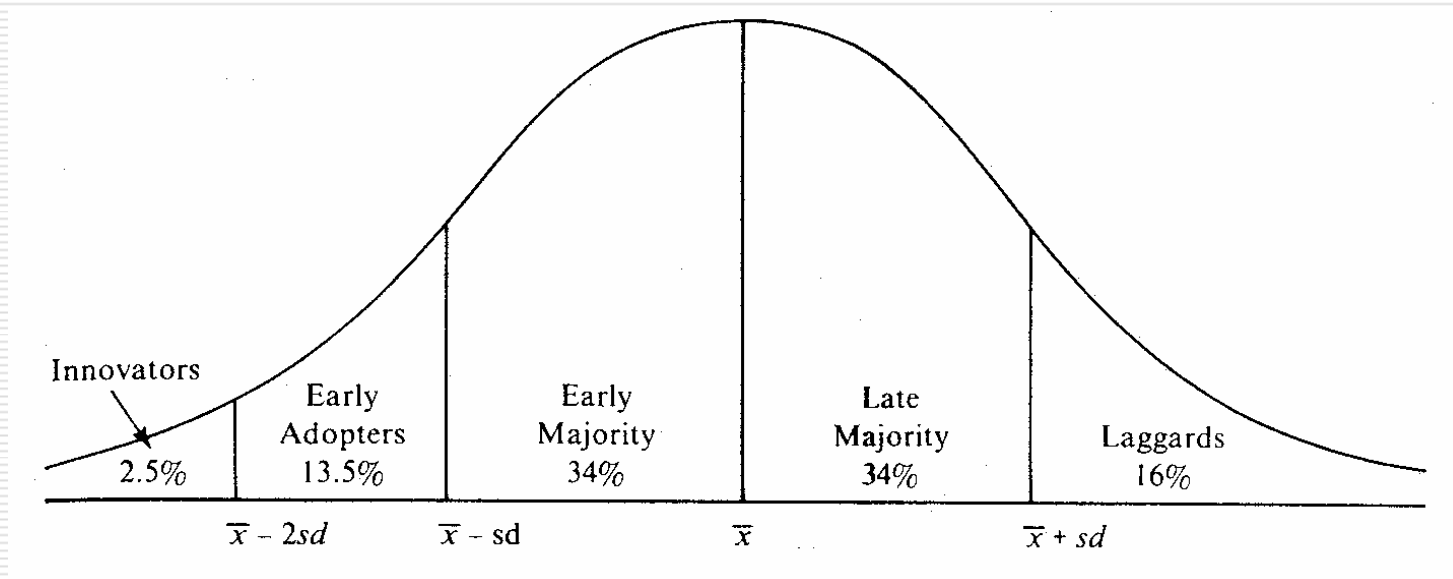
*Where would you rather be?*

The adopter's dilemma
Opportunity and risk

Adopt early	**Competitive advantage**	**Know-why specific to firm**	**Know-how emergent**
Adopt with the majority	**Competitive parity**	**Know-why likely muddled**	**Know-how likely scarce**
Adopt late (if at all)	**Competitive survival**	**Know-why likely clear**	**Know-how likely plentiful**

Where do we find the consultancies?
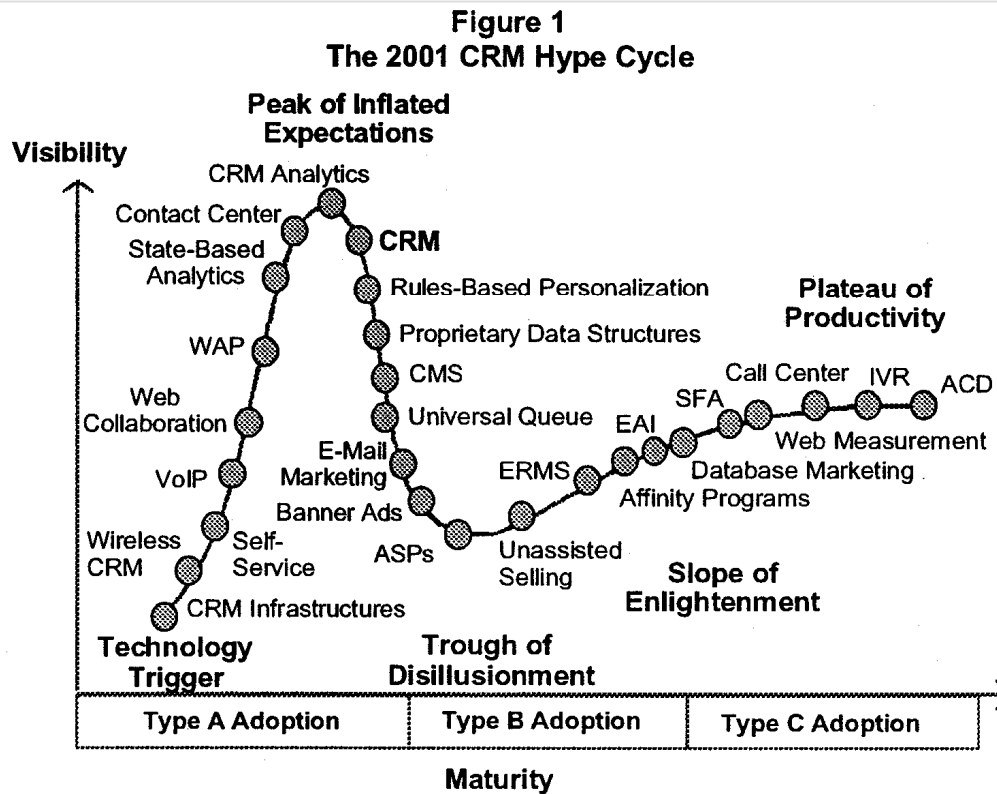
Willie's principle

Where do we find the consultancies?

- ☐ Mostly with the early and late adopter majorities
- ☐ Mostly with the fashionable innovations (the more adopters, the merrier)
- ☐ Asked why he robbed banks, the notorious Willie Sutton (1901-1980) is reported to have said, "That's where the money is."
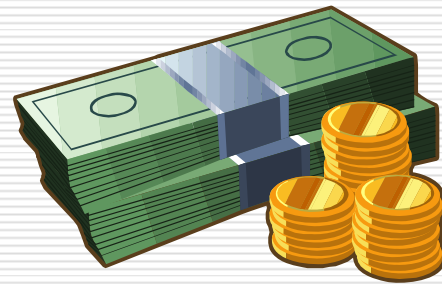
Hype cycles

Ref: Nelson, 2001

Figure 1
The 2001 CRM Hype Cycle

Source: Gartner Research

• *CRM at the height of inflated expectations, with disillusionment soon to set in*

Management fashion

Ref: Abrahamson and Fairchild, 1999

- **Definition**: "relatively transitory collective beliefs, disseminated by the discourse of management-knowledge entrepreneurs, that a management technique is at the forefront of rational management practice" (p. 709)
- **Theory**: normative expectations are that management techniques will progress over time, creating a market for discourse disseminating rational, progressive management knowledge. "The discourses contain labels that denote particular management techniques and specify important organizational goals and the means of attaining them…" (p. 709) Example: quality circles
- **Research questions**:
  - What are the shapes of the popularity curves of management fashions and what explains these shapes?
  - Does the lifecycle of discourse promoting a fashionable management technique (e.g. via an organizing vision) co-evolve with the lifecycle of its diffusion across organizations?
  - Does the downswing in one management fashion in a management fashion niche coincide with the upswing of the next fashion in that niche?

Implementation gaps

Ref: Fichman and Kemerer, 1999

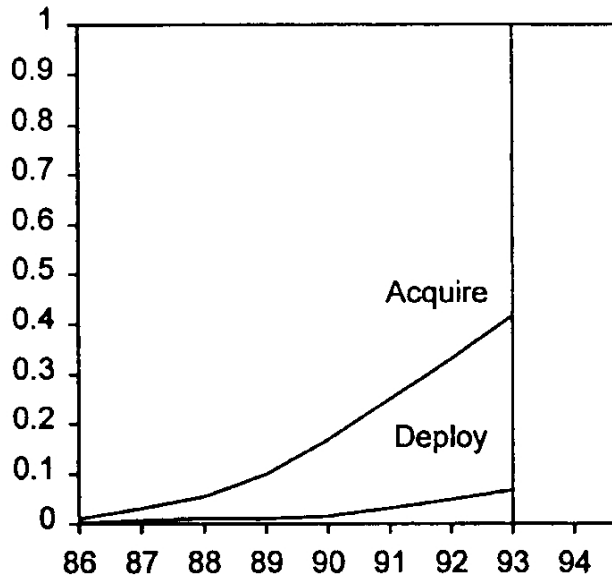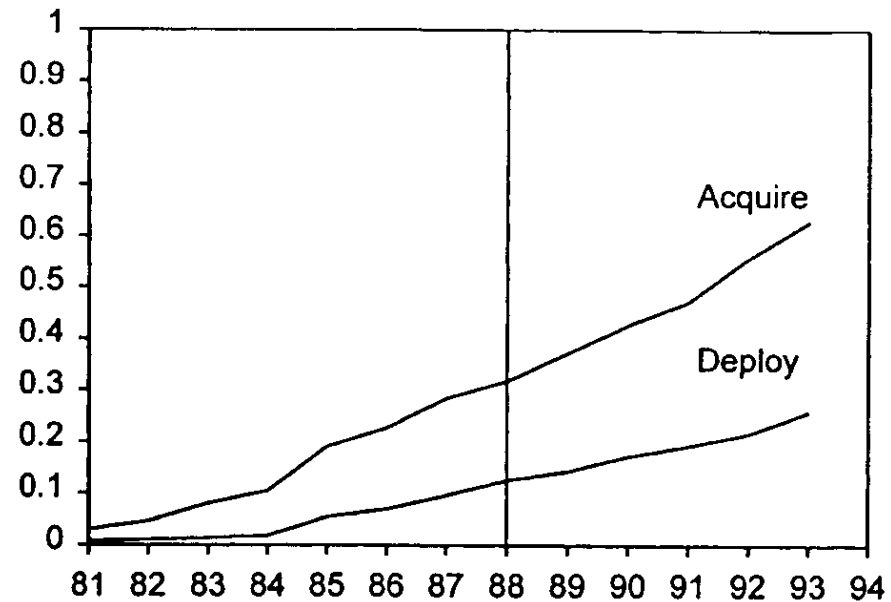**Figure 7**   **Cumulative Acquisitions and Deployments of CASE**

Adoption often outstrips implementation!

Figure 6   **Cumulative Acquisitions and Deployments of 4GLs**

Assimilation

- Research suggests that upon implementation of new IT, firm performance may initially suffer (see, e.g., Ross, 1998)
- Firms must learn how to use new IT
    - Training is important, but does not suffice
    - Situated learning by doing is required (see, e.g., Yamauchi and Swanson, 2007)
    - Workers must learn how to use new IT not only individually, but also collectively
- With experience, firms are able to assimilate new IT into reconstructed work practices and organizational routines such that new capabilities are achieved
- Consultancies may be involved as providers of ongoing business services such that their capabilities are imbedded

Learning model

Ref: Swanson, 2004

How is an IT innovation assimilated?

Work-situated Attention to Innovation	Focal Attention	Subsidiary Attention
Innovative Concept (in coordinative communication)	*Interpretation*	*Sublimation*
Innovative Practice (in task performance)	*Experimentation*	*Routinization*

New capabilities are achieved with routinization

Mindfulness

Ref: Swanson and Ramiller, 2004

Innovation Processes	Mindful Innovation	Mindless Innovation
	(Innovation with attention given toward organizational learning)	(Innovation without attention given toward organizational learning)
Comprehension	"We've been tracking this one for some time."	"Our CEO read about this in an airline magazine."
Adoption	"It's right for us and we're ready for it."	"Everyone else is doing it."
Implementation	"We're reinventing this with everyone's involvement."	"Consultants are putting this in for us as we lack the expertise."
Assimilation	"We're still learning as we go along."	"We're letting our problems take care of themselves."

If mindlessness is a bad idea, why do we see so much of it?

Consultancy roles

- ☐ Business strategy, e.g. McKinsey
  - ■ May motivate innovating with IT
- ☐ IT research and analysis, e.g. Gartner
  - ■ Facilitates comprehension of new IT and its reception in the market, shaping the careers of organizing visions
- ☐ Business process improvement, e.g. IBM
  - ■ Provides business model for change, motivating adoption
- ☐ Systems integration, e.g. Accenture
  - ■ Provides know-how for implementation
- ☐ Business services, e.g. IBM
  - ■ Provides for ongoing assimilative partnership in achieving new capabilities

Summary conjectures

- Consultancies serve to increase both the rate and extent of diffusion of an IT innovation
    - They articulate and promulgate organizing visions
    - They speed the rate and extent of adoption, in particular
    - They provide important know-how for replicable implementation
- Consultancies also exploit and amplify the hype and fashion associated with an IT innovation (see also, David and Strang, 2006)
    - They can make money on bandwagons
    - They may contribute more to mindless, than to mindful innovation with IT
- Consultancies contribute relatively little to the assimilation of an IT innovation within and across firms (except where ongoing business services are provided)
    - Firm capabilities achieved may differ significantly from those originally envisioned (as with ERP)
    - Firms may achieve very different outcomes from assimilating the same IT innovation

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