Knowledge Diffusion via Social Networks: The 21st Century Challenge

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ABSTRACT

The paper focuses on the phenomenon of social networks and their role in the process of knowledge diffusion. Social networks define the structure of a population of individuals. Diverse and dynamic environments lead to evolution of social networks as informing media. The Internet revolution affected especially the way people communicate and it naturally produced a new infrastructure for maintaining social networks. Different topologies of social networks are considered as different paths of knowledge diffusion. The paper addresses the challenges and opportunities this new infrastructure provides. It also argues for needs of “social network literacy” for successful and fruitful use of technology in solving the knowledge acquiring problem.

Keywords: Internet, Knowledge Diffusion, Social Network Literacy, Social Networks, Topology

INTRODUCTION

The rise of information and communication technologies and the rapid growth of the volume of accessible information have large impact on the evolution of the society. Computer technology and Internet have changed many aspects of human life. Language, culture, communication are just a few to list. Computer mediated communication (CMC) established a new meaning of social relationships. Its evolution marks the dynamics of modern social life. Initially the exchange of e-mails was the dominating way of CMC, but recently the use of Internet-based social networks is becoming more and more popular as the major communication tool. Personal relationships have always been considered one of the major and most reliable sources in acquiring information. This aspect of social life has also been heavily affected by digital technologies. To initiate investigation of the way people communicate and learn via social networks in the “face book” era and to open a discussion related to proper behavior of people in Internet-based social networks is the purpose of this paper.

DOI: 10.4018/jdldc.2013040101
We may consider the structure of a human society as defined by two factors – by the individual’s position in the society hierarchy according to its formal or informal institutions and by the individual’s direct connections by being a member of a certain group – a social network. Both those structural components define communication and knowledge sharing opportunities. A president of one university may directly approach the president of another university even if they have not met before, simply because they are on the same position in social hierarchy. Similarly one may contact another person directly if they have been classmates even though the two of them are on very different positions in the social hierarchy. Here the second of these structural components – the impact of social networks on knowledge diffusion – will be considered.

This paper discusses the role of social networks in knowledge diffusion. The process of knowledge diffusion is a learning process with a key importance in decision-making. It addresses various issues concerning the process of expansion of an idea across a given population. This process involves individuals, groups, and organizations with their structural complexity and dynamics of adoption. Understanding the process of knowledge diffusion has become increasingly challenging due to the available volume of data and information from multiple sources. Individuals need to acquire skills for critical assessment of accessible sources, which will allow them to identify and extract trustworthy information that meets their needs.

Internet-based social networks are new phenomena that appeared in the first decade of the 21st century. The enormous popularity of this form of establishing and keeping contacts, and sharing information is so significant that it requires special attention on the part of researchers.

We consider the social networks, an essential part of the society structure, as facility providing avenues for information flows between society members, both individuals and groups. The structure of a society, its topology, may be defined as the set of links between its members. This defines the division of the population into subgroups, the distances between individual members and separate groups and the paths allowing one member of society to reach another.

Considering a society as a topological space allows highlighting both formal and informal paths of information flows and how members of this society obtain information. Social networks may serve its members in the following two cases of informing: in case of immediate need to obtain useful information for solving a particular problem and also in case of enriching background general knowledge, which may improve understanding, related to the context and reduce information asymmetry.

This paper is organized in three sections as follows:

- In the first section, we provide the theoretical background of the process of acquiring knowledge via communication used further in the paper;
- Then, in the second section, we discuss the concept of social networks as related to their evolution and from the point of view of their role in knowledge distribution and sharing;
- The third section represents our vision regarding Internet based social networks as overlapping sets with different interconnected topologies. This allows short-cut paths to link people and as subsequence information access and knowledge diffusion.

In the conclusion we summarize the factors for effective learning within the social networks’ environment and needed skills for successful use of opportunities provided in the Web 2 era.

**INFORMING AND LEARNING VIA INFORMING**

A typical communication process represents an exchange of information between two parties – a sender and a receiver – through a
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