The Strength of Weak Ties: A Relational Perspective on Task Interdependence, Coordination and Performance

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Overview of paper

- Brings together traditional contingency theory with relational (or social capital) perspectives
- Develops hypotheses and tests them in two distinct settings:
  - flight departure process in airline industry
  - patient care process in hospital industry
Task interdependence

- Results from division of labor into distinct tasks to be completed by distinct people
- Fundamental to all work organizations
- Creates a need for coordination
- But most effective form of coordination depends on *degree* of task interdependence
Task interdependence

- When weak,
  coordination best
  carried out through
  ✓ routines
  ✓ scheduling
  ✓ pre-planning
  ✓ standardization
  ✓ supervisory directives

- When strong,
  information
  requirements expand, and coordination best
  carried out through
  ✓ richer, higher
  bandwidth forms of coordination
  ✓ “mutual adjustment”
Broad consensus among organizational theorists on the previous argument

- March and Simon, 1958
- Thompson, 1967
- Van de Ven, Delbecq and Koenig, 1976
- Galbraith, 1977
- Tushman and Nadler, 1978
- Argote, 1982
- Daft and Lengel, 1986

However two fundamental limitations in previous studies
First fundamental limitation

- Task interdependence has been operationalized in terms of existing interactions, rather than how work is divided.
  - Biases results toward finding that existing interactions “fit” with degree of task interdependence.
- Thompson’s typology suggests alternative measure:
  - Weak task interdependencies are those that are pooled, i.e., among people who are performing the same function.
  - Strong task interdependencies are those that are sequential or reciprocal, i.e., among people who are performing distinct but interrelated functions.
Second fundamental limitation

- High bandwidth form of coordination has not been measured with respect to the underlying relationships
- Yet relationships are arguably critical for achieving "high bandwidth" coordination
- ✓ shared goals (Saavedra, Earley and Van Dyne, 1993; Wageman, 1995)
- ✓ shared knowledge (Weick and Robert, 1994; Crowston and Kammerer, 1998; Faraj and Sproull, 2000)
- ✓ mutual respect (Eisenberg, 1990)
Relational coordination

- Reflects the view that relationships play an integral role in high bandwidth coordination
- Multi-item network measure that includes
  - Communication
    - frequent communication
    - timely communication
    - problem-solving communication
  - Relationships
    - shared goals
    - shared knowledge
    - mutual respect

among people who are engaged in a given work process
Relational coordination

- Should have the strongest effect across functions, where task interdependence is greatest
- But this is also where relationships tend to be weakest, due to
  - differences in thought worlds (Dougherty, 1992)
  - membership in competing occupational communities (Van Maanen and Barley, 1984)
Within Functions:
Low Task Interdependence

Expect *strong* ties, with *weak* performance effects

Across Functions:
High Task Interdependence

Expect *weak* ties, with *strong* performance effects
Hypotheses

- Relational forms of coordination among participants in a work process have a more positive impact on performance, the higher the level of task interdependence among those participants.

- Relational forms of coordination among participants in a work process tend to be weaker, the higher the level of task interdependence among those participants.
Study 1: Flight departures

- Nine site study of flight departures over 12 months of operation at Southwest, American, Continental and United
- Measured relational coordination among gate agents, ticket agents, baggage agents, ramp agents and operations agents
- Measured quality and efficiency performance, adjusting for product differences
Study 1: Flight departures

- Operationalized low task interdependence as the interdependencies within functional groups (ie., among gate agents)

- Operationalized high task interdependence as the interdependencies across functional groups (ie., between gate and ramp agents)
Relational coordination stronger when task interdependence is *low*

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But performance effects are stronger when task interdependence is *high*

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<th>Efficiency</th>
<th>Quality</th>
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<td></td>
<td>Gate time/flight</td>
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<td>RC within functions</td>
<td>-.06 (.128)</td>
<td>-.16* (.017)</td>
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Random effects regressions with n=99 site/months, and sites as the random effect. Each equation includes the following control variables: flights/month, length of flight, passengers/flight, cargo/flight, and percent of passengers connecting.
Study 2: Patient care

- Nine hospital study of patient care
- Measured relational coordination among physicians, nurses, physical therapists, case managers and social workers
- Measured quality and efficiency performance, adjusting for patient differences
Study 2: Patient care

- Operationalized low task interdependence as the interdependencies within a given functional group (i.e., among nurses)
- Operationalized high task interdependence as the interdependencies across functional groups (i.e., between nurses & physicians)
Relational coordination higher when task interdependence is low

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</table>
But performance effects are stronger when task interdependence is *high*.

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<tr>
<th></th>
<th>Efficiency</th>
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<tr>
<td></td>
<td>Length of stay</td>
<td>Patient satisfaction</td>
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<tr>
<td>RC within functions (low task interdep.)</td>
<td>-.03 (.476)</td>
<td>.05 (.297)</td>
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<tr>
<td>RC across functions (high task interdep.)</td>
<td>-.31*** (.000)</td>
<td>.22*** (.000)</td>
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Random effects regressions with n=531 to 599 patients, and hospital as the random effect. Each equation includes the following control variables: surgical volume, type of surgery, patient age, race, gender, marital status, comorbidities, pre-operative functioning, overall health, psychological well-being.
Theoretical contributions

- This paper explores the conditions (contingencies) that increase the performance effects of social capital.
- Contributes further support for the argument regarding “strength of weak ties” (Granovetter, 1973).

Weak ties are important because:

- they connect people who are most differentiated in role and function
- they therefore enable coordination of highly interdependent work processes
Theoretical contributions

- Durkheim (1933) argued that the division of labor creates increased task interdependence, and therefore increased social cohesion.
- Blau (1972) argued that the same is true within organizations.
- We see here that task interdependence does not automatically lead to social cohesion.
- Organizations have to strive actively to make it happen -- but there is a payoff for their efforts.