Chapter 3

Using Theoretical Frameworks from the Social Sciences to Understand and Explain Behaviour in Social Computing

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ABSTRACT

Research over the past 15 years has examined how the Internet is being used to support communication and social interaction across a variety of groups and communities. However, much of this research has been exploratory, rather than explanatory. It is argued here that approaches from the social sciences offer established methods and frameworks within which the psychological and social impacts of computing can be addressed. In discussing various theories, the chapter highlights one problem—that individual theories have tended to be used to explain a single aspect of human behaviour. There is a need to think more holistically and search for a theoretical approach that can explain intrapersonal processes (e.g. cognition and emotion) as well as interpersonal behaviour within social computing. A number of theoretical frameworks from the social sciences (e.g. social identity theory and social capital theory) will be discussed as potentially being able to explain psychological processes at all levels for users of social computing applications. In summary, the objectives of this chapter are to discuss current approaches used to explain the way people interact in social computing contexts, identify shortcomings with these and to highlight approaches that can address these shortcomings.

SOCIAL COMPUTING AND SOCIAL SCIENCE

1.1 Introduction

Social computing covers the area where social behaviour and computer science intersect and

this chapter will consider the support for all types of social behaviour through computing systems across all facets of society. The focus will be on the potential of social science to explain the psychological impacts of this computing support. For example: an academic online community can support students in the development of critical thinking skills; online support groups can provide

empathy and advice for the elderly or ill patients, and online gaming communities can support the social needs of adolescents. The application of theoretical frameworks from the social sciences will be evaluated by drawing on research conducted across a variety of social computing environments (e.g. entertainment, commerce, education and health) and with a variety of users (e.g. adolescents, learners, employees, the elderly, and people with illnesses).

Human beings are social beings who learn, play and work in social contexts; as a result people are extremely sensitive to the behaviour of those around them, and their behaviour is ultimately shaped by their social context. For example, during a learning context a tutor will adapt their teaching style dependent on the students' verbal and non-verbal cues and in an urban context a market seller will adapt prices depending on demand and customer behaviour. People not only adapt their own behaviour but in groups they conform to other's social behaviour, e.g. people will be drawn to a crowd gathering around a street artist or people will look up to a high building if some of those around them are doing so. In the discipline of Psychology this process is known as social influence and it is a two-way process, with an individual able to influence those around them and those around them are able to influence the behaviour of the individual (Baron, Branscombe and Byrne, 2009). In summary, social information provides a basis for making perceptions or attributions about other people and helps us to decide how to think, feel and behave. An understanding of social influence can be used at many levels, for example for crowd control, to direct a learning experience or to influence shopping habits. In the same way that face-to-face interaction is predictable, in many ways online social behaviour is also predictable. In online systems social information can be provided directly; for example, the number of users who have rated a product / service as helpful or products recommended based on people with a similar purchasing

history. Alternatively, social information may be available indirectly, for example the influence of other's opinions through online group discussion. In both direct and indirect ways, social information that is produced by a group changes individuals' perceptions and behaviour and ultimately the functioning of the group. Jarron, Favier and Li (2006) recognise the significance of social influence when they discuss the sources of influence for users of social computing in a commerce context. For example, they discuss the increasing importance that people attach to cues from one another, rather than from institutional sources like corporations, media outlets, religions and political parties. They conclude with advice for companies wanting to thrive using social computing, to weave online communities into their services and products and to use employees and partnerships as significant marketers.

Social computing applications support one-to-one, one-to-many and many-to-many interactions and therefore explanations need to cover individual, group and community processes. It is argued here that social science approaches have a great deal to offer in understanding interactions at each of these levels. At the individual level, social science can explain the impact of personality and individual differences on the use of social computing and the impacts of social computing on self-perception and emotion. At the group level, social science can help to understand group decision making and group cohesion. Increasingly, social computing supports the interactions that are carried out by very large groups of people, or communities (e.g. online auctions and Massive Multiuser Online Role Play Games - MMORPGs). In these contexts, social information processing and social network analysis approaches can be used to track and predict interactions and behaviour (often for commercial use such as market research). Although there are a number of approaches focusing on each level, there is less research exploring how social computing is affecting people at all psychological levels together.

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