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Online Information Resource Mediation of Interorganizational RelationshipsA Work-In-Progress Technical Research Synopsis

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Introduction

As we design and construct new technologies to expand and transform global information infrastructures, we will undoubtedly face new challenges, but we can also expect to encounter some of the same problems that have shaped and constrained existing information technologies. Many of these challenges are technological. Others are environmental or organizational in nature. The study that we describe in this paper is designed to examine one particular information technology--online information resources. We focus on the ways in which people within organizations use these services in their day-to-day work, and we examine the roles that these resources play in the routine activities which mediate interorganizational relationships.

Online information (OI) resources have been part of the information infrastructure since the early 1970's. They are curated collections of indexed electronic databases with supporting distribution services. Online service vendors have traditionally provided fee-for-service modem access to mainframes containing these databases of strategic business, scientific, legal and financial information. Initially, the services were entirely text-based. Now, most OI service providers supplement their mainframe offerings with GUI-enhanced CD-ROM products. They have also begun to provide additional access points via consumer utilities like CompuServe and America OnLine, and the World Wide Web.

Systematic studies of commercial uses of OI resources show that particular institutions, such as the legal, financial and biotechnology communities, use OI resources much more than other institutions. And particular ways of using OI resources, such as via information centers and intermediaries, seem to be more common than others. However, we have found in our prior research that *conceptions* of OI resource usability and usage patterns, which characterize OI resource use as intensive, direct and non-intermediated, do not match observed use; and pressures to conform to these expectations rather than the

actualities are perceived, by OI resource providers and information specialist intermediaries, to be increasing. Without an adequate understanding of successful current use, significant modification of those patterns is likely to prove difficult, unnecessary, counter-productive, or all of the above.

In order to develop a better understanding of successful current use, we have begun an interpretive study of the ways in which OI resources are used, when they are used, how intensively they are used and by whom. **This study will help to identify how organizations make use of OI resources. It will extend our understanding of information resource usage within the domain of networked technologies, as we describe and examine the interorganizational relationships which involve the use of these resources.**

Interorganizational Information

Our previous research suggests that OI resources may play an important role in the formation and maintenance of interorganizational relationships. Corporate managers and firm partners extend the constellation of other organizations that they deal with based on their beliefs about the character of those other organizations. OI researching is generally performed during an early stage of developing a relationship, when that character is being formulated and evaluated. At this stage, the credibility and reliability of information used to evaluate potential partners or competitors is critically important, and the ability to access that information discretely and unobtrusively may be paramount. Therefore, the main objective of this study is to analyze the interorganizational relationships which are identified with a specific type of OI resource usage, and to describe the social processes of online information resource mediation by identifying the roles of intermediaries and the patterns of mediation which occur when a particular OI resource is used intensively by organizations in the corporate sector.

The interorganizational relationships we will be interested in analyzing may fall into one or more of the following classifications: partnering relationships, competitor relationships, communication relationships, regulatory alliances, adversarial relationships or power relationships. We have derived this initial set of relational possibilities from the organizational theories of Porter (1980) and Hannan and Freeman (1989), as well as from the works of Scott (1987), and Powell and DiMaggio (1991). However, we expect to identify the nature of these relationships more clearly as our study proceeds.

The research question which will guide our examination of the focal issues of this study is: **How and when are interorganizational relationships mediated through the use of online information resources?**

We will pursue this research question, by examining the use of OI resources within two communities: law firms and biotech companies. Barley (1992) and Powell and Brantley (1992) have studied interorganizational interactions and strategic alliances within the biotech community. Heinz and Laumann (1982, 1994) have studied the social structure of the legal profession. These studies have analyzed the interorganizational networks of

biotech companies and law firms, but they have not examined the role that OI resources play in the mediation of these relationships. Both communities have core OI resources that are provided expressly for their use, like LEXIS and Westlaw for legal firms or Medlars, CAS and Genbank for pharmaceutical and biotech research. Interestingly, in addition to being heavy users of these resources, members of both groups are among the top users of DIALOG (recently renamed Knight-Ridder Information Services), a leading OI service. Some information science researchers have studied the situated use and usability of OI resources, including DIALOG (Culnan 1983, Nicholas et al. 1988, Nicholas and Erbach 1989). But they have not linked their studies of networked technologies to the professional and social networks of the organizations which they examined.

Our study bridges the sociology of interorganizational relations and information science. We will identify how OI resources are used in activities which establish and maintain interorganizational relationships. No other researchers are studying interorganizational relationships in this way.

Research Methodology

A significant amount of quantitative OI resource usage information exists in the form of market analyses and industry surveys, and where possible, we will triangulate our research findings with these studies. However, we will focus our data collection and analysis activities by following an interpretive case study methodology. This approach will allow us to identify the patterns of interaction which characterize the "how" and "when" of interorganizational relationship formation and the roles of OI resources and intermediaries in those processes.

We will integrate positivist and interpretivist analyses (Lee 91) as we conduct our descriptive and analytical case study (Yin 89). We will analyze the competing explanations of open rational systems theorists and institutionalists, while introducing postmodern perspectives to expand the analysis beyond a "compare and contrast" approach (Rosenau 92).

Data Collection

As we follow the lines of inquiry that we expect to develop while addressing the critical components of our research question, we will gather data from a number of interrelated organizations within the information service network of DIALOG.

Besides restricting our selection of DIALOG customers to law firms and biotech companies, we will further constrain the scope of our study by selecting sites within two geographic areas and customers within two DIALOG revenue tiers. We will select our sites within two areas of California where there is an active legal practice and a viable biotech industry: Orange County and the San Francisco Bay Area. Within these areas, we will select a number of law firms and biotech companies which DIALOG reports as Top

Tier and Second Tier users, as measured by revenue to DIALOG. We will also be evaluating statistics on company size, organization and revenues to try to get a mixture among the selected companies. We expect our final site selection distribution to have the profile described in Table 1.

These sites, along with the DIALOG organization itself, will comprise the organizations of this case study. The study will be conducted in two phases: a pilot study (Phase I) and a systematic study (Phase II). We began Phase I in September, 1994; and we will discuss some of our preliminary results from that portion of the study. Phase II officially began in May, 1995, and is expected to be completed by December, 1995.

Selection Criteria	Number of Sites	Total Number of Sites
Geographic Area Orange County SF Bay Area	 8 5	13
Industry Law Firms Biotech Companies	 6 7	13
Usage Revenue Tier Top Tier Second Tier	 7 6	13
Total		13

Table 1. Final Site Selection Distribution Profile

In both phases, the primary source of data will be intensive interviews conducted at each site. At DIALOG, we will interview product marketing directors, OI resource and service development managers and liaison personnel. We will also gather product literature and attend DIALOG training classes on basic usage techniques and on competitive intelligence research. At law firms we will interview law librarians, paralegals, associate attorneys and firm partners. In biotech companies, we will interview information center directors, information specialists, scientists, marketing managers and directors of strategic partnering units. The number of contacts at each site will depend on the willingness and ability of each firm to contribute time and personnel to our study project, but we expect to conduct a total of approximately 50 to 60 interviews. We will depend on inside referrals to develop a nested interviewing approach at each site. Wherever possible, we will also observe the use of DIALOG resources and services in the day-to-day activities of those that we interview.

We expect these interviews and observations to provide preliminary evidence of interorganizational relationships which have been mediated in some way by the use of OI resources. But, in order to verify the formal establishment of those relationships, we will

examine market reports, product announcements, press releases and trade articles. Additionally, we will attend association meetings and seminars of the online industry to confirm evidence of the role of OI services and resources as mediators.

Phase I Findings

The pilot study was begun in September, 1994 and it extended through March, 1995. It was conducted at several sites in Orange County and the Bay Area: DIALOG, four (4) computer/software companies, three (3) biotech companies, and four (4) law offices. Between one and six interviews were conducted at each location, for a total of twenty one (21) interviews.

Our findings provide strong evidence of the association of OI resources with interorganizational relationships. Relationships that regularly contain an OI resource component as an initiator are found in both law firms and biotech companies. Informants cited instances where they would search the DIALOG databases looking for groups to perform clinical trials or expert witnesses who had not made a career out of selling their testimony, and one company was able to retain an important distributor relationship by supplying key information from OI resources in a time critical manner.

A more extreme form of this activity, the competitive intelligence gathering function, is also present in some of the companies we have contacted. This activity is ostensibly preliminary to interorganizational contact, but in many cases, no contact occurs. One of the critical features of competitive intelligence is that the organization on whom the research is done may never know that the researching organization was interested in them in any way. In fact, this is a key attractor of using OI resources for this purpose. The examples of competitive intelligence research which surfaced in our pilot study have led us to suggest that the OI resource itself may be the sole or primary mediator in some interorganizational relationships.

These findings begin to shed some light on the nature of mediation within the DIALOG information service network, and more broadly within the legal and biotech communities. We expect our continuing research to yield interesting results and contribute to an understanding of the association of OI resources and interorganizational relationships.

Bibliographic References: Available by request