Social Self-Regulation in Computer Mediated Communities:
The Case of Wikipedia

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ABSTRACT

This article documents the findings of research into the governance mechanisms within the distributed on-line community known as Wikipedia. It focuses in particular on the role of normative mechanisms in achieving social self-regulation. A brief history of the Wikipedia is provided. This concentrates on the debate about governance and also considers characteristics of the wiki technology which can be expected to influence governance processes. The empirical findings are then presented. These focus on how Wikipedians use linguistic cues to influence one another on a sample of discussion pages drawn from both controversial and featured articles. Through this analysis a tentative account is provided of the agent-level cognitive mechanisms which appear necessary to explain the apparent behavioural coordination. The findings are to be used as a foundation for the simulation of 'normative' behaviour. The account identifies some of the challenges that need to be addressed in such an attempt including a mismatch between the case findings and assumptions used in past attempts to simulate normative behaviour.

Keywords: *behavioral coordination; governance mechanisms; linguistic cues; normative behavior; online communities; Wikipedia*

INTRODUCTION

The research documented in this article is part of the EU funded project titled 'Emergence in the Loop: Simulating the two way dynamics of norm innovation' (EMIL) which aims to advance our understanding of emergent social self-organisation. The project involves conducting several empirical case studies the first of which is the Wikipedia.

When people encounter Wikipedia for the first time and learn how it works, they commonly express surprise. The expectation appears to be that an open collaborative process of such magnitude should not work. Yet the Wikipedia has been shown to produce credible encyclopaedic articles (Giles, 2005) without the hierarchical and credentialist controls typically employed for this type of production.

The research presented here is framed within the debate about governance mecha-

nisms associated with Open Source production systems. This is not the only perspective which could be adopted but it does serve to provide some initial orientation. Consistent with the wider project focus, the relationship between these theories and the theory of social norms is examined.

In the empirical research we examine the extent to which communicative acts are employed by editors to influence the behaviour of others. Particular attention is given to the illocutionary force of utterances (Searle, 1969) and the effect of deontic commands linked to general social norms and Wikipedia specific rules. In the conclusion some observations are made about the agent-level cognitive mechanisms which appear necessary to explain the observed social order as well as the apparent influence of social artefacts, goals and the wiki technology.

The following questions are canvassed through this research.

- What processes appear to operate in computer mediated organizations which enable them to be, in effect, self-regulating?
- How consistent are the findings with established theories for understanding norms and governance, particularly in on-line environments?
- What alternative hypotheses are there which appear to explain the phenomena and which can provide the foundation for future research?

Governance Theory

According to the relevant Wikipedia article, the word 'governance' derives from the Latin that suggests the notion of "steering". The concept of governance is used in a number of disciplines and a wide range of contexts and the range and type of steering mechanisms differ depending on whether the focus is with states or institutions. While both have been applied to Open Source, it is most common (and arguably most appropriate) to use institutional concepts of governance. Institutional steering mechanisms

may be: formal (designed rules and laws) or informal (emergent as with social norms); extrinsic (involving contracts and/or material incentives) or intrinsic (involving values and principles); and the mechanisms by which governance operates may be top down (imposed by authority) or bottom up (invented by the participants as a basis for regulating each other). Theories vary with respect to the mechanisms advanced and the emphasis placed on different mechanisms. Theory is also advanced for different purposes: to explain or to prescribe. In broad terms the debate is often dichotomised with economics derived theories (Agency and Transaction Cost) on one side and sociological theories (stewardship) on the other (see J. H. Davis, D. Schoorman, & L. Donaldson, 1997; Donaldson & Davis, 1991). Depending on the position of the advocate these may be presented as antithetical or as viable alternatives for different contexts.

Agency theory derives from neo-classical economics and shares the foundational assumption of agent utility maximization. Advocates argue that many productive transactions involve *principals* who delegate tasks to *agents* to perform on their behalf (Donaldson & Davis, 1991). This gives rise to what is known as the 'principal's dilemma'. Simply stated this dilemma asks *'how can the principal ensure that the agent will act in its interest rather than on the basis of self-interest?'* Note that this dilemma arises from the assumed self-interested nature of agents –it is a dilemma intrinsic to the assumptions upon which the theory is based even though this is argued to have empirical support. Two general solutions are offered: the use of formal contracts and sanctions and the use of material incentives.

Critics argue that not all human decisions are made on the basis of self-interest. Sociological and psychological models of governance posit various alternatives: some remain committed to assumptions of rational action and goal seeking, while others address issues of power or various forms of intrinsic motivation, including a desire to conform to social norms. These latter positions generally form the basis

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