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ABSTRACT

In this paper, we explore the basic premise that IT service quality follows the structure of business/IT interactions and thus highlight an important organizational design issue in IT governance. Motivated by concepts used in social network theory we build a model that proposes a causal relationship between structural characteristics of social business/IT networks and IT service quality. The model is empirically evaluated and explained using case studies based on five interviews in three firms. Thus we extend the general assumption that the business/IT partnership is crucial for IT service quality by identifying structural characteristics of the network among and between business and IT staff which enhance this partnership. Important results are that strong and bridging ties at the business/IT interface are crucial for IT service quality and that a good integration of interface actors within their own unit supports IT service quality.

KEY WORDS

IT service quality, business/IT interface, social network analysis, strong ties, bridging ties, alignment

INTRODUCTION

Research has conclusively shown that alignment of business and IT is a strong driver for IT service quality (e.g., Bergeron, Raymond and Rivard, 2004; Kearns and Lederer, 2003; Reich and Benbasat, 2000). Wade and Hulland (2004) stress that the business/IT partnership is among the IS resources most suited to help firms gain and sustain competitive advantage. Now, the question remains what the social network structures of such partnerships are and what interaction patterns within and among IT and business exactly are advantageous for IT service quality and thus IT effectiveness. Theoretically, the challenge is to disclose what mechanisms lie behind observations like "business/IT partnerships are important", while a managerial challenge is to define what this means for structuring business/IT interactions in daily operations. Research suggests looking at informal and social structures in order to meet this challenge. Chan (2002) advocates that the informal structural alignment, the "relationship-based structures that transcend the formal division of labor and coordination of tasks" (Chan, 2002, p. 106), is crucial for generating business value from IT. We adopt this socio-structural view and investigate the following guiding research question: *How are particular interaction patterns within and between business and IT units associated with IT service quality?*

Motivated by concepts established in social network theory we develop a research model that discloses the role and impact of cross-domain interaction patterns and intra-unit embeddedness of employees on IT service quality and that proposes advantageous interaction patterns. These propositions are qualitatively verified and further explained by the help of case studies, in which we use SNA-measures to explain our constructs in detail. Finally, we discuss results, limitations, and contributions.

THEORETICAL BACKGROUND

Despite an increasing awareness of the importance of structure in the IT governance literature, it is hard to answer the question which structures need to be set up between business and IT units to improve IT service quality. General subjects

discussed in this realm are central vs. decentral vs. hybrid IT organizations and the antecedents of organizational archetypes (e.g., Agarwal and Sambamurthy, 2002; Brown and Grant, 2005; Weill and Ross, 2005), the investigation of important capabilities and skills of IT (e.g., Aral and Weill, 2007; Feeny and Willcocks, 1998; Rockart, Earl and Ross, 1996) or the role of CIOs and the capabilities they must possess (e.g., Earl and Feeny, 1995; Smaltz, Sambamurthy and Agarwal, 2006). Yet, the vital importance of the relationship structure between business and IT is underlined. Literature offers some valuable insight into the design of cross-domain structures by showing that communication and relationship building are important drivers for IT service quality (Feeny and Willcocks, 1998; Kearns and Lederer, 2003; Reich and Benbasat, 2000). Consequently, the question is which social network structures among and within business and IT units foster effective communication.

In order to systematically understand and describe structure and its impact, we draw on social network analysis (SNA) and related theories since they are based on the assumed importance of relations between actors to their success and support the analysis of these relations rather than of individual actor attributes. SNA offers a set of formalized measures to describe structure and make different patterns comparable (Wasserman and Faust, 2007). Related theories (e.g., Brass and Burkhardt, 1992; Granovetter, 1973) build on these concepts and propose potential interpretations by analyzing precise situations and explaining the behavior and success of actors. One of these theories is the weak-tie-theory by Granovetter (1973), which distinguishes between strong, weak and bridging ties. It defines *strong ties* based on "the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services" (Granovetter, 1973, p. 1361) and explains that they foster "greater motivation to be of assistance and are typically more easily available" (Granovetter, 1982, p. 113). *Weak ties* are defined by a lack of the above, while *bridging ties* are ties that provide the only path between two points in a network. Ties can also be *local bridges*, i.e., de facto bridges because the lengths of alternative paths hinder communication along these paths due to cost and information distortion.

Granovetter (1973) emphasizes the importance of weak ties arguing that weak ties are more likely to be local bridges than strong ties are, thus creating more and shorter paths more frequently. This is advantageous because "in interpersonal flows of most any sort the probability that 'whatever it is' will flow from person i to person j is […] inversely proportional to the length of such paths [the paths connecting i and j]" (Granovetter, 1973, p. 1365). Thus local bridges enhance this probability.

MODEL DEVELOPMENT

In the following, we build on social network theory in order to develop a model that describes the impact of three characteristics of the social network between and among actors in business and IT units on *IT service quality*. We distinguish between three types of actors: *interface actors* who interact frequently with actors of the respective other unit (business or IT) as well as *management actors* and *non-management actors*, i.e., managers or operations staff within the business or IT unit.

The network structures proposed in our model are

-    a *combination of strong and bridging ties at the interface* between business and IT that helps improve the awareness of knowledge as well as the capability to successfully make use of knowledge,

-    the *embeddedness of interface actors in their own unit* that ensures that information from the respective other unit is not only exchanged with the interface but with the unit itself, and

-    the *integration of interface actors with their own management* that ensures funding and political foundations for required actions.

Dependent variable

Our main argument is that business/IT interaction structures determine *IT service quality* (Kearns and Lederer, 2003; Reich and Benbasat, 2000). We choose this dependent variable because IT value research suggests using intermediate-level dependent variables, like service quality, that are empirically and theoretically manageable regarding their antecedents (interaction structures) and consequences (firm performance) (Melville, Kraemer and Gurbaxani, 2004; Wade and Hulland, 2004). Moreover, recent alignment research has revealed that structural alignment generally influences IT service quality positively (Chan and Reich, 2007). We also considered the requirements for dependent variables proposed in the resource-based perspective, which handles social network structures as a socially complex resource possibly offering a sustainable competitive advantage, and found that service quality is an adequate endogenous variable since it (1) provides an assessment of performance, (2) incorporates a competitive assessment element, and (3) addresses the notion of performance over time (Wade and Hulland, 2004).

In the following, we propose structural properties of the business/IT interaction network possibly related with IT service quality.

Independent variables

Ties between interface actors

In a study of project alliances, Tiwana (2008) analyzes structures that best support innovative projects in integrating knowledge from allied projects. He builds on the distinctive advantages of strong and bridging ties. While the first are crucial to the integration of complex knowledge, the latter, being weak ties (Granovetter, 1973), hinder the integration of complex knowledge but increase the actors' awareness of knowledge pieces because they connect otherwise not connected subgroups (Tiwana, 2008). Taking the analysis to a complete portfolio of ties, Tiwana (2008) investigates the interplay of both types and empirically shows that bridging and strong ties have a positive interaction effect with regard to integration of complex knowledge in innovative projects. He explains that teams can use the best of both types making knowledge available through bridging ties and integrating it with the help of strong ones.

Drawing on Kearns and Lederer (2003) as well as Reich and Benbasat (2000), who show that communication and especially integration of complex knowledge is a key driver for IT service quality, we expect that a combination of strong and bridging ties positively influences knowledge exchange between business and IT and thereby IT service quality. This is consistent with the call for strong, trust-based relationships between business and IT, frequently posited in alignment literature (e.g., Chan and Reich, 2007; Reich and Benbasat, 2000).

If, for example, the IT unit discovers a problem with an IT system, it is easier for the IT interface actor to communicate this to her counterpart on the business side if they have a strong, trust-based relationship. If, due to a lack of trust, she withholds this information, the IT unit will probably not be able to correctly resolve the issue because they lack relevant information, which the business unit could provide.

On the other hand, it is not ideal either if all IT members are strongly connected with all relevant business actors. First, the development and maintenance of strong ties is associated with cost (Granovetter, 1973). But even if it were not for the cost, this would not be helpful either. Imagine there was an IT interface actor who was connected to all business actors in the relevant unit. There would be a good chance that she would be told similar circumstances multiple times and in contradictory ways. So not only would she spend a significant amount of time, listening to what she already knows, she would also need to spend time resolving conflicts between differing versions of the issue.
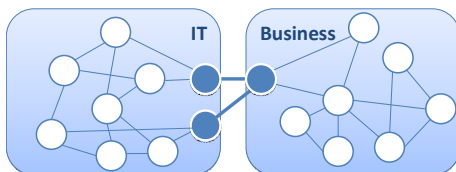
Hence, we propose the following hypothesis

Figure 1. Ties between interface actors (H1)

H 1: A combination of strong and bridging ties between interface actors from business and IT is beneficial for IT service quality.

We therein define strong ties following Granovetter (1973) and focus on trust and reciprocal services, including motivation and availability, defining trust as "the belief that the results of somebody's intended action will be appropriate from our point of view" (Misztal, 1996, p. 9). As we examine work-related interactions, we focus on the intensity of the above with respect to the defined context and rate the strength of a tie in comparison to other work-related ties. Similarly, our definition of (local) bridges focuses on the network-aspect of connecting otherwise not connected subgroups (Granovetter, 1973; Tiwana, 2008) rather than on background-diversity (Tiwana, 2008).

Embeddedness of interface actors in their own unit

Tiwana (2008) also implies that interface actors should be strongly connected within their own units. Only when they interact strongly and communicate frequently with many other actors within their unit, it is possible to integrate the information received from other departments into their own unit or to possess information that can be relevant to the other unit.
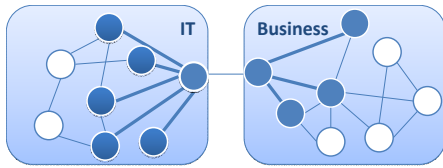
Figure 2. Embeddedness of interface actors in own unit (H2)

Hence, we hypothesize the following:

H 2: Interface actors need to be well embedded within their respective own units in order to best support IT service quality.

Following Granovetter's argument that the probability of a successful information transfer is inversely proportional to the lengths of paths, we operationalize the fact of being well embedded based on the lengths of the paths between the interface actor and the other actors in her unit.

If, for example, the interface actor of the business unit is well embedded, she receives more information about what is going on in her unit more timely and less distorted and can pass the relevant part on to the IT unit so that the IT unit can discuss IT implications and react accordingly, thus enhancing IT service quality. If the interface actor is not well connected and there are long paths between her and the other actors in her unit, she will learn about important information not at all, too late or the information will be distorted so that the IT unit can only react later and eventually based on incorrect information.

Adding to this, Brass and Burkhardt (1992) found in their study of power structures that being connected to powerful people in the organization enhances the power of an actor. Powerful people are in a position to make other actors act in their favor although they would not if it were not for their power (Emerson, 1962), e.g., people are more willing to invest time in listening to what powerful people tell them and to truly consider what they explain. Hence, we conclude that an interface actor with such grown power would be in a better position to support the integration of knowledge from the respective other unit into her own unit, e.g., on the IT side information about a new requirement or on the business side information about a funding for a required legacy upgrade.
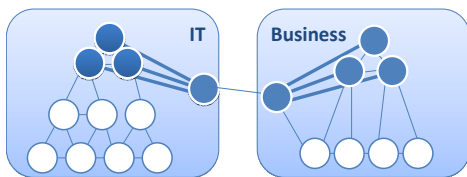

Figure 3. Integration of interface actors with own management (H3)

Hence, we propose the following hypothesis

H 3: Interface actors need to be well integrated with their respective management in order to best support IT service quality.

Model

Figure 4 offers an overview of the hypotheses developed regarding the impact of network characteristics on IT service quality.
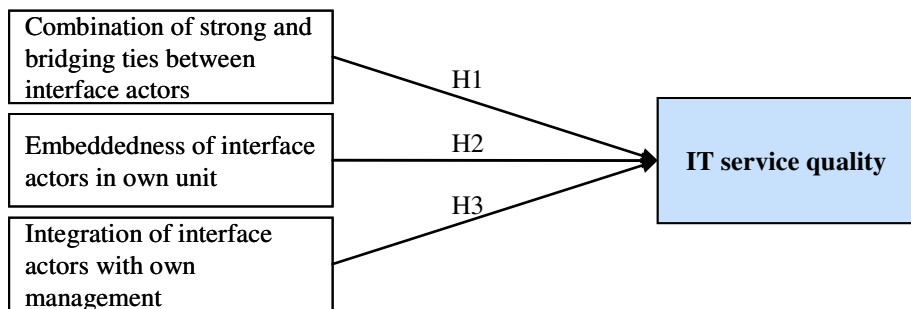
Figure 4. Influence of network characteristics on IT service quality

METHODOLOGY

Case study research

In order to validate our derivations, we conducted three case studies in companies from different industries. We chose this approach because case study research offers various advantages to researchers, e.g., a high likelihood of valid theory evaluation because of the tight connection to detailed empirical evidence, a high likelihood of generating new theories

because of the comparison between different situations in different case studies, and the possibility to adjust the questionnaire during an interview in order to retrieve the most relevant information. These advantages make case studies most appropriate "in the early stages of research on a topic", or when the researcher wants to "provide freshness in perspective to an already researched topic" (Eisenhardt, 1989, p. 548).

As our research aims at shedding light on a researched field, i.e., business/IT partnership, through a new lens seeking for more detailed insights in the influence of interaction structure on IT service quality, case studies show to be the most appropriate approach. We ran a cross-case analysis (Eisenhardt and Bourgeois, 1988) based on five interviews in three firms with different geographical reach and size. In terms of hierarchy, we conducted interviews with senior managers (e.g., the head of IT infrastructure for Europe directly reporting to the CIO) and their employees. In Company A, we investigated a project scenario (development and introduction of a new customer service system), while the other two cases were focused on IT operations. Thus we made sure that our findings were viable not only for a specific scenario.

In each company, we ran interviews with up to three managers who were either working on the IT side and heavily interacting with the business side or working on the business side and interacting with IT frequently. Table 1 provides basic information about the companies and the respective interview partners.

	Company A	Company B	Company C
Industry	Insurance	Telecommunications	Services industry
Number of employees	1,000-2,000	> 10,000	> 10,000
Geographical reach of company	Germany	Germany	Global
Interviewee(s)	Project manager of important IT project directly reporting to the CEO	Person in charge of data warehouse system for sales	Manager for IT in Germany Manager for IT infrastructure in Europe Change Manager Germany
Interview focus	Project led by interviewee	Overall business/IT interface from business point of view	Overall business/IT interface in Germany from IT point of view
Number of employees in focus	<100	<100	1,000 – 2,000 in Germany

Table 1. Companies interviewed

Two of the interviews were conducted by two researchers. Hence, we benefited from their complementary insights and from an increase in data richness and likelihood of new insights, as well as from the enhanced confidence in our findings through convergence of understandings of both researchers and reduction of bias (Eisenhardt, 1989).

Constructs and questions

During our interviews, we discussed our model's constructs individually instead of examining complete hypotheses in order to get unbiased answers. To build a common ground around each construct comparable across all interviews, we based an initial question on SNA-based measures that served as precise illustrations of the constructs, i.e., we did not ask to calculate or estimate the measures but to think about the constructs in terms of these measures and discuss their evaluation .

As we analyzed the business/IT relation from both perspectives (IT and business) our interviewees had different perspectives on IT service quality. We asked them to name the aspect of IT service quality most important to them and to evaluate their company's performance in this respect. These initial questions and if applicable the corresponding SNA-based measures are described in Table 2.

Construct	Initial questions
Independent variables: SNA-based constructs	In the following I will describe three structural characteristics that your business/IT relationship might have and ask you to reflect on these characteristics, describe patterns in your company that mirror them and to evaluate how pronounced they are in your company. In order to give you a better understanding of each characteristic, I will first define them using constructs adopted from social network analysis.
Combination of strong and bridging ties at the interface	Tie strength: see above for detailed definition (Granovetter, 1973) Bridging ties: Local bridges (Granovetter, 1973). We defined that ties were (local) bridges when alternative paths were of length 5 or higher. Combination: Existence of both kinds of ties between interface actors of the business unit and the IT unit.
Embeddedness of interface actors in own unit	Average closeness-centrality of interface actors in the subgraph only containing members of their respective unit, i.e., the standardized sum of path lengths between a specific interface actor and the other actors in his unit (Wasserman and Faust, 2007)
Integration of interface actors with own management	Average closeness-centrality of interface actors in the subgraph containing only themselves and the management in their respective unit (Wasserman and Faust, 2007)
Dependent variable: IT service quality	From your perspective, what would rate the most important aspect of IT service quality? How do you judge your/ your IT unit's performance in this perspective?

Table 2. Constructs

CASE STUDY RESULTS

Overview

Table 3 summarizes the data gathered. Company A and B show high levels of IT service quality, while Company B suffers from lower service quality. Correspondingly, the social network structure characteristics show high variations across the three cases, allowing us to draw a general indication of the correctness of our hypotheses despite the small number of cases.

	Company A	Company B	Company C
Combination of strong ties and bridging ties between interface actors	**High** - Dedicated business actors build the interface to IT teams (bridge) - Cooperation between IT and business actors is full of trust and commitment to assist each other (strong ties)	**Low** - Generally few interaction (no strong ties) - Dedicated interface actors exist but IT is perceived as self-centered (bridges exist but do not execute their task correctly)	**Medium to high** - De facto large parts of the interaction happens via dedicated interface actors on both sides but every actor on the business side can contact IT interface actors (bridges exist but can be circumvented) - Strong trust-based relationships (strong ties)

Table 3. Interview results

	Company A	Company B	Company C
Embeddedness of interface actors in own unit	**Medium** - IT: Dense intra-unit network and good integration of interface, co-location and daily meetings allow for short paths - Business: Integration of interface actors is vary-ing across business units	**Low** - Business: Little interaction with interface actors esp. due to time constraints	**High** - IT and business: High interaction of interface actors within their respective units
Integration of interface actors with own management	**Medium** - IT: Weekly formal meetings between interface actors and IT management - Business: Integration of interface actors is vary-ing across business units	**Low** - Business: Very little interaction with interface actors esp. due to time constraints	**High** - IT: Short paths between interface actors and their IT managers - Business: Business managers often play an important role in IT implementations acting as business owners
IT service quality	**Medium to high** - Implementation results always reflect the requirements of the business side, though not always being the best possible solution	**Low** - Quality of newly released features and system changes often perceived worse than that of products in "beta-status"	**High** - Very good and growing user satisfaction with IT services and system usage according to the yearly user satisfaction survey

Table 3. Interview results (continued)

While our interviewee in Company B stated that

> *"you only hear negative things about IT",*

the consensus in Companies A and C was that

> *"cooperation is not always free of conflict but full of trust and results mirror the business requirements"*

and that

> *"IT service quality as rated by the users is very good and growing year per year".*

In the following, we will look into the hypotheses individually in order to discuss them in more detail and describe the background of why these hypotheses hold true. We will therein begin with hypotheses H 2 and H 3, i.e., the embeddedness of interface actors in their own unit, and subsequently discuss H 1 since the interview results regarding the latter deserve an even more profound discussion.

Validation of hypotheses

Embeddedness of interface actors in their own unit

Looking at H 2, we find those companies with a dense intra-unit social network exhibiting higher levels of service quality. This also resonates in a statement of one interviewee in Company C who justifies his claim for short paths, i.e., good integration of interface actors, based on his experience that

> *"which ever information needs to be passed between business and IT should not need to cross more than four persons because otherwise it has a high likelihood of either getting distorted or not reaching the recipient at all."*

Hence, with shorter paths between an interface actor and the other staff in her unit the overall paths between the relevant business and IT actors are shortened, decreasing the likelihood of distortion or loss of information.

In Company B with lower IT service quality, there is insufficient communication between interface actors and their respective units, especially on the business side where

> *"business actors neglect the communication with the interface actors because it is supplanted by non-IT-related day-to-day business".*

We also found evidence for H 3 in Companies A and C, who ensured that the interface actors had a close connection with the management in their units. They both set up meetings between the interface actors and the management to allow for frequent communication and to ensure that important information from the other unit were fast integrated and made available also to the management. Company B with low IT service quality had less interaction between the interface actors and their management, particularly on the business side, where our interviewee stated that

> *"communication between the interface and the business unit management is too rare and often neglected because of time constraints."*

One of our interviewees in Company C justified the importance of management integration with the fact that

> *"only high-ranking actors are in a position to raise funding and to lay the political foundations for changes."*

Hence, interface actors can only promote these changes if they have access to the management.

Ties between interface actors

H 1 was also generally confirmed, however, it deserves a closer investigation. In Companies A and C, we found that strong ties between business and IT were crucial and associated with high IT service quality. One interviewee in Company C claimed that

> *"it is of vital importance for success that the involved persons have been in the company for several years, know each others' backgrounds and trust each other."*

Another person explained the importance of strong ties as follows:

> *"The good cooperation and hence IT service quality is amongst others based on the confidence that my counterpart will always act in the interest of the company instead of his own interest",*

which is very close to the definition of trust by Misztal (1996). In Company B with lower IT service quality we found a lack of strong ties. Our interviewee stated:

> *"IT is very self-centered and doesn't interact a lot with the business side."*

He emphasizes and explains the importance of strong ties by describing a situation where missing trust reduced service quality because

> *"the interface actors from the IT unit did not communicate a reduction in functionality of a specific project to the business unit."*

As a result, the business unit could not prepare for this change in scope, resulting in problems when the system went live.

However, our interviewee underlined the importance of strong ties based on a project that had strongly profited from a business manager's former work in the IT and his strong ties there.

Having confirmed the importance of strong ties, we looked at bridging ties. Our interviewees favored the existence of bridging ties on the interface instead of a complete network between all business and IT employees because of efficiency and control reasons. One interviewee in Company C highlighted that

> *"especially in highly decentralized organizations a dedicated interface between business and IT is crucial to prevent uncontrolled evolution of IT."*

However, H 1 was not verbatim confirmed. Our interviews in Companies A and C revealed that the strong and the bridging ties discussed were the exact same ties.

At first sight this can be rated as contradictory to Granovetter's findings regarding the absence of strong bridges (Granovetter, 1973, 1982). But looking closer one finds that his claim is related to situations where the two actors not connected to each other "are aware of each other" (Granovetter, 1973, p. 1362). The examples focus on strong ties indicating friendship or other personal relations rather than work-related trust and commitment.

By contrast, in our context and with our slightly different definitions of tie strength and bridges, the roles assigned to certain actors (esp. interface actors) replace personal reasons, e.g., sympathy, as motivation for the building of new ties. Instead, people interact with each other and develop a trust-based working-relationship because of their organizational roles. Hence, there is no incentive to get further people within their unit involved with actors from the other unit. Consequently, our findings are not contradictory to Granovetter's conclusion.

Therefore, we rephrase H 1:

> *H 1': Strong ties between interface actors from business and IT that are at the same time bridging ties are beneficial for IT service quality.*

CONCLUSION

In this paper, we developed three hypotheses, which enhance the understanding of how the structures of business/IT interactions influence IT service quality. We derived advantageous network characteristics based on SNA from the literature and evaluated our model using case studies. We could show that it is favorable to build a business/IT interface with strong bridging ties (H 1') and to position actors at the interface who are well connected within their own unit (H 2), especially with the management (H 3).

We used case study research in order to empirically validate and explain our hypotheses because of its high probability to reveal new insights and its flexibility (Eisenhardt, 1989). We nevertheless need to underline the limits of this approach. While allowing to qualitatively and deeply analyze relations in a model and the underlying forces, it does not allow for a quantitative validation. Moreover, we have only been able to conduct interviews in three companies yet. However Eisenhardt (1989) suggests running at least four case studies in order to be able to generate more complex theories and to have a more sound empirical grounding. Drawing on the suggestion of Eisenhardt (1989) to use mini-cases to compensate on a small number of cases we interviewed three divisions in Company C, thus observing three different perspectives.

Our research is a first step in adding detailed and precise characteristics of the structure in the business/IT relation to the generally accepted assumption that this relation and especially communication is of vital importance for IT service quality, and hence to gain competitive advantage from IT. We also offer SNA-based concepts to formalize these advantageous characteristics. Future research should enrich our findings by running further case studies and quantitatively validating these findings based on concrete SNA-measures in order to make full use of the potential of SNA.

We conclude that the analysis of social network characteristics offers a powerful tool to better understand how the structures of business/IT interactions influence IT service quality. We identified three important network characteristics, which help practitioners structuring the interface between business and IT and choosing the right actors to take an interface position.

REFERENCES

1. Agarwal, R. and Sambamurthy, V. (2002) Principles and Models for Organizing the IT Function, *MIS Quarterly Executive*, 1, 1, 1–16.

2. Aral, S. and Weill, P. (2007) IT Assets, Organizational Capabilities, and Firm Performance. How Resource Allocations and Organizational Differences Explain Performance Variation, *Organization Science*, 18, 5, 763–780.

3. Bergeron, F., Raymond, L. and Rivard, S. (2004) Ideal Patterns of Strategic Alignment and Business Performance, *Information & Management*, 41, 8, 1003–1020.

4. Brass, D. J. and Burkhardt, M. E. (1992) Centrality and Power in Organizations, in Nohria, N. and Eccles, R. G. (Eds.) *Networks and Organizations. Structure, Form and Action*, Harvard Business School Press, Boston, 191‑215.

5. Brown, A. E. and Grant, G. G. (2005) Framing the Frameworks. A Review of IT Governance Research, *Communications of the Association for Information Systems*, 15, 696–712.

6. Chan, Y. E. (2002) Why Haven't We Mastered Alignment? The Importance of the Informal Organization Structure, *MIS Quarterly Executive*, 1, 2, 97‑112.

7. Chan, Y. E. and Reich, B. H. (2007) IT Alignment. What Have We Learned?, *Journal of Information Technology*, 22, 4, 297–315.

8. Earl, M. J. and Feeny, D. F. (1994) Is Your CIO Adding Value?, *Sloan Management Review*, 35, 3, 11–20.

9. Eisenhardt, K. M. (1989) Building Theories from Case Study Research, *Academy of Management Review*, 14, 4, 532‑550.

10. Eisenhardt, K. M. and Bourgeois, L. J. (1988) Politics of Strategic Decision Making in High-Velocity Environments. Toward a Midrange Theory, *The Academy of Management Journal*, 31, 4, 737–770.

11. Emerson, R. M. (1962) Power-Dependence Relations, *American Sociological Review*, 27, 1, 31‑41.

12. Feeny, D. F. and Willcocks, L. P. (1998) Core IS Capabilities for Exploiting Information Technology, *Sloan Management Review*, 39, 3, 9‑21.

13. Granovetter, M. S. (1973) The Strength of Weak Ties, *The American Journal of Sociology*, 78, 6, 1360–1380.

14. Granovetter, M. S. (1982) The Strength of Weak Ties. A Network Theory Revisited, in Marsden, P. and Lin, N. (Eds.) *Social Structure and Network Analysis*, Sage, Beverly Hills, 105–130.

15. Kearns, G. S. and Lederer, A. L. (2003) A Resource-Based View of Strategic IT Alignment. How Knowledge Sharing Creates Competitive Advantage, *Decision Sciences*, 34, 1, 1–29.

16. Melville, N., Kraemer, K. and Gurbaxani, V. (2004) Review: Information Technology and Organizational Performance. An Integrative Model of IT Business Value, *MIS Quarterly*, 28, 2, 283–322.

17. Misztal, B. A. (1996) Trust in Modern Societies. The Search for the Bases of Social Order, Polity Press, Cambridge.

18. Reich, B. H. and Benbasat, I. (2000) Factors that Influence the Social Dimension of Alignment between Business and Information Technology Objectives, *MIS Quarterly*, 24, 1, 81‑113.

19. Rockart, J. F., Earl, M. J. and Ross, J. W. (1996) Eight Imperatives for the New IT Organization, *Sloan Management Review*, 38, 1, 43–55.

20. Smaltz, D. H., Sambamurthy, V. and Agarwal, R. (2006) The Antecedents of CIO Role Effectiveness in Organizations. An Empirical Study in the Healthcare Sector, *IEEE Transactions on Engineering Management*, 53, 2, 207–222.

21. Tiwana, A. (2008) Do Bridging Ties Complement Strong Ties? An Empirical Examination of Alliance Ambidexterity, *Strategic Management Journal*, 29, 3, 251–272.

22. Wade, M. and Hulland, J. (2004) Review: The Resource-Based View and Information Systems Research. Review, Extension, and Suggestions for Future Research, *MIS Quarterly*, 28, 1, 107–142.

23. Wasserman, S. and Faust, K. (2007) Social Network Analysis. Methods and Applications, Cambridge University Press, Cambridge.

24. Weill, P. and Ross, J. W. (2005) A Matrixed Approach to Designing IT Governance, *MIT Sloan Management Review*, 46, 2, 26–34.