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Recommended Citation

Vuokko, Riikka, "Constructing IT and Professional Identity: Introducing Mobile Informatics in Home Care" (2004). *AMCIS 2004 Proceedings*. 162.
<http://aisel.aisnet.org/amcis2004/162>

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Constructing IT and Professional Identity: Introducing Mobile Informatics in Home Care

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ABSTRACT

Implementation of a palm-based information system in home care is part of a larger process of change in communal services for elderly. Workers in home care are questioning their professional identity and the quality of services, while the managers of home care see the introduction of computers as an opportunity to achieve effectiveness both by upgrading the working practices into a more professional direction, and through introducing information technology for the first time in this context. During the organizational implementation of a mobile system, the workers saw the palm-based system mostly as a system of control and felt that they were no longer trusted. The changes emerging suggest that, for example, the system also strengthens the workers' awareness of working practices. The research is being carried out as a longitudinal ethnographic study, over several years, and it aims for a thick description of this change process.

Keywords

Social construction, professional identity, organizational implementation, ethnography

INTRODUCTION

Information technology was only recently introduced for the first time in the working context of home care. In our case, palm-based computers with barcode readers are introduced for home care workers, to be used for gathering information about the services given. The palm-based system makes it also possible to access the information in the client database during service calls. The use of mobile computers is believed to raise the level of efficiency of the services and ease the planning of future action within home care. The introduction of the technology in home care is interesting because the reasons and goals for their use – efficiency and control – are in contradiction with the traditional human-centered values in home care. Our study addresses the prolonged organizational implementation of mobile informatics in home care in Turku, Finland.

Due to the aging population, home care is currently undergoing several changes in order to meet the estimated growing need for help at homes. The percentage of the elderly has been calculated to grow steadily in the next few years. At the same time there has been a shift from institutionalized care to home care. In Finland, home care is a communal service aimed to make it possible for the client to continue living at home despite frailty caused by, for example, old age or disability. It is a law-based activity, which is accomplished by both the social and health care sectors. In the city of Turku, there are about 500 service workers and about 4000 clients involved in home care. Every year approximately 740 000 service calls are made. In Turku, the home carers work in the social sector, whereas the home health nurses work for the health care. In some cities, these two sectors are joined. An average home care worker is a middle-aged woman with scarce qualifications for professional work (Walker and Warren 1996; Vuokko 2004). During the past few years, a degree in basic social and health care has become a requirement for new entrants. These changes indicate the growing professionalism through service quality consciousness and new hiring policy.

The organizational implementation of information technology touches the care workers on several levels. Besides the apparent learning process concerning the fluent use of a new technology, the care workers are questioning the best ways of conducting their work in a changing situation. Information technology has been in use in organizations already for several decades, but still the organizational implementation is often considered to be problematic (Berg 2000; 2001). The technical aims of an implementation may be clear, but often different kinds of unexpected consequences take place. Implementing innovations when the adoption decisions are made by managers, targeted users of technological innovation have few alternatives in adjusting to the adoption (Gallivan 2001). Rawstorne et al. (2000) argue that predicting behavior of the users when the use is mandated will vary according to three aspects of use. These include how an individual worker complies with the mandate, how the organization enforces its mandate, and what kind of individual differences there are in using technology. The new information system may be viewed positively, as a challenge or as a means of development within the work. When viewed negatively, the new technology can be considered as a threat or as an alienating thing in the familiar context of work. Technology can also remain, all in all, an external part of the working processes.

THE CONCEPT OF IDENTITY

It is convenient to construct working processes anew during an implementation project (Orlikowski and Tyre 1994). Also, the workers may be insecure about their abilities in a changing situation and question the best ways of doing their daily work tasks. Negotiations with the management, with the designers of the new system, with the other workers, and even with the clients take place while the workers are constructing their interpretations of the situation as intentional actors (Giddens 1984). The concept of identity is one way of understanding how people construct and present themselves in multiple ways throughout life (Goffman 1959).

The concept of identity has been explored in several fields of research. These include, for example, psychology, sociology, philosophy and post-modernism (Hall and du Gay 1996). For Castells (1997) constructing identity means constructing self. According to Castells, identities organize meanings from the world and roles, for example work roles, are functions of these meanings. In our research context, professional identity and the values it implies are seen as a resource or as a possibility. Professional identity makes it possible for the worker to act artfully during the working day in different situations which demand decision making on some level. It helps the worker to position herself in the web of interaction. Through strong professional identity it is also easier to interpret the acts of other workers. It will be interesting to see whether the professional identity of care workers strengthens or weakens as a part of the change process in a complex socio-technical system, in which the interaction between workers and technology will grow remarkably compared to the previous context of work. In other words, the question is how technology will be constructed to be a part of the care workers' new professional identity. From the researcher's point of view, it will be more interesting to describe the process of this identity construction than to describe what the professional care identity constitutes of at a certain historical time.

Goffman (1959) uses two different identity concepts. Personal identity is the ways in which a person sees herself or himself as different from others, and social identity is how the person interacts with the others. Giddens (2001) has a view that a shared social identity makes it possible to construct common understanding or share common goals in, for example, a working context demanding cooperation. Professional identity can thus be seen as constructed through interaction and in a constant dialogue with the other actors. This means that a person can have multiple, even different identities which are constantly reproduced in the scope of interaction. Hall and du Gay (1996) point out that the openness of the process of identification in this sense can also cause conflicts if a person cannot manage the multitude of identities. Lamb and Davidson (2002) remark that if interaction with the others is seen as a means of identity construction, this shifts the conceptual focus from what is identity to how identity is enacted. In this view an implementation process can be seen as a possibility which would cause a reconstruction of professional identity.

Also in a post-modernist sense a person cannot have a definite identity (Hall and du Gay 1996). Identity is reconstructed constantly through the ways in which a person is being represented and how these self-representations are interpreted by others. Thus, an individual may have several identities, formed by the events in his or her personal history. Lamb and Davidson (2002) describe that the rise of professionalism in modern society has both increased and standardized the ways in which people identify themselves. Information technology influences the processes of new identification construction. Technology can strengthen or weaken the person's representations of self. Use of a new technology can, for example, support communication, but technological inabilities can be a cause of isolation or interaction-breakdown as well.

During the implementation in home care, a concern has been raised that technology can also disintegrate professional identity, when the workers feel growing insecurity about their decision-making abilities during a phase of constant changes in their work. Professional identity – like any other truth – is constructed in constant discourse (Foucault 1980), which is affected by power relations and values. Constructing technology as a part of professional identity is also affected by the values given to technology in general in the context of interaction. In home care, technology has previously not played any significant part in daily working context. Moreover, technology previously seldom validated the female identity (Aurell 2000), nor did it have a significant role in choosing care work as a profession.

In sum, professional identity in care work is constructed in an interaction process, in which the results and the quality of the process are affected by the historical and environmental context. Post-modernist sense of identity construction seems to make it possible to comprehend the process as a constant evaluation which may never reach a coherent goal, but which makes it possible to describe the different crystallizations of identity as representations of this construction.

THE STUDY

The organizational implementation of the mobile computers began during winter 2001-2002. The implementation process is still ongoing in 2004 and full appropriation appears to continue to be slow. Therefore, our study is planned to go on for several years, until the new technology has been merged with the working practices.

At this point, the most interesting questions are: first, how the information technology is constructed to be a part of a changing professional identity; second, will the implementation of information technology strengthen or weaken the care

workers' interpretations of their own abilities concerning their daily work; and last, how will the technology enter into the relationships between the care workers and the management or between the care workers and the clients.

We aim for a qualitative interpretation of a change process through a longitudinal ethnographic study that aims to build a thick and meaningful description of the environment under study (Agar 1980; Geertz 1973; van Maanen 1988; Wynn 2001). In our context it means gathering data that describes how the daily work is arranged (Zuboff 1988). The time perspective achieved by longitudinal case study shows also the hybrid temporality (Scott and Wagner 2003) of a long implementation project where different social realities and shifts in meaning are negotiated and compromised during different temporal zones in order to construct a preferred future. The validity of this kind of qualitative research is improved by using different methods for gathering data and by ensuring that the data gathered is also relevant to the research questions (Altheide and Johnson 1994; Lofland and Lofland 1995).

The ethnographic methods applied in this study include participant observation of the workers and interviews of the care workers and their managers. At the first part of the study, which was arranged during the pilot phase of the implementation, also group interviews were arranged in order to raise more talk and more thinking about the themes under study, while the workers seemed to be used to representing themselves as a group or as a care team. Also documents generated with the implemented technology are viewed as possible research materials.

The current part of the study (Spring 2004) was started by first interviewing care managers in different areas. The attitudes of the managers during the initial introduction of the technology appeared to play a major role in how the workers constructed their attitudes towards the new technology. Most of the managers supported the implementation, but some felt indifference, insecurity or hostility towards the mobile system. The attitudes of the managers reflected especially in the ways in which problematic situations concerning the new technology were handled. According to Hodgson and Aiken (1998) knowledge of individual attitudes of the users could be useful in diagnosing potential problems with the changes especially when the adaptation is mandatory. Based on these interviews, a number of care areas with different kinds of responses to the technology are then chosen for further study.

The strengths of ethnographic methods are, for example, that they make it possible to inspect change from new viewpoints (Lofland and Lofland 1995; Zuboff 1988). The methodology makes it possible to describe not only the outside but also the inside (Wynn 2001) by making also the subjects' voice heard. One of the weaknesses of ethnographic methods is that they bind resources especially when time used for gathering data or coding and analyzing data before constructing the final description is taken into consideration (Agar 1980; Lofland and Lofland 1995).

CARE WORK AND PROFESSIONAL IDENTITY

The former relatively unchanging view of an average care worker was that a care worker is a middle-aged woman who constructs herself as a care worker mainly based on her personal experiences in domestic care (Walker and Warren 1996; Vuokko 2004). This picture is now undergoing changes:

“Also the workers have difficulties in outlining their role in work. They have often been working in this field over a long time. They are those old ones, who have been cleaning the house and doing the shopping for a client. Their work has not meant getting near the client on a body-level. They have taken care of domestic matters, not of human matters. The change of role is difficult: you are no longer a house-cleaner but a care-taker instead. [...] Still, the workers would rather choose the shopping bag. The younger [professional] care workers have it easier, they know how to approach a client and how to tend the human side, for example, cut the toe-nails and spread lotion on the dry skin of the client. Also the clients have difficulties in accepting help from home care when they are used in situation where the bodily care has been offered by home health care.” (Interview, March 2002)

Most of the present care workers are near retirement and the new workers are expected have a degree in basic social and health care. Through professional training, the new demands for the quality of services and respect of the client are attached to the work. One of the new elements in work is the palm-based computer. The age of a care worker does not seem to affect the willingness to learn and use the technology. Learning to use the system was mostly found out to be easier than anticipated. Care workers have also proposed some adjustments in the system based on their own experiences of the use, which would suggest that the workers are prepared to take the technology as part of the work. On the other hand, several technical problems and breakdowns of the actual palm-based computers have caused also resistance. Markus (1983) describes three ways of explaining resistance. First one is that people resist all change. Second explanation is that there are such technical faults in the design that, for example, the new technology is not user-friendly. The third, interactive theory holds that resistance arises from the interaction of technical features and of social context in which the system is used. According to Venkatesh (2000) even increasing experience of use or in this case, making the technology more reliable, does not necessarily mean end of resistance. Increased confidence in technology use does not diminish the initial computer anxiety. Minority of the workers have tried to refuse the use of the system altogether. They claim that the technology makes their work too

complicated and they will soon have not enough time to take care of the clients.

In the design of mobile technology for care workers ease of use was one of the leading principles. Care workers gather data about the service calls in a way which disturbs the service as little as possible. In the palm-based computers there is a barcode reader attached and most of the data gathering is accomplished automatically when reading different barcodes. There is a personal barcode allocated for every client and for all the basic services. The most commonly used service codes are basic service, group service and errand service. For example, basic service code covers several tasks like helping a client to dress or undress, help with washing, bathing and going to the toilet or in changing diapers. Furthermore, basic service includes administering medication, providing meals, doing domestic work, and monitoring the overall wellbeing of the client. Automated processes ensure that when reading the barcode related data is also recorded. These include the worker identity as they all have personal codes to log into the system, time of the service and through end-of-service barcode the duration of call. A care worker can now access the client database also during service calls, for example, in order to check the proper treatments and diet for a particular client.

Care work is often viewed as women's work and as domestic work of little significance. Fagermoen (1997) describes meaningful nursing practices as expressions of professional identity to be constituting of altruism as an overall orientating philosophy to caring and of other values linked to human dignity. Raatikainen (1997) emphasizes the challenge and versatility in care work as one of the aspects that make the work meaningful. These aspects match with the reasons which the care workers told when they were asked what makes their work meaningful or satisfying.

"You see the work carried out by your own hands. You feel satisfied when you know that you can leave the client alone with good conscience – you have taken care of the client's needs and know that she or he will manage at home." (Interview, January 2002)

One of the main reasons for work satisfaction in home care has been the relative freedom and independence which the worker has while working on the field and going from a client's home to the next one. The workers have been able to arrange their working tasks quite freely on a daily basis in constant interaction with the other workers. Care workers share a lot of often changing information about the clients and about the time-tables. This interaction is not only knowledge sharing, but a meaningful contrast to the demanding and lonely work on field of home care. The implementation of an information system raises the level of transparency of service work, which has caused the workers to construct their notion of the technology as a controlling one. Zuboff (1988) describes this informing aspect of information technology to be often an unexpected outcome of an implementation. Although the workers resisted uniformly the idea of control, also different views have emerged. Especially direct access to client database meant empowerment and even more independency for the care workers. This was further strengthened when the workers started to use e-mail for communication after every care team got a PC for updating their palm-based computers.

Information technology or technology of any kind has not previously had a significant role in the context of home care. Some of the workers seem to hold somewhat stereotypic opinions that values embedded in care and in technology cannot be aligned. Other workers have a more optimistic view: "The work itself does not change, although the tools may change" (Interview, January 2002). Lamb and Davidson (2002) describe that the new technology is being shaped by the workers using it, but at the same time the users, as workers, are shaped by the use of technology. The ways of seeing what kind of skills and values are significant to a person, for example, in relation to her work, also have an effect on the ways how technology will be constructed as part of the work. Thus a worker can also refuse to use new technology when she does not see herself as "a technician."

Technology is socially constructed in interaction with the users (Kling 1991; McGrath 2003) in a process where different users may have different or even conflicting views on the uses of technology. The new technology can be seen as implying values or hypotheses that cannot be accepted in the given context of work. The ideas constructed through a technology cause reconstruction of the values attached to work after the implementation. Berger and Luckmann (1981) describe such processes as the ones through which social reality is constructed while humans have a need to order or adjust the chaos around them. The interpretations which the users give for technology can give light to the meanings that the technology has to its users as single workers and as a group of workers within an organization. The uses of technology can also vary depending on the level of inspection; technology is constructed differently by a worker than by the organization as a whole. McGrath (2003) aligns with Foucault (1978, 1980) with the view that technological representations are constructed in discourse, in which the general discourse makes it easier to understand these representations but at the same time it constrains the audience from other possible ways of representation. The ways in which the technology is being introduced have also an effect on shaping the future use. One type of technology that is seen to affect the changing organizational context is mobile technology (Kakihara and Sørensen 2002; Järvinen and Vuokko 2003). Mobile technology can be viewed as raising the level of either independence or control depending on the context.

Home care has a strong notion of situated action (Suchman 1987) despite of all the planning attached. One of the reasons

behind the implementation of information technology was the need to even the resources and work loads of care workers more efficiently. One of the reasons in this aspect was also the need to be able to show in reality or “dramatize” (Goffman 1959, p 32) the costs of the services that are offered to the clients. At the moment it seems that the visible tasks are more highly valued than the more invisible ones. The values of human care are the ones that are more highly respected, although care workers joked that in the future “only robots will tend the clients.” The workers try to maintain control in the new situation by taking an active part in the change process: they do their best to construct the new technology as a part of their daily work routines.

CONCLUSIONS

Home care tries to anticipate the needs of estimated growing number of clients by raising the level of efficiency through implementing a palm-based system for the care workers. The implementation has caused discussion about the professional identity of the care worker in a situation where the changes in working environment seem constant. Reasons for the discussion are, for example, the previous level of independence of the field care worker and the overall insecurity felt towards information technology. The workers were somewhat afraid that the control of their daily work would shift to the managers, when the system makes the work more transparent. The workers also do not have much previous experience they could use for relating to the new technology. At the moment the care workers are trying to find new interpretations of the situation. Through these representations they may be constructing a new professional identity which would support the daily performance.

The mutual construction of technology as a relevant matter in the care context can only be briefly outlined at this point of the study. It will be interesting to find out how the care workers handle the technology construction work in relation to the changing professional identity. What does it take to define technology as an irremovable part of every-day work? Can information technology strengthen or weaken the representations which the workers have of themselves as care-professionals? It will be also interesting to see what kind of tools or concepts the workers use for construction process. One emerging notion is that the new identity based on changing practices in work will also have an effect on the relationships towards the management and the clients.

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