.

Exploring knowledge sharing in distributed organisations
Report on research in progress

Hazel HALL

School of Computing, Napier University, Edinburgh EH10 5DT, United Kingdom

Tel: +44 131 455 2760; Fax: +44 131 455 2727; Email: h.hall@napier.ac.uk

Abstract. Published academic research and reported practice in the professional press indicate that social capital is a driver of knowledge management. This paper reports on progress to date on part of a project that examines the role of social capital in knowledge management work. The case explored is a large, information-intensive organisation that aims to facilitate knowledge sharing through the use of intranet technologies. The theoretical context for the study is set with a discussion of social exchange theory. Initial findings presented here relate to (1) the nature and degree of, (2) barriers to, and (3) the role of rewards in knowledge sharing in the case study organisation. These are then related to the concepts of the knowledge market and exchanges.

1. Introduction

The aptitude and willingness of individuals to share knowledge is recognised as a capability crucial to knowledge management (KM) and organisational learning. The level of sharing within an organisation impacts the efficiency with which it can create, transmit, store and share knowledge assets. Researchers in the Social Informatics Group at Napier University are currently exploring the issue of motivating knowledge sharing with particular reference to intranet use in large distributed organisations. A key question is whether social capital drives knowledge management. This work develops themes highlighted in earlier work on communities of practice and organisational learning [3] [4], and motivating knowledge sharing across intranets [7] [8].

2. Existing theories and related work

This study draws on social exchange theory for its theoretical framework. Exchange theory derives from economics' rational choice theory and the study of relationships and "exchanges". It argues that individuals evaluate alternative courses of action so that they get best value at lowest cost from any transaction completed. There are various forms of exchange theory, but all have in common the same analytical concepts and assumptions as summarised in Table 1.

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Table 1: Analytical concepts and assumptions of exchange theories

Concept	**Assumptions**
Exchange actors	• Individuals or corporate groups such as a company • Can be particular people, for example a named friend • Can be an interchangeable holder of a structural position, for example the chief knowledge officer of a company • Can be grouped into exchange categories, i.e. "sets of actors that occupy the same domain... they are "substitutable" because they have the same resource(s) to offer in exchange" [2, p.179].
Exchange network	• Two or more connected dyadic exchange relations (a connection exists where the frequency and value of exchange in one relation affects the frequency and value in another) • contains positive connections, where exchange in one relation increases exchange in another • contains negatives connections, where exchange in one relation decreases exchange in another • contains mixed connections, where both positively and negatively connected relations exist • relations are conceived as longitudinal
Exchange resources	• the currency of exchange • may be tangible (e.g. sum of money) or intangible (e.g. social obligation) • may be perceived as gifts • when given to another the exchange resource is known as a *cost* • when received, or produced as a result, the exchange resource is known as an *outcome* • are attributes of relations, rather than actors, in that their value is determined by those setting up the exchange
Exchange structures	• dependent relationships that support the exchange (social capital)
Exchange processes	• interactions required to conduct an exchange • comprise exchange opportunities followed up by exchange transactions (negotiated or reciprocal) • may lead to an exchange relation when there is a series of exchanges between parties

Sources: [1] [2, p.179] [10] [11, p.15][12, pp.260-262]

Actors initiate exchanges with other actors who control resources that are valued. Initiations that produce greater value increase in frequency. The reverse applies in low value interactions. Changes in the value of a formed relation effects change in the relationship. If the value falls to zero, for example because there are "free riders" in the system [6, p.349] [15, p.194] the relationship ends [11, p.20] [14, para 20].

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In the literature on knowledge sharing there are few instances where information and/or knowledge are treated explicitly as exchange resources. Where previous studies do so it is often *without acknowledgement of social exchange theory*. Numerous examples of this exist in discussions of communities of practice, particularly in the context of studies of online collaborative work. Some studies that *do* employ social exchange theory as a framework provide *limited* discussion of exchanges of information and knowledge. In the disciplines of management and organisational studies, and information systems, some writers have also started to look more closely at knowledge sharing with *explicit* reference to social exchange theory. Chapter 2 of the business text *Working knowledge* [5] provides an overview of the main themes. It relates social exchange theory with knowledge sharing in a knowledge market populated by a network of actors trading resources supported by adequate infrastructure [5, pp.25-52]. A more extensive review of work on previous studies on exchange theories and knowledge sharing is currently under review [9].

It is anticipated that the investigation described in this paper will indicate whether social exchange theory can be extended without modification to knowledge sharing practice within large, distributed organisations. The expectation is that such a study might address some of the emerging perspectives of social exchange theory.

3. Research progress to date

3.1 Literature review

A review of previously published research literature on motivating knowledge exchange led to the development of a typology of incentives for knowledge sharing. The incentives are classified as (1) hard and soft rewards, (2) enabling conditions and (3) infrastructural supports. These are discussed in greater detail in work presented at the conference *Managing knowledge: conversations and critiques* held at the University of Leicester [8].

3.2 Data collection

Following completion of the literature review a large, distributed, information-intensive, multi-national company was identified as a case to be explored for the project. In October 2001 the data collection process began. Primary data was sought from the "official" agents of knowledge exchange in the company, i.e. those in designated KM roles who operate as mediators and facilitators of knowledge exchange. A schedule for semi-structured interviews was developed from the literature review and amended in a snowball fashion as interviews progressed. Twenty staff in knowledge management roles were interviewed.

3.3 Preliminary data analysis

Data analysis to date has been limited to one main theme: the role of hard and soft rewards in encouraging knowledge exchange. The findings outlined below derive from data from half the interviewee cohort. The goals of this preliminary analysis were to understand perceptions of:

(1) the nature and degree of knowledge sharing in company;
(2) barriers to knowledge sharing in company;
(3) the role of rewards for knowledge sharing in company.

These findings would then be related to the concepts of the knowledge market and exchanges.

3.3.1 The nature and degree of knowledge sharing in the company

Four interesting insights on the nature and degree of knowledge sharing in the company have emerged from the preliminary analysis of results:

(1) the value of knowledge sharing is recognised in the company;
(2) there is concern over buy-in to knowledge sharing as a company value;
(3) contributing to intranet content development is seen as the main means of knowledge sharing;
(4) managing *codified* knowledge is of primary interest to the knowledge managers.

There is an apparent tension between a company mission statement that declares knowledge sharing to be a core value of the company, yet demonstrates a lack of senior management support. There are several reasons to suggest why the interviewees tended to treat the phrase "knowledge sharing" as a synonym for intranet input. This may be explained by the fact that they were told that they were going to be asked in interviews about knowledge management issues and the intranet. It could be because one of the major job functions of this group of workers is to manage intranet content for others to exploit. Equally it could indicate how knowledge management has been implemented in the company. An implication of this interpretation of knowledge sharing is that wider issues related sharing such as the re-use of submitted material, were largely ignored by the interviewees. This important point will be explored in greater depth in subsequent analysis.

3.3.2 Barriers to knowledge sharing in the company

The barriers to knowledge sharing in the company are related to the use of systems, organisational interest in knowledge sharing, relationships between people and how information and knowledge are treated as assets. Interviewees complained about under-use of the system set up to support knowledge sharing. Their colleagues meet their needs through alternative means, for example through their own personal networks and cliques. Organisational interest in knowledge sharing - and knowledge management – is undermined by lack of buy-in, confusion over information management and knowledge management, and company priorities which focus on the bottom line. Some interviewees remarked on how difficult it is to make friends and then keep them in a distributed organisation where there are opportunities to move on to different and/or better positions both within and outside the company. There were complaints that information and knowledge assets aren't shared because some colleagues deliberately do not want to share (especially "confidential" information or "bad" news) or for the reason that they do not believe that what they have to share is actually *worth* sharing.

3.3.3 The role of rewards for knowledge sharing in the company

In earlier work rewards have been categorised as "hard" (explicit) and "soft" [7, pp.143-144]. Hard rewards are more tangible than soft rewards. They might include economic and career gains, and access to information and knowledge. Soft rewards include enhanced reputation and personal satisfaction.

In the case study organisation economic and career gains are rewards for knowledge sharing which are endorsed by company policy. Employees are told that they will be rewarded in economic and career terms for knowledge sharing. However, this is difficult to achieve in practice. The company finds it difficult to measure knowledge sharing, because, for example, there is so much team working. Additionally employees know that there are more efficient means of accessing economic and career gains. Using the metaphor of the market place, it is evident that there are trades description problems here because the company cannot deliver on its stated policy.

When talking of access to information and knowledge as a reward for knowledge sharing interviewees commonly used the vocabulary of trading. For example, they employed the metaphor of back-scratching. However, information and knowledge represent a *weak* currency in this set up. The knowledge management staff want to encourage intranet input with the argument that the more that is added to the system, the more valuable the system becomes as a corporate resource. But since whether or not you contribute makes no difference to your access rights, the strategic operator may calculate that he might as well be a free-rider. However, the knowledge management staff, especially those with web site management responsibilities, are charged with maintaining the resource. They *need* content. If the official set up does not provide conditions for resources to be added – because a system of reward of economic and career gains is inoperable - the knowledge management staff resort to nagging for donations. This suggests the analogy of charity and might explain comments of the interviewees that nagging for content produces contributions, but they're not necessarily of high quality. Rather, they are contributions to stave off the nagging.

As far as enhanced reputation and personal satisfaction are concerned the knowledge management staff acknowledged that these rewards have a role to play in a status-conscious company. There is an indirect tie from reputation to economic and career gains in that reputation influences promotion prospects. Their view on personal satisfaction as a motivator, however, was that it is an incidental in a market driven by other factors.

3.3.4 The concept of the knowledge market and exchanges

The preliminary analysis was executed with the aim of discovering whether knowledge markets exist in organisations, and how exchange theory might throw light on knowledge sharing activity. Some parallels can be drawn. Under-use of official tools for knowledge exchange might be seen as a symptom of poor investment in market infrastructure in the official economy, and the development of grey, black and alternative economics. The problems associated with organisational interest could be regarded as a lack of appropriate market intervention and inappropriate regulatory frameworks. Where relationships are difficult to build and sustain it could be said that buyers and sellers lack trading partners or find that barriers impede trade. The withholding of knowledge and information assets for exchange might be seen as restrictions on trade.

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4. Conclusions

Findings to date articulate with previous studies which show that the intentions of designers of systems to promote knowledge sharing are rarely realised in implementation (for example, [13]). So far it has proved much easier to draw parallels between knowledge sharing activity and exchange theory, rather than *social* exchange theory. However, this may be because only the incentive of reward has been considered in analysis to date. The means of implementing knowledge management initiatives may assume a greater importance in later data analysis given the concerns over the company focus on codification and the interpretation of the term "knowledge sharing" amongst knowledge management staff.

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