This book provides empirical evidence for the role of a social form of exchange governance, i.e. reputation, in the sharing of technological knowledge among R&D scientists in a multinational firm. The book focuses on how reputation mobilizes the exchange of resources across organizational, disciplinary and geographical boundaries. Reputation is one channel that affects the social perceptions of audiences and creates boundaries among actors (Stinchcombe, 1965; Merton, 1968). In spite of the amount of work and the consistency of findings showing the relevance of reputation stratification (see Rindova et al., 2005), our understanding of its role in knowledge sharing is quite limited. Hence, the publication of this work is timely. Ensign initially brings examines reputation by acknowledging its importance for knowledge sharing, especially where knowledge is non-codified. He then outlines four common themes—geographic, organizational, technological, and sociological conditions—to inter- and intra-firm knowledge sharing in the existing literature. He proceeds to clarify his methodological approach by studying the impact of reputation on knowledge sharing. Ensign’s focus informal rather than formal communication networks and his procedure of complementing survey results with interviews bring the data to life. He ends his discussion with a reflection on his hypotheses and his contribution to the theory of social exchange and the economic analysis of innovation and entrepreneurship.

Ensign clarifies the definition of reputation in Chapter 1. Reputation in a dyadic exchange is understood from a game-theoretic perspective. Although Ensign recognizes that knowledge exchange occurs in a network, he omits the interdependencies and linkages between various relationships within a firm, thereby overlooking dynamic effects in knowledge sharing. An R&D scientist will have several relationships constituting a portfolio beyond an immediate group relationship. Knowledge sharing can depend on access to resources from a set of relationships as one relationship does not fill all resource needs.

The rationale for the study is that, with a few significant exceptions (Gittelman, 2007; Mudambi, Mudambi and Navarra, 2007), the role of reputation in knowledge sharing among geographically, organizationally, and technologically distant R&D scientists is not known. However, studies in, for instance, health care management point to strict functional, professional, and status differentials that create different worlds of operation among professionals that can undermine collaboration and knowledge sharing (e.g. Glouberman and Mintzberg, 2001). Task differentiation and status hierarchy increase complexity and specialization facilitating innovations within professional groupings but hindering innovation across professional boundaries (e.g. Ferlie et al., 2005). Improvements to the internal work and organization design of hospitals through the creation of new routines, new information systems, and team meetings can enable knowledge sharing and collaboration across previously separated worlds of professionals (Gittell and Weiss, 2004; Mudambi, Mudambi and Navarra, 2007). Similarly, work on lean production has emphasized ways to stimulate cooperative
relationships based on communication, trust, and mutual understanding across different organizational and social lines of demarcation (e.g. Florida and Kenney, 1991).

Given the prominence of reputation in Ensign’s study, I would have expected the research on reputation within organizations to inform the theoretical discussion. Prior studies have found that reputation is predicted by past performance (Fombrun and Shanley, 1990). These open up the black box to delineate what reputation is and how it is formed (Rindova et al., 2005). There is also the institutional perspective where reputation is fored as a result of information exchanges and social influence among various actors interacting in an organizational field (Rindova and Fombrun, 1999). These investigations are posed at the inter-firm level but their implications for intra-firm level could have been considered to enrich the theoretical basis of the book.

Chapter 2 lays the theoretical foundation of the book. Ensign’s review of the literature indicates that, common to both inter- and intra-firm knowledge sharing, economic, geographic, organizational, technological, and sociological factors influence the exchange of knowledge. First, he points to the importance of geographic proximity for increased interaction and knowledge sharing. Second, organizational ties are seen as promoting knowledge sharing as coordination is facilitated. Third, the integration of diverse specialized knowledge is argued to be conducive to knowledge exchange as it eases the absorption of new knowledge. Fourth, it is recognized that knowledge sharing is part of exchange relationships that are grounded in social factors such as reciprocity and trust. Ensign incorporates these four factors into his analysis on the relevance of reputation for knowledge sharing as contextual variables. He defines reputation as i) a historical assessment of interpersonal relationships, and ii) expectations (predictability and reciprocity). The past behavior dimension of reputation is based on the understanding that history of relations promotes exchange.

In Chapters 3 and 4, Ensign uncovers the methodological pillars of his study. The transparency he accomplishes in the construction of the variables is commendable. Ensign administers his survey to R&D scientists in Canada and the United States with an emphasis on relational embeddedness, i.e. quality and depth of single dyadic ties. He considers geographic distance, group identity, system differences, knowledge distance, significance of knowledge sharing, the nature of the R&D work, and status differences in his analysis. Given that network density and centrality are important, limiting the study to dyadic relationships oversimplifies the role of reputation in knowledge sharing. Previous research has extensively emphasized the dyadic ties strength component of informal networks (e.g. Hansen, 1999). What is needed are answers as to how network structure, such as ties to different knowledge pools, influences knowledge sharing. As Kogut and Zander (1996) argue, organizations are social communities specializing in efficient knowledge creation and transfer. Although we are aware of the critical role that informal interpersonal networks play in knowledge sharing, our understanding of how informal networks affect this process remains unclear. Researchers have tended to infer the network effect on knowledge sharing from the association between tie strength and knowledge transfer (Uzzi, 1999; Hansen, 1999). In addition to dyadic relationships, network structures themselves are likely to affect knowledge sharing (Reagens and McEvily, 2003). For instance, particular relationships can ease the sharing of complex knowledge more because they are embedded in a dense web of third-party relationships (Granovetter, 1973). The source’s willingness to share knowledge despite costs represents cooperative behavior, and cooperation is more likely when strong third party ties surround a relationship (Coleman, 1988).

Ensign collects data on past behavior dimensions of reputation (independent variable), i.e. nature of interaction, duration of interaction, and frequency of interaction; expected action dimension of reputation, i.e. predictability and reciprocity (independent variable); knowledge sharing (dependent variable); and geographic, organizational, technological, and social (contextual) factors. First, he expects past behavior by an R&D scientist to be positively associated with another R&D scientist’s expectation for favorable action (Hypothesis 1). Second, he hypothesizes that past favorable behavior by an R&D scientist is positively associated with another R&D scientist’s decision to share knowledge (Hypothesis 2). Third, he postulates that expectation for favorable action by an R&D scientist is
positively associated with another R&D scientist’s decision to share technological knowledge (Hypothesis 3) (given, in all cases, that the source and the recipient are based in the same firm).

Ensign tests variables for their strength of relationships in Chapter 4. He provides an informative summary table giving an overview of the variables included in the testing of hypotheses at the end of this chapter. What is of significance to the IB community is that Ensign does not find a meaningful difference in knowledge sharing between Canada and the United States when the source and recipient are located in the same corporate units. More interestingly, knowledge exchange is more frequent within the United States, and cross-border exchanges are more prevalent in Canada. It would have been enlightening to explore the reasons underlying this difference. Unfortunately, this finding is not revisited in the subsequent chapters.

Chapter 5 details descriptive statistics on the way in which contextual factors affect knowledge sharing. Findings suggest that a recipient’s best option is to request technological knowledge from an R&D colleague who is located in the same state/province, with frequency of sharing reaching its highest value when the source and the recipient are more than one mile apart but less than or equal to 10 miles apart. The willingness to share knowledge, the absence of rules preventing informal knowledge exchange, high levels of technological expertise of the source and the recipient, power balance between the source and the recipient, and the critical nature of requests are also seen as conducive to knowledge sharing. Knowledge sharing is the least frequent when the source and the recipient are not connected through work in the same unit or the same R&D project. Sharing is minimal when the source and the recipient R&D teams are dissimilar in terms of the problems on which they work. However, this relationship does not necessarily hold where the teams are dissimilar in terms of the technology they use and where the recipient can generate a similar solution to his/her problem.

In Chapter 6, the testing of hypotheses reveals that first, past behavior is a determinant of expected action. This finding in itself may not be enlightening. However, the relationship between specific components of expected action (predictability and reciprocity) and those of past behavior (personal/professional interaction, co-work/co-locate interaction, duration of interaction, and frequency of interaction) is revealing. For instance, personal/professional interaction influences predictability, and the frequency of interaction influences reciprocity. This finding has implications for managers who wish to facilitate collaboration for the success of innovations. Second, past behavior is a determinant of knowledge sharing behavior. However, contrary to one’s expectation, increased personal/professional and co-work/co-locate interaction discourage communication of scientific knowhow. Third, expected action is a determinant of knowledge sharing. Whilst predictability and reciprocity encourage knowledge exchange, obligation discourages it.

Ensign summarizes his research findings in Chapter 7. One of the unexpected research findings is that familiarity influences the sharing of knowledge negatively. It is suggested that there may be a parabolic relationship between interaction and knowledge sharing. I would fully concur with this assertion. Similar arguments have been made in the innovation field where the relation between cognitive distance and innovation performance of firms has been found to display an inverted U-shaped effect. The positive effect for firms is much higher when firms engage in more radical, exploratory alliances than in more exploitative alliances (e.g. Nooteboom et al., 2007). The finding that the presence of an organizational connection between the source and the recipient, in the form of belonging to a common team and/or unit, fosters knowledge sharing is an important finding, but it is not linked to theory. We know that research groups are an elemental form of scientific collaboration and knowledge production. Their members often work face-to-face, sharing work space, materials, technologies, objectives, and to a significant degree of professional reputation and fate. However, underlying the social solidarity and substantive focus of research groups are structural forces that separate the interests of leaders from members, spark competition alongside cooperation, complicate mechanisms of control, and offset participatory decision-making with autocracy (in this connection, see Mudambi, Mudambi and Navarra, 2007 for some detailed empirical results). These inherent tensions that confront every research group are shaped by the choices it makes (Hackett, 2005;
Mudambi and Swift, 2009). Unfortunately, it is unclear how Ensign’s findings on various facilitators of knowledge sharing reconcile with these tensions. There is also the question about what is distinct about the phenomenon in the chosen US and Canadian contexts as differences in R&D governance across national boundaries are not in the limelight. Hence, the study’s contribution to the IB literature is not as strong as it would have been if national influences were considered, in particular in exchanges between the European and the US and Canadian scientists.

In summary, Knowledge Sharing among Scientists: Why Reputation Matters for R&D in Multinational Firms, through its rigorous empirical testing, refines our understanding of reputation as it impacts knowledge sharing among R&D scientists. It recognizes different components of reputation and links these convincingly to knowledge sharing. It also considers the broader R&D context in which actors are embedded. Insights offered by Ensign’s study to innovation management can be extended to the IB field with the replication of his analyses in different arrangements of corporate governance. Reputation may play a greater role in coordinated market economies characterized by tight inter-firm networks and high density of relations that influence firm behavior through access to critical resources and information (see Aguilera and Jackson, 2003). Ownership stability and longevity of business relations in countries such as Germany and Japan can reinforce the impact of reputation on knowledge sharing. This would be an interesting agenda for future research.

References


