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# Application of the Systemic Lessons Learned Knowledge model for Organisational Learning through Projects



Stephen M. Duffield \*, S. Jonathan Whitty

Business, Education, Law & Arts, University of Southern Queensland, Springfield Campus, Australia

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#### Abstract

This study is an application of the Systemic Lessons Learned Knowledge (Syllk) model that enables management to conceptualise how organisational know-how for projects is wired (distributed) across various elements of an organisation. The research method consisted of action research cycles within a large divisional branch of a government organisation. Knowledge management interventions and initiatives were implemented with three action research cycles completed. Actions and changes were observed, monitored, evaluated, and reflected on using an after action review process. This study has established that the alignment of the people and system elements (learning, culture, social, technology, process and infrastructure) can positively influence an organisation's capability for organisation learning. This study shows how the Syllk model enables management to conceptualise (and illustrate) how organisational know-how is wired (distributed) across various people and system elements of an organisation.

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#### 1. Introduction

There is an organisational need to successfully manage projects and day to day business activities, to learn from success and failure, and to capture, disseminate and apply lessons learned (Burr, 2009; Ministry of Defence, 2010; Office of Inspector General, 2012; Shergold, 2015). In practice, organisational learning from projects rarely happens, and when it does it fails to deliver the intended results (Atkinson et al., 2006; Kerzner, 2009; Klakegg et al., 2010; Milton, 2010; Schindler and Eppler, 2003; Williams, 2008).

In this paper we apply a conceptual model, hereafter referred to as the Systemic Lessons Learned Knowledge model or Syllk (pronounced Silk) model, which is a variation of Reason's (1997, 2000) Swiss cheese model (Duffield and Whitty, 2012; Duffield and Whitty, 2015). Whereas the Swiss cheese model appropriately fits accident causation, the Syllk model is better

E-mail address: stephen@invictaprojects.com.au (S.M. Duffield).

suited to the organisation managing projects and day to day business activities.

The organisation at the centre of this research is a large government departmental branch that identified a need to share project knowledge. The branch identified that the implementation of the Syllk model would benefit the organisation to understand the knowledge management (KM) barriers and facilitators associated with lessons learned around project work. The dissemination and application of lessons learned through projects are critical to organisational programs and projects achieving success (Disterer, 2002). Lindner and Wald (2011) point out a gap in project management practice and suggest there is a need for more research in understanding the role KM plays in project management methodologies. Williams (2008, p. 262) also argues that there be a need for "... wider research into how lessons [from projects] can be disseminated throughout an organization and incorporated into organizational practice". And as Wideman (2011, p. 1 emphasis added) puts it, "in spite of all the technology that is available to us today, we have not yet found a presentation format that captures the essence of this wisdom in a way that is

Corresponding author.

relevant to future usage, readily searchable and easy to store. ... we have a serious cultural problem. ... we are probably condemned to continue to throw away the valuable resources".

The paper begins with a literature review exploring organisational learning, the Syllk model, and leads to the research question. We then describe the project under study and the applied 'action research' methodology. Finally, we discuss the findings within the framework of the literature, the limitations, and challenges, and speculate on practical applications and future research opportunities.

#### 2. Literature review

The scope of the literature review is contained in what is already known about *organisational learning* and the *Syllk model* as it pertains to organisational knowledge and lessons learned mechanisms by which organisations can acquire and accumulate knowledge (a know-how capability) from past project experiences.

#### 2.1. Organisational learning

The review of learning literature re-enforces that people factors influence the success of the lessons learned process and that a learning organisation culture (a culture that values learning process) is critical to successful dissemination of lessons learned (Fernie et al., 2003; Sense, 2007; Von Zedtwitz, 2002). The shift from the individual to the organisation is not straightforward. The work of Senge (1990) motivated companies to identify themselves as learning organisations. Another influential author is Nonaka (1991, 2007) and Nonaka and Takeuchi (1995). Nonaka (1991) described how Japanese companies working in innovation created knowledge-creating companies. As Simon (1991, p. 125) states:

All learning takes places inside individual human heads; an organization learns in only two ways: (a) by the learning of its members, or (b) by ingesting new members who have knowledge the organization didn't previously have. ... What an individual learns in an organization is very much dependent on what is already known to (or believed by) other members of the organization and what kinds of information are present in the organizational environment. ... Individual learning in organizations is very much a social, not a solitary, phenomenon.

#### 2.2. Organisational knowledge

Today, in the context of the organisation, knowledge exploration is attributed to; Drucker (1993) where knowledge is a management resource and power; Wiig (1997) where knowledge is a form of belief; Polanyi (1958, 2009) who explores the distinction between tacit and explicit knowledge; and Davenport and Prusak (2000, p. 5) where knowledge in organisations "becomes embedded not only in documents or repositories but also in organizational routines, processes, practices, and norms".

Polanyi's (1958) work formed the foundation for Nonaka (2007); Nonaka and Takeuchi (1995) who state that whereas

explicit or codified knowledge is objective and easily communicated and transferred without in-depth experience; tacit knowledge is subjective, environment-specific, personal, and is difficult to communicate. Polanyi (2009, p. 4) contend that "we can know more than we can tell" and that humans create knowledge by involving themselves with objects through a process. Tacit knowledge consists of cognitive and technical elements (Nonaka and Takeuchi, 1995). The cognitive elements are "mental models" (schemata, paradigms, perspectives, cultural beliefs and viewpoints) where humans create working models of the world in their minds and act upon them. The technical elements are the existing know-how and skills (Johnson-Laird, 1983). Organisational knowledge, therefore, extends beyond the individual human component. It is not found in one place. It is emergent behaviour that is distributed across interconnected organisational cultural artefacts, rituals, and practices (Walsh and Ungson, 1991).

Organisational knowledge plays a key role in the development of both enterprise and project risk management controls and treatments by first searching and learning what others have done (what has worked and what has failed), so the wheel is not reinvented (Li, 2002; Liebowitz and Megbolugbe, 2003). According to Neef (2005) a company cannot manage its risks without managing its knowledge. Projects fail due to a lack of lessons learned from the project team or lack of knowledge sharing. KM tools and techniques can be used to communicate risks among members of a project team. It is important that the organisation manage knowledge risk management which would require the identification, dissemination, and application of knowledge related to potential enterprise and project risks to contribute to risk management prediction and response analysis (Alhawari et al., 2012; Neef, 2005).

Duhon and Elias (2008) argue that an organisation knows something if just one person knows it and that the organisation culture and structure enables that knowledge event to be used effectively. They reference actions such as; individual learning; knowledge storage (checklists and work processes); organisational changes that re-focuses knowledge; culture changes to open and act on problems; and relationship building that enables skills and knowledge to deal with organisational problems. They also state that people learn by processing information using the human central nervous system. However, an organisation does not have a central nervous system, so it needs to create analogues structures to enable its personnel to learn as one holistic group.

Culture per se plays a significant part in KM, organisational learning, and in the effectiveness of learning mechanisms (Andriessen and Fahlbruch, 2004; Duhon and Elias, 2008; Eskerod and Skriver, 2007; Leistner, 2010). As Dvir and Shenhar (2011, p. 20) point out, "Great projects create a revolutionary project culture. The execution of great projects often requires a different project culture, which can spread to an entire organization". Williams (2007, 2008); Hislop (2005) and Maqsood (2006) all suggest that it is critical to understand the culture of an organisation before implementing or using lessons learned processes. Furthermore, surveys consistently reveal that the main obstacles to project success are organisational people factors (Milton, 2010; O'Dell and Hubert, 2011; Williams, 2007). In summary, organisational

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