

Workflow Management: A Barrier to Self-Management?

Jon Iden

University of Bergen, Norway

Keith D. Swenson

Fujitsu Open Systems Solutions, Inc., San Jose, Ca.

Abstract. Modern approaches to organizational change are based on the idea that control and decision-making should be decentralized, and that workers should be autonomous and self-managed. Workflow management, a recent discipline for improving organizational performance by employing modern information technology, has strong relationships with modern management theory. This paper explores the meaning of the concept of self-management in the context of workflow management. Our concern is to what extent workflow management enables or hinders employees' self-management. It will be argued that workflow management has several distinguishing features that make it a barrier for the realization of self-management.

Introduction

For decades organizations have been organized as bureaucracies with hierarchical authority structures, fixed role models, defined and articulated rules and procedures. In the traditional organization, leadership is formal, and the manager supervises, monitors and evaluates his subordinates. Modern approaches to organizational change and design, e.g. BPR and TQM, are breaking with many of the distinguishing features of the conventional organization. For example, it is assumed that monitoring and surveillance of employees are obsolete and that employees should be self-monitoring (Butler Cox, 1991). Further, modern approaches are based on the idea that control and decision-making should be decentralized, and that workers should be autonomous and self-controlling (Bank, 1992; Hammer and Champy, 1993). In short, recent management approaches include that employees are self-managed and empowered. This is supposed to lead to an increased quality of working life which is more motivating, satisfying, challenging, and rewarding (Butler Cox, 1991; Davenport, 1993; Hammer and Champy, 1993).

Recently, a new approach for improving organizational performance by employing a special type of modern information technology, called Workflow Management (WfM), has emerged (Koulopoulos, 1994a; White and Fischer, 1994). Workflow management provides the infrastructure to design, execute, and manage business processes (Abbott and Sarin, 1994). Workflow management has strong relationships with recent management thinking. This relationship is first of all characterized by a shared focus on business process as the primary organizational entity and the candidate for organizational improvement. Another relation is that both have enthusiastic faith in IT as an enabler for change and improvement.

Information technology is, however, not without ambiguity when it comes to what effects it has on employees. Almost as long as there have been computers, people has been concerned about the social consequences of introducing them into the workplace. Important issues have been, and still are: electronic monitoring and surveillance, centralizing of control, deskilling, reduced quality of worklife, and lay-offs (Forester and Morrison, 1994). This concern has led to a growing awareness that social issues are important when computerized information systems are developed and introduced (Dunlop and Kling, 1991). However, many people are still very pessimistic about what effects computer systems have on the workplace and the people who are working there (Perolle, 1991; Agre, 1994).

This paper takes the position that human values such as self-management and empowerment are important and that they should be nurtured and supported, especially among workers who are less autonomous. The ideas behind modern management theory are therefore engaging and appealing. However, since they represent a radical break from the status quo, the conventional and the orthodox, it will certainly be a challenge to implement them. A number of barriers exist; they must be identified and dealt with.

This paper is concerned with the realization of self-management within the discipline of workflow management. In the first part, the concepts of organizational control and self-management are examined. In the second part, the workflow management discipline is examined. Then, in the third part, the effects of workflow management on the concept of self-management is explored. It will be argued that workflow management has several distinguishing features that make it a barrier for the realization of self-management.

Organizational Control

Control in Organizations

Control is a central concept in organizational theory (Mitchell, 1978; Mills, 1983; Eisenhardt, 1985; Greenberger and Strasser, 1986; Barker, 1993). In order to achieve larger goals, the members of an organization must give up some individual autonomy and freedom. Not everyone can do exactly what they want to do. Compromises must be made. Control mechanisms in organizations thus serve as regulators of behavior. They are meant to clarify expectations, direct behavior, reduce ambiguity, and provide feedback (Mitchell, 1978). Through its control structures, an organization can predict the behavior of its members and thus fulfill its objectives (Katz and Kahn, 1978 referred in Mills, 1983). However, the major concern of a control system is organizational effectiveness, not individual effectiveness. Therefore, a control system will involve the entire organization and include processes such as: setting goals, selecting and training employees, budgeting, planning, coordination, monitoring, performance evaluation and rewarding (Mitchell, 1978).

There is much ambiguity related to control in organizations. On the one hand, control systems reduce ambiguity and uncertainty for individuals. They provide meaning for their actions and can be a source for motivation and further development. On the other hand, employees often react negatively to control systems and loss of freedom. Severe and demanding control mechanisms such as deadlines, performance standards, and monitoring, may increase anxiety and pressure. People report feeling threatened and pushed, and sometimes labor unions react. An unsuitable control system may also become a direct burden for an organization, and decrease its ability to reach its goals (Barker, 1993). Rules and formal procedures, for example, may often limit flexibility and creativity. Deadlines, not the quality of results, may become the criteria of success. Following procedures may become more important than satisfying the customer, and pleasing the boss may become more important than trying to fulfill overall objectives. Because of these problems, organizational control is always problematic, regardless the organization's goals and form.

Many schemes for analyzing and describing control systems in organizations have been introduced (Weber, 1979; Pennings and Woiceshyn, 1987 (referred in Orlikowski, 1991); Mitchell, 1978; Ouchi, 1979). Weber (1979) distinguished between three fundamental and *direct* forms of control: traditional, charismatic and rational. The bureaucratic organization, as described by Weber, is based on the rational form of control, and can be characterized by hierarchical authority structure, fixed role models, defined and articulated rules and procedures, formal leadership and supervision, monitoring, evaluation, and rewarding peoples' performance. The rational form of control aims to ensure fairness and efficiency (Barker, 1993), and most business organizations today are based on it.

Organizations also have less direct and less visible control mechanisms available. These are sometimes overlooked or ignored. Control may for instance be imposed by recruiting employees from special professional schools and occupational communities. This professional control ensures to a certain extent that new employees have been socialized in the values and norms preferred by the recruiting organization, even before they enter the organization. In addition, an organization may impose control through technology, social structure, and culture (Mitchell, 1978; Pennings and Woiceshyn, 1987(referred in Orlikowski, 1991)).

To sum up, there are many different control mechanisms that are imposed on people within organizations. Some are direct and visible (hierarchy and role structures, as expressed in an organization chart); while others are less direct and visible (professional and culture); some are directly dealing with individual behavior (rules and procedures), while other controls are less personal in their nature (budgets and technology). An overall control system includes a mix of these mechanisms.

Modern Management Thinking on Organizational Control

According to recent management thinking, modern organizations must abandon the old control mechanisms that characterize the hierarchical and bureaucratic organization. These control mechanisms are obsolete (Hammer, 1990; Hammer and Champy, 1993). Three reasons are advanced on behalf of this claim. First, modern information systems, such as expert systems and decision-support systems, can provide workers with information that enables them to make decisions themselves. It is no longer necessary to separate thought and action. Decisions should take place where the work is performed (Hammer, 1990, Butler Cox, 1991). Second, the modern workforce is well educated and capable of assuming responsibility. Modern workers expect more autonomy and self-control, and, moreover, expect to have a say in how a business is run. People do not want simply to follow rules; they want to make their own rules and make their own decisions (Hammer, 1990). Third, the business environment has changed. It is much more dynamic and competitive than before. The old bureaucratic system which was geared toward efficiency and control is out of place in an age where flexibility, variety and customer satisfaction are the keys to success. It is necessary to design organizations that mirror the increased differentiation of consumer demand, and the flexibility and power of the technology (Hammer and Champy, 1993).

One important element in modern management thinking is the role of management. BPR, for example, emphasizes the value of reducing management levels and the number of managers within organizations (Hammer 1990; Butler Cox, 1991; Schnitt, 1993; Browning, 1993; Hammer and Champy, 1993). Hierarchical structures should be flattened and a manager should have a greater span of control. In addition, the role of managers should be changed. A manager should become a consultant, an advisor and a coach, and not be a supervisor and a controller. Workers should manage and control themselves. The job of a manager is to help their employees to do richer and more demanding work (Hammer and Champy, 1993).

The BPR method, which includes a process definition team, is explicitly a collaborative activity. Hammer points out that this process definition team must include people from inside as well as outside the organizations; the process should not be designed by a single person (Hammer 1990). This should be contrasted with Taylorist management in which processes were either defined by the manager, or were designed by a special planning department. In addition, BPR practitioners recognize that after reengineering, an organization must implement a mechanism of continual process improvement (Davenport, 1993). Therefore, the job of the process definition team is never finished, but should be viewed as a continual activity tuning the way an organization's processes in response to external pressures or other changes.

Modern management thinking also recognizes the value of process individualism. BPR, for example, does not proscribe particular process practices, but instead proscribes a method by which these practices can be found. Typically, a process re-engineering team is put together that includes both people from within the organization familiar with the specific business, as

well as people from outside the organization to assure that new approaches are considered. Implicit in this approach is the assumption that different organizations may need to find different processes -- the one that optimally fits their business, market, people, skills, and background. No longer is there any search for the single "right" way to do a particular job. In line with the trend toward decentralization and organization flattening, this principal extend to supporting of process individualism for different parts of organizations.

Self-Management Defined

As explained in the previous section, there are several elements of modern management thinking that support the claim that recent approaches to organizational change provide for greater control at the operational level. However, self-management has not been defined explicitly in the modern management literature. Instead, the literature uses self-management widely, giving a sense of the idea to the reader. The sense and the fragments suggest strongly that the organizational control system must be revised. Since an adequate definition of self-management is absent, it is necessary to define more precisely the meaning of self-management as used in this paper. Combining the general discussion about organizational control with modern management theory, self-management can be defined as follows. An employee can be said to be self-managed if he (or she): *(a) is able to design his own role freely or in negotiation with his peers in a team, (b) plans his own work, including setting his own goals and standards, (c) monitors his own performance, (d) has the authority to make decisions in questions that are related to his own work and work environment, and (e) is without supervision from formal supervisors.*

As can be seen, this definition does not suggest that every control mechanism of a bureaucratic organizations must be removed. As previously mentioned, this is because organizational control is a complex phenomenon that includes the whole organization. Some formal control mechanisms that will continue to exist with the idea of self-management are: (i) overall policy and strategy formulation, (ii) overall business goals and objectives, (iii) budgets, and (iv) rewarding. These mechanisms are not controlled by a self-managed employee.

Workflow Management

Workflow as it is today has been shaped more by trial and error in the marketplace than by the result of research on how work should be supported. Workflow can be seen as the logical outcome of the Office Automation movement which had significant academic support in the 1970's. Pioneering work by Zisman on SCOOP (Zisman, 1977), Ellis & Nutt on OfficeTalk (Ellis and Nutt, 1988), and BDL from IBM (Hammer et al., 1977), can be seen as laying the groundwork for what we now know as workflow. Office automation lost momentum in the early 1980's, possibly because researchers began to realize how complex a social network the office environment really is. The day to day routines of the office are not as easy to formalize as they might seem. Early workflow systems embodied simplistic assumptions about work habits, generally adopting a document centric view of the office. While simple in design, these systems fill a very large need for document routing and distribution.

While recent workflow systems have become much more sophisticated, there is no agreement in the field of what workflow management is. Rather, confusion surrounds the term. "The

players in the market do not agree on a precise definition of workflow." (Brandel, 1992). This lack of mutual understanding can be illustrated by the fact that market analysts provide different numbers of the existing workflow products. Some say 30 (Koulopoulos, 1994a), some say 63 (White and Fischer, 1994) and some say 140 (Marshak, 1994). The analysts do, however, agree that workflow management is a diverse and fragmented industry, where terminology, methods, functionality and technical implementation vary considerably from product to product (Gantz, 1993; Koulopoulos, 1994a; Marshak, 1994). However, some common characteristics are frequently mentioned in the literature.

First, workflow management addresses the *process* dimension of work. In this context, a process is to be understood as a series of subsequent tasks carried out by various people in the organization. Workflow management provides the infrastructure to design, execute, and manage business processes (Abbott and Sarin, 1994). Basically, workflow management *automates* the flow of work along a process throughout an organization (Durham, 1992; Marshak, 1994). "It translates a business process into a technical solution that streamlines work processes and make them more efficient." (Howard, 1994). Workflow software is said to be especially useful for *repetitive multi-person* processes (Durham, 1992), although workflow products and solutions exist for *ad hoc* processes also (Dyson, 1992; Gantz, 1993).

Second, workflow management is described as *active* software (Dyson, 1992), since it advances work from one step in the process to the next. Workflow systems do not only passively wait for an operator to tell the system what to do, as traditional information-storing systems. A workflow system actively notifies people for the execution of each process step. "Notifications, reminders, follow up, escalation, and re-routing can be automatic, freeing people to focus on taking action." (Action Technologies, 1993). The structure of a process, - routing schemes, conditionals, parallel or subordinate activities, documents and information sources, - is embedded in the system, and the employees assist by carrying out the individual task. "Workflow software actively helps coordinate the activities of people working together." (LAN Times, 1993).

Third, software for workflow management can be regarded more as a *toolset* than just a single software package. These tools enable organizations to create, run, modify, monitor and delete processes in software. This toolset, or the components of workflow management, will be described in a later section.

Fourth, according to Koulopoulos (1994a), workflow management is not a singular application but rather the orchestration of many applications and data types. "Workflow management takes the role of integrating other office automation tools such as work processing, spread-sheets, e-mail and data bases. The idea behind workflow technology is to create a single environment to manage the complexity of multiple office automation environments. Workflow becomes the conductor of data, documents, applications, communications, and user interface." (p.30).

The Components of Workflow Management

According to Howard (1994), workflow management should encompass four components: 1. Method and analysis services, 2. Prototyping and development, 3. Execution and end-user, and 4. Management control, administration, and simulation. Howard claims, however, that there are very few vendors at present, that provide these four components.

1. Method and Analysis Services

This component enables the organization to describe, analyze and design its workflows. It consists of a modeling method and technique, as well as a graphical editor to aid the design process. Some vendors, e.g., AT&T Global Information Systems and Reach Software Corp., use general flow chart look-a-like modeling techniques, while others e.g., Action Technologies Inc. and Bull HN Information Systems Inc., make use of proprietary techniques. Another distinguishing feature is that some systems utilize formal, enactable models that can be applied directly as input to the prototyping and developing component.

Autocratic Organizations

Organizations will vary on a dimension of how autocratic they are, that is how much they are run from a central point of control as opposed to being decentralized. Autocratic organizations will define jobs and processes centrally, and will want to remain in control of the ability to define processes. Less autocratic organizations will tend to delegate the design of processes to be more decentralized. The degree of autocracy of an organization will help determine the type of workflow that is needed. Workflow systems also vary in how they control who can perform analysis and design of processes. Some systems require special privileges in order to change the process. Systems that require a recompile and re-installation of the new code in order to change the process will by their relatively uncontrolled nature need to keep a tight reign on who is allowed to do this. Systems that are fully decentralized to the point that each user has their own set of rules to control routing are sometimes very hard to control in a centralized manner, and might be unsuitable for an autocratic organization. Yet, other systems allow the control of who has the right to implement processes to be specified on a case-by-case basis. These systems might be flexible enough to be useful for both autocratic as well as decentralized organizations.

2. Prototyping and Development

While the first component provides the assistance to determine and design the overall structure of the workflow, this second component is used to create and implement the fine details of the workflow, e.g., activities, routes, rules, actors, deadlines, and security information. By this component, workflow applications are developed that are run by the execution and end-user component. Workflow applications are written with a variety of tools, from scripting languages to object-oriented CASE-like facilities utilizing icon-based graphical user interfaces (Koulopoulos, 1994a).

The difficulty of implementing the process relates to the cost of implementing a process. This cost becomes a barrier of implementation under certain circumstances. The effect of this cost will depend upon two qualities of organization: coherence and quiescence.

Quiescent Organizations

Organizational quiescence is a measure of how static or volatile an organization is. Quiescent organizations do not change their way of working very much from year to year, while volatile organizations are constantly undergoing change of one sort or another. Once a process is supported by technology, it is usually not an elementary task to change it. It is normally more complicated to change an electronic information system than it is to change its manual equivalence. Workflow applications thereby require ongoing programming support for the maintenance of the systems (Koulopoulos, 1994a). The cost of changing an implemented process will tend to discourage changes if it is greater than the marginal benefits of the change. The effect will be to freeze processes at a particular level, at least until the combined benefit of changes exceed the cost of making the change. Quiescent organizations will have an easier time accommodating a wider variety of workflow types. Volatile organizations should anticipate a continual cost of updating the processes, and should consider workflow systems which are easy (less costly) to change.

Coherent Organizations

Coherent organizations are those that tend to have very similar processes across large parts of the organization. Coherent organizations have a significant advantage when it comes to implementing processes in workflow: the cost of implementing a given process can be shared across a large number of people. Even "relatively coherent" organizations, where different teams have similar but not exactly the same process, can benefit by sharing the cost of initial development of the basis process, as long as individual teams can modify it to fit their needs.

Less coherent organizations will need many different versions of a given process, and each version will be used by a relatively small number of people. In this case the ease and cost of implementing a process becomes very important; such an organization can not afford an expensive or complicated process implementation. Less coherent organizations will be sensitive to the cost of implementation of workflow, and need to seek those kinds of workflow that are easier (less costly) to implement.

3. Execution and End-User

This is the workflow engine, and the heart of the workflow system. It is this component that runs the different workflow applications. A large percentage of the systems employ a client/server architecture, where the server controls the overall workflow, and refers out to the clients (actors / end users) for performing the individual workflow tasks. The server is often implemented as a database which stores the specific information related to each workflow application. The database is also used to track the status of each individual workflow and to maintain a historical audit trail of each workflow instance.

4. Management Control, Administration, and Simulation

This component consists of three different sets of tools. Management tools, which most workflow software at present provide, enable managers and supervisors to monitor work in progress, both the individual tasks as well as the entire workflow. Facilities for statistics and automatic status tracking are also common. The administration tools are mostly devoted to housekeeping chores, and enable the system administrator to modify the workflow, add and

delete users, create groups, and manage security policy etc. The last tool in this component, the simulation tool, is one of the functions that are most noticeably lacking in current workflow software (Koulopoulos, 1994b). The main advantage is to simulate and to play with workflow applications prior to implementation.

Administration and management of the workflow system is another aspect which must match the autocratic nature of the organization. Highly autocratic organizations will need centralized control and will wish centralized monitoring of processes. Decentralized organizations will require that these capabilities be accessible by the actual groups and teams doing the work.

Workflow Management and Organizational Control

Our consideration is to what extent workflow management enables or hinders employees' self-management. As mentioned earlier, introducing computer systems into organizations is associated by some people with increased monitoring and surveillance, centralization of control, and an overall reduction in quality of worklife. Modern approaches to organizational change, however, believe that computers will enhance the quality and working conditions of intellectual labor, freeing humans from routine work and make more time for creative thought (Hammer and Champy, 1993). In this section, the four environments of workflow management will be examined with respect to self-management.

Component 1: Method and Analysis Services

Workflow software may be used to automate a business process without redesigning it beforehand. However, many experts recommend the process to be reengineered first, and then supported by workflow software (Schwartz, 1993; Schnaidt, 1993; White and Fischer, 1994). For redesigning purposes, many workflow software packages come with modeling facilities which help the designer to analyze and to define the sequence of job steps in the process. This may include a special modeling technique and a graphical modeling tool. The important question is: who is to define the process and the sequence of process steps? Analyzing and designing a process by the assistance of a modeling technique and a modeling tool, requires certain skills. These are not skills that office workers usually possess and they may have little interest or time to develop these skills (Koulopoulos, 1994a). Although some process modeling techniques are developed explicitly to be used by those who work in the process, for example the Wall Graph Method (Andersen, 1989), process modeling is usually a task that is carried out by system analysts and system developers. Analytical skills are most likely to be found in the IS-function (Davenport and Short, 1990). This is, of course, a methodological as well as a technical issue, and touches on topics such as participatory design and end-user involvement. In the case of workflow management, some vendors explicitly suggest that process modeling and design should be done by a professional *business process analyst* (Action Technologies, 1993; Schnaidt, 1993). This could either be an external consultant or a person from the IS-function within the firm. From the perspective of self-management, this is alarming because designing a business process means in fact designing a work environment. The result may be that authority and control is transferred to an external analyst. The important question then is: whose interests will this analyst seek to fulfill?

Component 2: Prototyping and Development

When the process is defined and designed, who is to develop and maintain an workflow application for the process? Most workflow software requires some sort of programming skills in order to implement and change the process structure and the processing rules. Workflow applications are written with a variety of tools. Some workflow software systems make use of scripting languages, others use 4. Generation Languages (4GL), some use conventional high level programming languages, and others use object-oriented CASE-like tools with icon-based graphical user interfaces (White and Fischer, 1994, Koulopoulos, 1994a). Although tools with graphical interface are promising with respect to end-user programming, application development is not a competence that office workers normally possess. It takes an expert to build a workflow application (Dyson, 1992) or as Koulopoulos (1994a) states: "It is important to keep in mind that many business processes are very complex and even with easy-to-use tools for workflow development, end users will not be able to develop enterprise-wide workflow applications. This is one of the wide-spread misconceptions about many new workflow tools, which use graphical tools. Although the specific tools required to create these environments are easy to use, the complexity of designing, implementing, and maintaining enterprise workflow applications still requires the involvement of information systems professionals." (p.143).

The trend in management is toward more and wider variability across organizations, becoming in this way less coherent; instead of implementing a functionally oriented organization, we are encouraged to design process oriented organizations where the process can be optimized or the particular product or customer. Self-managed teams will tend to form the least coherent organizations of all. The temptation to pool development of processes, to try to force a coherence that should not be in the organization, works against this and may degrade the performance of the organization.

Note, that it is a common fallacy to think that an organization is more coherent than it really is, especially since manual processes are virtually invisible. A careful assessment of an organization's coherence is strongly recommended before attempting to determine the cost of implementing workflow. A self-managed team might lose its ability to manage itself effectively if it is required to make use of a process shared with other teams.

Component 3: Execution and End-User

How autonomous is an employee in a work-environment where a computer system (a) automatically calls upon the employee to get him or her to perform his or her part of the process, (b) possesses the rules that enable and constrain the performance of the tasks, and (c) determines the next person in the process that the work are to be routed to? When a process is supported by a computer-based information system, the relationships between the system and the people involved are different than with conventional information systems. In a conventional transaction-oriented information system, the overall process is embodied in the organization and its individuals. The computer assists with the different steps. The individual is in control; he or she operates the system. The system does what the employee wants the system to do. When a process is supported by workflow software, the overall process is embedded in the electronic information system, and this refers out to people for detail execution of the individual process steps. Now the employee does what the computer wants him or her to do. Thus, workflow software represent a shift in focus. Traditionally, the automation of individual

tasks and transactions have been important. With the focus on processes, and computer-based support for these, communication and coordination between the individual tasks becomes more important than the tasks themselves. Since workflow software is a recent technology, and little research has been done on the social aspects of introducing this technology in the workplace, we can only speculate about the consequences for the employees. However, instead of autonomy and self-control, are we risking the introduction of what is called “the orchestration of people by machines”? (Hall, 1992, p.5).

Component 4: Management Control, Administration, and Simulation

An important aspect of the concept of self-management is the ability of employees to monitor their own work and performance. According to modern management theory, workers should monitor themselves, and not be monitored by managers (Butler Cox, 1991; Hammer and Champy, 1993). However, this could be a challenge in an environment where workflow software is used. Many such systems provide facilities that allow managers to monitor the work of individuals, and to gather statistics about individual tasks as well as for the entire process (Durham, 1992). The ability to monitor a process in order to find out instantly the processing status - who has it, and how long it has been waiting for its current process step - is a basic requirement for all but the simplest systems (Silver, 1994). Logging every process event is another feature that provides management with statistics and reports about the process. Some workflow systems provide reporting facilities directly, while others simply log events and update database tables for use by external report generators (Silver, 1994). One of the ‘state of the art’ workflow systems, ActionWorkflow, has, as an example, the following facilities (Action Technologies, 1993):

- Supervisory tool: “managers of a business process can obtain the business process status in his/her organization, both on demand and through generating regular reports as part of the process structure. Questions can be asked such as: “who is late in this task?”” (p.12).
- Business Process Performance Monitoring: “the overall performance of a business process can be queried and monitored. “Hot spots” and problem areas can be identified in order to improve the process. The manager can ask questions such as: “What is the average delay of the credit checking task?”, “What is the average processing time during the month of April?”, “What is the throughput for John Smith?”” (p.12).

When recent management theory, e.g. BPR, that workflow software developers like to associate themselves with, supposes that monitoring is something that should be done by employees and not by managers, why then are management facilities such as those described above included in current workflow software? Is there a gap between theory and practice? Monitoring work has always been considered a management activity. From a capitalistic perspective, capitalists only purchase the labor power of their employees, and it is up to management to ensure that this labor power is utilized efficiently. Monitoring employees by the help of computers is thus a logical extension and consequence, and may be too important and too useful to ignore (Attewell, 1991). It is not unlikely to believe that monitoring ambitions continue to exist and that in workflow software, managers find a powerful ally.

Summary and Discussion

This paper has done two things. First, it has explored the meaning of organizational control within modern management thinking. This paper has found that recent approaches to organizational design strongly argue for more control at the operational level. This new form of control, called self-management, involves the transfer of authority and responsibility to employees, that traditionally have been reserved for managers. It basically means that individuals should plan their own work, monitor their own performance, and make decisions themselves. This new concept of control contrasts strongly with the conventional rational form of control that is present in the traditional bureaucratic organization.

Second, it has explored and described the concept of workflow management. It has identified three qualities of organizations that have significance with respect to the choice of workflow system. Organizations can vary in their autocratic nature, which will effect their choice of system based upon that system's ability to control or delegate the permission of processes implementation, as well as the monitoring of processes. Autocratic organizations need the ability to control process implementation and monitoring, while decentralized organizations need to be able to delegate this. Organizations can vary on their coherence, and their quiescence, both of which will effect their sensitivity to the cost of implementing a processes. Organizations that are either less coherent or volatile require a workflow system in which process implementation and change is very easy and low cost.

Third, it has examined how workflow management might reduce the likelihood for self-management to be realized. Self-management teams tend to be representative of decentralized, less coherent, and volatile organizations. The essay has the opinion that self-management is an important value that should be nurtured and supported, and that the vision of self-management within recent management theory is engaging since it appears to meet some of the major concerns about the social consequences of introducing electronic information systems into the workplace. However, the discussion in this essay suggests that self-management may be difficult to realize when workflow management is applied. Investigation shows that there are many aspects of workflow management technology that may reduce the likelihood that self-management will be realized. The cost and trouble to implement new processes in many current workflow systems will form a barrier to use by self managed teams. These software systems have several facilities that allow managers to monitor and to track the performance of their subordinates -- a task that modern management theorists argue that managers should no longer do -- yet do not always give the same capabilities to the workers, nor do they give sufficient control on who may monitor.

The presence of the roadblocks discussed here, indicate that at the current time organizations with self-managed employees will find it challenging to fully adopt traditional approaches to workflow management. To conclude, we suggest that there is an opportunity for a new form of workflow management with the capability to support self-management.

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Postal addresses:

Jon Iden
University of Bergen
Department of Information Science
5020 Bergen, Norway
47 55 54 41 14 (tlf)
47 55 54 41 07 (fax)
iden@ifi.uib.no

Keith D. Swenson
Fujitsu Open Systems Solutions, Inc.,
3055 Orchard Dr., San Jose, CA, 95134, USA
1 408 456 7667 (tlf)
1 408 456 7050 (fax)
kswenson@ossi.com