

# Working Under Grey Skies: Information Systems Development and Social Mechanisms in a Post-merger Context

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# Social Theories in IS and Causal Explanation

- ▶ Types of theory used in IS (Gregor, 2006):
  - For analyzing (frameworks, taxonomies)
  - For explaining
  - For predicting (grand theories – TAM, DeLone & McLean success factors)
  - For design and action (how to do something)
- ▶ Middle range theory (in sociology) – approach to theory construction aimed at integrating theory and empirical research; are built inductively from empirical data; answers *why* and *how* questions
  - Explanatory theorization is a middle range theory approach (ex. Structuration th.)
- ▶ There is tradition of adopting and adapting general theories of high abstraction by refining and extending them to make them suitable to IS phenomena
  - Started with Orlikowski and Robey with structuration (dialectical view of material and social agency) lens that lead to the different practice perspectives with its latest lens of sociomateriality.
- ▶ Advice not given to PhD students to be bold in their descriptions when they do qualitative research → The problem: strong statements are most of the time based on causality.

# Social Theories in IS and Causal Explanation

- ▶ So how to create stronger questions that would lead to stronger statements.
  - Example: The link between more available IT in a country and that country's economic growth. What is the direction of the link between the variables?
- ▶ Philosophy of science suggests 2 ways of constructing explanation:
  - By fitting obs. phenomena in general theories (testing propositions derived from theories)
  - By identifying underlying causal assoc. and processes (will explain specific phenomena – middle-range theories)
- ▶ IS and OS has imported theories to fit the phenomena studied in the field (TCE, Institutionalism) – they cannot cover all new forms of organizing (Davis & Marquis, 2005)
- ▶ Alternative – theory bldg. by applying adapted social theories and empirically discovering causal paths that generate new concepts (ex. Technology-in-practice – Orlikowski 2000; Authoritative knowledge – Suchman, 2002)

# Social Theories in IS and Causal Explanation

- ▶ **Seminal article of Markus & Robey (1988)**
  - Logical Structure: Variance model (X causes Y validated with statistics); causality is taken for granted and never investigated (only its strength) – necessary and sufficient
  - Process models (logical link b/w initial conditions and outcomes via tracing causes in sequences of events that connect them) – necessary
- ▶ **Explanatory research based on:**
  - Builds on existing theories of various levels abstraction – such practice theory – to construct a theoretical framing for the research question
  - Traces in empirical cases causal processes that bring about the phenomenon under study (ex. Levina & Vaast, 2005)
- ▶ **Social mechanisms to explain causality**
  - Processes composed of actions, events (Goh et al., 2011), and “chains or aggregations of actors confronting problem situations and mobilizing more or less habitual responses” (Gross, 2009, p.368).
  - Show intermediate logical links by which a certain outcome follows from a set of initial conditions (exist in IS explanations without being mentioned as such – ex. Rivard & Lapointe, 2005 – various resistance behaviors)
  - E-Voting in Brazil – Avgerou (2013)

# Social Theories in IS and Causal Explanation

- ▶ Social mechanisms explanations cannot be generalized to predict the outcomes of certain initial conditions: they are incomplete and indeterminate and context-bound
  - Causal relationships in social theories are unstable – subject to actors' understanding of the intended or unintended consequences of their actions; they are most of the time recursive rather than linear.
  - Baskerville and Lee (2003) generalizability: generalizability of the conclusions from empirical statements to theoretical statements
- ▶ Methods for tracing social mechanisms
  - Narratives analyses – on verbs that describe actions producing transformation of initial conditions
  - Elicit the reasoning that drove actors to act in a particular way
  - Confirm validity of conjectured social mechanisms with methods such as discourse analysis, comparative case studies.



# Mergers and Acquisitions

## ▶ Motivation

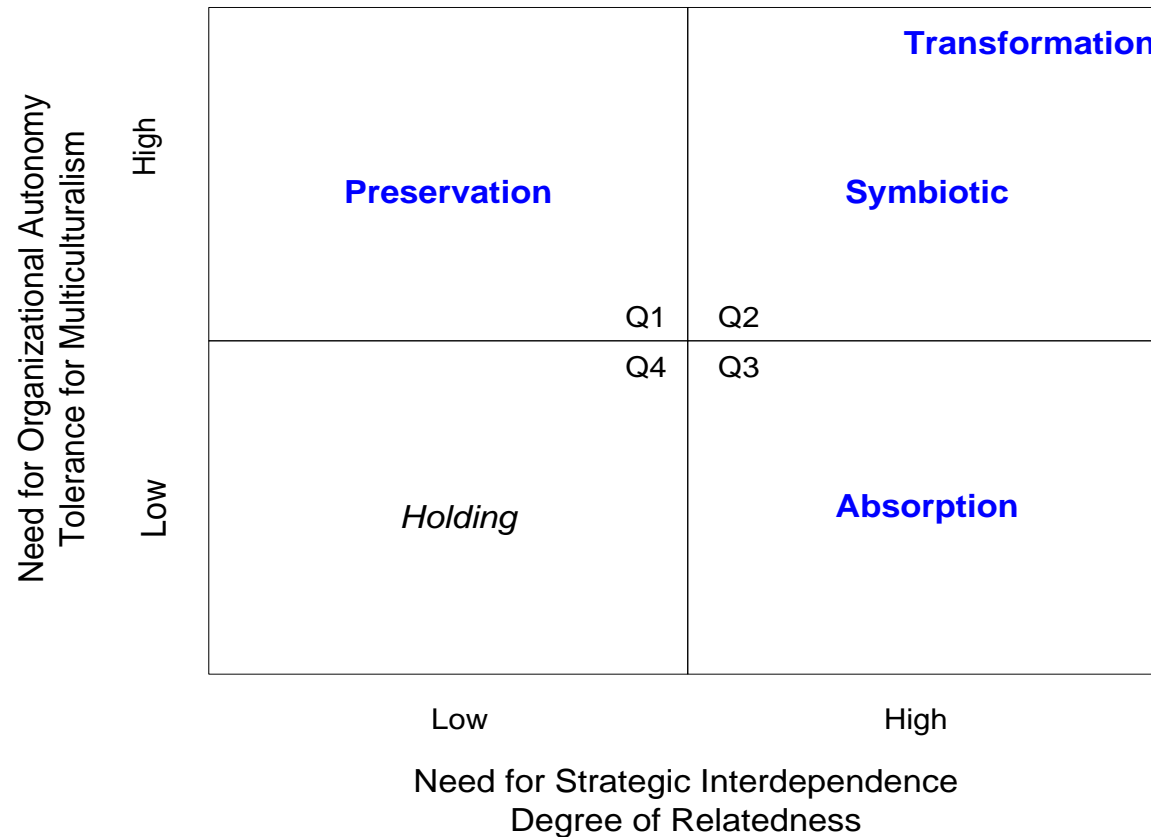
- Mergers as major strategic tool, success rate low & dilemma of integration vs. preservation
- Post-merger integration (PMI) phase is most challenging
  - PMI – different schools of thought
  - Problems: employees' stress, dissatisfaction and resistance  
Causes: perceptions of inter-group differences, incompatible organizational cultures, feelings of exclusion, lack of organizational identification, and organizational identity ambiguity
- IT function integration under-studied

## ▶ Goal of the research

- New ISs need to be developed in PMI
- To understand the collaboration-triggered challenges encountered when new systems are developed/implemented to support an organization that emerges from a PMI.

# Theoretical Foundations: The four generic PMI approaches

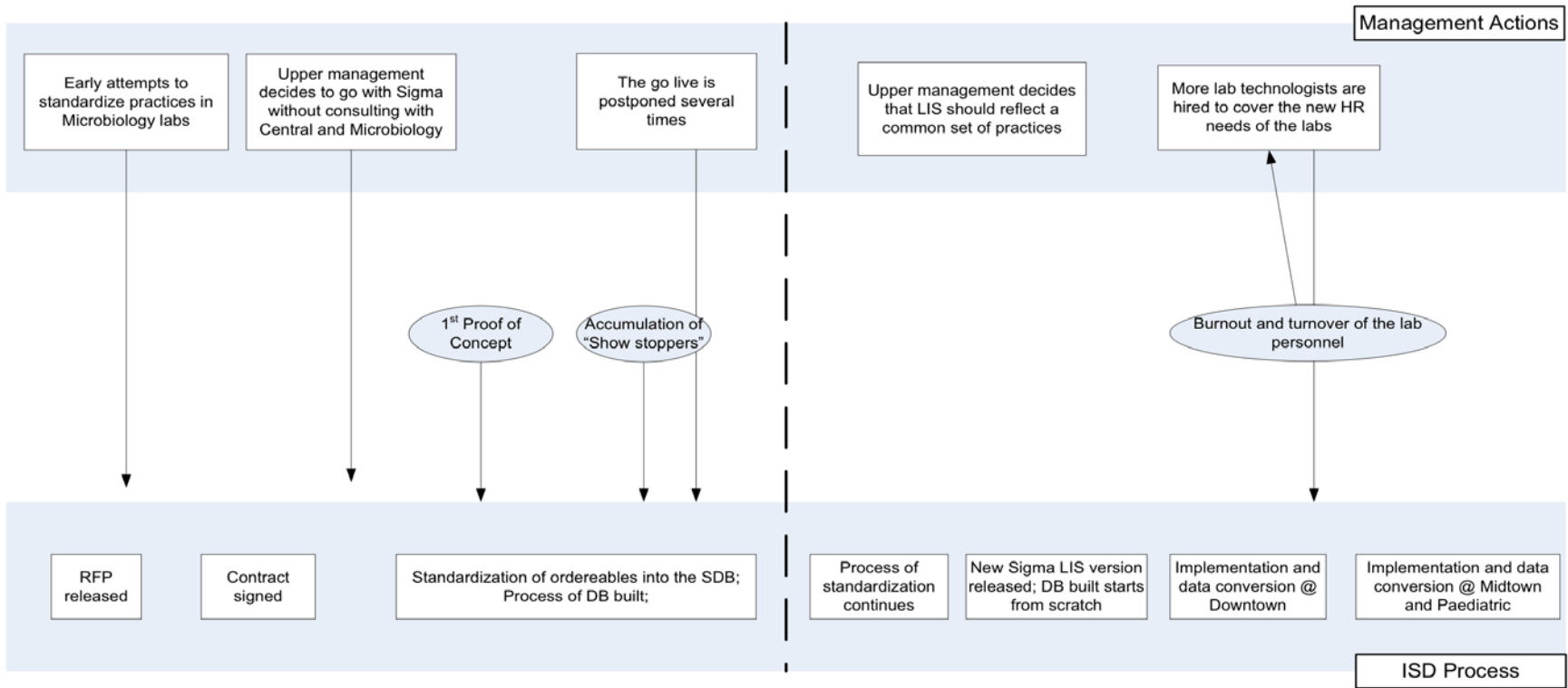
Ideal PMI Approaches (adapted from Ellis 2004)



# Research Methodology

- ▶ Case theory building approach (Eisenhardt & Graebner 2007)
- ▶ Qualitative case design within the same organization
- ▶ THC is the result of a merger of three large independent Canadian teaching hospitals
- ▶ Data collection: open-ended interviews (Case 1: 15; Case 2: 12), archival and historical data – triangulation
  - Informal conversational strategy
- ▶ Retrospective cases – Ambulatory Appointment Information System (AAIS) and Lab Information System (LIS)
- ▶ Data Analysis and Interpretation:
  - Iterative process – cycling between data, emerging themes and relevant literature
  - Case analysis →
    - Themes emerged from the data
    - Coding based on provisional “start list”; emergent codes → identify patterns
    - Temporal bracketing strategy (Langley 1999) – table grids (to decompress events in a series of discrete but connected blocks) → logical chains of evidence





# **Information Systems Development and Organizational Identity in a Post-merger Context**

## Case Study 1

The Teaching Health Centre - The Lab Information System (LIS)

# Main Research Question

*How do differences in organizational identities among team members engaged in collaboration during IS implementation in PMI influence the resulting IS functionality?*

# Theoretical Foundations: Organizational Identity (OI)

- ▶ Defined as mental representations of how organizational members define themselves as social group in terms of practices, norms, and values and understand themselves to be different from members of other organizations.
  - At the individual level, it reflects the shared understanding of what the organizational norms, values and practices are. It is socially constructed
  - At the organizational level, identity can be reified as an organizational asset, something that is durable *or* can be illustrated as a dynamic process, something that is continuously in a “becoming” phase formed by the amalgamation of the distinctive attributes of individuals
  - In PMI context – Identity ambiguity, Identity transition (Gioia et al.; Langlely et al.)

# Theoretical Foundations: Organizational Identity (OI)

- ▶ Link between OI and Org. Culture:
  - Organizational culture provides a symbolic context within which perceptions of organizational identity are formed (Hatch & Schultz, 2002);
  - Thus, identity is part of the belief system (culture) by which organizational members make sense of their actions.
  - Consequently, identities represent the behavioral expressions of the aspects of organizational culture interpreted in a specific context (Fiol, 1991).

# Theoretical Foundations: Sensemaking Perspective

- ▶ Sensemaking is defined as the development of ongoing retrospective meanings of what individuals are doing in an organizational context (Weick, 1995).
- ▶ OI as a set of “negotiated cognitive images” that emerge out of “complex, dynamic, and reciprocal interactions”
- ▶ “Who are we?” - OI is reconsidered and reconstructed through processes of *sensemaking* (Weick et al. 2005)
- ▶ OI construction and the use of plausibility - two basic properties of sensemaking
- ▶ Thus, sensemaking is more about plausible interpretations and expectancies, than about truth, accuracy or getting things right.

# Theoretical Foundations: PMI as a multilevel process of organizational change

- ▶ Organizations are multilevel phenomena (Tsoukas & Chia, 2002)
- ▶ Organizational change can be described as a process theory (described by motors of change) that takes into consideration how processes at different levels of analysis shape each other (Poole & Van de Ven, 2004)
  - *Life-cycle* and *evolutionary* are prescribed modes of organizational development and change because the process unfolds in a pre-established order
  - *Teleology* and *dialectic* are constructive modes of change as the development is discontinuous and unpredictable.
  - Life-cycle and teleology depict the development and change of a single organizational entity, while evolutionary and dialectic depict multiple organizational entities.
- ▶ It can also shed light on how a macro-level pattern may trigger the succession of micro-level events.

# Case Analysis – LIS

- ▶ **Social mechanism 1: Claims of ‘us-vs-them’**

“The Midtown was always a more efficient lab of the three sites. The Downtown was very specialized in all kinds of esoteric testing. *They* were not as efficient as the Midtown was.” (Lab services Director Midtown)

“When you talk to the Midtown people they will tell you they are more efficient than the Downtown and at the Downtown the staff don’t know what they are doing, etc.” (Pathologist Downtown)

- ▶ **Social mechanism 2: Using the old organizational identity**

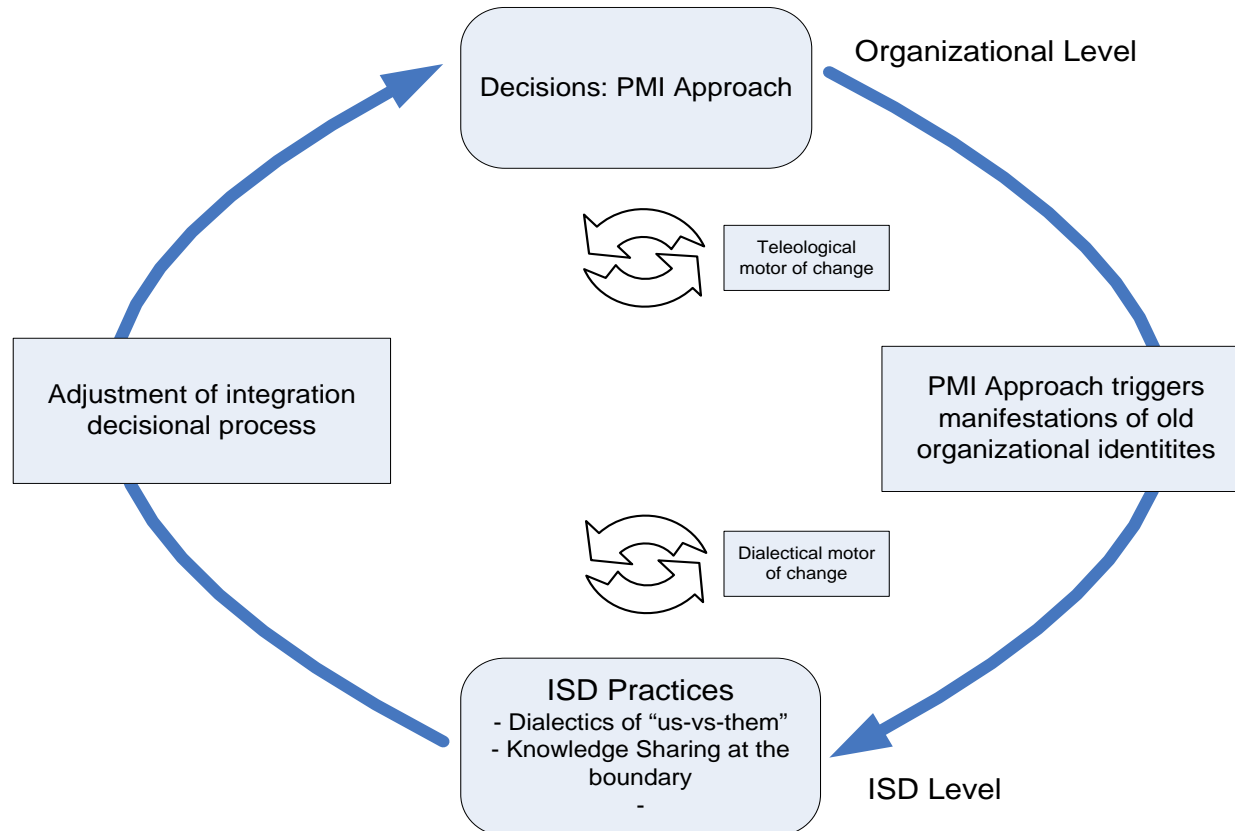
“They didn’t give us a chance to mourn [...]. We were losing the identity that we had as standalone areas” (Lab technician Downtown); “The overall consequence was the loss of institutional identity” (Physician Midtown)



# Research Propositions

- ▶ *P1: Processes of sensemaking of “us-versus-them” will affect the outcomes of the post-merger IS implementation project in a way that the final IS functionality will differ from the planned one.*
- ▶ *P2: Acknowledging and understanding the reason for each set of different organizational identity-based norms and values will enable team members to effectively collaborate during ISD in PMI.*
- ▶ *P3: Individual sensemaking processes of organizational identity corroborated with the decisional adjustment of the PMI approach will shape the final functionality of the new information system.*

# Discussion: A Multilevel Process Theory



## A dual motor of change model

The model operates at two levels: the organization (teleological motor) and the ISD project (dialectical motor).

# Contributions

## ▶ Research

- Using the concept of organizational identity we were able to see that the final functionality of the new IS reflected individuals' understandings of the others' norms, values and organizational symbols.
- Two social mechanisms: us-versus-them; old organizational identity
- Developed a dual-motor process model that provides an explanation of how organizational-level decisional events, impact on how the functionality of new ISs will be designed and developed at a group level, and how those organizational-level events, in turn, are shaped by the group-level events and effects.

## ▶ Practice

- Whilst it is paramount to develop and implement ISs with functionalities that enable post-merger practices, management would be in a better position to make a decision regarding the integration approach if it understood why similar business processes were performed differently in the previously independent organizations.

# **From Boundary Shaker to Boundary Consolidator: Resistance to Integration in a Post-merger Context**

## Case Study 2

The Teaching Health Centre - Ambulatory Appointment Information  
System (AAIS)

# Context

## ▶ Motivation and Background

- Post-merger integration (PMI) phase challenges:
  - Employee stress; Job dissatisfaction → Resistance (Buono & Bowditch, 1990; Vaara, 2002; Stahl & Mendenhall, 2005)
- Boundary spanners – enablers of collaboration during organizational change → B. Shakers (Balogun et al. 2005)
- But are they always pushing for change?
  - They might not find compelling to spend energy to foster change (Levina & Vaast, 2005)

## ▶ Goal of the study

- to illuminate the practices of boundary shakers as they engage with others in cross-boundary collaborative initiatives that aim at changes as part of the post-merger integration process.

# Practice theory (Bourdieu, 1977)

- ▶ Dialectic between social structure and human agency working back and forth in a dynamic relationship
- ▶ Five concepts:
  - *Practices* – coordinated activities of individuals who are informed by a particular organizational context (Cook & Brown 1999)
  - *Field of practice* – agents' positions within the field are differentiated by their status (individual capitals)
  - *Individual capitals* (Bourdieu & Wacquant 1992; Levina & Vaast 2005)
    - *Economic; Cultural; Social* → thru a process of valuation → **Symbolic Capital** (claims of “authoritative knowledge” Suchman 2002)
  - *Boundaries* between fields of practice – differentiation based on practices
  - *Boundary Spanners* – assess knowledge at the boundary and select only the knowledge that they consider pertinent
- ▶ Concepts of field of practice and symbolic capital – could explain actors' resistance during cross-boundary collaboration initiatives in a merger context

# Discursive Legitimation Strategies as Social Mechanisms

- ◆ B. Shakers are involved in power and politics and they usually invest efforts to mobilize to support their cause
- ◆ Sources of systemic power
  1. Critical resources (economic and social capital)
  2. Discursive legitimation (DL)
    - symbolic capital that emerges through a political rationalization process of downplaying one's own interest and making explicit the opponent's interest (Bourdieu, 1993)
    - provides the frames of mind with which individuals make sense of particular situations (legitimacy or illegitimacy) – sensemaking or sensehiding (Vaara & Monin 2010)
- ◆ Discourse of authoritative knowledge (Suchman, 2002)
- ◆ Operationalized as symbolic capital–based discourse (Bourdieu, 1977); It represents the basis for making claims about specific actions of boundary shakers.

# Case Analysis – AAIS

- ▶ Emergence of symbolic capital (Valuation process)
  - ▶ *“[The Paediatric manager] was very quickly to take on a leadership role... We all respected the hell out of her. [The Downtown manager] was always in there advocating for her clerks.” (Midtown manager)*
- ▶ Social mechanism 1: Claims of authoritative knowledge
  - ▶ *“I provided a good sort of leadership in that sense [...] I had fought for getting it for the Paediatric Hospital, because there’s nothing worse than implementing a new system and losing functionality of the things you had before [...] I’m pretty sure they [at the Adult sites] don’t really care what system we have due to the fact that the Pediatric clinics don’t need to communicate any patient data to the clinics on the Adult side of the THC [...] “IS is my field of competence, so it’s very easy to talk to a programmer, and I can turn around and talk to the user because I can adjust the language.” (Paediatric manager)*



# Case Analysis – AAIS

- ▶ Social mechanism 2: Resisting through *boundary consolidation*
  - ▶ Symbolic ‘group-making’ discourses – Bourdieu (1987) – “logic of existence by delegation” especially during struggles to defend the existence of the group
  - ▶ a group exists or emerges when there are agents capable of imposing themselves, are authorized to speak and act officially in its name.

*“I have to say, we being the Paediatric, probably influenced a lot because the whole project actually came from a needs analysis that we had submitted [...]. They moved Orthopedics from the Downtown and centralized it at the Midtown. I think they’ve redone some of their management structure in terms of that. But that didn’t affect us. So the Paediatric will remain independent” (Paediatric manager)*

- ▶ Paediatric manager used her symbolic capital to promote the idea that Adult sites and the Paediatric site were engaged in business processes that were so different that they could not be integrated into the same system (“logic of existence by delegation” or “by proxy” – Bourdieu)
- ▶ *Boundary consolidator* – boundary shakers that use their symbolic capital to reinforce existing boundaries (symbolic boundaries) and obstruct boundary spanning when personal or local interests are at stake.

# Conclusions

- ▶ Creating symbolic boundaries represents a social mechanism used by organizational members to acquire power status, monopolize resources, categorize people and practices and generate feelings of similarity and group membership
- ▶ Boundary consolidation represents a means for resisting the change brought in by a merger.
- ▶ Our data analysis helps shed light on how boundary shakers with symbolic capital can influence boundary-spanning activities.

# Contributions

- ▶ To Org. studies
  - Develops a *discursive conceptualization of resistance* in PMI context, which extends extant theories of resistance to organizational change by including the concept of *boundary consolidator*.
  - enhances our understanding of discursive legitimation during the process of PMI, by identifying two discourses (social mechanisms), *authoritative knowledge* and '*group-making*'
- ▶ To IS practitioners
  - It suggests that change agents may inhibit wider adoption of a new system that would facilitate change of practices since they might perceive the new system as threatening their community's work norms and rules.
- ▶ Future avenues
  - Sociomateriality (Orlikowski 2010; Leonardi 2011) – to shed further light on how practices are negotiated through IS use processes rather than being permanently and systematically selected (e.g. best practices) at a particular moment in time (triggering resistance).

Thank you!