
Organisational learning from external sources: new issues and performance implications

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Abstract: In this special issue, we focus on critical issues associated with organisational learning involving external sources, with particular emphasis on the process of external learning and its implications on firm performance. The papers that constitute this special issue are eclectic, yet an interrelated mix of conceptual, exploratory research, and empirical research that examine several key aspects of learning from external sources. In this introductory article, we synthesise the key issues for pursuing an external learning strategy, discuss the contributions that this special issue makes to the literature that addresses these issues, and offer a framework for guiding further theory development, and empirical research.

Keywords: organisational learning; external sources; performance.

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1 Introduction

The business environment of the 21st century is proving to be very different from the past. This new competitive landscape has greater uncertainty, dynamism and volatility caused by increasing globalisation, technological developments and the increasingly rapid diffusion of information and new technologies (Drucker, 1999; Chesbrough, 2003; Hitt *et al.*, 2000). In order to succeed in this type of knowledge-based economy, firms must commit to continuous learning and be able to adapt quickly to changing environments (Hamel and Prahalad, 1994; Teece *et al.*, 1997; Grant, 1996a). Firms that learn better than competitors, and develop unique and valuable knowledge bases and core competencies, will be more successful than their competitors. Excelling at the process of organisational learning has been described as the preeminent dynamic capability of firms and the principal driver of many other capabilities that determine competitive advantage (Lei *et al.*, 1996). Following this reasoning, the knowledge-based view of the firm has become a leading perspective in the field of strategic management (Grant, 1996b; Spender, 1996; Nonaka, 1994; Kogut and Zander, 1992; Bierly and Chakrabarti, 1996). According to this view, the principal function of an organisation is the creation, integration and application of its own unique knowledge base. As conditions in the external environment change, organisations have to adapt their knowledge to deal with the altered circumstances.

The knowledge-based perspective of strategic management has guided managers to narrow the firm's area of technological expertise, focus on core competencies, and rely more on external sources of knowledge to complement their internal strengths (Pralhad and Hamel, 1990; Leonard-Barton, 1995; Prahalad and Ramaswamy, 2004). Thus, the concept of external learning has recently received much attention, as firms in the past decade have dramatically increased their use of partnerships, outsourcing and information systems to learn more about new technologies, their competitors and the environment. External learning helps organisations in a variety of ways, including in the expansion of a firm's knowledge base (Leonard-Barton, 1995; Nonaka and Takeuchi, 1995; Hamel, 1991), access to and generation of breakthrough ideas (Rosenkopf and Nerkar, 2001; Powell *et al.*, 1996), innovation speed (Kessler and Chakrabarti, 1996) and strategic flexibility (Grant, 1996a).

Recent research has improved our understanding of learning from external sources by focusing on areas such as absorptive capacity (Cohen and Levinthal, 1990; Zahra and George, 2002), the role of boundary spanners (Tushman and Scanlan, 1981), learning from strategic partnerships (Lane *et al.*, 2001; Simonin, 1999; Kale *et al.*, 2000; Gulati, 1999; Powell *et al.*, 1996; Mowery *et al.*, 1996), teaming with suppliers (Dyer and Hatch, 2004; Dyer and Nobeoka, 2000; Kotabe *et al.*, 2002), learning from lead-user customers (von Hippel, 1988), competitive intelligence statements (Ghoshal and Westney, 1991; Gilad and Gilad, 1988; Fuld, 1988), and knowledge and technology transfer across firm boundaries (Cockburn and Henderson, 1998; Kale *et al.*, 2000; Liebeskind *et al.*, 1996; Simonin, 1999; Mowery *et al.*, 1996; Santoro and Gopalakrishnan, 2000). While research in each of these areas has provided important findings, there is still a need to better integrate these diverse research streams and examine other aspects of the external learning process that have been neglected. The following five areas point out the major gaps in the academic literature that we believe need more attention.

First, external learning processes need to be studied in more varied contexts. Many industries, such as biotechnology and pharmaceuticals, have been studied extensively because of the availability of information such as patent data. More research is needed to examine external learning processes in service industries, different national cultures and emerging economies. Second, we believe that trust is a critical component of external learning. However, there are issues with the explanation of trust as it has been advanced in the academic literature, including poor operationalisation in empirical studies, and the lack of understanding of why and where trust resides in an organisation. For example, does an organisation trust another organisation, or is trust more an individual-level construct where individuals in one organisation trust individuals in another organisation? Clearly, more research is needed to better understand how trust plays a role in facilitating learning from external sources.

Third, external learning is a very broad topic that includes a wide variety of learning processes and sources. More research is needed to better understand the similarities and differences in the kind of learning achieved through interaction with different types of external partners (*e.g.*, customers, suppliers, competitors, universities and consultants) and the specific processes that facilitate and or inhibit learning from each of these sources. Moreover, most prior research has focused on a specific narrow context, such as learning from lead users (*e.g.*, von Hippel, 1988), partnerships (*e.g.*, Kale *et al.*, 2000), or from suppliers (*e.g.*, Dyer and Nobeoka, 2000). How important are each of these different learning sources? What sources of external learning are used most frequently? In the

academic literature there is much more focus on learning from alliance partners and much less attention on learning from suppliers. But do firms learn more from suppliers than alliance partners? Does learning from one source, as compared to another, have a different effect on different measures of firm performance?

Fourth, the relationship between external learning and performance requires more research. Past studies have generally focused on the effectiveness of learning on a single performance parameter. More effort is needed to develop multi-faceted performance measures that examine and clarify the broad effects of external learning.

Finally, more work is needed on the relative strengths of different methodologies in understanding external learning, since a vast majority of research on external learning has followed a positivist epistemology. As an academic community we need to challenge our core assumptions and the way we view learning and adaptability such that generally accepted concepts, such as absorptive capacity, are reconsidered and re-evaluated from different theoretical perspectives.

2 Special issue papers

The nine papers included in this special issue make important contributions to the literature by addressing a number of these critical issues that demand additional attention. The first paper by Pisano *et al.* discusses the challenges of emerging economies and the entrepreneurial opportunities these challenges are creating for organisational learning, competitive advantage and firm growth. Pisano *et al.* underpin their work by integrating resource-based theory, organisational learning theory, social capital theory and strategic entrepreneurship, and emphasise that strategic alliances are the most suitable entry mode for a foreign firm to successfully enter and capitalise in an emerging economy. In doing so, Pisano *et al.* illuminate how alliances in emerging economies are critical for learning and for the exploitation of learning and how their theoretical treatise and propositions will be useful for moving our field forward.

Our second article by Kim *et al.* investigates how technological learning takes place in alliance networks. Their study was conducted using data in the chemical-pharmaceutical sector over a 13-year period. Their results suggest that there is a tension between knowledge overlap and knowledge uniqueness in firms' technology profiles. Firms generally increase learning when they have a similar 'basic knowledge base' but different 'specialised knowledge' (Lane and Lubatkin, 1998). The similarity in 'basic knowledge' with prior experience creates trust and facilitates alliance formation, while the existence of a distinct or specialised knowledge base within each alliance partner increases learning.

Bierly and Daly's work identifies external learning sources of Small- and Medium-Sized Enterprises (SMEs) and the relationship between external learning sources and dynamic capabilities. Their empirical study shows that the most common sources of external learning for SMEs are customers, suppliers, the scientific community and other industries, while the least common sources of external learning for SMEs are competitors, partnerships and consultants. Results show that learning from customers is a good predictor of innovation speed, learning from suppliers is a good predictor of operational efficiency, learning from other industries is a good predictor of superior process technologies, and learning from competitors is negatively associated with the

development of product technologies and basic research. Bierly and Daly also found that smaller-sized firms tend to learn more from suppliers and the scientific community and that larger-sized firms learn more from partnerships and consultants.

Our fourth paper by McGill examines alliances among competitors in the global communications technology industry over a ten-year period to analyse how the governance mechanism within an alliance enables partners to develop, transfer and protect knowledge. McGill suggests that more integrative forms of control are expected when collaborations are exploratory, when partners are moderately similar in technological knowledge and when partners experience greater industry rivalry. McGill also found a curvilinear relationship (inverted U) between technological similarity and integrative governance mechanisms, and when technology profiles are excessively similar or dissimilar alliance partners prefer less integrative governance mechanisms.

Gogan *et al.* present a longitudinal case study by reporting on data gathered during a seven-year period from a technology consortium for the e-check initiative in the financial services industry. Gogan *et al.* use their case to test Das and Teng's (2000) theory that successful alliances need to hold three 'competing tensions' in balance: competition versus cooperation; short-term versus long-term orientation; flexibility versus rigidity. While Das and Teng asserted that each type of tension is most prevalent at a specific stage in an alliance, this case demonstrated strong evidence of all three tensions across all stages of the alliance.

Our sixth article is Grevesen and Damanpour's 'Performance implications of organisational structure and knowledge sharing in multinational R&D networks'. Multinational enterprises are uniquely equipped to acquire knowledge externally because they can access 'pockets of innovation' throughout the world. Little is known, however, about the performance implications of external knowledge sourcing through R&D internationalisation and how organisational structure and intrafirm knowledge sharing affect innovative performance in multinationals that set up R&D sites abroad. Grevesen and Damanpour's study examines the effect of organisational structure and knowledge sharing on innovative performance in the overseas R&D units of North American, European and Japanese multinationals. Data from overseas R&D site directors in 17 countries show that innovative performance is enhanced by a lateral and hierarchical knowledge exchange but suppressed by bureaucratic coordination and control.

Soo *et al.*'s empirical study also deals with performance but at a more micro level, where firm performance is examined with respect to the impact of external knowledge on firm-specific processes that include creativity and learning within the context of organisational problem solving. Building upon network and social capital theories, Soo *et al.* contribute to the knowledge and innovation management literatures by exploring the relationships among externally acquired knowledge, absorptive capacity, creativity and learning. Soo *et al.* also show that external knowledge acquisition has a significant effect on creativity but not on learning, and that absorptive capacity contributes to external knowledge acquisition, creativity and learning.

Next, Teng's paper addresses the management of Intellectual Property (IP) in R&D alliances. Teng focuses his attention on two crucial aspects of intellectual property types – patents and trade secrets – and argues that since patents and trade secrets serve as both inputs and outputs of R&D alliances, the achievement of IP protection and

IP generation is particularly challenging. Teng offers a three-step framework for IP management, that includes IP contribution, IP control and IP governance, which R&D managers may find particularly useful in managing IP.

Our final paper is Spender's conceptual article entitled 'Data, meaning and practice: How the knowledge-based view might clarify technology's relationship with organizations'. Spender's paper challenges the reader to look at external learning from a different perspective from those of the previous eight papers by questioning the core assumptions used by researchers that follow a positivist approach. Spender's goal is to clarify the relationship between organisations and technology and develop an understanding of the learning processes that organisations use when adopting technologies created by others. He accomplishes this by using radical constructivism to develop a theoretical model that expands current approaches to knowledge management. He argues that organisations and technology share three types of knowledge: knowledge-as-data, knowledge-as-meaning and knowledge-as-practice. External learning requires an understanding of the interactions of the data, meanings and practices embedded in the technology with those already in place in the organisation. This approach confronts rather than suppresses the distinctions between data, meaning and practice, and between rational decision making and imaginative acts. The insights from this provocative paper not only help to move our field forward, they are also useful in helping us to think more deeply about the theoretical and empirical research implications of the other papers included in this special issue.

Table 1 provides a brief synopsis of the nine papers included in this special issue with respect to the five gaps that we identified at the beginning of this article. First, the six empirical studies in this special issue looked at varied industries, including pharmaceutical, global communications and financial services; three of the six papers used multi-industry samples. As we know, industries are different in terms of their knowledge appropriability regimes (Teece, 1986) and their competitive and market structures. Thus, the combination of single and multi-industry studies offered here provides a rich milieu of contexts to understand external learning as both an enabler and as an outcome.

Second, the studies here examine learning from a variety of external partners that include competitors, suppliers, the parent company from a subsidiary or a third-party firm in a foreign country, and show that the existence of trust between parties plays a key role in facilitating learning. Trust among partners that develops from common previous experience, common socialisation routines, or similarity in technology profiles (Kim *et al.*; Grevesen and Damanpour; Gogan *et al.*) appear to create the necessary familiarity among partners, which in turn facilitates knowledge exchange and learning.

The nine papers included in this special issue used different lenses to view organisational learning and thus provide us with a multi-faceted view of this phenomenon. Two of the studies looked at the learning process as they unfolded (Gogan *et al.*; Soo *et al.*) while two other studies viewed learning as a facilitator of organisational outcomes like new product development, operational efficiency and innovative performance (Bierly and Daly; Grevesen and Damanpour). Four other articles looked at organisational learning as the outcome, the effectiveness of which was determined by organisation-specific factors of the firms in the relationship (Pisano *et al.*; Kim *et al.*; McGill; Soo *et al.*). Alternatively, Spender views external learning as a complex process at the interaction of an organisation and technology, where he views both as complex systems of data, meaning and practice.

Table 1 Articles overview

<i>Author</i>	<i>Industry context</i>	<i>Trust and external learning</i>	<i>Types of external partners</i>	<i>How learning fits in to the study</i>	<i>Methodology to study learning</i>
(1) Pisano <i>et al.</i>	Not applicable	Yes, trust as structural social capital	Foreign firms and firms from emerging economies	How firms establish entrepreneurial alliances to create continuous learning processes	Conceptual; positivist
(2) Kim <i>et al.</i>	Chemical-pharmaceutical	Yes	Competitors	Technological similarity and its impact on learning	Empirical; positivist
(3) Bierly and Daly	Multiple industries (SMEs)	Not explicitly measured	Customers, suppliers, and consultants	Learning as a determinant of innovation, development of new products and operational efficiency	Empirical; positivist
(4) McGill	Global communications	Yes	Competitors	The relationship between technology profiles, learning, and governance	Empirical; positivist
(5) Gogan <i>et al.</i>	Financial services	Yes	Suppliers and competitors	Analysis of the processes as they unfold in an alliance	Case based; positivist
(6) Grevesen and Damanpour	Multiple industries	Trust as socialisation	Parent company and subsidiary	The impact of structure on innovative performance	Empirical; positivist
(7) Soo <i>et al.</i>	Multiple industries	Not explicitly measured	Intra-organisational	The role of external knowledge on creativity and learning	Empirical; positivist
(8) Teng	Not applicable	Yes	R&D alliance partners	The protection of intellectual property in managing R&D inputs and outputs	Conceptual; positivist
(9) Spender	Not applicable	Not explicitly examined	Organisation-technology interaction	Inter-organisational source of meanings are created through intra-organisational practices	Conceptual; radical constructivism

Finally, the nine papers offer an interesting mix of conceptual and empirical studies, with the empirical research including both case-based research and large sample-based investigations. While eight of the articles are based on the positivist ideology, Spender brings an interesting perspective on many of the concepts within organisational learning using a radical constructivist perspective. Spender challenges the basic assumption of realism that there is a knowable reality and argues that a better understanding is needed concerning how organisations create meaning.

3 Organisational learning from external sources: where do we go from here?

Itami and colleagues (Itami and Roehl, 1987; Itami and Numagami, 1992) noted that an organisation's knowledge and technology help frame its strategic choices, and that organisational learning often involves activities that are on the periphery of the organisation. Moreover, we know that organisations differ in their way to effectively move knowledge across organisational boundaries (Dougherty, 1992; Santoro and Gopalakrishnan, 2000). The conceptual, exploratory research, and empirical papers in this special issue, support and further clarify these notions by addressing important aspects of the intersection between organisations, the blurred boundaries between organisations, and organisational tasks and technologies underscoring that organisational learning from external sources can be a crucial, value-creating strategic tool.

A vast literature points out that new knowledge can be generated from both internal and external sources. In this special issue we have highlighted the criticality of learning from external sources by building on the idea that organisations need to treat their competitive environment as a stock of resources and knowledge from which they can identify, absorb and assimilate new knowledge. We also emphasise that organisations learn and institutionalise that learning from many diverse external sources, including near-shore competitors, suppliers and customers, offshore subsidiaries and contractors. We add to the strategic alliance research by showing the performance implications of external learning through R&D internationalisation of multinational enterprises and other dyadic relationships and highlight the strategic significance of developing, acquiring and communicating external learning practices.

The papers in this special issue provide many insights, but clearly more work is needed to properly address the gaps in the external learning literature discussed earlier. We trust that as researchers build on the contributions from this special issue, further advancements to both theory and research will be made that will help us towards better understanding the complex dynamics of organisational learning from external sources.

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