

Cross-Functional Collaboration, Knowledge Transfer and Product Innovativeness: Contingency Effects of Social Context

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Introduction

- Hypercompetitive environments: need for innovation (D'Aveni, 1994)
- Ability to develop new products and services depends not only on managing external relationships (Payne and Frow 2005), but also on ensuring buy-in from different functional areas internally (Srivastava et al. 1998)
- Cross-functional collaboration is fraught with challenges, given varied “thoughtworlds” (Griffin and Hauser 1996) and attitudes (Gupta et al. 1986), which makes the combination of knowledge to create new products difficult (De Luca and Atuahene-Gima 2007)
- Thus, the translation of cross-functional collaboration into product innovativeness is not automatic, because such collaboration cannot be easily regulated and often is intangible in nature (Appley and Winder 1977).

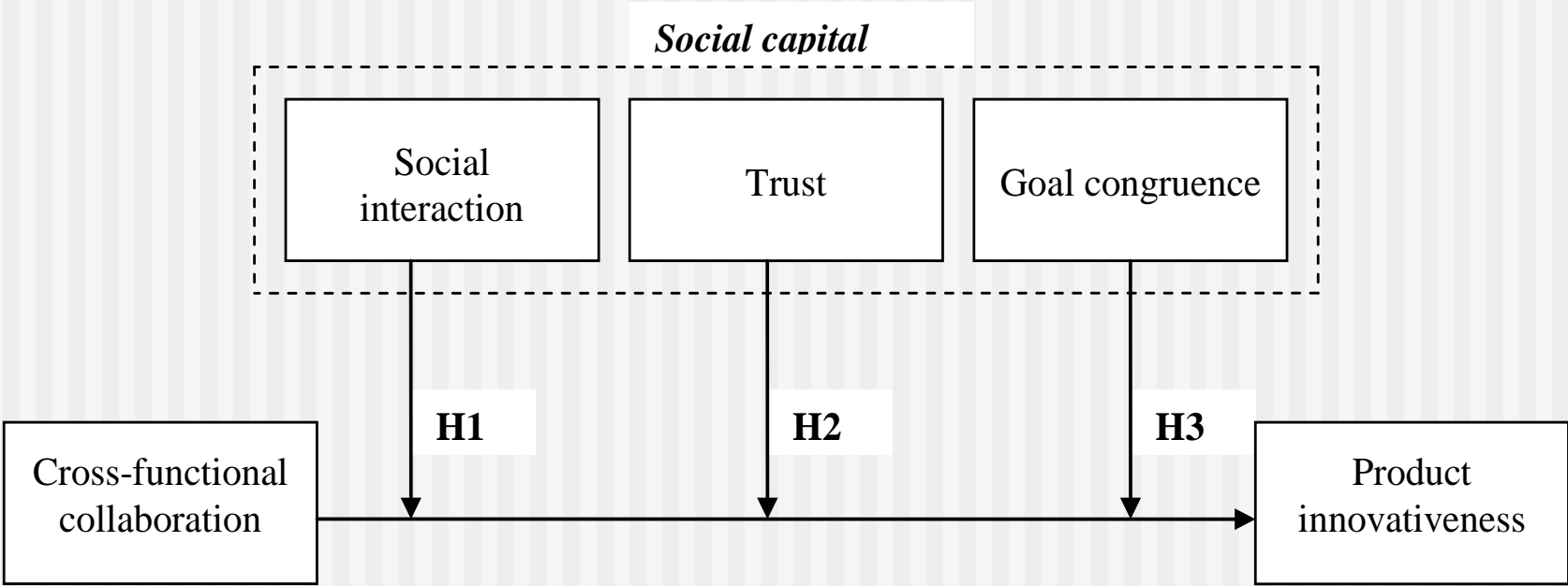
Introduction

- Intra-firm knowledge transfers do not occur in isolation but rather are embedded in a social context (Nahapiet and Ghoshal 1998).
 - The nature of such context can play a prominent role in whether function-specific knowledge gets unlocked and combined to benefit the whole organization.
- The aim is to better understand how firms' product innovativeness might be driven by the interplay between cross-functional collaboration and the social context in which such collaboration takes place.
 - We address this question by considering the nature and role of social capital among functional departments.

Social capital

- Social capital has emerged in management and organization research as a key aspect of organizations' social context, in that it promotes internal knowledge transfer and the creation of new knowledge and intellectual capital (Nahapiet and Ghoshal 1998).
- Three dimensions of firms' internal social capital are:
 - **Social interaction** captures the strength of the social relationships between functional managers and the informal nature of these relationships (Yli-Renko et al. 2001).
 - **Trust** refers to functional managers' positive expectations about others' motives in situations entailing risk and vulnerability (Boon and Holmes 1991).
 - **Goal congruence** refers to the extent to which functional managers across different departments share the same goals (Xie et al. 2003).

Conceptual framework



The Role of Social Interaction

- Social interaction amplifies the instrumentality of cross-functional collaboration for product innovativeness
 - Enhances ability to learn from collaborative exchanges between exchange partners (Larson, 1992; Uzzi, 1997)
 - Helps settle disagreements and conflicting points of view that may emerge in cross-functional exchanges (De Dreu, Weingart, and Kwon, 2000)
 - Increases the firm's absorptive capacity and thus the ability to tap into a broader array of knowledge when managers collaborate with peers in other departments (Woodman et al., 1993)

H1: The positive relationship between cross-functional collaboration and product innovativeness is moderated by the level of social interaction, such that this relationship is stronger for higher levels of social interaction.

The Role of Trust

- Trust amplifies the instrumentality of cross-functional collaboration for product innovativeness
 - Reduces the time and money consumed in monitoring the behavior of peers in other departments (Zaheer, McEvily, and Perrone, 1998)
 - Reduces fears of criticism or looking foolish (Atuahene-Gima and Murray, 2007) and thus enhances the willingness of functional managers to implement risky actions
 - Increases confidence in the truthfulness of proposed opinions and the chance that functional managers take each other's opinions seriously (Uzzi, 1997)

H2: The positive relationship between cross-functional collaboration and product innovativeness is moderated by the level of trust, such that this relationship is stronger for higher levels of trust.

The Role of Goal Congruence

- Goal congruence amplifies the instrumentality of cross-functional collaboration for product innovativeness
 - Increases willingness to share complete information with one another (McDonough, 2000; Pinto, Pinto, and Prescott, 1993; Xie, Song, and Stringfellow, 2003)
 - Induces a common “dominant logic,” that is, a preference for how to process knowledge and how to solve problems (Lane and Lubatkin, 1998) which in turn creates a deeper understanding of which knowledge is most important to solve a particular problem (Lane and Lubatkin, 1998)

H3: The positive relationship between cross-functional collaboration and product innovativeness is moderated by the level of goal congruence, such that this relationship is stronger for higher levels of goal congruence.

Sample and data collection

- 1,500 firms operating in Canada
- Variety of industries
- Preliminary interviews with functional managers
- Final sample: 952 firms
 - Random selection of one functional manager per firm (marketing or technical function)
 - Survey (three rounds)
 - 232 completed surveys (24% response rate)
 - No response bias

Measures (sample items)

Product innovativeness ($\alpha = 0.80$; CR = 0.81; AVE = 0.52) (4 items)

- Our company accepts demands that go beyond existing products and services.
- We focus on inventing new products and services.

Cross-functional collaboration ($\alpha = 0.80$; CR = 0.80; AVE = 0.58) (3 items)

- The other function carries out its responsibilities and commitments most of the time.
- Spending time and effort on developing and maintaining a relationship with the other function is worthwhile.

Social interaction ($\alpha = 0.81$; CR = 0.83; AVE = 0.57) (4 items)

- People in the two functions spend significant time together in social situations.
- People in the two functions maintain close social relationships with one another.

Trust ($\alpha = 0.90$; CR = 0.90; AVE = 0.69) (5 items)

- People from the other function can always be trusted to do what is right for us.
- People from the other function always keep the promises they make to us.

Goal congruence ($\alpha = 0.86$; CR = 0.86; AVE = 0.62) (4 items)

- People in the two functions share a similar vision regarding the company's future.
- People in the two functions think alike on most issues.

Results

Table: Regression Results (Dependent Variable: Product Innovativeness)

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Decision autonomy	.174**	.133*	.156*	.134*	.166**	.159*
Shared responsibility	.172**	.071	.072	.079	.081	.077
Company size (log employed)	.034	.032	.038	.044	.046	.043
Company age (years)	-.006***	-.007***	-.006***	-.006***	-.006***	-.006***
Industry: manufacturing ^a	.566	.504	.550	.578	.591	.590
Industry: services	.456	.428	.442	.488	.479	.495
Industry: mining	.149	.194	.186	.239	.282	.274
Industry: construction	1.093*	1.053 ⁺	1.115*	1.127*	1.153*	1.147*
Industry: transportation	.091	.130	.162	.077	.192	.129
Industry: wholesale	.546	.618	.633	.696	.696	.695
Industry: retail	1.189*	1.232*	1.254*	1.122*	1.091*	1.218*
Marketing-related function ^b	-.032	-.038	-.039	-.044	-.038	-.033
Cross-functional collaboration		.227*	.214*	.255*	.257*	.240*
Social Interaction			.188*	.136 ⁺	.212**	.199*
Trust			-.059	-.030	-.047	-.048
Goal congruence			-.060	-.057	-.093	-.084
H₁: Cross-functional collaboration × Social interaction				.249**		
H₂: Cross-functional collaboration × Trust					.215**	
H₃: Cross-functional collaboration × Goal congruence						.133*
R ²	.184***	.208	.230	.263	.261	.242
ΔR-square		.024**	.022	.033**	.031**	.012*

Contributions to Research

- We tested and confirmed the argument that a firm's ability to leverage cross-functional collaboration into product innovativeness depends on the extent to which its internal social context facilitates knowledge flows across functional departments (De Luca and Atuahene-Gima, 2007).
- The study contributes to the scholarly conversation about the internal conduits for product innovativeness (e.g., Lovelace, Shapiro, and Weingart, 2001) and explicates how a firm can optimize its internal social context to exploit its integrative efforts across functional departments.

Contribution to practice

- Implications not only for the intra-firm context but also for the conversion of inter-firm collaboration into innovative outcomes:
 - When firms co-develop new products or enter new markets, their top management needs to consider the social context in which managers in “boundary spanning” roles operate.
 - Top management should encourage informal interactions across firms, breed trust among boundary spanners, and stimulate firms’ adherence to the common goals of the inter-firm partnership.
 - The relational boundary conditions studied herein—social interaction, trust, and goal congruence—encourage boundary spanners to focus on “pie-expanding” efforts that benefit both firms, rather than the fight for resources.
 - It is advised to recruit managers who are not only proficient in their respective domains of expertise, but also are effective team players, willing to go out of their way to build and cultivate a “social community” across their organization’s borders.

Thank you