Chapter 39
Building an Ontological Framework for Healthcare:
The Case of the Health Cluster

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ABSTRACT

Health is a multidisciplinary domain which necessitates experts from diverse backgrounds coming together to effect optimal care delivery for patients. Such a context can benefit by being framed as a knowledge cluster. To illustrate, the case study of a health cluster research group is mapped in terms of ontology. In this way, key relationships and informational exchanges are captured and this in turn can enable more prudent use of critical knowledge assets within the cluster. This ontology is then proffered for the healthcare domain in general as the following discusses.

HEALTH CLUSTER APPROACH

The Health Cluster is a community of practice, comprising a diverse group of researchers in an Australian University. Defined by Wenger (2011), 'Communities of practice are groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly'. As a community of practice, the Health Cluster drew researchers from a range of fields including acute care, sociology and business information technology. When such a group forms, there are inevitable differences in ontological traditions. The focus of the group was developing and delivering a research strategy broadly described as the "Business of Health". The Health Cluster focused on a diversity of

work, including health informatics, mobile solutions for chronic disease management, and social/behavioural factors with STI vaccines, especially in Indigenous and culturally and linguistically diverse (CALD) communities.

The Health Cluster as a community of practice included researchers with backgrounds from business information technology (IT), knowledge management (KM), and enterprise integration (EI). Some researchers were from a background in social research, others were involved in electronic document and records management solutions, sometimes with a focus on technology platforms. The challenge therefore, was to develop an overarching research position and framework that was embracing and accommodating, as well as extensible.

Within a community of practice, knowledge is developed. We posit that in the synthesis of knowledge and research themes as community of practice, there is development of explicit knowledge from the tacit. As a community of practice, knowledge is discovered through co-participation and codified in some form. The challenge then becomes one of knowledge from one community of practice to another, the purpose being the articulation and dissemination of new knowledge. Often, the problem of a multidisciplinary community of practice is the approach of research from different ontological traditions and perspectives. Further, the term "ontology" has taken upon different meanings in computer sciences as opposed to its use in sociology. As a community of practice, rather than defend particular ontological perspectives, our approach taken was embracing different research paradigms and to find a means to accommodate the growth of knowledge. The purpose of this paper is to present and discuss the emergence of a Health Cluster research framework, which was developed through a multi-disciplinary approach.

BACKGROUND AND LITERATURE

We situated this work in the literature of social learning, communities of practice and knowledge management within organizational learning. The social learning aspect of learning was discussed by (Wenger, 1998, 2011), and Lave and Wenger (1991), who describes learning as situations of co-participation.

Communities of practice are said to be different from teams as they are voluntary and are said to remain as long as they have value to their members (Burk, 2000). Burk (1999) further argued that knowledge management is a crucial aspect of communities of practice where communities of practice were part of a knowledge generating cycle.

Ah-Lian and Graham (2012) also discussed communities as practice, describing their shared trusts, beliefs, learned lessons, insights, narratives, anecdotes, and how they provide mechanisms for individual knowledge creation, information coding, and information sharing. In this respect, knowledge creation and organisational epistemology are viewed as social processes, where knowledge comprises experiences of people and is constructed within different contexts and with personal interpretation and reflection (Polanyi, 1962; Von Krogh, Ichijo, & Nonaka, 2000).

In our narrative, we also situated our literature base in the field of organisational learning. Organisational learning has been conceptualised in terms of three levels, namely single-loop, double-loop and triple-loop learning. Visser (2003) wrote that the original meanings of deutero-learning (the behavioral adaptation to patterns of conditioning in relationships in organizational contexts) have been reinterpreted and diverse (Tosey, Visser, and Saunders (2011); Visser (2003), 2007)), noted the lack of consensus on concepts and meanings of 'behaviour learning', particularly the tendency to conceptualise triple-loop learning in similar terms as deutero-learning. Visser (2007) distinguished deutero-learning as indi-

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