

Effects of Institutionalization & Resource Dependence on IT Assimilation

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Research Questions

- Do factors **outside** organizations matter to the assimilation of new IT?
- If so, **what** factors matter and **when** do they matter?

Information Technology Innovation

- IT Innovation: IT new to the adopting unit
- Diffusion: Innovation spread across and within adopting organizations
- Innovation journey (Swanson & Ramiller 2004)
 - Comprehension
 - Adoption
 - Implementation
 - Assimilation
 - Rejection/abandonment

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Assimilating IT Innovation

- Assimilation
 - Outcome: extent to which new IT is **used** and becomes **routinized** in the activities of projects or processes (Purvis et al. 2001)
 - Process
- Assimilation as **choice**
 - Assimilation gap (Fichman 1999)

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Factors Affecting IT Assimilation

Characteristics of

- Innovation
 - maturity complexity transferability divisibility...
- Innovation context
 - Internal: size, absorptive capacity, top mgmt. beliefs and support, training, infrastructure...
 - **External**: institutional pressures (Liang et al. 2007)
- Innovation x innovation context
 - Compatibility of innovation with organization

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External Pressures for Assimilation

- Institutional Theory (??)
 - Pressures from institutional environment
 - Mimetic: uncertainty drives imitation
 - Coercive: regulation and power
 - Normative: profession and culture
- Resource dependence theory (RDT)
 - Pressures from exchange partners
- Theoretical confounding

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Hypotheses

- H1:
 - Institutional pressures → assimilation
- H2:
 - Effect of mimetic pressures **declines**
 - Effect of coercive pressures increases
 - Effect of normative pressures increases
- H3:
 - Exchange partner pressure → assimilation

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Methods

- IDC surveys of *Fortune 1000's* ERP assimilation (1996-2006)
- DV: # functions + % of biz processes
- IVs:
 - Institutional pressures:
 - Competition, industry standard & association, law
 - Exchange partner pressures:
 - Investors, suppliers, customers
- CVs:
 - Info integration, coordination, op. efficiency, top mgmt. support, size, ERP investment, time

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Regression on ERP Assimilation (1)

	96	97	98	99	00	01	02	03	04	05	06
Investors											
Suppliers											
Customers											
Competition											
Industry std.											
Industry asstn.											
Law & regulation											

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Regression on ERP Assimilation (2)

	96	97	98	99	00	01	02	03	04	05	06
Info. integration											
Coordination											
Op. efficiency											
Top mgt. suppt.											
Cumulative \$											
#FTE n IT											
Yrs since adopt.											

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Implications

Theoretical

- ▣ Conventional wisdom applies to assimilation
- ▣ Institutional pressures **in** organizations
- ▣ Exchange partner pressures depends on time – level of institutionalization

Methodological

- ▣ Consider both internal & external
- ▣ Differentiate factors longitudinally

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Revisiting Research Questions

Do factors outside organizations matter to the assimilation of new IT?

Yes. Assimilation is **not** internal process.

If so, what factors matter and when do they matter?

Institutional pressure or resource dependence is necessary but insufficient

Theories don't converge; they complement each other.

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