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Organizational learning and knowledge in public service organizations: A systematic review of the literature

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This paper is a systematic review of the literature on organizational learning and knowledge with relevance to public service organizations. Organizational learning and knowledge are important to public sector organizations, which share complex external challenges with private organizations, but have different drivers and goals for knowledge. The evidence shows that the concepts of organizational learning and knowledge are under-researched in relation to the public sector and, importantly, this raises wider questions about the extent to which context is taken into consideration in terms of learning and knowledge more generally across all sectors. A dynamic model of organizational learning within and across organizational boundaries is developed that depends on four sets of factors: features of the source organization; features of the recipient organization; the characteristics of the relationship between organizations; and the environmental context. The review concludes, first, that defining 'organization' is an important element of understanding organizational learning and knowledge. Second, public organizations constitute an important, distinctive context for the study of organizational learning and knowledge. Third, there continues to be an over-reliance on the private sector as the principal source of theoretical understanding and empirical research and this is conceptually limiting for the understanding of organizational learning and knowledge. Fourth, differences as well as similarities between organizational sectors require conceptualization and research that acknowledge sector-specific aims, values and structures. Finally, it is concluded that frameworks for explaining processes of organizational learning at different levels need to be sufficiently dynamic and complex to accommodate public organizations.

Organizational learning and knowledge

Introduction

This systematic review aims to understand the literature on organizational learning and knowledge relevant to public service organizations, and to explore implications for the field of organizational learning and knowledge more generally. The review focuses primarily but not exclusively on theoretical developments and empirical studies in inter-organizational learning and knowledge transfer in public services.

Specifically, the objectives of the review were to:

- investigate the factors that influence organizational learning, inter-organizational learning and knowledge in public service organizations
- compare the similarities and differences in organizational learning and knowledge in the public and private sectors
- illuminate issues of organizational learning and knowledge in both private and public organizations.

The review also makes an important methodological contribution by applying elements of systematic reviews originating from medical sciences to the organization studies field, in a field of enquiry where the concepts are poorly defined and operationalized.

The literature in the organizational learning and knowledge transfer field has grown exponentially over the past 15 years, resulting in the emergence of a 'learning perspective' (Bapuji and Crossan 2004). The field is vigorous and is expected to continue as a focus of academic theorizing, empirical investigation and methodology development (Lyles and Easterby-Smith 2005). However, there are some important lacunae in theorizing about the field. First, it is striking that there is little research on learning and knowledge transfer in the non-profit sectors. Second, as Shipton (2006, 233) suggests, the field of organizational learning research has become diverse and 'fragmented, with little evidence of overlap between inter-disciplinary boundaries'. This review seeks to address some of these complexities by synthesizing and analysing the literature in the context of public sector organizational knowledge and inter-organizational learning.

Learning and Knowledge in Public Service Organizations

There are important reasons for considering learning and knowledge transfer in public service organizations. First, the scale of public sector organizations is of sufficient significance to warrant attention from organizational and management researchers (Ferlie *et al*. 2003). Second, in recent decades public organizations have undergone substantial reform, driving the need to create and share organizational knowledge, but they remain under-represented in literature on organizational learning and knowledge. Third, the literature on organizational learning and knowledge makes frequent reference to contextual analysis but tends to focus on internal context, whereas this review of the literature on public organizations calls for increased attention to distinctive external contexts of organizations. Fourth, attention to the specific features that influence learning and knowledge in public organizations may help to expand knowledge about the field across all types of organization.

The scale of recent public sector reform has been sufficiently extensive to produce 'big issues that demand attention and action from management scholars' (Pettigrew 2005, 975). Despite significant growth in the literature in the organizational learning and knowledge field since the 1990s, relatively little attention has been given to public service organizations, but they exist in a specific context which is worthy of consideration (Kelman 2005). Exploration of public service organizations provides a wider range of organizational contexts within which to develop understanding of knowledge creation and learning, and can help to illuminate features of private sector organizations. Of course, there are wide variations in the context and processes both within and across the public and private sectors, such that 'publicness' should perhaps be seen as a dimension not a

dichotomy (Bozeman and Bretschneider 1994) but on the other hand, there can be differences in goals, purposes, structures and stakeholders for example, which render the public service context noteworthy. Thus, the article does not seek to define a distinctiveness for public services *per se*, but to examine how context and purpose may shape learning strategies, processes and outcomes. This is potentially relevant for understanding the contributions and limitations of theories of learning and knowledge transfer which claim to be generic but which in fact have been constructed on a partial or sectoral basis.

Public organizations are critical to national competitiveness in creating the necessary conditions and infrastructure for private sector effectiveness at national, regional and local levels (Hartley and Skelcher 2008). They play a crucial role in leading and governing local communities and managing complex inter-relationships between the state, the market and civil society (Benington 2000). The scale of public service organizations is also important: public services account for over a third of GDP in OECD countries and increasing UK expenditure on public services suggests that, by 2005, they accounted for 45% of GDP (Pettigrew 2005). Over 5.8 million employees, over 25% of the UK workforce, worked in public services in 2006 (National Statistics 2006).

The application of organization and management theory and the design of organizational research need to be contextualized and take into account social, economic and political factors to be directly relevant to the specific institutional context (Pettigrew 2005). The management of public services is often distinct, because it operates in a complex policy and political environment, under the formal control of politicians, and is subject to a high degree of scrutiny and accountability (Hartley and Skelcher 2008). Public services aim not to produce profit but 'public value' and to impact on citizens, as well as balancing competing stakeholder interests (Moore 1995). Moore (2005) argues that there is a different relationship between ideas, practices and organizations

in the public and private sectors. If the purpose, drivers, catalysts and key actors are different between sectors (Hartley 2006), it is possible that the nature of knowledge and knowledge creation differs also.

Both private and public sectors have had to respond to periods of rapid change to meet customer or citizen demands, but government policies and pressures for performance are a significant catalyst for change in the public sector, compared with market-driven pressures for knowledge to develop new products and services in the private sector (Hartley and Benington 2006; Kelman 2005). Radical changes in leadership, management, organization and structures have been sought by governments, leading to 'shifting boundaries and inter-dependency between the private and public sectors and civil society; between national and international bodies; and between different parts of the public services within the same economy' (Pettigrew 2005, 975). Public sector managers have adopted some entrepreneurial and customer orientations from private sector origins, and the public service ethos has increased in both sectors but, overall, there is evidence of continued dissimilarity between sectors over the past 20 years (Poole *et al*. 2006).

Public service organizations are subject to pressures for learning and innovation which derive from users' expectations, other tiers of government and across a wide range of stakeholders (Hartley 2008), and from the creation of complex inter-organizational structures. Additionally, the sharing of knowledge is central to improvement in public services, because the aim is to add value to the public sphere. This means that good ideas and practices are not, in theory, limited to one organization or partnership, but need to be transferred between services and levels of government (Hartley 2008).

Learning within and between organizations has been identified as central to the processes of public service improvement in, for example, the two largest parts of the public service sector: the health service (Bate and Robert 2002;

Nicolini *et al*. 2007; Nutley and Davies 2001) and local government (Newman *et al*. 2000; Rashman and Hartley 2002). However, despite this work, relatively little attention has been paid to the means by which public service organizations create, transfer, share and apply knowledge. This paper aims to identify the barriers to and opportunities for knowledge transfer and application in public organizations, because 'the literature around implementing and evaluating knowledge management in the public sector is negligible' (Bate and Robert 2002, 655), though some recent work has started to identify important avenues for further research (Ferlie *et al*. 2005; Greenhalgh *et al*. 2004; Hartley and Rashman 2007; Rashman and Hartley 2002).

In contrast to private organizations, where the relationship between knowledge absorption and its advantage to 'the firm' is well established, government policy initiatives for the reform of public organizations have largely failed to promote knowledge creation. The UK Government's drive for the 'modernization' and improvement in public services has resulted in a plethora of research around performance, assessment and improvement (Gray *et al*. 2005; Martin 2005). However, the improvement approach – and consequently associated research – has largely focused upon audit and inspection to build capacity and raise performance. Audit and inspection are approaches based on vertical pressures, in the form of top-down, central government-identified practices, to develop improvement (Rashman and Radnor 2005). In addition, the current government has also promoted an approach to service improvement through self-improvement, based on the voluntary, lateral (i.e. between organizations) sharing of good practices between organizations at the local level (Rashman and Hartley 2002). However, the amount of funding and attention to lateral learning makes it the 'poor cousin' of audit and inspection (Hartley and Downe 2007), though empirical research has shown that learning approaches can be instrumental in tackling improvement (Greenhalgh *et al*. 2004).

Methodology and Descriptive Analysis of the Reviewed Literature

The review was informed by this theoretical context and public policy agenda. We turn to describe the systematic review methodology. Systematic reviews in the social sciences are relatively new (Greenhalgh *et al*. 2004; Pittaway *et al*. 2004; Tranfield *et al*. 2002). The method was first developed in the medical sciences as part of the search for a better evidence base for policy-making and for clinical practice (Tranfield *et al*. 2003). They have been used in a range of health, social care and educational fields in order to synthesize research in an orderly and transparent way (e.g. Boaz *et al*. 1999; Davies *et al*. 2000; Tranfield *et al*. 2002).

We adopted some but not all of the elements of the orthodox methodology of systematic review in the management field (Tranfield *et al*. 2003). These include a commitment to make the literature review replicable, scientific and transparent (Tranfield *et al*. 2003), and establishing a number of steps to frame the enquiry and present the results. However, our emphasis is not on the quantitative analysis of articles (except where this is directly useful to the elucidation of concepts and frameworks), but rather to provide conceptual clarity, elucidation of frameworks and typologies useful for public service organizations, and the identification of areas where knowledge is still lacking. We treat the material gained from the systematic review as a set of concepts, questions and issues which are of interest to academics, policy-makers and practitioners. In this sense, our approach builds on a conceptual synthesis (Nutley *et al*. 2002), though with fuller coverage of the literatures, and also using data extraction sheets (used in systematic reviews) in order to make the sources of material and their evaluation transparent.

The reason for taking this particular approach in relation to organizational learning and knowledge is that these fields of research lack paradigmatic consensus. There is a wide variety of ways in which the concepts of learning,

knowledge and capacity are defined and used in the literature, as well as a range of ways in which they are researched, so it would be premature to quantify papers.

The review procedure is summarized in Figure 1. The search strategy aimed, as far as

possible, to eliminate bias and be widespread by using a database search, cross-referencing between researchers and applying agreed inclusion criteria at each stage. The review process was iterative, moving through a number of stages. First, 14 seminal papers in the field
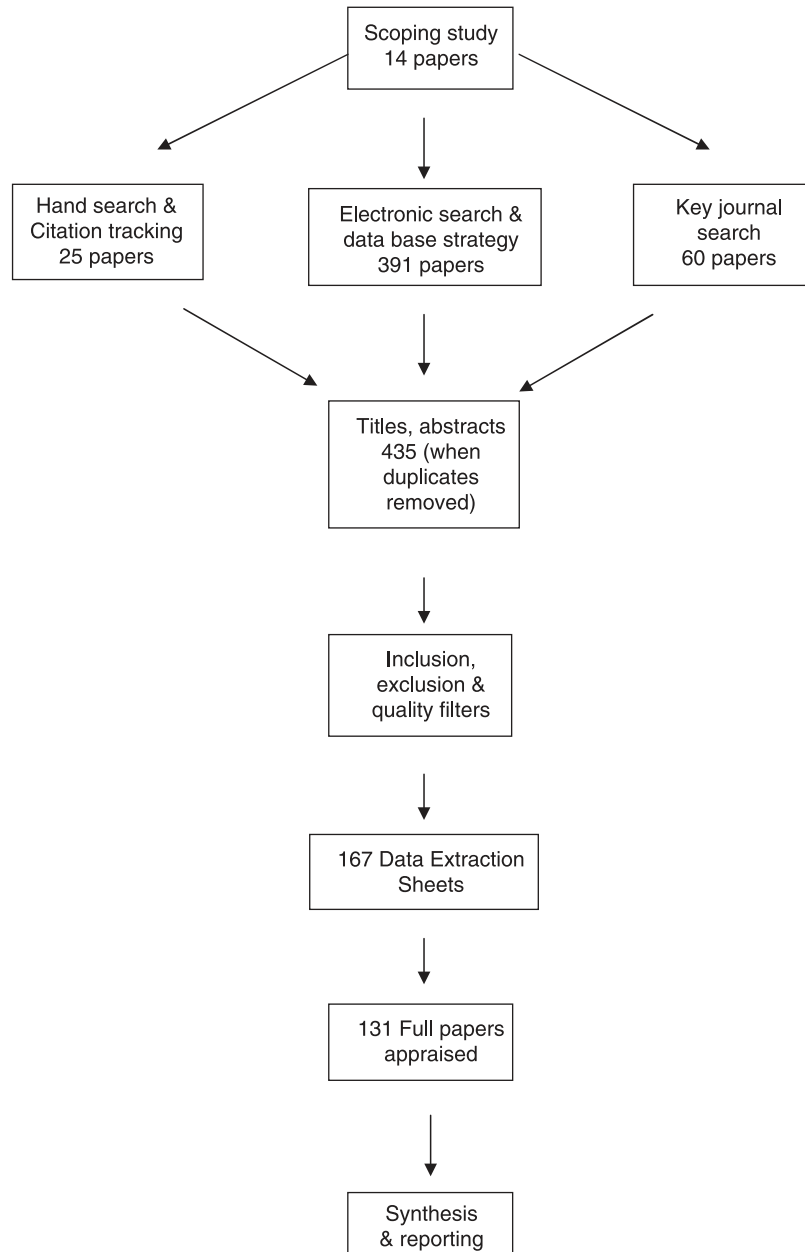
Figure 1. Summary of systematic review process.

of organizational learning and knowledge, as recommended by an expert colleague, were reviewed. This initial investigation helped to establish the focus for the following stages. At this point and later, and in common with other systematic reviews focused on public services (e.g. Greenhalgh *et al.* 2004), we found that studies from public service organizations were sparse. The review was extended to include literature from all sectors.

A key tool in the search process was the database search. The database used was Web of Science, consistent with other reviews in the public management field (e.g. Boyne 2003) and because it has a wide coverage of organization studies and public sector journals. Based upon a review of the initial 14 papers, the research team limited the search period to 1990–2005, with exceptions for notable texts that pre-date 1990. This period was selected because the explosion of interest in recent years, as noted by Bapuji and Crossan (2004), has resulted in the majority of relevant literature on organizational learning and knowledge being written during this period. Some additional literature post-2005 is used, but this is on an ad hoc basis. The search covered peer-reviewed articles written in English.

In addition to the database searching, searches were conducted across 17 key management, public management and organizational learning journals, over the same time period, including *Academy of Management Journal* and *Public Administration* and *Administrative Science Quarterly*. The search terms applied across the key journals were: 'organi?ation* learning'; 'organi?ation* knowledge'; 'inter organi?ation* learning'; 'knowledge management'; and 'knowledge transfer'. Additionally, citations were tracked from the initial 14 sources used in the scoping stage to gather further references.

The database searches, plus key journal searches and citation tracking resulted in 435 initial references. Standards for inclusion were set, and three researchers independently assessed and then cross-referenced judgements on the papers, based on reading the 435 abstracts. These standards included a requirement for

the theory and empirical data to be clear, and so purely descriptive papers were rejected. A proportion of papers on the learning organization and implementation of learning fell into this latter category and were therefore excluded. For papers to be included, they had to address organizational learning, organizational knowledge or inter-organizational learning (not learning exclusively at the level of the individual). In addition, prescriptive papers providing unsubstantiated and/or normative advice on how to become a learning organization; and papers addressing learning across individual professions (e.g. medicine) were also excluded. Papers related to public organizations were prioritized over those in specialized industrial and manufacturing settings.

At this stage, 167 papers were put forward to the next stage in the process, having been judged to have fulfilled basic criteria of relevance and quality on the basis of the abstract. Data extraction sheets (available on request) were designed as a template for the full reading of papers and application of inclusion criteria. They included: details of the publication; aims of the research; research design; definitions of key terms; relevance to the public organizational context; key themes derived from the research aims; whether the paper was theoretical or empirical; and results and conclusions. The data extraction sheets aided reading, analysis and synthesis, and also provided an additional quality control stage. Following the data extraction process, 131 papers were included in the systematic review. Excluded papers usually came from a specialized field of private organizations (such as the mining industry) or lacked either a strong conceptual or empirical basis (such as prescriptive papers on organizational learning). This paper presents an analysis of the review of literature on organizational learning and knowledge. We have excluded analysis of organizational capacity, which was part of the original review, for reasons of space.

We suggest that there are advantages of the review method as a sequence of stages combining conceptual synthesis and more orthodox methods, where the literature sought is sparse

and/or diverse. The iterative process permitted redefinition of review strategy and criteria, and the use of data extraction sheets to analyse full papers increased consistency and transparency in the stages of selection, appraisal and synthesis. We recognize that limitations include judgment regarding relevance assessment and a necessarily interpretative element in the thematic analysis.

Of the 131 papers included in the review, the majority of the theory and literature on organizational learning and knowledge is located within the private sector and tends to be dominated by North American authors (as noted by Bapuji and Crossan 2004; Easterby-Smith and Lyles 2005). Just over 22% ($n = 29$) are related only to the public sector, compared with over 46% ($n = 61$) related to the private sector only (the remainder are either both, do not specify or are related to the third sector). Of the empirical research, 65% explores private organizations. Twenty-nine per cent of the papers are based upon Canadian and North American studies (both empirical and conceptual), while approximately 24% are based upon studies from the UK (both empirical and conceptual). Approximately 60% are empirical and 40% theoretical.

This suggests that the literature is dominated by the private sector and, despite attempts to focus predominantly on research in public sector organizations, about twice as many articles finally selected drew on the private compared with the public sector. The research within public organizations tends to be fragmented, as it relates to diverse institutions and is spread across a number of disciplines and journals.

Key Concepts Defined

This paper examines and distinguishes between the concepts of organizational learning and organizational knowledge. There is a profusion of definitions of these concepts, each of which may illuminate different features of learning and knowledge (Chiva and Alegre 2005). Easterby-Smith *et al.* (1998) depict this variety as signifying two endemic problems in the field of organizational learning: confusion and over-

simplification. Confusion derives from application of numerous disciplines, definitions and diversity of perspectives, yet there is also a risk of over-simplification when concepts are transferred between disciplines without authors being aware of the original underlying assumptions. Therefore, it is important to be clear about the definitions and how they are being used.

A number of reviews and critiques identify cornerstone publications (e.g. Easterby-Smith and Lyles 2005; Prange 1999). Foundational works are acknowledged here to indicate the significance and extent of the field but are touched on lightly, as the paper's main purpose is to consider their relevance to public organizations specifically. Easterby-Smith and Lyles (2005, 7) propose a historical taxonomy of major sources on organizational learning and knowledge: classic works, foundational works and popularizing works.

We note the influence of four classic works: Dewey (1916) on the experiential and social learning perspective; Polanyi (1958) on discussion about the tacit and explicit nature of organizational knowledge; Penrose (1959) on the importance of knowledge as an organizational resource; and Hayek's (1945) economics perspective.

Cyert and March's (1963) general theory of organizational learning and organizational routines; and Nelson and Winter's (1982) emphasis on tacit knowing are among foundational works. Popularizing influences include: Argyris and Schön's (1978) theory of action which distinguishes the defensive, non-learning routines of Model 1 behaviour from that of Model 2 individual, collective and 'double-loop learning'; and Nonaka's (1994) contribution to debates about knowledge conversion of tacit and explicit knowledge. Senge (1990) has influenced both academics and practitioners, developing the notion of organizations as systems and popularizing the concept of the learning organization. Historical underpinnings include Kolb and Fry's (1975) approach to experiential learning, the learning cycle, and Kolb's typology of individual learning

styles (1984), which have been applied to numerous disciplines, organizational contexts and professions.

Organizational Learning

Organizational learning can be described as a process of individual and shared thought and action in an organizational context, involving cognitive (DeFillippi and Ornstein 2005; Dodgson 1993), social (Gherardi *et al*. 1998; Lave and Wenger 1991), behavioural (Cyert and March 1963) and technical elements (Huber 1991; Levitt and March 1988). The social perspective (Gherardi 2006; Gherardi *et al*. 1998; Lave and Wenger 1991) treats learning as inseparable from social interaction and engagement in work practice. Rather than focusing primarily on cognitive processes, the social perspective places emphasis on social interaction within a specific organizational context. In an integrated view of learning, working and innovation, practitioners may form 'communities of practice' (Brown and Duguid 1991), which can be the sources of collective knowledge stimulating organizational change.

From the review evidence, the social approach appears to be of particular relevance to public service organizations, especially those which are professionally dominated, where individuals learn through collaborative action (Bate and Robert 2002), to build professional judgement and make sense of their experiences at work (Bate and Robert 2002; Nutley and Davies 2001). The public services are often characterized by professional communities that span organizational boundaries. These communities have a specific context and increasingly work through new organizational forms, such as networks and partnerships, which aim to increase intra- and inter-organizational collaborative and partnership arrangements (Bate and Robert 2002; Knight and Pye 2005; Newman *et al*. 2000). Professional boundaries may present practical difficulties to sharing knowledge, resulting in fragmentation of knowledge and a preference for knowledge derived from local sources (Nicolini *et al*. 2007).

The implementation of organizational learning is a dominant theme that illustrates key practical aspects of organizational learning and knowledge processes and practices, as implied by Gorelick (2005, 384): 'If organizational learning is seen as a continuous learning cycle, then an organization can not arrive at a point in time when it declares itself "a learning organization", a noun or an end state. On the other hand, any organization can identify with being in a constant state of learning and declare itself to be practicing organizational learning.'

Some authors who take a social view of learning warn that its highly situated nature may make transfer from one context to another problematic or unviable (Gherardi *et al*. 1998) because learning is rooted in a specific domain and part of the 'idiosyncratic' knowledge cannot be transferred. The paucity of longitudinal research, and the variety of contexts of empirical studies, from Italian construction sites (Gherardi *et al*. 1998) to prosthetics services in the English health sector (Knight and Pye 2005), has led to a fragmented debate, centred on theoretical conceptualizations and operational features, with less emphasis on managerial implications and the means to recognize, enact and measure organizational learning.

Organizational Knowledge

In contrast to the social perspective of organizational learning, the literature on organizational knowledge derives mainly (but not exclusively) within economics, strategic management and information management fields, influenced by systems theory and computer science (Chiva and Alegre 2005; Easterby-Smith and Lyles 2005). Many authors (Lam 2000; Nonaka 1994) share the view of knowledge as constituted of different forms; based in part on perception and experience and in part as a resource that can be aggregated, codified and stored. Knowledge is seen as a key component of organizational learning, cognitive, experiential, context-specific and relational (Chiva and Alegre 2005; Nonaka 1994). Organizational learning depends on

the interaction between different forms of knowledge.

It is important to distinguish between data, information and knowledge because they differ in the extent to which individual processing and judgement are involved (Hartley and Rashman 2007; Tsoukas and Vladimirou 2001). Data are an ordered sequence of given items; information is a context-based arrangement of items; knowledge depends upon the ability to draw distinctions and exercise judgement, based on an appreciation of context or theory or both (Tsoukas and Vladimirou 2001, 979).

There is a distinction between the possession of explicit knowledge that can be codified and stored, and tacit knowledge, which cannot (Nonaka 1994; Polanyi 1967). These two dimensions of knowledge are two sides of the same coin, and tacit knowledge underlies explicit knowledge (Tsoukas 2005).

Some influential authors have argued that knowledge creation is more dynamic than organizational learning because it includes the development of the organization's cognitive resources (Nonaka 1994). Critics of this approach suggest that there is a risk that knowledge creation and knowledge management tend to place emphasis on leverage of knowledge as a resource or asset and less emphasis on the processes of organizational learning that involve putting knowledge into action (Scarbrough and Swan 2005; Vera and Crossan 2005).

An alternative approach has a focus on knowing as an active process that individuals and organizations do, rather than a static definition of knowledge as a resource that organizations possess (Blackler 1995). Social constructivist views of knowing and knowledge prevail in public service literature, linking knowledge to dynamic, collective activity, practice and performance (Bate and Robert 2002; Hartley and Allison 2002; Newell *et al*. 2003; Vince and Saleem 2004). Definitions tend to focus on knowledge management, with a particular emphasis on the institutionalization of knowledge in service-specific practices and processes (Haynes 2005) and the extent of the tacit nature of knowledge within a complex organizational structure, where collective professional judgement may form the basis of a unique decision.

Boundaries and overlaps between organizational learning and organizational knowledge are contested: some authors (e.g. Nonaka and Takeuchi 1995) argue that organizational learning and knowledge creation are different concepts, but increasingly learning has been defined in terms of knowledge processes. Authors studying knowledge acquisition, creation and application are 'likely to be studying the same phenomena from different perspectives and with the use of different terminology' (Vera and Crossan 2005, 137). The literatures on the learning organization and knowledge management have in common prescriptive approaches and tools for the effective management of learning and knowledge in organizations. Easterby-Smith and Lyles (2005, 3) distinguish organizational learning that is focused on the processes of learning in organizations from organizational knowledge, that is the 'content' of learning that the organizations possess, but acknowledge the limitations of over-simplification.

Integrative Perspectives on Organizational Learning and Organizational Knowledge

An integration of the two approaches is helpful because it helps to reduce confusion and encourages multiple perspectives between overlapping fields (Vera and Crossan 2005). Chiva and Alegre (2005) identify two broad perspectives across the organizational learning and knowledge literature: the cognitive-possession perspective; and the social-process perspective (cf. Tsoukas and Vladimirou 2001). These authors suggest that future research will need to explore learning and knowing in relation to working practices and factors that have been avoided or neglected within the cognitive approach, such as participation, power, organizational politics, conflict and collaboration. These research areas are of particular importance for public organizations, where activity is inherently participative, political and contested (Hartley and Skelcher 2008; Haynes 2005).

Organizational learning and knowledge

Defining 'Organization'

The paper draws attention to the problematic concept of the organization with regard to both learning and knowledge. Easterby-Smith *et al*. (1999, 17) note that the 'magic juxtaposition of the terms 'organization' and 'learning' stresses, rather than hides, the need for clear and elaborate conceptualizations of what is meant by both 'organizations' and 'learning''.

This is a view echoed by Tsoukas and Vladimirou (2001), who argue for an understanding of a theory of knowledge and a theory of organization to understand organizational knowledge. Many of the papers that we reviewed failed to give a full or clear definition of either organization or knowledge. There is a marked tendency in the literature to assume by default that the organization is a private company (e.g. Argote *et al*. 2003; Beeby and Booth 2000; Child and Faulkner 1998). The terms 'organization', 'firm' and 'company' are often used interchangeably, with the two latter terms predominantly used. Furthermore, there are few papers which define or describe either the specific organizational context or type of organization being studied. The dominant assumption that an organization is likely to be a private sector firm has an impact on the definition of organizational learning and knowledge, because the characteristics of organizational learning and knowledge tend to be framed by private sector, market-oriented conceptualizations.

This is particularly ironic, as many definitions emphasize that organizational knowledge and learning is context-specific (e.g. Bate and Robert 2002; Jensen 2005; Newell *et al*. 2003) and therefore the context of the organization becomes relevant to the understanding of knowledge. Nutley and Davies (2001) identify organizational and institutional features, such as managing power and politics, managing conflict between organizational goals and national policy direction and tensions between professional development and collective, organizational, learning that are often absent from organizational definitions

and descriptions but they argue that these are central to understanding public service organizations. They suggest a distinction between standardized and bespoke services and products, arguing for the need for conceptual models which take account of embeddedness in a political context (impacted by centralization of policy goals and strategies, political intervention, and tensions between professional values and public demands to provide a rapid and error-free service), and therefore the contested and political nature of the service processes and outcomes. The evidence reviewed showed that, compared with writers on public organizations (Ferdinand 2004; Haynes 2005; Knoepfel and Kissling-Naf 1998) many writers tend to simplify (Lam 2000) or ignore these features by making assumptions that the organization is a private firm (e.g. Argote *et al*. 2003; Baum and Berta 1999; Bierly and Chakrabarti 1996).

In summarizing this section, the review finds: that there are multiple definitions of organizational learning and knowledge; particular relevance of social perspectives to public organizations; and a lack of definition of organizational domain and context. Foundational works generally describe the importance of learning and knowledge for the 'firm', and make few references to public organizations. It is difficult to identify equivalent 'foundational works' within the public sector literature. The fields of organizational learning and organizational knowledge have developed different foci but study overlapping phenomena from different perspectives. This paper argues for conceptualizations that clearly define the specific organizational context of learning and knowledge and the extent to which generalizations can be made from one organizational context to another.

Location of Learning and Levels of Analysis

Learning can take place at individual (Holmqvist 2004), group (Brown and Duguid 1991, 2001; Lave and Wenger 1991), organizational (Finger

and Brand 1999; Jerez-Gomez *et al*. 2005) and inter-organizational (Araujo 1998; Child and Faulkner 1998; Dyer and Nobeoka 2000) or population (of organizations) (Miner and Mezias 1996) levels. Organizationally, groups, rather than individuals, are often the locus of activity, formally with specific goals and time-frames (Bate and Robert 2002; Edmondson 2002; Scribner *et al*. 1999; Storck and Hill 2000) and informally, through networks and communities of practice (Brown and Duguid 1991, 2001; Lave and Wenger 1991).

Debates regarding the ontological relationship between the concepts of individual and organizational learning have attracted considerable attention. According to individual learning theory, individuals learn cognitively in organizations, but there is no clear relationship between the individual and the organization (Elkjaer 2005). Some authors reject learning and knowledge at the organizational level, asserting that organizations do not learn. The existence of local interactions and routines does not constitute a larger social system (Stacey 2005). Organizational routines are reified, where only cumulative patterns of interactions exist (Stacey 2003, 2005) and explanations of how individual levels of learning lead to organizational levels of learning appear to be absent or unsubstantiated (Prange 1999). The use of appropriate cultural metaphors can aid collective communication of tacit knowledge and render organizational learning 'visible' to researchers (Yanow 2000), but some forms of metaphorical reasoning have limited explanatory power in organizational learning research (Prange 1999).

Other scholars argue that learning and knowledge can exist at the aggregate, adaptive (Cyert and March 1963), interpretive (Daft and Weick 1984) and social level of the organization (Brown and Duguid 1991; Lave and Wenger 1991). In social learning theory, learners are social beings; their activities are part of organizational practice within a context which is historically and culturally produced (Elkjaer 2005). Organizational leaders scan the environment for productive knowledge (Jensen 2005) to enhance the performance of the whole

organization (Rashman and Hartley 2002); and knowledge-management relationships, rules and tools become generalized through practical action in specific contexts (Tsoukas and Vladimirou 2001). The development of information-technology-based knowledge repositories and learning systems in organizations supports this second perspective (Vera and Crossan 2005). Only effective organizations can translate individual learning into organizational learning (Kim 1998). Learning at group and sub-unit levels assists the institutionalization of shared meanings in organizational systems and routines (Inkpen and Crossan 1995).

Linked to assumptions about the concept of an organization, the concept of an organizational group, team or unit (and its interaction with other units) may have a different meaning in a public service than in the private sector. For example, departmental and service-level boundaries were found to present structural and cultural barriers to learning and knowledge flow in local authorities (Newman *et al*. 2000) and health services (Bate and Robert 2002). Finger and Brand (1999) suggest that appropriate structural arrangements in organizations, including small, interactive units and decentralized hierarchies are essential to individual, collective and organizational capacity to learn.

Individual roles may be more complex and difficult than they are theorized from research in the private sector. Within the public sector, individuals may belong to a multitude of shifting groups and networks, many of which do not necessarily work as a team or operate as a community of practice as envisaged in the literature (Bate and Robert 2002). It may be important to clarify on what basis an individual is present in a learning network – as an individual learner, as a representative of an organizational unit, as a representative of an organization, as a learner about networks and even as an elected political representative or as a citizen.

Analysis at the population level of organizations is important for public services, as it is largely at the population or institutional level that government policy intends to create change (Newell *et al*. 2003; Vince and Broussine 2000),

and public value is often determined at this level not only at the organizational unit level (Benington and Moore in press; Hartley 2008; Moore 2005). Knowledge-sharing and learning in public services has tended to focus on the level of a specific service or professional group: an increased focus on organizational and collective learning may be particularly helpful for creating, sharing and maintaining good practice (Vince and Broussine 2000). Individual public service organizations are configured differently from each other, so there may be limited generalizability within as well as between sectors. For example, research into networks in the health sector found that learning and change were contingent upon local contextual and organizational features in specific services including in those of prosthetics (Knight and Pye 2005), cataract diagnosis and surgery (Newell *et al*. 2003), and services for older people (Gabbay *et al*. 2003). 'Analysis of context is not just about whether a factor enables or constrains change, but how factors interact and compound or reduce one another's impact upon the way learning episodes develop' (Knight and Pye 2005, 379).

A relatively small number of articles (Araujo 1998; Inkpen and Crossan 1995; Daft and Weick 1984; Lane and Lubatkin 1998; Newell *et al*. 2003; Reagans and McEvily 2003) address linkage between organizations as a means of creating relationships which provide access to new knowledge for individuals and groups, which can be distinguished from a network, a specific organizational form without formal authority structures (Knight 2002). These linkages can be strategic or emergent (Powell *et al*. 1996), formal or informal. An important characteristic of inter-organizational learning relationships is whether an organization learns *from* or *with* a learning partner (Inkpen 2002). This is important to consider, because learning through collaboration incorporates the potential to accumulate experience and knowledge about how to manage alliances. Organizations can learn together as a network, rather than only sharing existing knowledge between members (Knight 2002). Newell *et al*. (2003) argue that

knowledge transfer and knowledge creation are linked processes and that transfer cannot exist independently of creation.

Learning relationships include strategic alliances (Child and Faulkner 1998; Inkpen and Dinur 1998), 'teacher' and 'learner' organizations (Lane and Lubatkin 1998; Hartley and Rashman 2007; Newell *et al*. 2003), networks of an organization and its partners, such as Toyota's supplier network (Dyer and Nobeoka 2000), an organization providing technical consultancy services for a network of customer organizations (Reagans and McEvily 2003), and public sector partners (Bate and Robert 2002).

The concept of networks of organizations is an important one in the public sector, where 'networked governance' is creating additional vertical (i.e. between levels of government) as well as lateral cross-boundary networks (Benington 2001; Newman 2001) and where cross-organizational professional relationships which offer potential for learning are becoming both more common and more complex (Hartley and Allison 2002; Haynes 2005). Knoepfel and Kissling-Naf (1998) describe public policy networks as political problem-solving structures and define them as an arena in which collective learning processes occur (see also Benington 2001). In comparison with competitive, market-based drivers of strategic alliances, networks and joint ventures in the private sector (Child and Faulkner 1998), in public organizations central government policy is an important catalyst for the co-creation of knowledge, the co-production of public services and the construction of new inter-agency organizational and governance structures (Audit Commission 2007; Benington 2001; Hartley and Benington 2006).

A number of authors (e.g. Inkpen 2002; Hartley and Allison 2002; Hartley and Rashman 2007; Mowery *et al*. 1996; Rashman and Hartley 2002) argue that inter-organizational learning requires further conceptual development and empirical research to create a richer appreciation of how alliance learning happens; to increase cross-fertilization of ideas from different

research streams; and to address significant gaps, including the nature of alliances, and the processes, impact and measurement of learning between organizations. Bate and Robert (2002) report a number of problems and challenges in practice for collaborative knowledge transfer between health-care organizations, highlighting the need for local customization of approaches that draw on, but modify, as appropriate private sector lessons in general in the identification of organizational impediments specific to the health service. Research into networks of local authorities (Hartley and Allison 2002; Rashman and Radnor 2005) suggests that comparison with other organizations in the sector is an important element of learning in public service organizations. The review found a sparse stream of literature on inter-organizational learning (e.g. Child and Faulkner 1998; Hartley and Allison 2002; Inkpen 1996; Knight and Pye 2005).

We summarize this section by suggesting that there is a need for theoretical approaches that address the external as well as internal contexts of organizations. Particular policy, political, professional and historical features of public organizations shape important aspects of their external contexts for learning and change (Pettigrew *et al*. 1992) and their structural and governance arrangements. Their internal variety of sub-units and structures may span organizational boundaries and types. Debates continue regarding the integration of individual learning with organizational learning: we suggest further empirical research is required, in a variety of organizational settings.

The public sector literature suggests that new governance and service-delivery structures in public organizations drive knowledge creation differently from private alliances, networks and joint ventures. We argue that particular combinations of external contextual and internal contextual factors may lead to sector-specific learning drivers, goals, needs, structures, systems, practices and outcomes. Within the public sector, individuals may belong to a multitude of shifting groups and networks, many of which do not necessarily work as a

team or operate as a community of practice as envisaged in the private sector literature. It is important to describe the context-specific factors for a level of learning and to describe the nature of different participating organizations, as well as the network structure itself. In the next section, we explore processes of organizational learning and knowledge transfer.

Processes of Organizational and Inter-organizational Learning

The review found a wide variety of perspectives on organizational and inter-organizational learning processes. A range of literature follows Huber's (1991) knowledge and information process categories, such as López *et al.*'s (2005) four stage approach: knowledge acquisition; distribution through the organization; interpretation; and embedding. Organizational learning is a multi-level, dynamic process incorporating cognitive, behavioural and social elements (Crossan *et al*. 1999; Nonaka 1994; Zollo and Winter 2002). Some authors (e.g. Crossan and Berdrow 2003) identify conceptually distinct 'stages' of learning processes, but others argue for an interactive and continuous process, placing emphasis on the recursive, dynamic characteristics of organizational learning or knowledge creation (e.g. Nonaka 1994). Social processes are integral to Nonaka (1994), Crossan *et al*. (1999) and Zollo and Winter's (2002) models which emphasize individual and shared understanding at a group level through interaction and the embedding of knowledge at an organizational level. Among dynamic and recursive models, Zollo and Winter (2002) propose a 'knowledge evolution cycle'; Weick (1996) stresses continuous renewal and continuity in organizational learning processes; and Knoepfel and Kissling-Naf (1998) develop the concept of a 'learning path' to describe collective learning stages and patterns.

We identified the following four common processes (see Figure 2) of organizational learning that extend across different levels of analysis: individual intuition, thinking and reflection; development of shared understandings and

Organizational learning and knowledge

Figure 2. Common organizational learning processes across levels of analysis

Examples of authors	Common organizational learning processes			
	Individual perspective	Shared understanding	Diffusion	Embedding in organization
Nonaka 1994	Reflects on tacit knowledge	Knowledge creation in teams	Middle managers act as catalysts	Structure and conditions for knowledge creation
Crossan *et al.* 1999	Intuiting ideas and tacit knowledge	Interpreting ideas and integrating in context	Feed forward (exploration) and feedback (exploitation)	Routines, rules, diagnostic systems
Vince and Broussine 2000	Reflection and reflexivity	Working groups create and reframe meaning	Inter-level dialogue addresses emotional, relational and political tensions	Address systemic tensions, political and cultural barriers
Zollo and Winter 2002	Generate variation of ideas	Internal selection	Diffusion, variation and spatial replication	Retention and routinization
López *et al.* 2005	Knowledge acquisition	Interpretation to achieve shared understanding	Distribution among organizational members	Organizational memory, systems and rules

perspectives at a group level through communication and interaction; diffusion through organizations via organizational routines, communication and interaction; application, institutionalization and embedding of learning through organizational routines (e.g. Crossan *et al.* 1999; Inkpen and Crossan 1995; Knoepfel and Kissling-Naf 1998; Soo *et al.* 2002; Thomas *et al.* 2001; Zollo and Winter 2002). In Figure 2, we provide examples of five authors and their respective terms to describe the four common organizational learning processes of: individual perspectives, shared understanding, diffusion and embedding in the organization. Of the five authors, only one (Vince and Broussine 2000) is drawn from the public organization literature.

In addition, the review indicates the existence of the two following inter-organizational learning processes: identification of the need for inter-organizational learning and recognition of new knowledge (Lane and Lubatkin 1998); and inter-organizational interaction by individuals and/or groups across organizational boundaries (Bate and Robert 2002; Hardy *et al.* 2003; Lorenzoni and Lipparini 1999; Newell *et al.* 2003).

Much of the knowledge-management literature explores learning as a process of capturing knowledge and extracting it from its context (Soo *et al.* 2002; Thomas *et al.* 2001), but others (Tsoukas and Vladimirou 2001) argue that an understanding of context is intrinsic to the value and use of knowledge. Dixon (2000) argues that processes of intra-organizational learning need to be aligned with the type of knowledge to be transferred and the specific organizational goals. In a single case study in a UK hospital, Newell *et al.* (2003) found that knowledge was not easily transferred from one context to another, because the local processes of knowledge generation were integral to changing practice. These authors argue that 'process knowledge' about relational aspects of collaborative knowledge creation is an essential part of the knowledge to be created and transferred.

Some theorists argue for the importance of embedding individual learning at an organizational level. In a public sector context, Brodtrick (1998) suggests that three processes form the core of organizational learning: encouraging and embedding individual learning and embedding

the results of this into organizational culture and practices; reviewing and modifying organizational assumptions and shared mental models to ensure environmental fit; and engaging in learning partnerships with citizens. Public organizations face particular challenges to combine explicit systems and protocols with professional creativity in team-based professional work (Haynes 2005). Newell *et al*. (2003) found that shifts in relative power and role boundaries were critical to sharing knowledge between professional groups.

Rather than organizational learning being thought of as a movement from individual through to collective levels, a number of writers see the movement in reverse: collective learning driving individual learning. Knoepfel and Kissling-Naf (1998), together with Ghosh (2004) and Blackler (1995) perceive social and interactive processes as shaping group and individual cognitive perspectives. Bate and Robert (2002) and Newell *et al*. (2003) describe interaction as the basis of simultaneous knowledge construction and transfer. Interaction can develop shared meaning and perspectives, which is the basis of knowledge. The emphasis in these papers (e.g. Newell *et al*. 2003; Nicolini and Meznar 1995) is on the socially constructed and context-specific nature of knowledge and learning. This perspective contends that knowledge is developed through interaction and within practice, and any attempts to move it from the context of this interaction will be problematic.

In summary, processes of organizational and inter-organizational learning can be seen as dynamic, social and contextual. The requirement to assimilate and embed new knowledge, as outlined in a number of the papers addressing processes of organizational learning and knowledge, may be influenced by organizational culture and practices, as well as shared meanings and routines. Relational and political factors and the need to operate within complex networks and structures can impede knowledge-sharing in public organizations.

Factors Influencing Organizational and Inter-organizational Learning, Knowledge and Knowledge Transfer

In this section, we present a framework (Figure 3) to guide the exploration of the literature on factors influencing, first, organizational learning and knowledge, and second, inter-organizational learning and knowledge transfer. This review seeks to illuminate themes emergent from a large and diverse literature through a conceptual
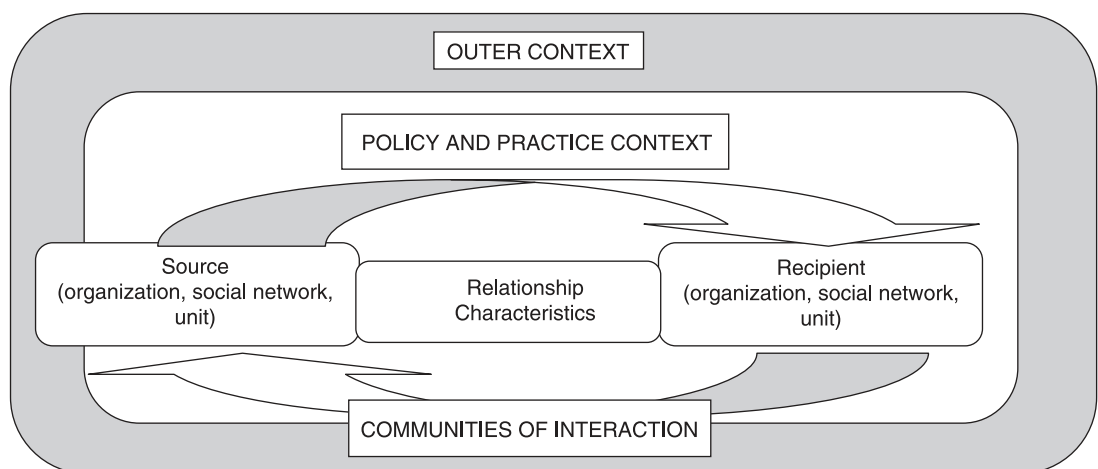

Figure 3. Organizational and inter-organizational learning (Source: adapted from Hartley and Rashman 2007).

model. The model is intended as an evidence-based aid to describe and examine the factors influencing intra- and inter-organizational knowledge transfer. It is not prescriptive and will require further research to test the model in a wider range of contexts.

The framework for sharing of knowledge between units within an organization and between organizations depends on four sets of factors (Hartley and Rashman 2007): features of the source organization (or unit); features of the recipient organization (or unit); the characteristics of the relationship between organizations (or units); and the environmental context. The focus of the model is on knowledge-sharing, either intra-organizational between units (individuals, groups) within a single organization or inter-organizational between units (individuals, groups, organizations) across organizational boundaries. The framework does not address how units learn together from other sources, but does suggest that learning between the units, through communities of interaction, can be reciprocal.

This model is distinctive compared with other models of organizational learning. It emphasizes the two-way process of knowledge-sharing and the importance of the interaction between the recipient, source and relationship factors in this knowledge transfer (Cross and Sproull 2004). Thus, it pays attention both to the source and the recipient organization. In addition, the model critically places emphasis on the context of learning and inter-organizational learning, and identifies the need to understand both the immediate context of the relationship between the source and the recipient and the wider policy and practice context.

Context

Outer context and policy and practice context
The environment in which an organization is operating can have a profound influence on the learning process (Fiol and Lyles 1985; Lam 2000; Miller 1996). External factors such as the wider societal and the institutional context may impact in specific ways upon the learning

process and organizational ability to mobilize knowledge. For example, regulatory policies and financial incentives in Swiss public policy areas influenced the forms of learning and potential for learning, as well as the conditions under which learning could lead to successful policy outcomes (Knoepfel and Kissling-Naf 1998). Industry conditions, such as aggressive international competition or 'serious attack' can influence the viability and imperatives of knowledge exchange in international joint ventures (Inkpen and Dinur 1998). The public sector faces a number of particular pressures influencing the need for and processes of organizational learning (Finger and Brand 1999). These pressures include: local, national and international competition from the private (and other sectors) for service delivery and increasing public expectations of services.

Organizational learning can take place within organizational practice, interaction and communication, and can be generated through 'on-the-job' activities (Brown and Duguid 1991, 2001; Gherardi *et al*. 1998). The difficulty for organizations and individuals of providing a context for knowledge transfer is underlined in Bate and Robert's (2002) study of NHS Collaboratives. These cross-agency groups designed to share good practice are made up of people who do not necessarily work together regularly or form part of a professional community and do not operate in contexts in which knowledge is transferred or generated smoothly. Bate and Robert (2002) argue that in their current form, these Collaboratives are only capable of sharing explicit knowledge because they focus on replication of evidence-based knowledge, rather than actionable knowledge, and its adaptation to local contexts. Taking a broader perspective of the public sector, Haynes (2005) contends that, in order for inter-organizational learning to occur, a partnership approach is needed between managers, professionals and service users. However, this partnership approach is arguably undermined by increasing competition among public service providers and a reduction in trust, accompanied by increasing defensiveness (Nutley and

Davies 2001). Another contextual barrier to inter-organizational learning and knowledge transfer is the existence of professional barriers and assumptions that can block new ideas (Newell *et al.* 2003).

Cultural features of the internal organizational context, such as belief systems (Fiol and Lyles 1985), trust (Araujo 1998), leadership and internal relationships (Reagans and McEvily 2003) may influence organizational capacity to learn. Learning may take place through networks external to the organization or beyond everyday practice, and the characteristics of each context will influence organizational learning. The assimilation and embedding of new learning may be hindered or stimulated by continuously changing and at times conflicting political priorities and agendas, locally, regionally and nationally (Coopey and Burgoyne 2000).

Embeddedness. Knowledge partly resides in the shared systems, routines and norms of organizations, where it may be embedded as either tacit or explicit knowledge (Newell *et al.* 2002). Social, cultural processes of organizational learning proposed by Brown and Duguid (1991), Tsai (2002), Popper and Lipshitz (2000), Lee and Cole (2003), Gherardi *et al.* (1998) and Araujo (1998) interpret organizational learning as a process of both informal and formal interactions between individuals, which are context-specific and embedded. Klimecki and Lassleben (1998, 409) suggest that knowledge is shared 'reality constructions' held by members of the organization. These writers suggest that knowledge can rarely be conceptualized as an objective resource, independent from actors or action, and emphasize that knowledge is not a product of communication alone but is the 'interplay of actions, language, technologies, social structures, implicit and explicit rules, history and institutions' (Blackler 1993, 882). Few writers describe the specific knowledge features and their interplay within a single embedded context.

The concept of 'knowledge as abstract, disembodied, individual and formal' is rejected

as 'unrealistic' by Blackler (1995, 1034). This view contrasts with writers who suggest that tacit knowledge embedded in the context within which it is developed and developed through practice and experience can sometimes be captured, codified, 'de-embedded' and managed by organizations (Thomas *et al.* 2001; Zollo and Winter 2002). Warnings against generalization and the limitation that not all knowledge is capable of abstraction and being made explicit (Gherardi *et al.* 1998) draw attention to the inherent characteristics of tacit knowledge, located within the habits and traditions of an occupational community and the specific, institutional setting. A relatively small number of papers (Bate and Robert 2002; Brown and Duguid 1991; Gherardi *et al.* 1998; Knight and Pye 2005; Newell *et al.* 2003; Tsoukas and Vladimirou 2001) describe the distinctive, operational features of specific local contexts that contribute to the embedding of knowledge. The review finds a contrast between such conceptualizations of learning as highly embedded in practical activity without an equivalent emphasis in the empirical evidence.

In addition, this review questions the extent to which generalizations about organizational learning and knowledge can be 'de-embedded' from private sector organizations and applied to public organizations. A number of authors suggest that the organizational form determines its capability of mobilizing collective knowledge (Blackler 1995; Lam 2000), typically identifying public organizations as professional bureaucracies in Mintzberg's (1979) terms. Such distinctions suggest that the particular institutional norms, structures and routines within which knowledge is embedded are likely to influence the degree to which there is transferability of knowledge to other types of organization. Tsoukas and Vladimirou (2001) argue that organizations constitute a particular domain of action, a concrete setting, a set of abstract rules and a historical community, where application of knowledge depends upon historically evolved collective understandings. Such context-specific, embedded features appear likely to

inhibit the transferability of knowledge between sectors, as well as inhibiting theoretical generalization about learning and knowledge.

Relationship Characteristics

Networks and interaction. Networks based on high levels of reciprocity and interaction have been found to support organizational learning processes (Chen 2004; Inkpen 1996; Knight 2002; Mann *et al*. 2004; Rashman and Hartley 2002; Reagans and McEvily 2003; Scott 2000). Strong ties, characterized by mutual trust, regular communication, commitment and interpersonal connections, help to share knowledge and create shared perspectives (Granovetter 1973; Reagans and McEvily 2003). However, highly consensual networks can actually impede learning where they fail to challenge shared views and common assumptions, potentially leading to actions with negative consequences. Janis and Mann (1977) identified this problem in groups, labelling it 'groupthink': when groups that work well together and share similar perspectives fail to challenge shared views. Different network relationships can serve different purposes (Cross and Sproull 2004; Granovetter 1973); weak networks can be used for problem-solving and stronger relationships can provide a basis for problem reformulation.

The nature of formal and informal networking in the public and private sectors may influence organizational learning. The relatively low level of competition between public sector organizations may facilitate the development of strong network ties, as an aid to intra- and inter-organizational learning. However, the varied and localized nature of public organizations may act as a barrier to reciprocal learning, suggesting that differences (perceived or otherwise) in organizational hierarchies, structures and cultures may impede shared understanding and strong relationships. Brodtrick (1998) argues that public sector organizations need to develop interactive learning partnerships with citizens and customers with the aim of the partnership being to achieve results that are valued by civil society.

The wider the range of networks that an organization is engaged in, the greater access it will have to appropriate and use knowledge so long as it can recognize and exploit those relationships and that knowledge. The quality of these relationships is also an important factor. Emergent, informal social networks, where learning is not separate from the practice of work activity, may have greater tie strength, trust, challenge and knowledge transfer than formalized, strategic groups (Bate and Robert 2002; Reagans and McEvily 2003). These are important considerations when establishing learning networks. There is disagreement as to whether mechanisms, routines and systems can be purposely designed to facilitate inter-organizational learning from experts (Thomas *et al*. 2001) or management 'top down' or whether, instead, once a network has been established, its goals and strategy should emerge (Bate and Robert 2002; Storck and Hill 2000).

A degree of similarity of source and recipient units and a common knowledge base are likely to aid knowledge transfer (Darr and Kurtzberg 2000; Mowery *et al*. 1996; Reagans and McEvily 2003). Similarities can improve communication and also facilitate the identification and application of useful knowledge. Additionally, similarities can encourage units to engage with one another more readily than very distinct organizations can unless there is will and intention to learn from differences. Learning between dissimilar organizations can, however, be stimulating as long as the learning is reflective about underlying processes and outcomes (Downe *et al*. 2004).

Power, politics and leadership. Power and politics, both formal (managing relations between levels of government and with those in formal roles including elected representatives) and informal (forms of control, influence and authority), are important considerations when examining learning within the public sector. Few authors include a political dimension in their definition of organizational learning – in other words, the influence of key actors and interests to direct or constrain outcomes. In a

seminal paper, Coopey and Burgoyne (2000) argue that a consideration of organizational politics helps to widen understanding of organizational learning processes. The authors suggest that open political systems that recognize the existence and role of politics in organizations can support organizational learning. Formal political activity in organizations can support learning by carving out a 'space' for people to put forward and share ideas and can encourage multiple viewpoints, which in turn can aid knowledge creation by widening the range of knowledge sources and increasing diversity (Coopey and Burgoyne 2000; Levitt and March 1988; Nonaka and Takeuchi 1995). Power based upon formal authority can provide stability and continuity; influence can facilitate access to resources and expertise (Lawrence *et al*. 2005). Dekker and Hansen (2004) highlight the complexity of organizational learning in the public sector and argue that it can be either facilitated or inhibited by organizational political processes that reveal underlying systemic causes of problems, minimize ambiguity, avoid blame, achieve broad political consensus, and institutionalize changes into formal rules, operating procedures and information systems.

Power and influence can also lead to the suppression of learning and knowledge; those organizational members that hold valuable knowledge may manipulate or withhold their knowledge, impeding knowledge-sharing (Foucault 1972; Geiger *et al*. 2005). Power can adversely and/or positively affect organizational learning. Lawrence *et al*. (2005) argue that the connection between organizational politics and organizational learning has been under-conceptualized. They theorize a set of specific connections between political strategies and processes of organizational learning, and assert that any theory of organizational learning will be incomplete without an understanding of political dynamics within the organization.

The public sector has both formal (democratic) and informal politics, which may support or hinder organizational and inter-organizational learning. The role of elected politicians and the interests they serve are an important influence on learning and innovation in the local environment (Hartley and Benington 2006; Newman *et al*. 2000; Rashman and Hartley 2002) as well as in regional and national politics. These elements of democracy add dimensions of influence to those of informal organizational politics. The role that influential individuals or learning champions play in driving change in an organization is potentially more complex in the public sector where both elected politicians and managers may be involved in such roles. An understanding of features that are central to public organizations may help to elucidate aspects of power and politics in all organizational sectors, including the role of elected politicians and government policy; an increasing emphasis on partnerships between public, private and the third sector for planning, delivery and funding of services; citizen and stakeholder engagement; and tensions between professional disciplines.

Leaders can play an important role in bringing people together, creating an environment conducive to learning and championing organizational knowledge creation (Brodtrick 1998; Lawrence *et al*. 2005; Nonaka 1994; Storck and Hill 2000), but the review found surprisingly little evidence on this topic, and it is both important and interesting to note this gap.

Recipient and Source Characteristics

Organizational culture, structures and systems. An organizational culture that encourages trust, cross-boundary networking and risk-taking can support organizational learning (Weick 1996). A learning culture can encourage the questioning of established assumptions; challenge and critique (without blame) the work of others; and share knowledge and resources (Brodtrick 1998; Naot *et al*. 2004; Storck and Hill 2000). A climate of trust between learning partners is advocated by a number of writers: Inkpen 1996; Rashman and Hartley 2002; Reagans and McEvily 2003; Sanderson 2001; Scott 2000; however, as discussed below, the nature of a learning partnership has different motivations, meanings

and goals in the context of private and public sectors.

In their studies of the UK public sector, Vince and Broussine (2000) and Vince and Saleem (2004) suggest that the existence of a blame culture negatively impacts upon communication and reflection processes. Brodtrick (1998) argues that the regulatory nature of the public sector's service delivery constrains it by having to provide certain services and products and therefore leaves it with less flexibility than the private sector to respond to change: unlike a private sector organization a public sector organization cannot exit a 'market'.

Strong subcultures within an organization or a network of organizations can impede learning across and between communities (Pak and Snell 2003; Rashman and Hartley 2002). Differences in norms, values, technical language and fundamental concepts between individuals, groups or organizations can act as barriers or as a stimulus to knowledge-sharing and collective learning, depending on, *inter alia*, receptivity, capacity, capability and openness of communication of knowledge partners (Child and Faulkner 1998). Sub-cultures, explicit institutional and bureaucratic procedures and rewards, and implicit practices may exert particular influence on knowledge development in public service organizations (Haynes 2005). Bringing together individuals from a variety of professional backgrounds may be important to generate new knowledge (Hartley and Allison 2002) but may present obstacles to an appreciation of relevance and receptiveness (Newell *et al*. 2003). An understanding of the emotions (including fear of blame) and political processes involved in learning can lead to a better understanding of organizational learning (Vince and Saleem 2004).

Organizational design, structure and systems can support or inhibit knowledge creation and participation in learning in all types of organization, but we argue for greater attention to particularity of institutional, structural and systemic features. Decentralized, informal hierarchies – either intra-organizational or inter-organizational – are suggested to best support certain forms of explorative learning and knowledge creation (Finger and Brand 1999; Nonaka 1994; Tsai 2002) but relational, hierarchical power structures can impede knowledge creation and transfer in local government (Vince 2000) and health services (Newell *et al*. 2003).

Learning systems need to be intentionally geared to the scale and urgency of organizational learning required and are constrained by the prior knowledge and capacity of the organization (Kim 1998). Institutional mechanisms and processes, for example, post-project reviews, can be used to develop and store collective knowledge in order that it can be shared and utilized (Popper and Lipshitz 2000). Formal structures can assist with the capture and application of explicit knowledge, and they can also provide a framework within which more informal, boundary-crossing, social mechanisms of organizational learning can take place. However, some authors note that structural and professional boundaries can also inhibit the natural development of social learning and sense-making in public contexts such as health services (Nicolini *et al*. 2007), and this suggests that more research is needed to examine the influences on learning systems.

Absorptive capacity is an important, multi-level concept which contributes to understanding of organizational knowledge assimilation: 'the ability to recognize the value of new external knowledge, assimilate it, and apply it to commercial ends' (Van den Bosch *et al*. 2005, 280). In common with organizational learning and knowledge in general, there has been a private sector focus on absorptive capacity. The concept might be usefully applied to public organizational contexts, such as reform, 'turnaround' (Turner and Whiteman 2006) and inter-organizational knowledge-sharing (Hartley and Rashman 2007) where there has been relatively sparse research on organizational capacity (Rashman 2007).

Organizations vary in their capacity to absorb and adapt knowledge. Considerable preparation and effort are required to absorb knowledge

effectively from external sources. A visionary, entrepreneurial, management coalition is crucial for investing in and directing focused knowledge acquisition (Kim 1998). Features of Hyundai's transformation from 'a mere assembler of Ford models to designer and exporter of its own cars' (Kim 1998, 517) include long-term planning, construction of creative crises, intense effort to acquire and assimilate knowledge, and risk-taking. The preparatory phase before implementing computerized design systems involved 14 months internalizing explicit knowledge. Acquisition of tacit knowledge included poaching of experienced staff, observation of facilities in operation abroad for 18 months and intensive social interaction. Public organizations are required to transform themselves (Audit Commission 2007), but knowledge exploration is given comparatively little emphasis and resources (Cabinet Office 2006). Research into different sectors can help to identify features and mechanisms of absorptive capacity that are distinctive and sector-specific, and those that may be transferable.

Experiential learning. Experiential learning can lead to a reduction in costs as an organization develops expertise and develops practices to reduce mistakes; speeds up and improves its processes; and is better able to predict and plan for changes. However, knowledge and expertise may dissipate over time if there are inadequate mechanisms to embed learning in technology, standard operating procedures, methods of communication and shared understanding about work processes (Argote *et al*. 1990). One form of experiential learning is the organizational 'stockpiling' of knowledge and expertise through experience (Argote *et al*. 1990; Zollo and Winter 2002). Another form is the conscious drawing upon and consideration of existing knowledge to inform the development of new knowledge (Zollo and Winter 2002). An alternative explanation is that experiential knowledge has two dimensions: task-based, which is related to learning how to do the task better and relationship-based, related to how to work with colleagues better (Reagans *et al*. 2005).

In the public sector, individuals have a high degree of professional, task-based knowledge which they apply in developing relationship-based, collective knowledge (Haynes 2005).

The tacit, subjective nature of certain aspects of professional knowledge makes building up a 'stockpile' of knowledge problematic. Newell *et al*. (2003) found that new work practice could not be transferred from one hospital context to another where it was applicable, because the proposed recipients had not engaged in a sense-making process, in which they had taken the perspectives of others.

Experience can impede organizational learning if routines lead to repetitive, rather than adaptive, activities. Repetition can aid the embedding of organizational knowledge, but success in particular activities can lead to a cycle of positive reinforcement that may inhibit change and learning (Brown and Duguid 2001; DiBella *et al*. 1996) where there is a need to respond to changes in the environment.

Knowledge intentions and strategies. A number of papers address the issue of intentionality in organizational learning and how it shapes the alignment of learning with organizational purpose. Intentionality (Miller 1996) refers to the extent to which individuals and their institutions are autonomous or constrained in their cognition and action; dependent upon the extent to which action is constrained, types of learning vary in their approach, scope, outcome and context. Thomas *et al*. (2001) suggest that strategic learning involves organizations consciously and actively pursuing learning opportunities. Kim (1998) identifies the importance of crises for driving organizational learning, which may originate externally (by state intervention, changes in citizen demands, markets or technology) or internally, to focus intensive efforts on learning and innovation.

Araujo (1998), Balbastre and Moreno-Luzon (2003), DiBella *et al*. (1996) and Nicolini and Meznar (1995) suggest that organizational learning is an ongoing process inherent in organizational life (Balbastre and Moreno-Luzon 2003, 372). 'Knowing and learning as

inevitably implicated in the everyday of collective practices ... rather than a special practice associated with major change episodes or discontinuous innovation processes' (Araujo 1998, 318).

This perspective contrasts with the concept that learning must be initiated and planned as the only way in which learning occurs; rather, these writers (e.g. Araujo 1998; DiBella *et al*. 1996; Nicolini and Meznar 1995) depict learning as emerging through routine organizational activities. The contrast between planned and emergent perspectives has important implications for public policy, where learning is often assumed to be related to top-down initiatives.

In a rapidly changing and competitive environment, the deliberate acquisition of knowledge has been argued as the key to competitive advantage for the 'firm' (Grant 1996), but this review seeks to explain the equivalent motivational force driving knowledge acquisition for the public organization. The central relationship between the creation of knowledge and achievement of competitive advantage suggests that it is the intentional accumulation and leverage of knowledge that explains differences in organizational performance (Cohen and Levinthal 1990; Grant 1996; Vera and Crossan 2005). The basis of 'advantage' to 'the firm' is the internal embedding of knowledge and the prevention of knowledge transfer to competitors (Argote and Ingram 2000): even motivation for co-operative learning relationships is usually economic, aimed at overcoming rivals in chosen markets (Child and Faulkner 1998). In contrast, public organizations have been encouraged to share and spread innovation and to recreate excellent practice at population level (such as local government) or geographically between public agencies (Hartley and Benington 2006).

Public organizations are often concerned with the production of intangible, relational services and outcomes, and are dependent on trusted, collaborative relationships (Hartley and Benington 2006). Organizations may be biased towards knowledge exploitation rather than exploration (Crossan and Berdrow 2003;

Levinthal and March 1993) because it is perceived as 'tried and tested' and less risky than exploration. The policy context for public service organizations is an important influence because, on the one hand, openness to sharing practice from external sources is encouraged but, on the other hand, risk and learning from failure are discouraged (Newman *et al*. 2000). For example, a context of competitiveness between public sector organizations or of punitive measures for failure may inhibit knowledge-sharing, transparency and risk-taking (see Vince and Saleem 2004).

It has been argued that learning and knowledge are only likely to lead to better performance when they are 'aligned with the firm's strategy' (Vera and Crossan 2005, 137). In contrast to business strategy, where managers seek to align organizational goals with a vision of required knowledge (Nonaka and Takeuchi 1995) to remain competitive (Fiol and Lyles 1985), defining strategy in public organizations may be complex and problematic. In the public sector, organizations are subject to both the same pressures to learn as private sector organizations, such as competitive pressures, globalization and technological advances, but there exist additional specific constraints and pressures that create a more complex context (Finger and Brand 1999; Hartley and Skelcher 2008). Factors include: the range of catalysts and roles of politicians, policy-makers, managers, professionals, partner agencies and users (Hartley 2006); the formal political environment with tensions between demands of political actors, citizens and stakeholders; bureaucratization; public and administrative law (Finger and Brand 1999); public policy and reform (Rashman and Radnor 2005); professional boundaries (Miller 1996; Newell *et al*. 2003) and professional training and development (Nutley and Davies 2001); and the nature of the public management role (Vince 2000). Public service organizations must pursue multiple and potentially conflicting strategic objectives (Finger and Brand 1999; Moore 1995). Such complexity in the organizational environment suggests that there are many specific, distinctive and interacting

aspects (Bate and Robert 2002) that will determine the type of knowledge that will be important for the achievement of performance outcomes in public services.

Overall, learning is embedded in the social process through which knowledge is created and developed. Context-specific, distinctive and interacting factors influence the purpose, type of knowledge and knowledge utilization that will be important for the achievement of performance outcomes in public services and for knowledge-sharing between public organizations. Networks between individuals and groups, built upon reciprocity, trust and face-to-face interaction, can support organizational learning. The quality of the relationships impacts upon what knowledge is shared and developed in the relationships. Organizational design, structure, values, culture and sub-cultures can support or inhibit knowledge creation and participation in learning in both the source and recipient organization. There is a need for further empirical research into their inter-relationships and contingencies and to explore whether significant differences exist between private and public sector organizations. Organizational learning is an inherently political process, and both formal and informal politics can both support and/or undermine learning efforts. Power, control, influence and politics are relatively under-developed concepts in organizational knowledge and learning perspectives.

Outcomes and Measures of Organizational Learning

Within the literature, measures of the outcomes of organizational learning are generally absent, and this is perhaps rather surprising. Outcomes of learning need to be defined before measurement can take place of the impact of learning on improved performance (Easterby-Smith *et al.* 1998). Different conceptions of organizational learning influence the definition of organizational learning outcomes.

Time-lags between learning, implemented changes and performance outcomes make empirical evaluations of the efficacy of learning very difficult (Inkpen and Crossan 1995). The 'improvement bias' in the literature leads to an assumption that learning is always a positive thing; however, it is important to recognize that organizations can learn the 'wrong' things or inefficiently expend resources on learning disproportionately useless knowledge (Huysman 1999; Miner and Mezias 1996), or may be myopic (Levinthal and March 1993) or history dependent (Baum and Berta 1999).

There is an underlying assumption by some management theorists that cooperation in learning alliances between organizational partners will lead to performance improvements and longer term to strengthening 'competitive advantage' (see Child and Faulkner 1998). However, research into joint ventures has identified that the assumption is difficult to confirm (Inkpen 2002). Public sector improvements are judged not by the market and market mechanisms, but by the addition of public value (Benington and Moore in press; Moore 1995) or the contribution to the public sphere (Marquand 2004), and these outcomes can be difficult to measure, and also in any case are subject to contested values and debates (Hoggett 2006; Moore 1995). There is a lack of measures of the effectiveness of organizational and inter-organizational learning processes as well as outcomes, both generally across different sectors and specifically in relation to the public sector.

The review found that there is an absence of evidence to either support or refute a link between organizational learning and performance, despite a number of assertions or assumptions about the link between learning and performance. Authors describe a range of outcomes, which include changes in individual behaviour, such as better task performance, changes in systems, such as logistics, and changes in organizational performance, such as financial results (López *et al.* 2005). Very few studies provide empirical evidence of learning outcomes or have determined whether an organization's learning processes produced the desired results. There is a need for

development of methods for measuring learning processes, learning outcomes and their impact on organizational performance. Some knowledge-management strategies appear to be more effective than others in creating learning (e.g. the creation of a strategic relationship between the organizational partners) and features of the context, such as industry conditions and managerial commitment, can influence learning outcomes (Inkpen and Dinur 1998). Some measures that have been developed in the private sector appear to have value in highly specialized contexts and may not be applicable to the public service sector, For example, Cohen and Levinthal (1990) used Research and Development (R&D) spending as a proxy measure to assess a firm's willingness to invest in absorptive capacity, but public service organizations are less likely to have a formal R&D unit, and service-based R&D is, in any case, often more diffuse than in manufacturing. The aim of producing 'public value' outcomes (Moore 1995) leads to complex definitions of performance for public organizations (Boyne 2003).

The development of measures that help to establish this relationship would benefit organizations in all sectors. It is important for the evaluation of UK policy initiatives intended to create service improvement that they develop measures that can assess the effectiveness of processes and outcomes of learning on an organization's structures, systems, products, services or processes. We argue for research methods that take into account the medium- to long-term public policy horizons and the variety of stakeholders.

Conclusions

From the research of organizational and inter-organizational learning and knowledge in the public sector, there are conclusions for public organizations in particular and for the field in general. The commercial value of organizational learning and knowledge to scholars and business strategists in private organizations is well established as critical to long-term business success (Child and Faulkner 1998; Dixon 2000; Easterby-Smith *et al*. 1999; Nonaka and Takeuchi 1995). Managing knowledge is 'arguably the single most important challenge being faced by many kinds of organizations across both the private and the public sectors' (Newell *et al*. 2002, 2). In contrast to private organizations, the argument for why organizational learning is critical to success in public organizations is under-developed (Finger and Brand 1999; Nutley and Davies 2001), as is the contribution to the field of research into public organizations.

First, defining 'organization' is an important element of definitions of organizational learning and knowledge, given that the literature shows how context-specific much learning is and the need for sectoral explanations, theory and empirical research.

Second, the review argues that public organizations constitute an important, distinctive context for the study of organizational learning and knowledge. Sector-specific features within the public sector are likely to influence organizational and inter-organizational learning processes, and further research is needed to understand the processes and contingencies which shape the nature and extent of organizational learning. Public organizations are susceptible to externally generated crises (Kim 1998) from national and regional government policy and political shifts, and the demands and expectations of stakeholders, partner agencies and local citizens. In contrast to private organizations, the public sector is constrained by political goals and tensions (Vince and Broussine 2000), and different pressures to direct resources to drive intensive learning (Hartley and Benington 2006). The persistent scale and pace of reform has led to radical changes in leadership, internal organizational culture and complex structural arrangements, which make public organizations of importance in organization and management research.

Third, an important contribution of this review is that there continues to be an over-reliance on the private sector as the principal source of theoretical understanding and empirical research.

Among papers reviewed, there was a tendency to assume by default that the context was the private sector firm, and that 'the firm' is synonymous with 'organization'. This included papers that argued that contextual features of knowledge are important (e.g. Araujo 1998; Argote *et al.* 2003; Brown and Duguid 2001). Foundational and classic works in the field rarely consider the public organizational domain.

Among limitations of the private sector literature, it often assumes contextual factors that apply to 'the firm', and ignores those factors that apply in particular to public organizations. We argue that contextualized theory, empirical research and design of research (Pettigrew 2005) are essential to understand, analyse and support organizational and inter-organizational learning and knowledge creation. There are few papers which make explicit the external social, economic and political organizational context or type of organization being studied. These are among important factors in all types of organization, and we argue that increased attention to the external and internal organizational context would increase the potential for understanding the specific situated practice, and its transferability to other sectors.

In particular, we suggest that there is a need for robust theory that takes into account the complex nature of public service organizations' institutional, governance and structural context. The limitations of generalizability were often within sector, 'in other companies' (Edmondson 2002, 144), rather than extended to other sectors. 'Concepts derived from the private sector should not be mechanistically trundled across the sectoral divide' (Pettigrew *et al.* 1992, 5) but a broader range of conceptual approaches to organizational learning and knowledge needs to be developed and applied.

In contrast, the review found that contextual factors were often given relatively greater prominence in research in public service organizations. Such authors placed emphasis upon: specificity of external environmental and internal cultural pressures in the Swiss postal service (Finger and Brand 1999); public service reform in local government (Rashman and Hartley 2002); improvement and innovatory practice in the National Health Service (Bate and Robert 2002; Nutley and Davies 2001); and political processes (Vince and Saleem 2004). Public organizations face additional pressures to those on private companies, requiring judgement to take into account the complex knowledge requirements of national policy priorities, as well as formal political and contested national and local needs. The public organizational literature appears to be drawn mainly from research into health care services and local government, which reflects considerable interest from within the medical sciences (Nicolini *et al.* 2007) and production of the literature from within healthcare (Nicolini *et al.* 2007) and local government sectors (Rashman and Hartley 2002). However, sectoral knowledge is also fragmented by strong professional boundaries.

Fourth, there are some similarities across all organizational sectors, and also variation within them, but we suggest that the differences between them require conceptualization and research. All types of organization face challenges of globalization, new technology, market pressures, innovation and survival. The motivations, purpose, barriers, opportunities, mechanisms and outcomes of organizational learning and inter-organizational learning are likely to differ between sectors. The deliberate acquisition and leverage of knowledge assets from external sources is an established, entrepreneurial activity in private organizations (Child and Faulkner 1998; Kim 1998), whereas knowledge creation in public organizations is more likely to be a factor of policy implementation, rather than an explicit goal (Bate and Robert 2002). External policy drivers of public service reform tend to drive the sharing of knowledge between organizations, to drive up 'industry' standards and performance, rather than protect knowledge and generate commercial or competitive advantage for individual organizations. Further research into under-developed themes, such as the role of power

and formal and informal politics, leadership and the measurement of organizational learning outcomes, would increase understanding in both sectors.

Fifth, the dynamic models proposed by some writers involve a relatively linear process of learning incorporating individual, group and organizational levels. Envisaging how these models can incorporate the complexities of multiple partnerships, vertical pressures, democratic structures and complex decision-making are an important challenge for future researchers.

The review has identified a number of knowledge gaps on which further research into organizational learning and knowledge should be focused. From a synthesis of the literature, we have developed a dynamic, evidence-based model of organizational learning within and across organizational boundaries that depends on four sets of factors: features of the source organization; features of the recipient organization; the characteristics of the relationship between organizations; and the environmental context. There is a need for investigation of the influence of external contextual features on all four sets of factors in the model, with particular emphasis on testing the model in a range of external contexts across the private, public and voluntary sectors.

Note

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