

Knowledge Intermediation

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INTRODUCTION

Since knowledge is increasingly regarded as the central source of competitive advantage, a “cognitive” interpretation of business activities becomes vital. With regard to this, the flourishing field of knowledge management (KM) provides useful insights into approaches to a systematic and explicit management of knowledge. Furthermore, the development of Internet technologies raises expectations of new opportunities to acquire, process, and distribute knowledge. Little research has, however, been done on the *new businesses* that may originate from a combination of KM practices and the use of new technologies. In particular, since the activities of knowledge creation and sharing are not bound to the single organisation, there is room for the development of innovative services that enable a “knowledge-based use” of network technologies such as the Internet. In fact, an increasing number of examples of innovative “knowledge-intensive” firms based on the Web can be found, but there is the need for better understanding of the contents and issues associated with such emerging ventures.

This article focuses on the business of “knowledge intermediation” via the Web, that is, the provision of technology-based services designed to support knowledge flows between organisations. In detail, the aims are: (1) to explore the development of a new business model that combines the use of information and communication technologies with a KM capability; (2) to suggest preliminary classifications; and (3) to highlight possible economic opportunities and problems as well.

BACKGROUND

As the day-by-day practice shows, it is very unlikely that the single firm can own or internally generate all the knowledge assets required for the business (Quintas, Lefrere, & Jones, 1997; Bolisani & Scarso, 2000). As a

consequence, companies are increasingly realising that their knowledge resources derive in significant part from the system of interorganisational relationships established with customers, vendors, business partners, institutions, and even competitors. Such *knowledge networks* (i.e., formal or informal agreements to share knowledge, explore innovations, and exploit new ideas, Millar, Demaid, & Quintas, 1997; Pyka, 1997, 2002; Warkentin, Sugumaran, & Bapna, 2001; Peña, 2002) constitute a basic and distinctive feature of the current knowledge-based economy.

Until now, most of the literature on KM has focused on knowledge generated, transferred, and used within a single organisation, while little work has been done to understand how to manage knowledge across organisations (Parise & Henderson, 2002; Spring, 2003). Hence, it is necessary to analyse whether and how the principles and approaches elaborated in “traditional” KM have to be reframed to perform *knowledge network management* (Seufert, von Krogh, & Bach, 1999). This sort of “extended KM” clearly raises more problematic issues than managing knowledge within the single firm. For instance, attempts to communicate meanings may be difficult due to the lack of common goals, languages, values, and mental schemes. As a matter of fact, a *cognitive distance* or *gap* may separate knowledge sources and users, which makes the sharing of useful knowledge difficult. Furthermore, reciprocal trust is needed, since a knowledge exchange may be easily exposed to the risk of opportunistic behaviours. Also, the effective “functioning” of a knowledge network involves the subdivision of “cognitive tasks” and KM competencies among the participants. Finally, an adequate technological infrastructure may be required to handle the large amounts of contents scattered in a wide context.

For this reason, new kinds of “mediating services” can be of great use: to fill the cognitive gap between players; to facilitate the flowing of knowledge inside the network (Spring, 2003); to act as “organizational

translators” (Teece, 1998) between different interests, values, and culture of interconnecting partners; to implement and manage Internet-based interorganisational KM systems; to build network trust, and so forth. There is already evidence of companies providing such innovative services (see Bolisani, Di Biagi, & Scarso, 2003). The purpose here is to verify whether a “KM viewpoint” can be of help to describe more formally the new businesses of knowledge intermediation that we will name “knowledgemediary” (KMY). In particular, their distinctive features, key competences, and critical managerial issues are illustrated and discussed.

CONCEPT DEFINITION

To better specify the notion of *knowledgemediary*, it is useful to briefly recall its antecedents.

Knowledge-Intensive Business Services (KIBS)

The term KIBS was introduced to define business service firms providing knowledge-intensive, technology-based services with a high level of supplier-user interaction, generally produced by employing a highly qualified labour force (Nählinger, 2002). KIBS play the crucial role of both creating knowledge for (or together with) their customers, and assisting the circulation of knowledge from one firm to another. This knowledge brokering function is generally a byproduct of their work, that mainly consists in “solving problems for the clients.” A growing number of studies about KIBS highlights the relevant contribution given by such services in the present economic systems (OECD, 1997; Roberts, Andersen, & Hull, 2000; Nählinger, 2002), as well as their special features, that is, they are innovative, act as vehicles of innovation, and connect firms, thus performing the function of “cognitive interface” between different business partners. Miles (1996) proposes a useful distinction between “traditional” KIBS (e.g., classical consulting services) and T-KIBS (i.e., services that concern or are based on the use of information and communication technologies, including Internet-based applications). Our notion of KMY has its roots inside the T-KIBS category.

Intermediation and Internet Applications

As mentioned, KMY services imply a mediating capability by their very nature, since they act in the middle of an interorganisational context. It is, however, necessary

to specify the particular kind of intermediation that can be of interest here.

First, it is important to note that even the activity of intermediaries in traditional trade (e.g., identification of demand needs; information on products and suppliers; comparisons; market intelligence; distribution of information on products; customer targeting; demand orientation, etc.) involves *cognitive contents* (Sarkar, Butler, & Steinfield, 1995). In substance, a significant part of the value added by an intermediary consists of “bridging” over the *cognitive gap* between buyers and sellers, thereby facilitating the exchange of knowledge for settling transactions. Such cognitive implications of the intermediation activity also are underlined by the economic theories. For instance, according to the *transaction costs* theory, the choice between in-house direct sale and use of external intermediaries is based on the complexity, specificity, and uncertainty of economic exchanges (Rangan, Menezes, & Maier, 1992), that is on the *cognitive aspects* of a transaction. Also, in the *principal-agent* theory, agents are delegated to assist principals with their economic counterparts, in order to reduce the decisional complexity produced by *knowledge shortages* (Pratt & Zeckhauser, 1985). Another important problem concerns the *quality of information* exchanged by trading partners, and the *signalling (transferring) mechanisms* employed for this (Choi, Stahl, & Whinston, 1997).

The cognitive connotation of intermediation raises peculiar issues for Internet-based businesses. In fact, although the huge amount of information available on the Web extends the cognitive capabilities of the surfers, the growing size and complexity of the cyberspace and the resulting “information overload” effect makes its exploitation very difficult. In such context there may be the need for “knowledge mediators,” capable of assisting the users in the management of online sources. Indeed, theoretical arguments and empirical observations show that the diffusion of Internet applications generally implies the development of new forms of intermediaries (Sarkar, Butler, & Steinfield, 1995), such as *infomediaries* (online firms specialising in online customer profiling and analysis of navigation traces), *cybermediaries* (online companies that specialise in electronic transactions such as Web malls, comparison sites, credit card clearing services, etc.), and so on.

Knowledge Mediators in KM Processes

The notion of “knowledge mediator” is also relevant to the literature of KM. For instance, the resort to “domain experts” is recommended for a corporate Web portal, in order to facilitate the extraction of knowledge from internal sources and its delivery to end users (Mack,

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