### Chapter 3.8

# E-Business Perspectives through Social Networks

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#### **ABSTRACT**

This chapter is focused on some of the current research being conducted in the field of social network theory. The importance of studying the social network concepts is attached to a better understanding of individuals and how and why people interact with each other, as well as how technology and the Internet can affect this interaction. The social network theory field has grown significantly in the last years, and the use of the Internet and advanced computing technology has contributed to new research in this growing

area. The first aspect to be covered is the social network theory and some applications for social networks. Also virtual communities, as well as the control over communications tools through social networks will be discussed. Finally, the technology side of social networks will be presented, as mobile social networks, internet social networking systems and e-business correlation, social network software and future trends of social networks. The main objective of this research is to illustrate the correlation between electronic (e-) business (of which e-government is a subset) and social networking.

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# INTRODUCTION: SOCIAL NETWORK THEORY

A network is a set of objects or nodes mapped according to the relationship between these objects. For social networks, the objects refer to people or groups of people. A social network is a map representing the relationships among individuals, indicating the ways in which they are connected according to their social familiarities. The networks of communication and interpersonal relationships that develop naturally within an organization form channels for the flow of organizational knowledge and can promote organizational learning, innovation and change management (Smith and McKeen, 2007).

According to the Organization for Economic Co-operation and Development (OECD, 2008a), broadband plays a critical role in the workings of the economy and society. It connects consumers, businesses, and governments and facilitates social interaction. Hence, broadband policies are now a vital instrument to ensure the competitiveness of OECD countries and to address pressing societal concerns. The following OECD broadband statistics serve as a rationale for examining Internet based social networks and e-government readiness (OECD, 2008b):

The United States is the largest broadband market in the OECD with 75 million subscribers. US broadband subscribers consistently represent 30% of all broadband connections in the OECD.

The number of broadband subscribers in the OECD reached 251 million by June 2008, an increase of 14% from June 2007. This growth increased broadband penetration rates to 21.3 subscriptions per 100 inhabitants, up from 20% in December 2007.

Denmark, the Netherlands, Norway, Switzerland, Iceland, Sweden, Korea and Finland lead the OECD with broadband penetration well above the OECD average, each surpassing the 30 subscribers per 100 inhabitants threshold.

 The strongest per-capita subscriber growth over the year was in Luxembourg and Germany. Each country added more than 5 subscribers per 100 inhabitants during the past year. On average, the OECD area increased 2.7 subscribers per 100 inhabitants over the year.

Table 1 illustrates the developments in e-government from 1996-2008 versus 2008-2020.

Social networks operate at many levels, such as youth, families, students, organizations, and are represented by some small groups of people, as well as by entire nations. Their importance varies with problem solving scenarios, achievement of individual success and the way organizations run. Internet social networks is a category of the social network field in which individuals through a variety of internet application tools connect to other individuals, group of friends and business partners. [Wikipedia, 2005a].

#### **BACKGROUND**

According to the social network theory social relationships are mapped by nodes and ties. Nodes are the individuals who act within the network and ties are the relationship between the individuals. In a network diagram the nodes are displayed as points and ties as lines, linking the nodes.

Two nodes in the network are connected if they are directly linked to each other, or interact in some way. For instance, in the network from Figure 1, there is a connection between mikedinner and Bijan and between Mike-dinner and Ronwalf, but no direct connection exists between Ronwalf and Bijan. Analyzing the shape of the network helps to determine the network's usefulness to its individuals.

The network shape illustrated in Figure 1 shows the distinction between the three most popular individual network measures: Degree Centrality,

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