

# Chapter XII

## A Computational Model of Social Capital

### **INTRODUCTION**

This chapter presents the Bayesian Belief computational model of social capital developed within the context of virtual communities discussed in chapter VII. The development of the model was based on insights drawn from research. The chapter presents the key variables constituting social capital in virtual communities and shows how the model was created and updated. The scenarios described in the chapter were authentic cases drawn from several virtual communities. The key issues predicted by the model as well as challenges encountered in building, verifying and updating the model are discussed. The ultimate goal of the chapter is to share experiences in developing a model of social capital and to encourage the reader to think about how such experiences can be extended to model similar constructs or build more scenarios to update the model. The model presented in the chapter is a proof-of-a concept and a demonstration of a procedure. Notwithstanding that some of the model's predictions are accurate while others require more substantial empirical corroboration.

### **FUNDAMENTAL COMPONENTS OF SOCIAL CAPITAL**

In the review of current and past work on social capital as presented in previous chapters, it is evident that there are fundamentally numerous variables constituting social capital, some of which can be extended to virtual communities while others are limited to place-based communities. Examining the various definitions, it was

apparent that some of definitions have shared variables. The shared variables are the loci for building the model of social capital in virtual communities, in addition to variables (e.g. different types of awareness), which are more specific to the context of virtual communities. The definitions with shared variables referred to social capital as a function of positive engagement or engagement. It suggests that when people engage in positive engagement on issues of mutual concerns, they are more likely to get to know one another and together, they can derive value from positive engagement. Typically, engagement involves sharing of personal experiences with others, endorsing positive behaviour or discouraging negative one, sharing information, recommending resources, and providing companionship and hospitality.

An attitude in Psychology simply refers to a state of mind or a feeling. It is a disposition often manifested in explicit behavioural tendencies. In other words, an attitude arises from attempts to account for observed regularities in the behaviour of individual persons. For example, one can have an impression about someone as trustworthy, warm, emotional or scary. Such an impression can used to build an attitude and the attitude externalised into observable behaviour though some attitudes are best kept inside the individual. People can hold complex relationships with other people, the environments and the world around them based on their attitudes and their behavioural tendencies. In almost everything we do, attitude and behaviour are intertwined into the fabric of our daily life. Attitude has been a central topic of Behavioural Psychologists. Much of the work on the attitude tend revolve around two schools of thoughts. One school of thought believes that people are born into the world with certain inherited biological attitudes; emotional tendencies such as anger, patience etc. Another school of thought believes that attitudes are learned from others, the environments or experiences, they are socialized or enculturalised to individuals. For examples, religious social systems that tend to educate calmness, patience and forgiveness to their followers are typical examples in this regard. Regardless of any school of thought, people can form attitudes almost instantaneously at their first encounter with certain individuals. It follows that some of the attitudes formed in a first encounter last for a long time and in fact, they become permanently inculcated within individuals to an extent that they become basis for establishing the order of social relationships.

Irrespective of how an attitude is manifested, a person's attitude can directly affect the way they interact with other people and their ability to carry out productive engagement, which is central to building social capital. Productive engagement crucial to building social capital does not automatically happen, rather it occurs when people have a common set of expectations that are mediated by a set of shared social protocols. It also takes place when people are willing to identify with each other as members of one community.

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