

Association for Information Systems AIS Electronic Library (AISeL)

AMCIS 1999 Proceedings

Americas Conference on Information Systems
(AMCIS)

December 1999

Using Information Technology in Knowledge Work

Valerie Spitler
New York University

Follow this and additional works at: <http://aisel.aisnet.org/amcis1999>

Recommended Citation

Spitler, Valerie, "Using Information Technology in Knowledge Work" (1999). *AMCIS 1999 Proceedings*. 354.
<http://aisel.aisnet.org/amcis1999/354>

This material is brought to you by the Americas Conference on Information Systems (AMCIS) at AIS Electronic Library (AISeL). It has been accepted for inclusion in AMCIS 1999 Proceedings by an authorized administrator of AIS Electronic Library (AISeL). For more information, please contact elibrary@aisnet.org.

Using Information Technology in Knowledge Work

Valerie Spitler, New York University, vspitler@stern.nyu.edu

Extended Abstract*

Knowledge work is increasingly significant in post-capitalist society (Drucker 1995, 1993) and is associated with new ways of working and new organizational forms (Lucas 1996). These include less hierarchical organizational structures; more fluid job definitions and reporting structures; more competitive and faster paced work environments; and an increased reliance on information technology (IT) to perform work (Ruhleder, Jordan and Elmes 1996). Initiating knowledge workers into such firms and working environments and ensuring their continued productivity and performance will be critical to firms.

The purpose of the present research is to develop a theoretical framework which explores how knowledge workers learn their jobs and the role that using IT plays therein. The present research, based on theoretical underpinnings derived from the theory of legitimate peripheral participation (Lave and Wenger 1991), is an interpretive case study and is founded on the assumptions that problem-solving and learning are situated in practice, context-specific, and socially constructed. To develop further the theoretical framework, the author has gained access to a global strategic management consulting firm with offices in New York City where she is using ethnographic methods of interviewing and participant

observation. The research is expected to have implications for training, mentoring and incentive policies for organizations operating in the IT-based, knowledge economy.

In contrast with other forms of office work, such as administrative or clerical work, knowledge work is characterized as non-routine, ill-structured and creative. Nonetheless, much of the research in information systems (IS) presumes an organized, mechanistic and routine approach to work. Further, knowledge workers' interaction with information technologies is often portrayed as the single user operating a single information system with little manipulation of the system (Davis, Bagozzi and Warshaw 1989, Goodhue 1995). The present research assumes a richer interaction of users with information technologies (IT), as depicted in Figure 1. The assumption of the present research is that knowledge workers operate in a community of practice (see below), use multiple systems in their work, and do a great deal of manipulation of those systems. This view contrasts with the portrayal of the user as an isolated individual using a fixed transaction processing system, for example.

To capture this rich, context-based view, the research being conducted is an interpretive case study (Klein and Myers, 1998) of a group of knowledge workers in a management consulting firm. The research takes an

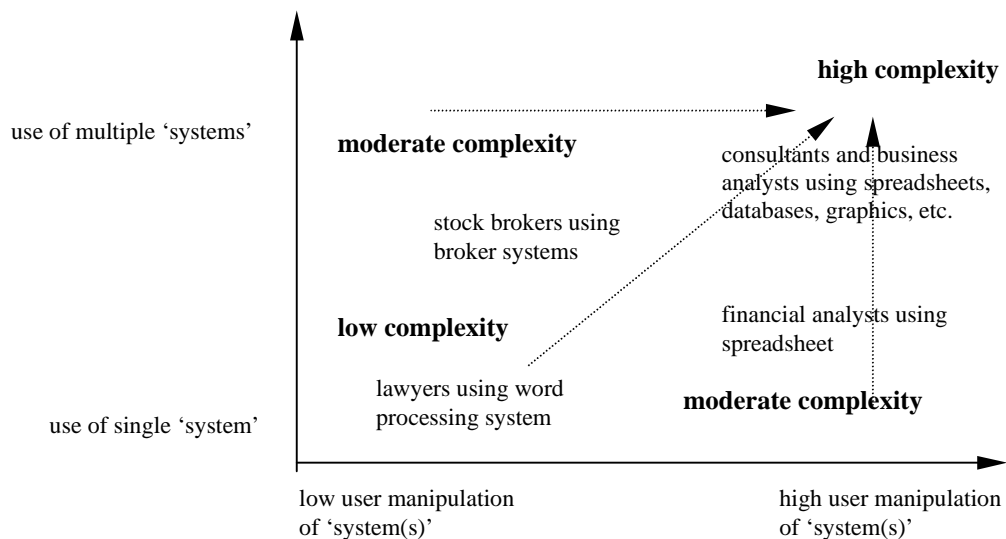


Figure 1: Examples of Knowledge Workers and Their Use of IT (working within community of practice)

anthropological angle (Agar 1996), focusing on the meanings that the informants in the study give to their work and their use of the IT. In this way the research departs from much of the research in the information systems literature. This approach is meant to add to the small number of interpretive studies in information systems for which some researchers have called (Walsham 1995, Orlikowski and Baroudi 1991).

The research is based on research questions and a guiding framework, which helps to answer those questions. The main research questions are *How do knowledge workers learn their jobs?* and *What role does the use of IT play in this learning?* The research focuses on learning in the context of new, entry-level knowledge workers who use IT in their work. Further, the focus is on IT that knowledge workers use for performing their productive work activities, rather than on intelligent tutoring systems, or specialized training or learning software. These issues are explored using a framework based on the situated learning theory of Lave and Wenger (1991), legitimate peripheral participation (LPP), which the author has elaborated.

LPP is an outgrowth of studies on learning, knowledge transfer and apprenticeship and is intended to integrate and expand ideas and results generated from these studies. LPP is characterized as participation in the social world and has the following main features: learning involving the whole person and the construction of identities; learning within a community of practice; a diverse field of actors including newcomers and old-timers, where newcomers learn from old-timers and peers but where old-timers also learn; and learning in practice where learning takes place in productive work activities. This view suggests that knowledge workers (who are continual learners) operate within a community of practice of old-timers and newcomers and that how IT is integrated into knowledge work will depend on how this community of practice operates, including the form that the legitimacy of participation takes.

Elaboration of the theory indicates three areas where IT is thought to mediate learning: in the appropriation of IT for work activities, in the development of professional identity associated with using IT, and in the transparency of IT. These three issues are the main areas of inquiry in the study. Given that the study is interpretive and uses both deductive and inductive techniques, other questions are likely to arise, such as *What constitutes the community of practice for these knowledge workers? What is the role of formal training? How do these knowledge workers balance learning/experimentation with productive work activities?*

In order to answer these questions, the author will spend a total of eight months at a management consultancy, where she has already begun conducting the

research. During this time she will collect documentation about the firm and interview and observe consultants at all levels, from partner (the most senior) to analyst (the most junior) in the course of their work, in training sessions and in social situations. The focus will be on junior, entry-level workers. She will also interview key informants in the Information Systems Department and in Training and Development.

During field work, the researcher will follow the principles outlined by Klein and Myers (1998) for conducting and evaluating interpretive research. Further, she will use qualitative analysis techniques proposed by Miles and Huberman (1994) and Strauss and Corbin (1990).

This research lays the foundation for a program of research that will explore the nature of knowledge work and the role that using IT plays in performing it. The underlying theme of the research is that knowledge workers are increasingly reliant on using information technology to do their work in more turbulent, faster paced, complex and competitive environments. Their work is, by definition, ill-structured and creative and involves problem-solving and learning. Beyond this simple description, little is known about how knowledge workers actually learn and perform their jobs and the role that using IT plays in this process. Consequently little can be said about what kinds of training and incentive systems align with the enhanced performance of knowledge workers.

This research focuses on learning in the context of new, entry-level knowledge workers who use information technology in their work. The objective of the study is to build a substantive theory which will generalize to other, similar settings. The obvious limitation of the study is that it investigates the practices of knowledge workers at a single organization and thus will not generalize to all settings. Results of this study are most likely to generalize to other cases of entry-level knowledge workers in other firms in the same economic sector.

References available upon request from the author.

*For preliminary results of this research, see Spitzer, V. and Gallivan, M., "The Role of Information Technology in the Learning of Knowledge Work," forthcoming in Proceedings of the International Federation for Information Processing Conference, St. Louis, Missouri, August 20-22, 1999.