Chapter 15

Using S’ANT for Facilitating Superior Understanding of Key Factors in the Design of a Chronic Disease Self-Management Model

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ABSTRACT

The S’ANT approach (Wickramasinghe and Bali, 2009) - namely the incorporation of Actor-network Theory and Social Network Analysis as proposed by Wickramasinghe and Bali 2009 in order to support a network centric healthcare solutions is proffered in the following as an appropriately rich lens of analysis in the context of the development of a chronic disease self-management model.

SOCIAL NETWORK ANALYSIS (SNA)

SNA is a technique that facilitates the mapping and measuring of relationships and flows between people, groups, organizations, systems as well as all information/knowledge processing organizations and thereby enhances metacognition with respect to the representation of organizational knowledge in networks (Wasserman and Faust, 1994; Niessen 2007). People and groups are represented as nodes while the relationships or flows are represented by links. Taken together, this analysis of nodes and links builds the network under consideration. The location of actors in such a network is critical to a deeper understanding of the network as a whole and the participation of individual actors. Location is measured by finding the centrality of the node.
In terms of centrality, three considerations become important in any SNA; degree of centrality – in other words, how many people connect with you, betweenness – or whether or not you are located between 2 key actors in the network, and thus may play a “broker” role, and closeness – or one’s position relative to others (especially key players) in the network. In addition, it is important to note if there exist boundary spanners – actors who bridge or overlap into different networks, or peripheral players. Such actors maybe perceived as unimportant but in reality they play key roles.

To illustrate the value for SNA in the context of supporting diabetes self-care let us return to figure 3. What becomes of crucial importance in supporting diabetes self-care is the distance or centrality of key actors since the key actors are the important decision makers and in such a context rapid prudent decision-making can facilitate prudent care options. Clearly then, the understanding of who/where the boundary spanners are as well as the betweenness and closeness constructs are key in designing a superior network that will enable at all times appropriate and speedy decision-making to ensue. It is also useful to note that SNA can be used in post facto analysis to facilitate necessary lessons learnt that can be applied to the future state. Thus the incorporation of SNA into the continuous design and development of the diabetes self-care model is going to facilitate the realization of a well-structured network that will indeed support all the complex and dynamic operations in healthcare.

**ACTOR-NETWORK THEORY**

Actor-network Theory (ANT) provides a rich and dynamic lens of analysis. Essentially, it embraces the idea of an organizational identity and assumes that organizations, much like humans, possess and exhibit specific traits (Brown, 1997). Although labeled a “theory”, ANT is more of a framework based upon the principle of generalized symmetry, which rules that human and non-human objects/subjects are treated with the same vocabulary. Both the human and non-human counterparts are integrated into the same conceptual framework.

ANT was developed by British sociologist, John Law and two French social sciences and technology scholars Bruno Latour and Michel Callon (Latour, 1987, 2005; Law and Hassard, 1999; Law, 1992, 1987; Callon, 1986. It is an interdisciplinary approach that tries to facilitate an understanding of the role of technology in specific settings, including how technology might facilitate, mediate or even negatively impact organizational activities and tasks performed. Hence, ANT is a material-semiotic approach for describing the ordering of scientific, technological, social, and organizational processes or events.

**CONCEPTS OF ACTOR-NETWORK THEORY**

Table 1 presents the key concepts of ANT and their relevance to the diabetes self-care model.

**THE S’ANT APPROACH TO RESEARCHING THE DIABETES SELF-CARE MODEL**

The S’ANT approach is a hybrid approach that combines the respective strengths of SNA and ANT in order to facilitate the realization of superior diabetes self-care. Such an approach requires the identification and tracing of specific healthcare events and networks to “follow the actors” (Latour, 1996) and investigate all the relevant leads each new actor suggests. The first step is thus to identify these actors (or actants), remembering that an actor is someone or something that can make its presence individually felt and can make a difference to the situation under investigation. Thus, in healthcare networks the actors would include: medical practitioners, nurses, medical instruments, healthcare organizations, regulators,
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