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Abstract

This article illustrates and qualitatively explores the value of understanding the social networks present in a service operation through a case study of a local government service network that manages regional development applications. It also examines how social learning underpins service systems performance improvement and how it is instrumental in creating a richer environment for ongoing service network innovation and development. It is argued that gaining a better understanding of these social networks and the social learning potential in a system offers substantial and highly practitioner-friendly avenues to progress service systems capability development. These findings clearly place an emphasis on developing the human and social aspects of service systems and also provide humancentred points of departure for researchers examining more holistic service systems theory development.

Keywords

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Social Networks, Social Learning and Service Systems Improvement

Andrew Sense and Matthew Pepper

This article illustrates and qualitatively explores the value of understanding the social networks present in a service operation through a case study of a local government service network that manages regional development applications. It also examines how social learning underpins service systems performance improvement and how it is instrumental in creating a richer environment for ongoing service network innovation and development. It is argued that gaining a better understanding of these social networks and the social learning potential in a system offers substantial and highly practitioner-friendly avenues to progress service systems capability development. These findings clearly place an emphasis on developing the human and social aspects of service systems and also provide human-centred points of departure for researchers examining more holistic service systems theory development.

Introduction

The service sector constitutes a major part of any national economy, and service industries are striving to adopt improvement initiatives (Piercy & Rich 2009; Antony 2006) so as to better exploit gaps in customer perceptions of quality and service delivery in the marketplace. By and large, in pursuit of improvement strategies and processes, service systems have predominantly focused on technical solutions to organisational service problems or opportunities. To a point, that is understandable, since the technical elements appear to be tangible, identifiable and seemingly more readily amenable to development, eg, process redesign (Piercy & Rich 2009) and new information systems (Fung & Wong 1998; Chow 2004). However, whilst such a singular focus has yielded some measures of success, it has done so at the cost of a more integrated and holistic systems approach. A more integrated approach would also include the social systems in service improvement activities, since they represent a fundamental part of the adoption, sustainability and success of any new innovations as well as in the day-to-day performance of service systems. That being the case, they should be considered at least an equal element demanding greater managerial attention rather than be perceived as a “follower” element to technical solutions that have previously been designed and deployed. On the basis of that proposition, it is therefore suggested that we should generally re-evaluate how service industries view and pursue improvement

initiatives (Prajogo 2007).

Any ignorance or deliberate avoidance of the social network in a system is also perhaps understandable given that, compared with technical systems, a social network appears and acts less rationally, is seemingly incomprehensible, is less approachable and certainly less predictable. However, as Joiner (1994) notes, there is a necessity to maintain a more balanced view within improvement philosophies and practice. This involves a balance between the cultural and technical aspects and any required outcome. Thus, in addition to impacting the adoption and performance sustainability of any technical improvements, it is this exclusion or ignorance of the social networks (which are intrinsically found in both face-to-face and electronic service provision) from any service redesign process that severely limits the scope of system understanding, and as a consequence, the scale of what can potentially be achieved.

How does one better conceptually and pragmatically engage with the social systems so as to embark on such service systems improvement? One way that is argued for in this article is to pursue a systematic and deliberate strategy involving social learning – alternatively referred to in this article as “practice-based learning” or “learning on the job”. This perspective on learning reflects the sociological view of organisational learning wherein meaning, actions and learning (both individual and organisational) are a result of the conversations and interactions of individuals within their socio-cultural settings or, put simply, their collective and interpretive social practice (Sense 2012). Thus, this conceptualisation has shifted learning perspectives from the cognitive and behavioural dimensions to one of evolving practice, and thereby inaugurated a greater interest in socially oriented approaches to the understanding of learning and knowing (Easterby-Smith et al 2000). In effect, this approach moves people beyond just high philosophy and grand themes [such as organisational learning exhortations] into the gritty world of practice (Garvin 1993). Therein, “Learning is the engine of practice, and practice is the history of that learning” (Wenger 1998: 96). Within any practice setting, it involves an emphasis on identifying ways to support and promote dialogue, conversations and storytelling (Baker et al 2002; Gold 1997; McKenna 1999; Tenkasi & Mohrman 1999) between participants as the primary processes necessary to cultivate learning (Sense 2012). This approach also incorporates a notion of organisational competence development through continuous learning by the individuals and the organisation itself (Sense 2007). Continuous learning underpins innovation and change through increasing the knowledge and understanding of the organisation, its relationship with its environment, and its ability to adapt and transform its behaviours and practices – where ultimately, it will perform better over time (Senge 1990; Dodgson 1993; Garvin 1993; Kim 1993; Tsang 1997; Saint-Onge & Wallace 2002). When engaging in this approach to learning, a service system can build individual and organisational knowledge,

understanding and innovation capabilities at the grassroots level.

Consequently, with those ideas in mind, we first posit in this article that organisations need to engage in a holistic systems perspective towards improving service delivery, and thereby need to place more emphasis on understanding, exploiting and developing social networks for service systems improvement. In any attempt to achieve that outcome, we also argue that social learning may be a key strategic vehicle for such activity. We also acknowledge that this view supporting the more effective integration of social and technical systems is not necessarily new in some fields of literature. For example, this human and social focus has been explicit or implied in the socio-technical systems literature (see for example, Taylor & Felton 1993; Cotter 1995), the quality management literature (see for example, Joiner 1994; Deming 2000), the project management literature (see for example, Sense 2007 & 2009a) and also in recent supply chain literature that articulates the necessity of developing inter-organisational social relationships for supply chain innovation (see for example, Gattorna 2006; Sense & Clements 2007 & 2010). While embracing this ontological perspective, the analysis provided in this article illustrates and qualitatively explores the value of better understanding the social networks involved in a service operation and how social learning can be viewed as an instrument to create a richer environment for service network innovation and development.

To achieve its goals, this article first details the theoretical framework informing the arguments presented. The next section then outlines the illustrative case study context and methodological matters involved in developing this conceptual piece. Thereafter, the key outcomes or arguments are expounded and implications for research and practice are identified. The final section brings together the key themes established in this article and offers directions for further research.

Theoretical Framework

The arguments presented in this article are guided by a social constructivist epistemology and primarily informed by situated learning theory. In close association with a sociological view of organisational learning, situated learning theory assumes that most learning occurs in culturally entrenched ways within communities of practice (Brown & Duguid 1991; Lave & Wenger 1991; Saint-Onge & Wallace 2002; Wenger 1998; Wenger & Snyder 2000; Wenger et al 2002). Accordingly, the focus of situated learning theory is concerned with learning as social participation within these communities of practice (Park 1999; Senge & Scharmer 2001; Wenger 1998). It evolves through the learning processes of observation, dialogue, storytelling and conversations between people as they participate and interact within a practice, and can be referred to in more practical terms as “learning on the job” (Sense 2009a, b).

Therein, participants mutually develop their technical and social competencies and negotiate and construct their identities and common meanings [and knowledge] around situations and objects within their evolving practices (Brown & Duguid 1991; Cook & Yanow 1993; Dixon 1999; Gherardi 1999; Gherardi & Nicolini 2000; Hildreth et al 2000; Lave & Wenger 1991; Wenger 1998; Wenger et al 2002). Hence, situated learning is not at all focused on the cognitive aspects of learning – such as is presented in the seminal cognitive learning literature of Senge (1990), Kolb (1984) and Argyris and Schön (1978). In this alternate perspective, knowledge can be considered a direct result of and conjoined to the practices and the mediating socio-cultural context, and the participation and interaction by participants are critical for learning and knowledge development (Sense 2007 & 2012). This “participative community” feature aligns closely with Brown and Duguid’s (2000) advocacy of information being entrenched in social relationships and institutions and Nonaka and Takeuchi’s (1995) affirmation that a key feature of knowledge creation is that teams (or communities) of people play central roles in the knowledge creation process (Sense 2009a, b, 2012).

In a service system then, this perspective implies that the service practices serve as the foundation for learning development within a system and, as generally appreciated, learning and the capability to “learn how to learn” underpins innovation and change in any context. Hence, in this frame, learning is part of normal work but is likely considered an incidental or peripheral aspect of a participant’s work practice experience. That is, it will occur by default anyway as people attempt to work together in cohesive ways to deliver an organisation’s activities and goals. However, such an incidental perspective on learning in the practice setting leaves open the untapped possibility that perhaps learning at the individual, team and organisational levels could be further enhanced if situated learning were encouraged, supported and thus more purposefully pursued by an organisation. This does not suggest for one minute a dictatorial or normative approach to “install” such a change, as that is entirely contradictory to the concept of situated learning. Instead, it is a more organic and dynamic form of learning that intersects with and responds to the contextual conditions. Even so, that does not mean situated learning is unmalleable – just a little elusive to managerial control, as expected. In sum then, organisations can either continue to treat the learning potential residing within the practices as an incidental and low-key matter, or alternatively, purposefully facilitate the practice environment to both enable and positively stimulate the social learning processes between people whilst they are on the job. Our position is to argue for the latter as a means to facilitate innovation capability development and productive change at both individual and system levels in a service environment.

Case Study Context and Methodology

To illustrate the value of understanding the social networks involved in a service system, we utilise a recent case study of a service operation within a local government authority in Australia. In this, we use a hybrid mapping technique that combines process mapping elements and key elements of social network analysis or "interaction patterns" as described by Cotter (1995) to depict the social relationships and their characteristics. This case is particularly useful in this article, due to the perceived number and complex nature of the communication patterns, interdependencies and interactions surrounding each process step, both internal and external to the agency.

The operational context of the case study council referred to in this article is arguably quite complex and yet, one might suggest, quite a typical circumstance. That is, the case study council, as well as other local government authorities in Australia, is under continual pressure to raise its performance in response to its constituents' needs and expectations of efficiency, sustainability, participation and social equity. Increasingly, this has had to be achieved with decreasing funding support from state or federal governments and increasing restrictions on local government capacity to raise revenues from taxpayers. Embroiled in this milieu, this study involved a rather large local government entity in Australia that primarily governs a large urban area with a significant central business district, but which also has substantial rural and natural environment areas within its jurisdiction. As an indication of its size, it consists of 42 separate business units and it provides corporate planning, development, environment protection, infrastructure, and a myriad of community services to its local region. One of many important and significant and often controversial services provided by this local government agency to its regional community involves development applications (DA) and their approval processes, where processing lead times are a key performance indicator. These DAs can range from small residential development applications (e.g. erecting a garage) to large subdivisions in newly released land to multistorey office towers in the central business district. The illustrative case study involves the agency's department of city planning, which is responsible for the assessment and determination of eligible DAs. In addition, this department provides pre-lodgement consultation to the applicants in the form of pre-lodgement meetings, telephone enquiries and face-to-face meetings. These consultation activities are formal in nature and, at this stage, no indications are provided on the determination of any applications. The agency's professional code of conduct also prohibits employees from conducting any informal meetings with the applicants in order to preserve the transparency and integrity of the pre-lodgement process. The development applications have to go through four stages, namely (i) application initiation, (ii) pre-lodgement meeting, (iii) application preparation and (iv) application lodgement (Bhagat, et al 2009).

The second stage (pre-lodgement meeting) is a service offered by the agency as a discussion forum regarding a proposed development, between external stakeholders (eg the applicant) and internal ones (i.e. experts within the agency). The discussion held is based on any plans, technical information and any other relevant supporting documentation previously provided by the applicant. The aim of these meetings is to discuss any issues relevant to the application (i.e. location, environmental impact, etc.). The intention is to provide advice based on the submitted documentation and, if necessary, pose alternative solutions or suggestions for particular elements of the application that are unacceptable. It should be noted, however, that the meetings are for advisory and clarification purposes and do not culminate in an approval decision. The internal and external stakeholders consist of numerous persons working in agency departments such as city works, traffic and urban design; the applicants; finance agents; consultants; architects and developers; property agents and external referral agencies, including departments of environment and conservation, national parks authorities and other state planning departments as required. An applicant lodges a request for a pre-lodgement meeting with the Customer Service Officer (CSO). The officer checks that all relevant documents and fees have been submitted, before issuing a DA number to the applicant and passing the information to the Preliminary Assessment Unit (PAU). The PAU then reviews the documentation and, if the relevant fees have been paid, the unit begins the coordination of the pre-lodgement meeting.

The agency acknowledged that some stakeholders perceived there to be service problems concerning prolonged DA turnaround times, one-way communications during the assessment stage, and the quality of advice received in the pre-lodgement meetings. The broader implications of these issues could potentially be a loss of development projects within the region accompanied by flow-on effects for employment opportunities, regional development and income. Hence, the opportunities for significant impacts from failures or variances in this service operation are reasonably profound. In sum, this illustrative case tracks and interprets a service process and the attendant social communications and interactions patterns between the stakeholders involved. The social networks identified in this case provide a richer and more holistic understanding of the otherwise invisible interactions and causal relationships contiguous with the service system examined.

In establishing this illustrative case of the importance of social systems in a service operation, the researchers undertook a series of semi-structured explorative interviews with various system stakeholders, analysed historical documentation and observed internal council processes. These data were collated and thematically analysed, and key outcomes or arguments were inductively developed.

Findings and Analysis

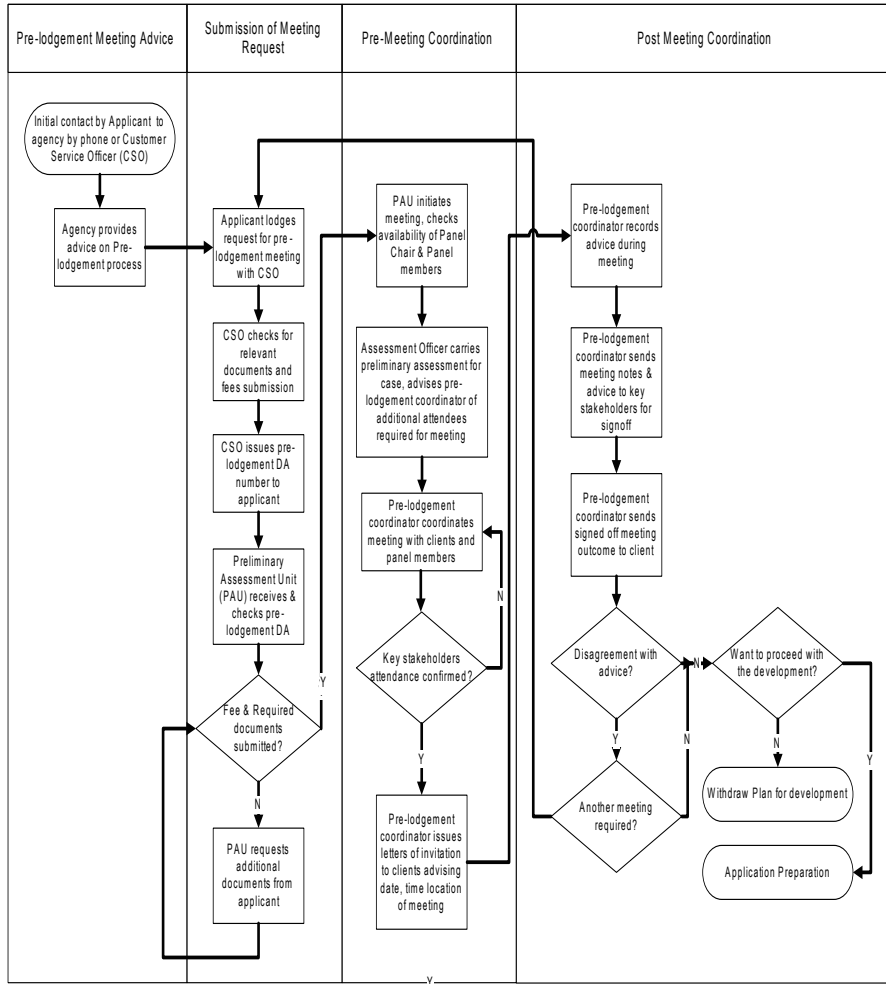
In service environments, traditional mechanistic models for systems improvement are, on their own, inadequate. Incorporating a systems thinking perspective, the broad propositions contained within this article are concerned with the social networks and the social learning potential which underpin continuous innovation in service systems. These human-centred phenomena offer alternative and highly approachable avenues for service systems development. Our first core argument concerns the value in understanding the social networks of a service system.

The Value in Understanding the Social Networks of a Service System

Our illustrative case involves the Pre-lodgement Meeting (PM) process outlined above in the case study context section. In developing the social network map that informs this discussion, and engaging the notation described by Cotter (1995), communicative interactions between stakeholders in the service system social network were separated into four categories: weak informal (infrequent), strong informal (frequent), weak formal (infrequent) and strong formal (frequent). Informal communications are depicted as broken arrows, while formal communications are depicted as solid arrows. The direction of the arrow indicates in which direction information flows and where the communications originated. The frequency of communication is depicted by the width of arrow (a thick arrow equates to a high frequency of communication and vice versa). However, to put these communicative interactions in context, one first needs to establish the service process map which depicts the back office and front office activities (Krajewski et al 2010) involved in providing the service to the community.

Figure 1 depicts the process map for the Pre-lodgement Meeting (PM), describing all process activities and decisions that are undertaken. This entire map represents a preparatory phase involving both formal and informal activities prior to any formal DA submission process. The PM provides a formal opportunity to discuss concerns with a development application prior to its official lodgement. The attendees include: the applicant, external consultants, a Pre-lodgement Coordinator, who is a member of the Preliminary Assessment Unit (PAU), a Development Planning Officer (DPO), a Development Manager, referral officers and external officers relevant to the specific application. The Pre-lodgement Meeting process can be subdivided into four stages (as depicted in Figure 1): pre-lodgement meeting advice, lodgement and assessment, pre-meeting coordination and post-meeting coordination. The process begins when the applicant makes initial contact with the agency, seeking advice for pre-lodgement meeting preparation. Once this request is lodged, a customer service officer checks the submission, and issues a DA reference number to

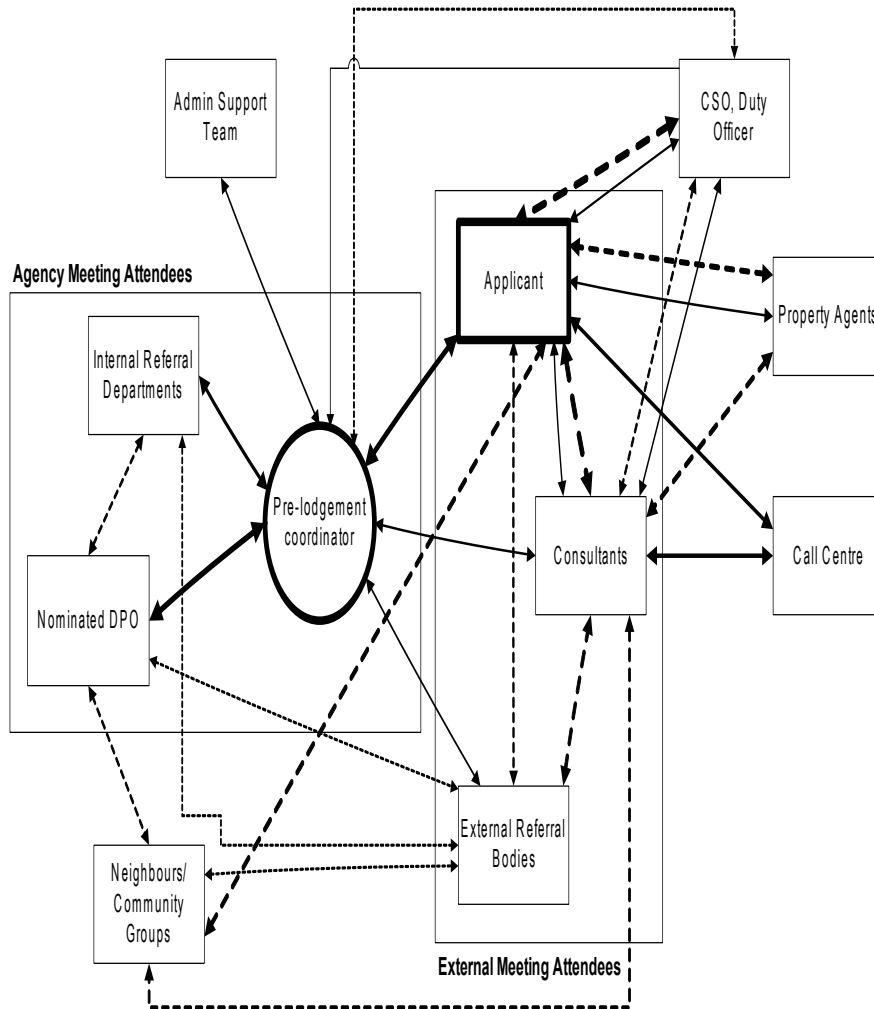
Figure 1
Pre-lodgement Meeting Process Map



the applicant. A Pre-lodgement Coordinator schedules and organises the meeting. Once the meeting has taken place, the coordinator distributes minutes and recorded advice to the attendees.

Figure 2 below, shows the corresponding communicative interactions associated with the stakeholders for the full process depicted in Figure 1. A complex array of interactions takes place, which are not captured within traditional process mapping approaches and which critically inform decision making in the service system. The frequency and formality (or informality) of communications between stakeholders are clearly depicted, highlighting critical communication hubs on the process map. In this case, the Pre-lodgement Coordinator and the Applicant constitute the focal

Figure 2
Social Network Map for the Pre-lodgement Meeting



points or hubs for most of the communication activities at this stage in the process.

The communication patterns between external and internal stakeholders (or meeting attendees in this case) at this stage of the DA system are clearly depicted in Figure 2. One can observe there are multiple two-way communications occurring between the external and internal stakeholders (visible in the light and dark shaded zones respectively in Figure 2) with the majority being informal – suggesting that the system primarily acts upon the basis of mostly informal communications. This depicted “informality”

highlights a potential risk profile within the system concerning increased system variability. The reduced visibility of communications and subsequent difficulty in auditing the social system to ascertain any causes of service system variability is clearly problematic. Moreover, in the context of this service system case – a government-regulated environment – the agency's own code of conduct mandates “accountable communication” to ensure corporate transparency and ethical standards of behaviour. The social network analysis has revealed, however, that communications still take place informally between stakeholders, making this goal more difficult to realise in current practice.

This informality and seeming randomness of communications and interactions, from a situated learning perspective, can be viewed both as a positive and negative influence on the systems performance and future development. That is, the informality of these network relations may encourage more open and explorative exchanges between parties on matters that are relevant to them and thereby assist in their learning and knowledge development. In this light, they are not necessarily considered to be viewed as rogue or deviant relationships that may undermine the system efficacy or quality of inputs. Instead, these informal relationships are perhaps more an opportunity to gather and generate additional useful knowledge and linkages to improve system performance rather than impede it. On the other hand, this situation, as depicted in Figure 2, in part resembles an evolving or incomplete community of practice wherein there is perhaps limited and only functional information exchanges between certain parties – since social participation through dialogue and conversations is constrained to within the informal and occasional practices and this restricts the potential for practice-based learning development at both the individual and full-group levels. Nonetheless, identifying and appreciating such conditions and the available and/or lost opportunities for practice-based learning development within the extant social system, is an important and seminal learning event in any system's development. Hence, from a situated learning perspective of this case study, one might consider how to better encourage and establish the opportunities for the players to interact, formally and informally, more often and more comprehensively so as to access and share explicit and implicit knowledge and to build productive collaborations. Such learning goals are particularly difficult challenges in a system that spans multiple internal and external organisations. In other single-organisation social systems, that goal may be more readily achievable.

Also notable is the fact that the social network analysis has revealed that no communication takes place between the pre-lodgement coordinator and community groups. This may have some impact on system performance given that the quality of the pre-lodgement meeting content is quite dependent on the quality of the communications and data-gathering efforts made by the applicant. One can speculate that a more proactive

formal communication structure, between the Pre-lodgement Coordinator and community groups for example, might better assist a more thorough and timely information exchange (and situated learning) on these matters rather than furnishing a sanitised version being posited by the applicant. Such an action would reflect the seizing of an opportunity to improve a system and build a learning community rather than addressing what might be perceived simply as a risk or recurrent system problem. On a broader scale, it is also tentatively considered that the lead time of the DA process could be reduced if the agency could more actively participate (formally) in the informal social network, given that these networks consume much time. That is, by intervening more actively, the agency may have the opportunity to accelerate the overall DA process through reorganizing communication channels that encourage and collate necessary information in a more efficient manner. Any such increase in participation, feedback and sharing of knowledge between stakeholders could also help foster a common clarity of system purpose and transparency of expectations throughout the service network – led by the agency providing the service. Achieving such clarity of system purpose and the establishment of common or shared meanings and expectations between parties is essentially a learning process and reflects the progressive development of a community of practice. Moreover, in the current social system in the case study examined, one can surmise that the social practices and connections between parties appear to have evolved randomly in accordance with the needs of the various participants and, as such, their interactions are limited, disjointed and likely incomplete.

These types of inferences and possible approaches towards improving the service delivery and the situated learning opportunities in this system can clearly only be constructed once one becomes more aware of the “actual” social practices and relationships that exist within a system. Well researched and well used tools, such as social network mapping, combined with process mapping techniques provide the framework to achieve those outcomes. At the least, such an analysis can inform system management and staff of potential deficiencies or relational problems within a network that may impact key interdependent relationships and therefore the day-to-day functioning of the system. With such knowledge too, the introduction of technical innovations in a system can be pursued more holistically by taking account of the social practices and thereby integrating and operationalising the technology more effectively.

Comparative and supporting insights from other contexts include the implementation of technology and ICT infrastructure in environments such as healthcare (Berg & Toussaint 2003; Carayon 2006) and computer security (Carayon 2006). Carayon (2006) demonstrates the importance of understanding “interactions between people and elements of the system, as well as with the wider environment of the system” (Carayon 2006: 528), with emphasis placed on situations where organisational boundaries are crossed, evidenced through a number of examples and case studies.

These contexts demonstrate that the surrounding cultural/social environment and practices must be recognised in an organisation or system before it can be understood and positively influenced. This is also substantiated in the conclusions of Biazzo (2002), who discusses the limits of process mapping relative to the broader cultural influences and communications captured in a social network analysis. The effects of this in organisational diagnosis and design as mentioned in Biazzo (2002) are wholly synergistic with the findings illustrated in our case study. An acknowledgement of the role communication and situated learning plays as a foundation for continuous innovation should be an inherent consideration in service system design and structure, if their capability for innovation is to be positively influenced. It should be noted that although some scholars, such as Berg and Toussaint, and Carayon, support the need to consider process and environmental factors, their research appears to only concentrate on technical systems and interactions within these systems, rather than placing the focus on business processes and their attendant social networks, as we do.

In addition to these examples, recent empirical evidence concerning the integration of social network analysis and process mapping techniques is lacking. Interestingly, more recent research conducted in this area has a different focus. Examples include the application of social network analysis to the field of knowledge management (Liebowitz 2006) or research metrics through the use of citation factors (for example, Giannakis 2012). This diversity in application may be reflective of how the concept of mapping and social network analysis is understood differently in different contexts and treated in isolation to a fully comprehensive systems view that we posit.

Practice-Based Learning as a Key Approach to Developing Innovation Capacity

The second argument posited in this article is that strategically adopting a social or situated learning approach towards developing the human and social capital (Boxall & Purcell 2008) in a service operation is both a practical and conceptually robust approach to further service innovation development. Why this may be the case has been explicated earlier in the section concerning our theoretical framework. In addition, the illustrative case study examined in the previous section hinted at the potential value and utility of this approach for learning and learning capability development.

An organisation may assist the germination and organic growth of such situated learning through (1) creating structures and processes to encourage on-going interactions between staff, collaborative work arrangements, and knowledge sharing situations; (2) educating and challenging staff about the opportunities for learning within their work practice contexts and seeking their input into designing systems to support that endeavour; (3)

establishing an environment that encourages exploration and risk-taking so as to enable staff to challenge the status quo and even power relations in an organisation. Such degrees of freedom may stimulate creative thinking and generate creative solutions to service system problems. So there are many ways an organisation can influence the development of situated learning opportunities and capabilities within a social system and thereby open up possibilities to develop individuals and their capacity to “learn how to learn”, system practices and future innovations.

This practice-based learning approach and attitude toward developing innovation capacity, coupled with a deep understanding of the social networks in play, is an opportunity for unique and innovative system-wide practices to develop at the workplace level.

Implications for Research and Practice

This article makes timely conceptual contributions to systems theory debates concerning the impact of social systems on service systems performance. As we claim, research on systems must be more holistic in nature and must attempt to encompass the human, cultural and practice-level elements and how they interact within organisations. This article may therefore help stimulate interest in researching these diverse social phenomena in service systems and offer fresh points of departure for researchers examining the development of a more holistic service systems theory. This will necessarily expose them to a range of cross-disciplinary approaches and social theories that may be beyond the narrower confines of their discipline’s traditional theoretical base.

The practical implications of the arguments presented in this article concern (a) the need for organisations and their managers to place an emphasis on better ways of understanding and developing the human and social aspects of service systems, and (b) purposefully identifying and engaging with social learning as a key strategic approach to boost learning capability across a system. Whilst more complex to approach and manage compared to technical systems issues, situated or social learning nonetheless offers a potentially rich avenue for service system development.

Concluding Remarks

This article has provided a theoretical perspective on how service systems performance and innovation capability improvement may be progressed through the social networks involved. The conjoined use of tools such as process mapping and social network mapping provides a means to identify and understand the social networks at play in a system, which then furnishes the opportunity to interpret the impacts of those relationships on a system’s performance and its ability to innovate. This emphasis on the

social systems also challenges practitioners to prosecute a more balanced systems approach when attempting to implement technical changes in service systems.

Moreover, since innovation and change come about primarily through learning, we argue that systematic and deliberate actions in respect to stimulating and facilitating situated learning within a system are paramount. It is not sufficient to simply accept learning within a system only as an individual, cognitive, peripheral and opportunistic activity. Instead, situated learning provides a way for service organisations to become more innovative, more effective and more efficient through continually building the knowledge and learning capability of the individuals and the social system within the daily work context.

The perspectives posed in this article have value in any service context and we hope they stimulate debate and reflection on the opportunities yet to be properly seized in the service sector. It would be desirable for other researchers to pursue and report on empirical case studies of organisations in different service industry sectors attempting to develop their innovation capability primarily through their social networks. In addition, it would be particularly valuable to see longitudinal empirical research conducted on service organisations that value learning and the development of their learning capacity and how that contributes to their innovation capability over time.

References

- Antony, J 2006, "Six Sigma for Service Processes", *Business Process Management*, 12(2).
- Argyris, C & Schön, D A 1978, *Organisational Learning: A Theory of Action Perspective*, Reading, MA: Addison-Wesley.
- Baker, A C Jensen, P J & Kolb, D A 2002, "Preface" and "Learning and Conversation", in A C Baker, P J Jensen & D A Kolb (eds), *Conversational Learning: An Experiential Approach to Knowledge Creation*, Westport, CT: Quorum Books.
- Berg, M & Toussaint, P 2003, "The Mantra of Modelling and the Forgotten Powers of Paper: a Sociotechnical View on the Development of Process-oriented ICT in Health Care", *International Journal of Medical Informatics*, 69.
- Bhagat V, Pepper, M & Sense, A 2009, Internal Agency Report.
- Biazzo, S 2002, "Process Mapping Techniques and Organisational Analysis: Lessons from Sociotechnical System Theory", *Business Process Management*, 8(1).
- Boxall, P & Purcell, J 2008, *Strategy and Human Resource Management*, 2nd ed, New York: Palgrave Macmillan.

- Brown, J S & Duguid, P 1991, "Organisational Learning and Communities of Practice: Towards a Unified View of Working Learning and Innovation", *Organisation Science*, 2(1).
- 2000, *The Social Life of Information*, Boston: Harvard Business School Press.
- Carayon, P 2006, "Human Factors of Complex Sociotechnical Systems", *Applied Ergonomics*, 37.
- Chow, W S 2004, "The Quest for e-Fulfilment Quality in Supply Chain", *International Journal of Quality and Reliability Management*, 21(3).
- Cook, S D N & Yanow, D 1993, "Culture and Organisational Learning", *Journal of Management Inquiry*, 2(4).
- Cotter, J 1995, *The 20% Solution - Using Rapid Redesign to Create Tomorrow's Organisations Today*, New York: John Wiley & Sons.
- Deming, W E 2000, *Out of the Crisis*, Boston: MIT Press.
- Dixon, N 1999, *The Organisational Learning Cycle: How We Can Learn Collectively*, 2nd ed, Hampshire: Gower.
- Dodgson, M 1993, "Organisational Learning: A Review of some Literatures", *Organisation Studies*, 14 (3).
- Easterby-Smith, M Crossan, M & Nicolini, D 2000, "Organisational Learning: Debates Past, Present and Future", *Journal of Management Studies*, 37(6).
- Fung, P & Wong, A 1998, "Case Study: Managing for Total Quality of Logistics Services in the Supply Chain", *Logistics Information Management*, 11(5).
- Garvin, D A 1993, "Building a Learning Organisation", *Harvard Business Review*, July-August.
- Gattorna, J 2006, *Living Supply Chains*, Harlow: Prentice Hall.
- Gherardi, S 1999, "Learning as Problem-Driven or Learning in the Face of Mystery?", *Organisation Studies*, 20(1).
- & Nicolini, D 2000, "To Transfer is to Transform: The Circulation of Safety Knowledge", *Organisation*, 7(2).
- Giannakis, M 2012, "The Intellectual Structure of the Supply Chain Management Discipline: A Citation and Social Network Analysis", *Journal of Enterprise Information Management*, 25(2).
- Gold, J 1997, "Learning and Story-telling: The Next Stage in the Journey for the Learning Organisation", *Journal of Workplace Learning*, 9(4).

Hildreth, P Kimble, C & Wright, P 2000, "Communities of Practice in the Distributed International Environment", *Journal of Knowledge Management*, 4(1).

Joiner, B L 1994, *Fourth Generation Management*, New York: McGraw-Hill.

Kim, D H 1993, "The Link Between Individual and Organisational Learning", *Sloan Management Review*, Fall.

Kolb, D A 1984, *Experiential Learning: Experience as the Source of Learning and Development*, Englewood Cliffs, NJ: Prentice Hall.

Krajewski, L Ritzman, L & Malhotra, M 2010, *Operations Management: Processes and Supply Chains*, Upper Saddle River, NJ: Prentice Hall.

Lave, J & Wenger, E 1991, *Situated Learning: Legitimate Peripheral Participation*, Cambridge: Cambridge University Press.

Liebowitz, J 2005, "Linking Social Network Analysis with the Analytic Hierarchy Process for Knowledge Mapping in Organisations", *Journal of Knowledge Management*, 9(1).

McKenna, S 1999, "Storytelling and 'Real' Management Competence", *Journal of Workplace Learning*, 11(3).

Nonaka, I & Takeuchi, H 1995, *The Knowledge Creating Company: How Japanese Companies Create the Dynamics of Innovation*, New York: Oxford University Press.

Park, P 1999, "People, Knowledge, and Change in Participatory Research", *Management Learning*, 32(2).

Piercy, N & Rich, N 2009, "Lean Transformation in the Pure Service Environment: The Case of the Call Service Centre", *International Journal of Operations and Production Management*, 29(1).

Prajogo, D 2007, "Operations Management Activities and Operational Performance in Service Firms", *International Journal of Services Technology Management*, 8(6).

Saint-Onge, H & Wallace, D 2002, *Leveraging Communities of Practice for Strategic Advantage*, Amsterdam: Butterworth-Heinemann.

Senge, P M 1990, *The Fifth Discipline: The Art and Practice of the Learning Organisation*, Sydney: Random House Australia.

----- & Scharmer, O 2001, "Community Action Research: Learning as a Community of Practitioners, Consultants and Researchers", in P Reason & H Bradbury (eds), *Handbook of Action Research: Participative Inquiry and Practice*, London: Sage Publications Ltd.

----- 2007, *Cultivating Learning Within Projects*, Great Britain: Palgrave Macmillan.

----- 2009a, "The Social Learning Character of Projects and Project Teams", *International Journal of Knowledge Management Studies*, Special Issue on Knowledge Management in the Project Work Context, 3(3/4).

----- 2009b, "Knowledge Creation Spaces: The Power of Project Teams", in D Karagiannis & Z Jin (eds), *Knowledge Science, Engineering and Management, Third International Conference, KSEM 2009, Vienna, Austria, November 2009*, Germany: Springer-Verlag.

----- 2012 [Forthcoming], "The Project Workplace for Organisational Learning Development", *International Journal of Project Management*, Scheduled publication issue 30(2).

Sense, A J & Clements, M D 2007, "Learning to Integrate: Supply Chains Reconceptualised", *International Journal of Learning and Change*, Special issue on Supply Chain Learning and Change, 2(2).

----- 2010, "Socially Shaping Supply Chain Integration through Learning", *International Journal of Technology Management*, Special issue on Social Innovation, 51(1).

Taylor, J & Felton, D 1993, *Performance by Design: Sociotechnical Systems in North America*, Englewood Cliffs: Prentice Hall.

Tenkasi, R V & Mohrman, S A 1999, "Global Change as Contextual-Collaborative Knowledge Creation", in D L Cooperrider & J E Dutton (eds), *Organisational Dimensions of Global Change: No Limits to Cooperation*, Newbury Park: Sage.

Tsang, E W K 1997, "Organisational Learning and the Learning Organisation: A Dichotomy between Descriptive and Prescriptive Research", *Human Relations*, 50(1).

Wenger, E 1998, *Communities of Practice: Learning, Meaning and Identity*, Cambridge: Cambridge University Press.

----- & Snyder, W 2000, "Communities of Practice: The Organisational Frontier", *Harvard Business Review*, January-February.

-----, McDermott, R & Snyder, W M 2002, *Cultivating Communities of Practice: A Guide to Managing Knowledge*, Boston: Harvard Business School Press.