

Chapter IX

Is Organizational e-Democracy Inevitable? The Impact of Information Technologies on Communication Effectiveness*

Bernadette M. Watson, University of Queensland, Australia

Gavin M. Schwarz, University of New South Wales, Australia

Elizabeth Jones, Griffith University, Australia

Abstract

In this chapter, we consider the relationships between social identity and e-democracy in organizations that exist in the constantly changing global business and technological environment. We also consider the inevitability of organizational e-democracy in organizations undertaking information technology (IT) changes, the technology at the base of e-democracy. Through an examination of employees' experiences of change, we

investigate their perceptions of changes in effective communication during major organizational change implementation in a hospital context. While the changes were far reaching, we mainly focus on the introduction of information and communication technology (ICT). We use an empirical examination of an Australian public hospital's IT change experience as the backdrop to assess the accuracy of the statement that there is an improvement in the autonomy within organizations as a result of IT changes. We discuss our findings in light of the implications that arise for HR practitioners.

Introduction

In this chapter, we consider the relationships between effective communication, social identity, and e-democracy in organizations that exist in the constantly changing global business and technological environment. We also consider the inevitability of organizational e-democracy in organizations undertaking information technology (IT) changes, the technology at the base of e-democracy. Through an examination of employees' experiences of change, we investigate their perceptions of changes in effective communication during major organizational change implementation in a hospital context. While the changes were far reaching, we mainly focus on the introduction of information and communication technology (ICT).

We define e-democracy as the technological advances in communication media that provide employees with more information and more direct access to other employees (supervisory and subordinate levels) than previously existed. These changes to communication channels provide organizational connections and lead to e-democracy practices that seek to improve the autonomy of organizational members. Thus there is a freeing of information to help erase or ease organizational boundaries, which changes the relationship between executive and middle management parties.

The chapter uses an empirical examination of an Australian public hospital's IT change experience as the backdrop to assess the accuracy of the statement that there is an improvement in the autonomy within organizations as a result of IT changes. We assert that while hospitals are a very specific type of organization, they represent a typical hierarchical organization that uses the same human

resource (HR) practices and principles that underlie all successful ICT implementations. We adopt the theoretical framework of *social identity theory* (SIT) (Tajfel, 1978) to understand how communication effectiveness and e-democracy evolve during IT change. SIT proposes that individuals understand their self-concept through their identification with salient social groups (1978, p. 63). Such groups include gender, profession, nationality, and religion—to name just a few. Individuals derive their sense of self-worth and positive self-esteem by viewing their group memberships (in-groups) as better than other groups to which they do not belong (out-groups). Employees will often tend to make favorable in-group comparisons to ensure that their workgroup is perceived as more successful and prestigious than comparable out-groups. Such comparisons lead to positive evaluations of one's own self-worth. This theory, which is discussed in more detail below, has important implications for the ways in which individuals will react to and manage ICT change.

ICT often changes the environment in which individuals work. As the work environment changes, so to do work-related tasks and roles. Changes to role and work functions alter the composition of workgroups and so impact on an employee's identification with his or her workgroup and intergroup relations between groups. From an SIT perspective, we view organizations as cultures. Thus the hospital environment has its own culture; within this, subcultures or groups (e.g., work units, departments) co-exist. We argue that SIT is a theoretical framework that provides insights into how employees absorb and manage ICT-enabled changes.

Thus our chapter highlights the social side of organizational change that is often ignored by the planners and implementers of change. We emphasize the need for HR managers to recognize these social issues. In this way HR practitioners will maintain the good employee environment that they have developed, as well as improve the outcomes of organizational change for members of that organization. Using a longitudinal study, we examine how employees' work identities impact on their understanding and adoption of ICTs. Bearing in mind the chapter's focus on e-democracy, we examine employees' perceptions of communication effectiveness and discuss these findings in the context of the HR focus that frames this book.

The chapter highlights two important issues within the area of organizational change and new technology introduction:

1. the changes in employees' perceptions of their role and the groups within the organization that they identify with that are brought about by ICT-enabled change, and
2. the implications of these changes for HR practitioners.

Focusing on the ways that individuals in traditionally hierarchical organizations understand and adapt to the changes in their work, we examine the process of change from the viewpoint of both the implementers of change and the employees who must adapt to change. In so doing, we investigate how communication processes and their level of effectiveness change with IT implementation. Our intention is to provide e-human resources management with key recommendations that need to be in place to successfully implement an organization's planned ICT change.

This research is framed by the arrival of the knowledge economy that allows e-democracy practices to exist. As the knowledge economy has evolved, as part of more widespread changes to organizations including ICT, some researchers have examined how employees' identification with organizations explains change outcomes (Terry, 2001).

We recognize that there is a gap in our understanding between the emergence of organizational e-democracy and the potential changes to the organizational structure and communication that can result from ICT implementations. We bridge this gap by highlighting the fact that, because individuals identify with their work groups, when the current status or existence of these groups is threatened, resistance to the change may result. HR practitioners need to understand the composition and function of employee work groups — both formal and informal. They will then develop an understanding of how and why members of these groups resist the changes within the organization and can seek to remedy the issues.

Organizations that typify the knowledge economy are viewed as dynamic and organic (Alvesson, 1995). As a consequence, the nature of organizational change in such organizations can be unpredictable. Understanding that change will bring about unexpected alterations to the way that employees respond to change is, therefore, key to being able to manage these people. In line with this view, Carlopio (1998) notes that the implementation stage of organizational change, while crucial to successful change, has been wrongly considered to be a rational and linear process.

In the subsequent pages we discuss the implementation of ICT change to stimulate discussion on the nature and place of organizational e-democracy. We seek to promote debate on the ways that social identification adapts and modifies itself within an organization undergoing ICT change. We focus on the implications for HR practice as we examine the uptake of ICT changes, the emergence of e-democracy, issues of identification, and the role of effective communication.

In this chapter, we first briefly describe the theoretical background to our research, focusing on the overlap between organizational democracy, change, and social identity. Using the experiences of a large public hospital undergoing change, we then provide evidence to demonstrate the value of connecting ICT innovation with social identity processes and e-democracy outcomes. We discuss the role that social identification with an organization or work group plays in an organization during ICT change. Finally, we examine the outcomes of such change as it affects the core business of an organization and make recommendations for HR practitioners. These recommendations will equip HR practitioners with a more appropriate and relevant knowledge base from which to plan and operationalize technology change.

Research Background

The Paradox of Democracy in Organizational Research

Over 100 years after de Tocqueville's (1835) discussion on the triumphs, hazards, and powers of democracy, Slater and Bennis (1964) argued that "democracy is inevitable." They offered democracy as the most efficient and practical form of social organization, mimicking Weber's (1924/1968) philosophy on bureaucracy. At the time of their argument, the Cold War was the center of world attention, making the issue of democracy both topical and compelling. In the context of the global and technological changes occurring over the past five years, our research borrows from Slater and Bennis' thesis, but considers the same issue from an organizational perspective.

Today we live in a knowledge economy whose core assets are the intelligence, understanding, skills, and experience of employees, not the machinery, buildings, or real estate of yesteryear (Drucker, 2001; Manville & Ober, 2002). This

environment has focused attention on the role of ICTs and their ability to disseminate information. The emergence of a knowledge economy, where effective information transfer and the decentralization of organizational power structures is paramount, however, raises questions about the nature of organizational democracy.

Despite its prominence in change research (e.g., Beer & Nohria, 2000), organizational democracy within the knowledge economy is confusing. In the contemporary workplace, knowledge is regularly portrayed as the primary resource for individuals (Drucker, 1992). The simultaneous sharing of information through sophisticated technology is viewed as a primary tool of organization (Orlikowski & Iacono, 2001). This process assumes that the militaristic conditions of the industrial organization are antiquated and perhaps even unnecessary. Consequently, changes to traditional bases of power and influence are believed to occur through decentralization and information access (e.g., Applegate, 1994; Halal, 1996). Change initiated in the knowledge economy is regularly presented as a constant feature of the modern organization, despite the dissatisfaction that exists with the nature of change research (see Tsoukas & Chia, 2002). This perspective that change is constant in the knowledge economy adds a paradoxical tangent to organizational e-democracy.

These changes do not necessarily foster democracy (Mantovani, 1994), even though there are implied benefits of the evolving, boundary-less, and pluralistic nature of organizations in the current global economy. Many organizations are still organized autocratically (Kraemer & Dedrick, 1997; Schwarz, 2002). Corporate ownership structures, governance systems, and incentive programs are still firmly entrenched in the industrial age. Organizations are still primarily organized through small management groups typical of hierarchies (Markus, 1983; Robey & Boudreau, 1999). Any features of employee empowerment are limited.

It would, of course, be negligent not to recognize the advances made in the use of more democratic governance methods, such as participatory management practices (e.g., Drehmer, Belohlav, & Coye, 2000), organizational citizenship (e.g., Lambert, 2000), and communities of practice (e.g., Wenger, 1999). Nonetheless, change research is often too concerned with two aspects of change. First, the research concerns itself with re-evaluating the authority, power, and control features that normally exist in institutions (Scott, 2001). Second, it concerns itself with the promotion of alternative organizational designs and practices (Schilling & Steensma, 2001).

Organizational change in a knowledge economy context is regularly hypothesized to bring about a more democratic organizational shape than previously existed. For example, we expect more information connectivity and freer communication than before. We expect more autonomy, but less centralization and less hierarchy than before. Yet there is enough research, and a growing line of argument, to undermine this assumption. Is organizational democracy in the knowledge economy (i.e., e-democracy) inevitable? If organizations change, then logically, so too must employee perceptions of their role in the organization. In a consideration of the objectives of this chapter, we therefore invoke social identity theory (SIT) as a guiding framework that may help understand the outcomes from change and whether or not e-democracy emerges as a result of ICTs.

Social Identity Theory and its Organizational Context

In the section that follows, we provide a preliminary overview of the theory, referring readers to Hogg and Terry (2001, 2000) for a comprehensive review of the theory and its links to organizational contexts. Social identification “is the perception of oneness with or belongingness to some human aggregate” (Ashforth & Mael, 1989, p. 21), encompassing salient group classifications. Social identity theory, therefore, is based on the premise that most often it is our group-based identities that are important in our interactions with others.

The central tenet of this approach is that belonging to a group is largely a psychological state. This grouping confers social identity, or a shared representation of who one is and how one should behave (Hogg & Abrams, 1988). In this way, group belongingness reduces our uncertainty about where we fit in society (Hogg & Mullin, 1999). More recently, SIT has been applied to the organizational context. Implicit in this understanding of organizational identity function is the recognition that organizations are composed of the people in that organization. In essence then, “Organizations are internally structured groups, which are located in complex networks of intergroup relations that are characterized by power, status, and prestige differentials” (Hogg & Terry, 2001, p. 1). As a result, organizations are implicitly dynamic, continually changing entities. Changes that affect the organization can therefore have serious effects on employees in terms of their identification with workgroups and the relationships between workgroups.

While there has been a longstanding research tradition examining organizational identification, more recently SIT researchers have viewed organizations as being composed of individuals possessing multiple group identities. These identities range from the employees' overall identification as members of an organization, to their identification with specific work units and professions. At any one time different group membership may be salient for an employee. Accordingly, when a manager interacts with a subordinate, he or she is likely to identify with their respective roles of manager and subordinate as most salient in the work situation (Gardner & Jones, 1999). Yet in another context the person's professional identity may be most salient.

SIT has been used by organizational scholars to better understand how the individual relates to these collectives, and the intergroup relations that accompany the process of identification (see Pratt, 2001, for a comprehensive review of this trend). Such a perspective does not deny the importance of an individual's personal identification, but sees it as often less relevant than group identification in the workplace.

Social identity theory proposes that individuals will tend to make favorable evaluations about their in-group ('us'), but make unfavorable evaluations concerning the out-group ('them'). If we identify at the organizational level, we perceive all employees of our organization as in-group members and employees of competing organizations as members of an out-group. More often though, it is at the sub-organizational level that we make the most relevant comparisons. The result is that employees will then tend to favor their workgroup or department and evaluate it more positively than other workgroups or departments. Organizational change, including the development of the knowledge economy, may not only lead to the formation of new identities, but may challenge/threaten existing identities and intergroup relations. Thus mergers, acquisitions, and downsizing have increasingly become the subject of research examining organizational change and SIT (Terry, 2001; van Knippenberg & van Leeuwen, 2001).

Such research has been crucial in understanding change from an SIT perspective, but as Hogg and Terry (2000) note, they do not address important developments of SIT in the last decade that are particularly relevant as to whether e-democracy may emerge in response to ICTs. Recent developments include research on identification problems dealing with (1) loyalty, and (2) nested and cross-cutting identities. Looking first at the issue of loyalty, as information intensity becomes more relevant to organizational functioning, many of the traditional roles of identity are undercut (Neef, 1998). Group

identification is a process whereby individuals become connected with others and where joint interests may overtake those of the individual. When there are changes in perceived membership or competing identities emerge which make the lines of group belongingness unclear, questions concerning group loyalty may arise. Specifically, employees ask whether their loyalty should be conferred to the group, the organization, the professional association, the occupation, or to workmates?

Thus, before individuals can act in a given organizational context, they need to situate themselves, allowing certain identities to be nested or embedded within others (Ashforth & Johnson, 2001). Nested identities exist at the higher order level, such as an employee's identification with his or her division, which is nested under the organizational identification. Lower order identities are those of identification with an individual's job. Job identification would be nested under an individual's workgroup. Conversely, cross-cutting identities refer to an employee's committee or task force identification that runs across the hierarchical structure. Cross-cutting identities and lower order level nested identities are more likely, more salient, and more proximal than are higher order level identities (see Ashforth & Johnson, 2001, for a full discussion on this topic). Internal conflicts may arise when an individual perceives competing demands across two of his or her work identities. The cognitions and identity changes that occur during change therefore need to be thoroughly investigated in order to better understand the change outcomes.

The longitudinal study that we present in this chapter acknowledges these aforementioned complexities and seeks to raise awareness levels of HR managers to these issues. Specifically, we contend that an examination of any change implementation without due consideration to the psychological processes that underlie an employee's perception of the change will not provide an accurate picture of the evolution process during change. Nor will such an examination provide an understanding of the potential subsequent changes in e-democracy.

The empirical review that follows describes how employee work group identification interacts with technology change and communication effectiveness, and the outcomes in terms of e-democracy. Employee responses include perceptions about changes to their levels of job satisfaction and commitment, as well as changes to the status and prestige of their workgroup and other groups within the organization. For HR practitioners, these are important considerations that, if managed well, allow for smooth transitions during change. Researchers have typically neglected the intergroup nature of change, despite the fact that

corporate change involves major reallocations of status, power, and resources across divisions of an organization (Gardner, Paulsen, Gallois, Callan, & Monaghan, 2000).

We present change as a process that impacts on an organization in at least two ways. First, there is the individual impact upon employees in terms of their levels of job satisfaction and organizational commitment. Second, researchers—and by implication, HR practitioners—need to consider the significant impacts upon employees' levels of identification with their work groups or the social categories with which they identify. This second impact is demonstrated by employees' perceptions of changes in the groups they identify with, perceived status, and the levels of in- and out-group bias.

Our approach adds to previous research by considering whether e-democracy is an inevitable consequence of ICT changes, and how a social identity perspective helps us understand the effects of ICT changes. We argue that social identity theory provides an alternative (socially) evaluative insight into the nature of change and the process of how organizations evolve and adapt to the knowledge environment economy. In this chapter, we concentrate on how group memberships within organizations are influenced by change. Our approach differs from other researchers who have applied democracy at the organizational level in debating what the organization and organizational change will look like (e.g., Lammers & Szell, 1989; Mason, 1982).

Social identity argues that organizations are internally structured groups that are located in complex networks of intergroup relations characterized by power and status (Hogg & Terry, 2000). In referring to the processes that underlie the development and maintenance of individual and group identities, social identity allows us to better deconstruct the process of organizational democracy using this prestige differential.

As part of this examination, we discuss change and organizational democracy by focusing on how the social identity of health professionals in a large metropolitan hospital affects their understanding of and adaptation to new ICTs. Our analysis was guided by two research questions:

RQ1: What is the relationship between employees' perceptions of their workplace identification and e-democracy change?

RQ2: How do the features of ICT change and organizational e-democracy relate to employees' perceptions of communication effectiveness during change?

Method

Context

Information and communication technologies are regularly promoted as drivers that take costs out of the supply chain, improve the management of customers, and enhance the capability of the organization to quickly respond to a changing marketplace (Glover, Prawitt, & Romney, 1999). ICT developments are perceived as key organizational tools that can alter reporting structures, cultures, job roles, and the identities of employees and their groups. These technologies have been an excellent means of expanding access to information across an organization, empowering employees through added flexibility and enhanced functional integration. These new capabilities have occurred despite the increasing recognition that in reality many very expensive IT systems are abandoned or never realize their full potential (Fahy, 2001). To date, we know that while organizations often have high expectations for change when new systems are commissioned, technology implementations regularly result in the reduced or failed adoption of complex, integrated technology architectures (Koch & Buhl, 2001).

Nonetheless, as with most industries, ICTs are an increasingly essential part of contemporary healthcare. The healthcare industry has recently experienced substantive changes brought about by this new technology, with consequences for health providers, professionals, and patients. These include changes to the way healthcare is delivered through the emergence of new medical professions (e.g., genetic specialists), the devolution of minor medical treatments as nursing staff become more highly trained in new technology, and less invasive treatments. Future medical ICT-related developments include the use of robotics and telemedicine, enhanced drug design through the use of computerization, and the trend towards electronic services (e.g., e-procurement) as a way to deliver healthcare services. Ongoing developments related to ICTs that will

change the nature of healthcare in the next 20 years include emerging medical communication technologies and increasing application of evidence-based healthcare globalization. It is within a hospital context that we sought to examine examples of such industry changes.

The Studies

As previously noted, we focus on change in a large Australian metropolitan public hospital that was undergoing significant organizational re-engineering change both in its infrastructure as well as in the introduction of new technology. We used a sample from a series of 85 in-depth, unstructured interviews with a cross-section of healthcare employees. We examine how these employees described and identified with the change process. This change included staff restructuring; the introduction of innovative wards to trial changes that were planned to occur in the new hospital building; the devolution of finance from management to department level, with the introduction of new financial technologies (i.e., enterprise resource planning system: ERP); and the phasing in of new medical technologies (e.g., the picture archive communication system: PACS). These changes had implications for increasing the knowledge and authority levels of staff. Management of department finances by charge nurses rather than by higher management levels meant that senior nurses were now responsible for the budget of specific wards and units. Thus they would have access to information databases that were previously not available. In theory such changes should empower these nurses. Similarly, the PACS would provide easy access to patient x-rays across the hospital, and lead to more efficient and effective communication between hospital departments. In fact improved and more fluid communication was a vision for the new hospital with more communication between units and wards than had previously existed. The participants in our study represented a cross-section of different levels and roles in the hospital, including executives (often with medical backgrounds), doctors, nurses, and allied health professionals (e.g., physiotherapists, psychologists, occupational therapists).

In our interviews, we were particularly interested in the ways in which employees' work units or professional identities influenced their understanding of the changes being implemented. To this end we focused on the health professional employees within the hospital as identified above. We investigated the relationship between changed organizational structure and employee perceptions about their role and identification in the organization. In particular, we

examined the ways that new IT implementation altered the dynamics of the organization in terms of lines of communication (including communication effectiveness) and democratic structure.

Our research for this chapter was conducted at two stages between 1998 and 2000. At Time 1 (1998), we conducted 67 in-depth, unstructured interviews. From this data collection period, we selected 19 interviews for in-depth analysis. The sample included five executives, four doctors, six nurses, and four allied health professionals. During this time period, the hospital was at the beginning of undertaking many changes (e.g., downsizing and changes to work practices—including ICT implementations such as ERP and PACS). For Time 2 (2000), we conducted 28 in-depth unstructured interviews from which we have drawn a sample of 18 interviewees. During this time period, the implementation of changes initiated at Time 1 were quite advanced (e.g., hospital rebuilding, changes to work practices, and the ICT changes).

For this chapter, we analyzed the interviews of nine executives, one doctor, five nurses, and three allied health professionals. It is unfortunate that at Time 2 we were only able to interview one doctor. For each period of data collection, interview transcripts were analyzed with the use of the QSR qualitative software package called NVIVO. Trained coders identified common themes throughout the data. The interviews conducted at Times 1 and 2 were open and unstructured. The aim at Time 1 was for the interviewees to describe what they felt was good and bad about the changes that were to occur. At Time 2, the interviewees again described what they felt was good and bad about the changes that were occurring. They also described their perceptions concerning the implementation process.

Empirical Examination of the Relationship between e-Democracy, Communication Effectiveness, and Social Identity in a Hospital

In the following results we examine the findings in relation to our two research questions. To this end, using hospital employees' descriptions of change, we summarize our results as they relate to the nature and place of e-democracy, HR practice, and more generally to employees' workplace identification during

a period of change. We will include specific examples of hospital staff descriptions as they relate to both our research questions in order to illustrate their perceptions of the change process. We examine our findings across the two times to investigate whether there are distinct differences between the two phases as they relate to identification, e-democracy, and communication effectiveness.

Overview of Findings

With respect to RQ1, we examined the emergence of e-democracy by looking for perceived changes in health professionals' levels of reporting, their increased access to knowledge, and increased levels of authority. Results suggested that over the period of change, while there were modifications to nomenclature and associated rhetoric to describe the change process, control over employee behavior and management authority remained as it was prior to the changes in infrastructure and ICT implementations (e.g., PACS and ERP technology). Thus, despite the potential of the new systems to provide a greater availability of information, serving as a means of empowerment, no changes to the democratic structure occurred. Such systems, while offering employees the opportunity to manage their departmental accounting themselves or to rapidly access patient information in digital format, did not increase employee input or strengthen the knowledge economy. Rather, as shown at Times 1 and 2 respectively, failure to sufficiently train and support the staff led to frustration and reduced efficiency. Nurses and doctors tended to highlight their professional memberships in terms of patient care and did not embrace the ICT changes that would change their management of patients. Regardless of the implied benefits of change, substantive role, function, or empowerment adjustments did not occur.

Hospital executives never perceived their roles or positions to be threatened, and therefore perceived or represented most of the changes (technology and others) as a positive step for the hospital. Doctors were negative about the proposed changes and focused their attention on challenges or problems associated with the hospital's functioning and staff feelings towards the change process. Nurses also spoke negatively of the change in the belief that they were not involved in decisions made by executives, and that the changes implemented would not enable promised efficiencies. Interestingly, many allied health workers were the most positive about overall change. However, it is

interesting to note that one group of allied health workers who worked permanently in one unit rather than moving throughout the hospital (as do physiotherapists, dieticians, and speech therapists) was more affected by ICT changes and was not positive about the outcomes.

With respect to RQ2—communication effectiveness—health professionals noted that maintaining their perceived levels of communication effectiveness prior to the change was problematic. Their concern stemmed from the fear that because of some ICT innovations (e.g., PACS), there was a reduction in face-to-face communication with other health professionals—a key aspect of communication for health careers. Thus in this organization maintaining effective communication did not align well with aspects of the proposed ICT change.

Clearly, employees who control aspects of their work and working conditions are going to be happier than employees who do not. With relation to our findings, hospital executives who possessed the macro picture of the change and monitored the changes were more positive than those staff members who were confronted with change implementation and new ICTs. Just as clearly, however, despite the potential of an organizational community through ICTs, participatory management and empowerment is not an inevitable component of technology change. Results relating to RQ1 and RQ2 suggested that despite goals of enhanced performance, there was no redistribution of authority. Thus, while the hospital executive perceived that there would be staff empowerment through better ICT systems, this expectation was not realized.

Specific Findings

Workgroup Identity

Social identity theory posits that when change occurs, some employees will react with perceptions of threat to their in-groups. As a consequence, they will act to protect their social group status. Thus in-group bias may increase, but the group may also seek to create a new group identity. If the group does strive to create a new group identity, then social identity theory would predict a new energized in-group identity, as was seen in the creation of the “black is beautiful” new identity in the 1960s for black Americans. When doctors and allied health professionals spoke about the technology change, they identified with two in-groups, the hospital (distal in-group) and their profession (proximal

in-group). When discussing the change implementation in more general terms (e.g., patient care), however, both their proximal in-group and out-group salience were more evident, that is, they spoke more about work units and professional identity. Interestingly, nurses did not make their professional identity salient when talking about ICT changes—rather they identified with the more distal in-group of hospital. The reasons underlying this finding are unclear. In contrast, when nurses talked about other general change issues, their identity as a nurse and in particular their unit was salient. This point is taken up below.

Overall, executives identified as being part of the hospital first and foremost. Doctors talked about how medical professionals (the in-group) felt threatened by the change process that was being managed by the executive board (the out-group). For example, at Time 1, a senior doctor commented on a computerized patient file system that he thought would be phased in at a later stage of the change:

"I'm not so sure it [the new patient file system] will be a success. I suspect they're trying to save on clerical staff and turn us, all the clinicians, into mini-clerks." (Participant A, Senior Doctor, Time 1)

This doctor was reporting his perceptions that executives were imposing new work roles on clinicians. The hospital's non-executive medical employees understood that their roles had changed because of the new system's information-sharing or task-related initiatives. They were compelled to adapt to these role changes as prescribed by the executive level. In the quote, the doctor stated that his in-group felt threatened as a group by the out-group of executives. The episode demonstrated the broader principle that rather than create a new identity, built on ICT-based participatory practice, the strength of traditionally instituted group affiliation and group status remained in place. A Level 3 nurse at Time 1 also spoke about the executive as the out-group and his perception of threat.

"They [the executives] all say we're cutting back on jobs, but nobody knows what numbers and to who[m] they're looking at or who[m] they're keeping on. It's that big question mark that everybody's a little bit scared." (Participant B, Registered Nurse, Time 1)

At Time 2 a different senior doctor commented on the role of the executive and their power in relation to the government control of the executive.

"Well they [the executives] neither have the given authority nor management skills. They might acquire the management skills if they were delegated the authority, but [health state government] is very much rule and structure, and authority comes from the top down. And any attempts to give individuals management authority are very rapidly squashed by reversal of their decisions when they are not liked." (Participant C, Senior Doctor, Time 2)

These comments still focused on the executive as the out-group, but this participant was also viewing the bigger picture of where the executive sat in terms of their power. The comments again validated the lack of change in respect to overall structure and democratic process during ICT change.

Effective Communication

Health professionals expressed concern about the effects of new technology on communication. For example, an allied health professional was of the opinion that the new PACS technology led to reduced communication between health professionals, leading to a loss of relationship with other clinicians and trainee staff. She commented that the medical staff [people] would lose the network connections that currently existed.

"...new residents may not be super-familiar with the techniques ...but by seeing them face to face, you can say well, look, you know, how you can determine priorities ...the personal [contact] will be lost. People won't know who to contact when they really need something in a hurry. It's just punching into a screen [ordering using a computer screen] ...rather than coming down and seeing someone and say, 'Look, what can you do about it?'" (Participant D, Allied Health Professional, Time 1)

A member of the executive level focused on this reduced level of communication at Time 2. However, she looked to the level of efficiency that would be achieved.

"We have images available throughout the organization at the same time, but [do] not have to run around with only one person having access at the one time." (Participant E, Member of Executive (and doctor), Time 2)

The sentiments regarding the PACS technology expressed by the allied health professional at Time 1 demonstrated the view of non-executive health professionals that communication still needed to take place at the physical rather than the electronic level. Face-to-face communication was viewed as an important feature of the intra-hospital networking system. A perceived lack of such communication brought about by the ICT change was therefore viewed as a threat to communication efficiencies. For example, PACS technology meant that x-ray requests could now be requested electronically. The old system had meant that forms were filled out and taken down to the x-ray division. As a result of the archaic manual system, however, interns got a better understanding of x-ray procedures and could ask for advice from the radiographers and radiologists because they interacted with them. As exemplified by the allied health professional quote at Time 1, ICT change thereby paradoxically allowed both a reduction in information connectivity alongside an increase in autonomy. But rather than enable the ease of information sharing, as e-democracy practices forecast, our results revealed an atrophying of inter-disciplinary contact and subsequently lower effective communication than previously existed.

In presenting much the same belief in the need for face-to-face communication, doctors suggested that PACS changes did not allow important information relayed by people to be received effectively. A doctor related the medical professional perspective of the PACS change:

"I think that probably medical staff prefer to communicate in person and by voice. That's the way we spend our day talking to people...and we [doctors] don't like communicating so much by paper, and yet administrative staff communicate with us via paper which is seen as impersonal." (Participant F, Doctor, Time 1)

This doctor implied that owing to the culture of medical staff (i.e., his in-group), important information was continuously lost, ignored, or overlooked as the systems changes started to take effect.

At Time 2 a nurse commented that the structure of the hospital would improve the communication. His comments supported the notion that health professionals recognize the need to communicate on a face-to-face basis. Interestingly, he also addressed the issue of work identities. While this comment does not directly address ICT, it highlighted the face-to-face culture that exists in the hospital context.

"Because of the way the building is laid out, it flows on, there is no defined point of one ward ending and the next ward starting. A lot of units overlap each other as well, so it's going to force communication between them. That has, I mean, it's positive in one aspect, but negative in that they don't have their own identities as such." (Participant G, Nurse, Time 2)

Change and Adjustment as an Outcome of Social Identity and Communication

Workgroup identity and communication work against each other or together to influence both intergroup and individual adjustment to change. In the hospital setting described in this chapter, the outcomes were such that the hospital remained a highly stratified institution. Both executive and non-executive groupings were able to develop justifications and explanations for the lack of participatory change and for existent structural arrangements. Specifically, although some executives expressed concern for lower level staff as they were experiencing a high workload and stress associated with the changes, they were simultaneously convinced that there were more positive issues brought about by the change than there were negative. The system and the processes it set in place did not bring about an amalgamation of different groups, nor did it equalize the way authority was transferred. Non-executive groups adopted a far more reactive outlook to the change, as one doctor states:

"There are some clinicians [who are] very computer literate and very keen on computers — both in work and recreation. Others like me are not the slightest bit interested, and that technology's going to be forced on us, and I think it's foolish. I mean we're not trained and we shouldn't be paid to put information into computers and operate computers. We are trained and should be paid to be skilled clinicians, not computers jockeys." (Participant A, Senior Doctor, Time 1)

Such a reaction to changes suggested a difficulty in adapting to some kinds of changes. The view held by this doctor was that medical practitioners should not have to be involved in technology unless they wish it. This reaction also reflected a belief that a lot of time was being spent on change-related activities, without adequate compensation or proper attention being paid to those being forced to use the new system. In particular, doctors believed that executives were making decisions based on budgetary constraints rather than patient care. This opinion clearly emphasized the different group identity outlook (i.e., healthcare professionals versus healthcare managers). Doctors were resistant to technological changes, and perceived that their job was to treat patients and everything else was secondary. Nurses presented a resistance with ICT-enabled changes, based on similar reasoning, and focused on role changes and possible staff reduction.

The difference in individual and therefore intergroup adjustment was further typified by the executive group's perception of how adjustment to change should be managed. A senior executive commenting on the voluntary retrenchment of 40 workers as their jobs became obsolete observed that working with the staff who would be laid off made for a smooth transition.

"Most people were quite happy with the outcome. Instead of building it up into something that had to go to an Industrial Relations Commission type thing, we actually managed it at the shop floor level, with the local managers and us giving them some guidance instead of bringing all the heavies all the time." (Participant H, Senior Member of Executive, Time 1)

The inference made by this very senior executive who was brought in to manage the change was that adaptation to changes is easily made if the correct internal procedures are followed. In his mind, this procedure included talking to staff at the shop floor level and discussing the need for redundancies for the hospital's own good. This reaction emphasized the view that the hospital's cumulative needs over-rode those of the group. For this executive, in his mind, he was reaffirming that communication about change is effective if it is well managed through staff involvement. There was, of course, some level of involvement at the non-executive level, with some employees happy to be part of an internal arrangement rather than take industrial action, generally. Nonetheless, the individual risk associated with ICT change overwhelmed the

change rationalization offered by executives. In particular, as the change implementation progressed, nurses became increasingly agitated by the potential job losses expected to occur. This concern was linked to frustration about the level of care that would occur as an outcome of the resultant devolution of responsibility. Other nurse concerns related to training and patient care outcomes as a result of role changes.

"...like computers in the wards. They're everybody's headache at the present moment, because the system is not set up to deal with everybody's needs and there are loop holes [problems] getting computers up and running, [and] getting staff [to] use it." (Participant I, Nurse, Time 1)

This observation reflected a common perception that while new technology resources were welcome, they were introduced for spurious budgetary reasons, rather than to improve patient care. Consequently, they initiated a series of problems at the ward level. A belief among some nurses was that the hospital was not prepared for ICT change outcomes. In short, they argued that the hospital's infrastructure was not equipped for the planned IT changes.

The executives were viewed by some medical staff as interested in the benefits to the hospital that arose from the introduction of new technology rather than health benefits. The most visible outcome of this divide was that the good change outcomes brought about by the new system were obscured, as a nurse observes:

"For me personally, it feels like [executives] are only interested in money, more so than patients. Now I don't know whether that's a nursing perspective or the way I've been taught or anything like that, but I feel that they seem to make decisions, but it's not in the interests of the patients. It's always in the interest of the dollar." (Participant J, Nurse, Time 1)

The disparity between identities across employee groups brought about by the different technology change focus led to the new technology being undermined. Whereas the new system offered healthcare professionals a plethora of sophisticated new functions, the widespread belief that the executive grouping was more interested in financial gains than patient care created a serious breach

in faith. As a doctor and nurse noted, far from embracing new roles and participatory regimes, caregivers concentrated on the legitimacy of the new system:

"The computerized x-ray facility [is] foolish because I think we're putting in unproved systems. We're going to be the first [using PACS] almost and it's always a very silly thing to do." (Participant A, Senior Doctor, Time 1)

"It's annoying in a way because lots of...the things that seem to get the most money or the most attention are things that aren't for patient care. So even while using the technology for paperwork and things like that, the things that could make nurses' jobs easier, we're not really spending any money on that technology." (Participant K, Nurse, Time 1)

These comments highlighted the inference that patient safety was not improving with the innovations because the hospital is first and foremost interested in institutional outcomes. Thus, while technology advances can aid the patient, they were perceived to also put the patient at risk if the new technology is not supported at all levels of the hospital. Hospital executives may have cultivated a belief that some technology was installed for the sake of the hospital being seen as a state-of-the-art organization, without prioritizing the needs of the patients. Clearly patient outcomes in this context were not as focal as they might be. In this context, ICT change implied patient risk when executives imposed changes on the roles of health professional roles. Health professionals may resist the changes and so resist the ICT.

Democracy is Inevitable ... But Maybe Not Just Yet

In this chapter, using the hospital case study, we advance the view that how employees perceive group memberships and their relations with other groups during the introduction of ICT change reinforces the regulatory, evaluative, and obligatory dimensions of organizational life over e-democracy practices. These

findings should generalize to other hierarchically structured organizations, particularly those employing a range of professional groups.

Using a social identity framework, we reiterate that organizations suffer from problems of intergroup relations. Unlike other research and commentary, however, we assert that group identity and status differences simultaneously impede and enable e-democracy. For instance, whereas Semler (1989) suggests that the participatory features of organizational e-democracy are "just hot air" (1989, p. 3) that needs to be minimized, our results reveal that the features of democracy are embedded in the organization under review, but may not be able to penetrate traditional bases of power and influence. In other words, the organization chooses to appropriate parts of the democracy features of a new technology that seem to best fit its preexisting structure or institutional arrangement. IT-enabled changes therefore paradoxically reinforce normative institutional practices (after Scott, 2001). In response to our focal research question that examines the inevitability of e-democracy, Slater and Bennis (1964) were correct in asserting the place of and importance of democracy. Our results suggest, however, that while aspects of e-democracy are inevitable (i.e., symbolically more information is available to staff), social identity provides a barrier that reduces the extent to which e-democracy will occur.

Our findings have important implications for HR practitioners. Our results show that ICT brings changes to the ways in which employees focus on their roles and identities. In particular, we argue that group identification is a key part of the successful adoption of e-democracy change. At the two phases of changes described here, when ICT changes were highlighted, findings suggest that compared to doctors and allied health professionals, higher order identities (e.g., hospital) are more salient for nurses. This result may reflect that fact that the nurses were less involved with the technology changes than the doctors and allied professionals at these two phases of change. For example, PACS was highly relevant for some allied health professionals and doctors. Thus, groups who find themselves immersed in the new system, and affected by it, do present their proximal roles as salient. By contrast, when change implementation and patient care was the focal topic, all health professionals identified with their professional in-group.

Individual empowerment through PACS was not translated upward into group changes in the organizational hierarchy. As noted above, our findings focus on a healthcare industry, but their relevance to other organizations with hierarchi-

cal structures is self-evident. This finding, concerning employee identities, also raises a second implication that HR practitioners need to bear in mind during ICT change. That is, they need to be aware of the salient identities within organizations and not simply focus on the formal roles and functions that are outlined in the organizational charter. Our findings reveal that, at least for some groups, higher order identities during IT implementation seem to be more salient. We would have predicted that lower order level identities would be more salient in the ICT context, but this is not so. Thus the management of ICT changes is a complex phenomenon that may differ from the implementation of other types of changes. Specifically, rhetoric of empowerment and authority voiced by senior management do not equate to high levels of e-democracy with staff who historically did not have such responsibilities — nor is it sought by these staff. This observation highlights that, at least in our context, the overall good of the organization (the hospital) and professional roles are paramount. This finding goes some way to explaining why role relations remain intact during ICT implementation, regardless of the collaborative practices organizations adopt during new information technology implementations.

A third implication that HR practitioners need to focus on is that employee identity can act as a barrier to the uptake of change. Resistance to change is not a new phenomenon, but in this chapter we have begun unpicking the elements of that resistance. If ICT brings with it significant changes to a professional's job description and duties, HR must acknowledge this change and address the changes directly with the professionals involved. This last point relates closely to the following two HR implications that arise from our findings.

HR practitioners must recognize the importance of ensuring the participation of key groups in the planning and implementation of changes. They must also recognize the importance of effective and relevant training procedures in the newly acquired technology. The former implication suggests that HR practitioners should put in place an appropriate program of focus groups and workshops for employees which will serve to encourage key personnel to engage in and champion the changes. From such programs, these employees will gain an in-depth understanding of the rationale for each aspect of ICT change. With their increased knowledge and understanding of the change, they will then be able to impart their knowledge to other employees affected by the change. Specifically, the rationale that underlies each ICT introduction needs to be openly explained to the staff. In turn, staff should be allowed to provide input as to their perceptions of the value of the implementation. HR practitioners need

to be aware of the critical importance of this level of dialogue throughout all phases of change.

The latter implication, regarding training, relates to our results that reveal that despite the potential sophistication of the new systems, such technology requires effective training procedures to be put in place. Staff training programs need to be timed so that they integrate smoothly with the introduction of new technology. Training must be viewed by the change agents as another important aspect of the change and implemented at the appropriate time in the change program, with back-up and training assistance available as needed. Clearly then, HR managers need to address resource and training issues and, in the case of some professions, create an environment where the professional will want to engage in the technology. While there are some professionals who will seek to resist new technology, it is important that education and training be aligned with technology preparation and a clear outline of the benefits to the organization. Again, active dialogue at all stages of change is critical.

A final implication for HR is the need to recognize the communication culture of the organization. If the organization is one that relies on face-to-face and one-on-one communication, HR practitioners must not only address the impact of the new technology, but must monitor how employees manage the change in their traditional channels of communication. Not to recognize the huge culture change that new communication media bring to traditional organizations is to jeopardize the efficient functioning of the organization and risk increases in miscommunication and disharmony.

We have highlighted the unintended consequences of new technology implementation. By illustrating the problems with assuming the inevitability of e-democracy, we indicate that integrating HR practices with the task of designing information systems is much more than simply specifying particular equipment parameters. Rather the process is about designing, inscribing, and configuring the system both for users and recipients alike — in this case, health professionals and their patients. This process needs to include ongoing negotiation as the system evolves. We would suggest that patients or other clients may not benefit from new ICTs, at least in the short term and in the current climate of HR-managed change. This disadvantage to patients/clients needs to be addressed by HR practitioners through the suggestions above. Our SIT framework highlights the need for attention on human resource issues during the implementation of new information technology. The impact of information technology improvements on the workforce needs careful evaluation beyond a simple assessment of technology outcomes or organizational benefits.

Conclusions

In this chapter, we illustrate how social identity processes drive organizational e-democracy change outcomes. We emphasize how an organization's communication processes and its levels of effectiveness may change with ICT implementation. Our findings suggest that IT implementations are sometimes installed at the expense of other systems, which may be more directly beneficial to the patient. To generalize to other organizations, we ask: Are organizations installing IT for IT's sake without due consideration of the needs? Paradoxically this approach to IT and, in particular, ICT change may disadvantage the original aims of the organization.

ICT changes do not necessarily equate to improved communication between employees or workgroups. Our findings highlight that as new ICT systems are put in place, communication channels and dynamics alter. This alteration may not align with staff empowerment or increased communication effectiveness. HR practitioners need to examine current communication procedures and involve employees in the potential changes to communication that the new ICT brings. With the introduction of new technology, communication networks within organizations such as hospitals are often likely to break down. If the organizational culture has a tradition of face-to-face communication (as do hospitals), HR practitioners need to be aware that ICT implementation will have a huge impact on practice and on culture. Open discussion of disadvantages in a new system can only be acknowledged and constructively dealt with if there is genuine staff input and dialogue. Our findings suggest that HR managers need to be cognizant of the fact that effective communication may be compromised. Further they need to ensure that the change program is communicated and managed effectively. In this way, further miscommunication issues may be reduced or even avoided.

Our current findings suggest that e-democracy is not enhanced through IT change. Rather, we have found that the contrary is true. HR must respond to the frustration expressed by professionals concerning the actual changes and the implementation process. To address these concerns effectively, HR must understand both the formal and informal organizational charter. Without due consideration to the opinions of professionals throughout the change process, our findings suggest resistance.

References

- Alvesson, M. (2000). Social identity and the problem of loyalty in knowledge-intensive companies. *Journal of Management Studies*, 37, 1101-1123.
- Applegate, L.M. (1994). Managing in an information age: Transforming the organization for the 1990s. In R. Baskerville, S. Smithson, O. Ngwenyama, & J.I. DeGross (Eds.), *Transforming organizations with information technology* (pp. 15-94). Amsterdam: North-Holland.
- Ashforth, B.E., & Johnson, S.A. (2001). Which hat to wear? The relative salience of multiple identities in organizational contexts. In M.A. Hogg & D.J. Terry (Eds.), *Social identity processes in organizational contexts* (pp. 31-48). Philadelphia, PA: Psychology Press.
- Ashforth, B.E., & Mael, F. (1989). Social identity theory and the organization. *Academy of Management Review*, 14, 20-39.
- Beer, M., & Nohria, N. (2000). Resolving the tension between theories E and O of change. In M. Beer & N. Nohria (Eds.), *Breaking the code of change* (pp. 1-34). Boston: Harvard Business School Press.
- Carlopio, J. (1998). *Implementation: Making workplace innovation and technical change happen*. Roseville, NSW: McGraw-Hill.
- de Tocqueville, A. (1835/1966). *Democracy in America*. New York: Harper & Row.
- Drehmer, D.E., Belohlav, J.A., & Coyne, R.W. (2000). An exploration of employee participation using a scaling approach. *Group and Organization Management*, 25, 397-419.
- Drucker, P.F. (1992). The new society of organizations. *Harvard Business Review*, 70(5), 95-104.
- Drucker, P.F. (2001). *The essential Drucker*. Oxford: Butterworth Heinemann.
- Fahy, M. (2001). *Enterprise resource planning systems*. London: Chartered Institute of Management Accountants.
- Gardner, J., & Jones, E. (1999). Problematic communication in the workplace: Beliefs of superiors and subordinates. *International Journal of Applied Linguistics*, 9, 198-205.
- Gardner, J., Paulsen, N., Gallois, C., Callan, V., & Monaghan, P. (2000). An intergroup perspective on communication in organizations. In H. Giles &

- W.P. Robinson (Eds.), *Handbook of language and social psychology* (2nd ed.). London: John Wiley & Sons.
- Glover, S.M., Prawitt, D.F., & Romney, M.B. (1999). Implementing ERP. *Internal Auditor*, (February), 40.
- Halal, W.E. (1994). From hierarchy to enterprise: Internal markets are the new foundation of management. *Academy of Management Executive*, 8(4), 69-83.
- Hogg, M.A. (2001). A social identity theory of leadership. *Personality and Social Psychology Review*, 5, 184-200.
- Hogg, M.A., & Abrams, D. (1988). *Social identification*. London: Routledge
- Hogg, M.A., & Mullin, B.A. (1999). Joining groups to reduce uncertainty: Subjective uncertainty reduction and group identification. In D. Abrams & M.A. Hogg (Eds.), *Social identity and social cognition* (pp. 249-279). Oxford, UK: Blackwell.
- Hogg, M.A., & Terry, D. (2000). Social identity and self-categorization processes in organizational contexts. *Academy of Management Review*, 25, 121-140.
- Hogg, M.A., & Terry, D. (2001). Social identity theory and organizational processes. In M.A. Hogg & D.J. Terry (Eds.), *Social identity processes in organizational contexts* (pp 1-12). Philadelphia, PA: Psychology Press
- Koch, C., & Buhl, H. (2001). ERP supported team working in Danish manufacturing. *New Technology, Work and Employment*, 16, 164-177.
- Kraemer, K.L. & Dedrick, J. (1997) Computing and public organizations. *Journal of Public Administration Research and Theory*, 7, 89-113.
- Lambert, S.J. (2000). Added benefits: The link between work-life benefits and organizational citizenship behavior. *Academy of Management Journal*, 43, 801-816.
- Lammers, C.J., & Szell, G. (Eds.). (1989). *International handbook of participation in organizations*. Oxford: Oxford University Press.
- Mantovani, G. (1994). Is computer-mediated communication intrinsically apt to enhance democracy in organizations? *Human Relations*, 47, 45-63.
- Manville, B., & Ober, J. (2003). Beyond empowerment: Building a company of citizens. *Harvard Business Review*, 81(1), 48-53

- Markus, M.L. (1983). Power, politics and MIS implementation. *Communications of the ACM*, 26, 430-444.
- Mason, R.M. (1982). *Participatory and workplace democracy*. Carbondale, IL: Southern Illinois University Press.
- Neef, D. (Ed.). (1998). *The knowledge economy*. Boston: Butterworth-Heinemann.
- Orlikowski, W.J., & Iacono, C.S. (2001). Research commentary: Desperately seeking the "IT" in IT research—a call to theorizing the IT artifact. *Information Systems Research*, 12, 121-134.
- Pratt, M.G. (2001). Social identity dynamics in modern organizations: An organizational psychology/organizational behavior perspective. In M.A. Hogg & D.J. Terry (Eds.), *Social identity processes in organizational contexts* (pp. 13-30). Philadelphia, PA: Psychology Press.
- Robey, D., & Boudreau, M.C. (1999). Accounting for the contradictory organizational consequences of information technology: Theoretical directions and methodological implications. *Information Systems Research*, 10(2), 167-185.
- Rothschild, J., & Whitt, J.A. (1986). *The cooperative workplace: Potentials and dilemmas of organizational democracy and participation*. Cambridge: Cambridge University Press.
- Schilling, M.A., & Steensma, H.K. (2001). The use of modular organizational forms: An industry-level analysis. *Academy of Management Journal*, 44, 1149-1168.
- Schwarz, G.M. (2002). Organizational hierarchy adaptation and information technology. *Information and Organization*, 12(3), 153-182.
- Scott, W.R. (2001). *Institutions and organizations* (2nd ed.). Thousand Oaks, CA: Sage Publications.
- Semler, R. (1989). Managing without managers. *Harvard Business Review*, 89(5), 76-84.
- Slater, P., & Bennis, W.G. (1964). Democracy is inevitable. *Harvard Business Review*, 2, 51-59.
- Tajfel, H. (1978). Differentiation between social groups: Studies in the social psychology of intergroup relations. *European Monographs in Social Psychology*, 14. London: Academic Press.

- Terry, D. J. (2001). Intergroup relations and organizational mergers. In M. A. Hogg & D. J. Terry (Eds.), *Social identity processes in organizational contexts* (pp. 229-248). Philadelphia, PA: Psychology Press.
- Tsoukas, H., & Chia, R. (2002). On organizational becoming: Rethinking organizational change. *Organization Science*, 13, 567-582.
- van Knippenberg, D., & van Leeuwen, E. (2001). Organizational identity after a merger: Sense of continuity as the key to post-merger identification. In M. A. Hogg & D. J. Terry (Eds.), *Social identity processes in organizational contexts* (pp. 249-264). Philadelphia, PA: Psychology Press.
- Weber, M. (1968). *Economy and society: An outline of interpretive sociology*. Edited and with an introduction by G. Roth & C. Wittich. New York: Bedminster Press.
- Wenger, E. (1999). *Communities of practice: Learning, meaning and identity*. Cambridge: Cambridge University Press.

Endnote

- * The authors wish to acknowledge that the data from this publication formed part of a large 3 year project funded by the Australian Strategic Partnership with Industry—Research and Training (SPIRT), RefC0010720 entitled *Employee Adjustment to Continued Organisational Change*.